

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
RECAPUTALATION SHEET**

S No.	SUBWORK	Estimated Cost (Crore)
1	Sewerage Zone IX	
	Collection System (Dia 150 to 800 mm, L = 146.29 Km) DWC/RCC	39.34
	Sewage Pumping Station @ Desai Nagar (Dia 10.5 m)	1.58
	Pumping Machinery (40 BHP -2, 70 BHP-2, 150 BHP-1)	1.85
	Pumping Main (Dia - 600 mm, DI K9, L= 150 m)	0.25
	Sewage Treatment Plants - 20 MLD MMBR Technology	10.43
	Sump for Tanker Feed treated effluent	0.82
	Property Connection (29155 Nos.)	21.99
	Total	76.26
2	Sewerage Zone X	
	Collection System (Dia 150 to 700 mm, L = 119.75 Km) DWC/RCC	33.35
	Sewage Pumping Station @ Hyd. Road (Dia 10.5 m)	1.53
	Pumping Machinery (30 BHP -2, 55 BHP-2, 120 BHP-1)	1.69
	Pumping Main (Dia - 500 mm, DI K9, L= 150 m)	0.19
	Sewage Treatment Plants - 15.5 MLD MMBR Technology	8.67
	Property Connection (23167 Nos.)	17.48
	Total	62.91
3	Trunk Sewer for Sewerage Zone XI,XII,XIII (Dia 300 - 1500 mm, L = 15.5 Km) RCC	19.27
4	Trunk Sewer for Sewerage Zone I to IV & VI (Dia 250 - 900 mm, L =16.19 Km) DWC/RCC	15.65
5	Property Connection (5738 Nos.)	4.33
6	Nalla Interception	1.42
7	Miscellaneous	0.40
	TOTAL -	180.24
	Add 3% PMC charges -	5.41
	Gross Total -	185.65

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IX

(Underground Sewerage Network -150 to 900 mm dia RCC Pipes, HDPE DWC SN 8 Pipes , L=146.26

ABSTRACT

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	1961.00	150 mm dia.	357.00	Rmt	700077.00
	1710.00	200 mm dia.	394.00	Rmt	673740.00
	2009.00	250 mm dia.	541.00	Rmt	1086869.00
	3529.00	300 mm dia.	757.00	Rmt	2671453.00
	1162.00	350 mm dia.	1260.00	Rmt	1464120.00
	1241.00	400 mm dia.	1344.00	Rmt	1667904.00
	1087.00	450 mm dia.	1449.00	Rmt	1575063.00
	1098.00	500 mm dia.	1785.00	Rmt	1959930.00
	29.00	700 mm dia.	2940.00	Rmt	85260.00
	540.00	800 mm dia.	3150.00	Rmt	1701000.00
		RCC NP 4 Class			
	165.00	250 mm dia.	617.00	Rmt	101805.00
	238.00	300 mm dia.	945.00	Rmt	224910.00
	91.00	350 mm dia.	1344.00	Rmt	122304.00
	140.00	400 mm dia.	1470.00	Rmt	205800.00
	567.00	600 mm dia.	2520.00	Rmt	1428840.00
	60.00	800 mm dia.	3413.00	Rmt	204780.00
		(CSR 2016-17, P. 103,104, I. E, F)			
2		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		H.D.P.E. DWC pipes for Drainage Class SN			
	124424.00	150 mm dia.(ID)	378.00	Rmt	47032272.00
	3543.00	170 mm dia.(ID)	437.00	Rmt	1548291.00
	1261.00	200 mm dia.(ID)	594.00	Rmt	749034.00
	1434.00	250 mm dia.(ID)	1007.00	Rmt	1444038.00
		(CSR 2016-17, P. 132,133 I. 2)			
			Material Cost		66647490.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	38996.09	Total	155.10	Cum	6048293.56
		(CSR 2016-17, P. 35 I. 1)			
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	53963.68	Total	198.00	Cum	10684808.64
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	99670.06	Total	487.30	Cum	48569220.24

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	18670.38	Total	509.30	Cum	9508824.53
		(CSR 2016-17, P. 35 I. 5)			
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	8277.38	Total	826.10	Cum	6837943.62
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	31451.45	Total	848.10	Cum	26673974.75
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	7593.83	Total	870.10	Cum	6607389.99
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	971.81	Total	892.10	Cum	866951.52
		Lift 6.0-7.5 M.			
		Basic Rate	831.00		
		Add 10 % for M.C..	83.10		
	1.49	Total	914.10	Cum	1361.34
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	288.00	Total	957.60	Cum	275788.80
		(CSR 2016-17, P. 39 I.18)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
6		Providing & filling in sand boxing in pipeline or for foundation with sand of approved quality including watering and compaction,etc.complete.			
		Basic Rate	931.00		
		Add 5 % for M.C..	46.55		
	1829.98	Total	977.55	Cum	1788896.95
		(CSR 2016-17, P. 39 I. 19)			
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	16469.84	Total	67.20	Cum	1106773.25
		(CSR 2016-17, P. 39, I. 16)			
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		150 mm dia.			
		Basic Rate	55.00		
		Add 5 % for M.C..	2.75		
	1961.00	Total	57.75	Rmt	113247.75
		200 mm dia.			
		Basic Rate	73.00		
		Add 5 % for M.C..	3.65		
	1710.00	Total	76.65	Rmt	131071.50
		250 mm dia.			
		Basic Rate	95.00		
		Add 5 % for M.C..	4.75		
	2174.00	Total	99.75	Rmt	216856.50
		300 mm dia.			
		Basic Rate	115.00		
		Add 5 % for M.C..	5.75		
	3767.00	Total	120.75	Rmt	454865.25
		350 mm dia.			
		Basic Rate	118.00		
		Add 5 % for M.C..	5.90		
	1253.00	Total	123.90	Rmt	155246.70
		400 mm dia.			
		Basic Rate	151.00		
		Add 5 % for M.C..	7.55		
	1381.00	Total	158.55	Rmt	218957.55

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		450 mm dia.			
		Basic Rate	180.00		
		Add 5 % for M.C..	9.00		
	1087.00	Total	189.00	Rmt	205443.00
		500 mm dia.			
		Basic Rate	197.00		
		Add 5 % for M.C..	9.85		
	1098.00	Total	206.85	Rmt	227121.30
		600 mm dia.			
		Basic Rate	248.00		
		Add 5 % for M.C..	12.40		
	567.00	Total	260.40	Rmt	147646.80
		700 mm dia.			
		Basic Rate	281.00		
		Add 5 % for M.C..	14.05		
	29.00	Total	295.05	Rmt	8556.45
		800 mm dia.			
		Basic Rate	325.00		
		Add 5 % for M.C..	16.25		
	600.00	Total	341.25	Rmt	204750.00
		(CSR 2016-17, P. 105, I. 2)			
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
		150 mm dia.			
		Basic Rate	6000.00		
		Add 5 % for M.C..	300.00		
	1.96	Total	6300.00	Km	12354.30
		200 mm dia.			
		Basic Rate	8000.00		
		Add 5 % for M.C..	400.00		
	1.71	Total	8400.00	Km	14364.00
		250 mm dia.			
		Basic Rate	11000.00		
		Add 5 % for M.C..	550.00		
	2.17	Total	11550.00	Km	25109.70
		300 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	3.77	Total	13650.00	Km	51419.55

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		350 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	1.25	Total	13650.00	Km	17103.45
		400 mm dia.			
		Basic Rate	17000.00		
		Add 5 % for M.C..	850.00		
	1.38	Total	17850.00	Km	24650.85
		450 mm dia.			
		Basic Rate	20000.00		
		Add 5 % for M.C..	1000.00		
	1.09	Total	21000.00	Km	22827.00
		500 mm dia.			
		Basic Rate	22000.00		
		Add 5 % for M.C..	1100.00		
	1.10	Total	23100.00	Km	25363.80
		600 mm dia.			
		Basic Rate	28000.00		
		Add 5 % for M.C..	1400.00		
	0.57	Total	29400.00	Km	16669.80
		700 mm dia.			
		Basic Rate	31000.00		
		Add 5 % for M.C..	1550.00		
	0.03	Total	32550.00	Km	943.95
		800 mm dia.			
		Basic Rate	36000.00		
		Add 5 % for M.C..	1800.00		
	0.60	Total	37800.00	Km	22680.00
		(CSR 2016-17, P. 105, I. 2)			
10		Lowering, laying and jointing H.D.P.E. Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN			
		150 mm dia.(ID)			
		Basic Rate	32.00		
		Add 5 % for M.C..	1.60		
	124424.00	Total	33.60	Rmt	4180646.40
		170 mm dia.(ID)			
		Basic Rate	35.00		
		Add 5 % for M.C..	1.75		
	3543.00	Total	36.75	Rmt	130205.25
		200 mm dia.(ID)			
		Basic Rate	38.00		
		Add 5 % for M.C..	1.90		
	1261.00	Total	39.90	Rmt	50313.90

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		250 mm dia.(ID)			
		Basic Rate	47.00		
		Add 5 % for M.C..	2.35		
	1434.00	Total	49.35	Rmt	70767.90
		(CSR 2016-17, P. 134, I. 4)			
11		Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position., etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN			
		150 mm dia.(ID)			
		Basic Rate	3000.00		
		Add 5 % for M.C..	150.00		
	124.42	Total	3150.00	Km	391935.60
		170 mm dia.(ID)			
		Basic Rate	7000.00		
		Add 5 % for M.C..	350.00		
	3.54	Total	7350.00	Km	26041.05
		200 mm dia.(ID)			
		Basic Rate	4000.00		
		Add 5 % for M.C..	200.00		
	1.26	Total	4200.00	Km	5296.20
		250 mm dia.(ID)			
		Basic Rate	5000.00		
		Add 5 % for M.C..	250.00		
	1.43	Total	5250.00	Km	7528.50
		(CSR 2016-17, P. , I. 6)			
12		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	1021.50	Total	252.00	Sqm	257418.00

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	1021.50	Total	250.95	Sqm	256345.43
		(CSR 2016-17, P. 39, I. 20a / b)			
13		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curing etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	415.57	Total	4444.65	Cum	1847046.01
		(CSR 2016-17, P. 43, I. 1b)			
14		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour, fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	37800.00	Total	65.10	HP/Hr	2460780.00
		(CSR 2016-17, P. 38, I. 14)			
15		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5 % for M.C..	864.95		
	3108.00	Total	18163.95	No.	56453556.60

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5 % for M.C..	1007.40		
	1461.00	Total	21155.40	No.	30908039.40
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			
16		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 2.5 m depth.			
		Basic Rate	28011.00		
		Add 5 % for M.C..	1400.55		
	500.00	Total	29411.55	No.	14705775.00
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	210.00	Total	35596.05	No.	7475170.50
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	134.00	Total	41780.55	No.	5598593.70
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	92.00	Total	47965.05	No.	4412784.60
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	40.00	Total	54149.55	No.	2165982.00
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	20.00	Total	60334.05	No.	1206681.00
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
17		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	14.00	Total	75414.15	No.	1055798.10
		6.0 m depth.			
		Basic Rate	79233.00		
		Add 5 % for M.C..	3961.65		
	7.00	Total	83194.65	No.	582362.55
		6.5 m depth.			
		Basic Rate	86643.00		
		Add 5 % for M.C..	4332.15		
	2.00	Total	90975.15	No.	181950.30
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C ..=Rs.7780.50			
18		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	3.30	Total	54803.70	MT	180687.80
		(CSR 2016-17, P. 46, I. 8b)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
19		Providing as per required dia S.W. or R.C.C. pipes in vertical drop arrangement including providing 150 mm dia S.W. and R.C.C. Pipe fixed in B.B. masonry of manhole at the required level including providing 150 mm dia. double tee, 150 mm dia right angled bend encasing in B.B. masonry 1:4 proportion all around the pipe, double tee, bend up to the foundation of manhole, jointing, cutting, filleting including neat cement rendering, plugging the opening with jungle wood knob complete as directed by Engineer-in-charge (0.60 M. depth) excluding cost of chamber.			
		For 200 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	3269.00		
		Add 5 % for M.C..	163.45		
	5.00	Total	3432.45	No.	17162.25
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 791/-Add 5% for M.C .=Rs.830.55			
		For 250 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	3772.00		
		Add 5 % for M.C..	188.60		
	5.00	Total	3960.60	No.	19803.00
		b) For depth up to 1.10 M to 1.60 M			
		Basic Rate	4575.00		
		Add 5 % for M.C..	228.75		
	2.00	Total	4803.75	No.	9607.50
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 803/-Add 5% for M.C .=Rs.843.15			
		For 300 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	4529.00		
		Add 5 % for M.C..	226.45		
	5.00	Total	4755.45	No.	23777.25
		b) For depth up to 1.10 M to 1.60 M			
		Basic Rate	5452.00		
		Add 5 % for M.C..	272.60		
	1.00	Total	5724.60	No.	5724.60
		c) For depth up to 2.10 M to 2.60 M			
		Basic Rate	7298.00		
		Add 5 % for M.C..	364.90		
	1.00	Total	7662.90	No.	7662.90
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 923/-Add 5% for M.C .=Rs.969.15			
		(CSR 2015-16, P. 275, I. 11)			
		For 350 mm dia Pipes			
		a) For depth up to 1.10 M to 1.60 M			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Basic Rate	6415.00		
		Add 5 % for M.C..	320.75		
	1.00	Total	6735.75	No.	6735.75
		b) For depth up to 1.60 M to 2.10 M			
		Basic Rate	7453.00		
		Add 5 % for M.C..	372.65		
	1.00	Total	7825.65	No.	7825.65
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1029/-Add 5% for M.C .=Rs.1080.45			
		For 400 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	6225.00		
		Add 5 % for M.C..	311.25		
	1.00	Total	6536.25	No.	6536.25
		b) For depth up to 1.10 M to 1.60 M			
		Basic Rate	7378.00		
		Add 5 % for M.C..	368.90		
	1.00	Total	7746.90	No.	7746.90
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1135/-Add 5% for M.C .=Rs.1191.75			
		For 450 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	6565.00		
		Add 5 % for M.C..	328.25		
	2.00	Total	6893.25	No.	13786.50
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1194.5/-Add 5% for M.C .=Rs.1254.22			
		For 500 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	6905.00		
		Add 5 % for M.C..	345.25		
	1.00	Total	7250.25	No.	7250.25
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1254/-Add 5% for M.C .=Rs.1316.7			
		(CSR 2016-17, P. 275 I. 12)			
20		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	209329.69	Total	67.20	Cum	14066955.39
		(CSR 2016-17, P. 38, I.15)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
21		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	31966.65	Basic Rate	195.62	Cum	6253315.62
22		Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- ammended upto date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer.Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.			
	10.00		18516.00	No.	185160.00
		(As per Rate Analysis)			
23		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	92727.75	(As per Rate Analysis)	208.74	Sqm	19355990.54

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
24		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	24727.00	(As per Rate Analysis)	873.47	Sqm	21598292.69
25		Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	618.20	Total	496.10	Cum	306689.02

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	618.20	Total	5918.00	Cum	3658507.60
		Item No. 25c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	309.10	Total	6998.20	Cum	2163143.62
26		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer- in-charge.			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		
		Add 5% for M.C.	8.35		
	30	Total	175.35	Rmt	5260.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	4	Total	205.8	Rmt	823.2
B		Electrical Lines & Poles			
		Electrical Poles - RA for 10 km			
i)	1	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	2771.00	Nos	2771
		PWD DSR 15-16, E & M, Item No. 16.3.2, P.No. 161			
ii)	1	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	701.00	Nos	701
		PWD DSR 15-16, E & M, Item No. 8.8.2, P.No. 110			
iii)	1	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	12722.00	Nos	12722
		PWD DSR 15-16, E&M, Item No. 8.1.3, Page No.98			
iv)	1	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1585.00	Nos	1585
		PWD DSR 14-15 E&M, Item No. 9.1.4, Page No.111			
C		Electrical Cable - Providing and Jointing			
		Communication Cable - Jelly Filled telephone lines and optical Fibre Cable			
i)	3	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	83.00	Rmt	249
		PWD DSR 15-16 Item 1-10-10, P No 17			
ii)	3	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	247.00	Rmt	741
		PWD DSR 15-16 Item 1-12-8, P No 20			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
iii)	1	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	4366.00	Nos	4366
		PWD DSR 15-16 Item 1-14-5 P No 21			
27		Highway Crossing			
		Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine of required diameter of below MS casing pipes, lowering, laying & jointing of material , required welding machinery , tripod, chain pully block , crane , blower, compressor, loading & unloading of machinery into the trench , etc. transportation and dewatering , etc. complete as directed by Engineer-in-charge but excluding the cost of MS pipes.-500 to 1000 mm dia. MS Pipe			
		Basic Rate	22781.00		
		Add 5 % for M.C..	1139.05		
	100.00	Total	23920.05	Rmt	2392005.00
		(CSR 2016-17, P. 58, I. 14a)			
		MS Pipe 500 mm (ID) 10 mm thick			
	100.00	Basic Rate	6620.00	Rmt	662000.00
		(CSR 2016-17, P.193, I.2I)			
		Labour Cost			326704079.14
		Total Material + Labour Cost Rs.			393351569.14
		Say Rs.			393351570.00
		Say Rs. Lakhs			3933.52
		Say in Crore			39.34

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IX**

(Underground Sewerage Network -150 to 800 mm dia RCC Pipes, HDPE DWC SN 8 Pipes , L=146.29 Km)

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	150 mm dia.	1.00	1961.00			1961.00	Rmt
	200 mm dia.	1.00	1710.00			1710.00	Rmt
	250 mm dia.	1.00	2009.00			2009.00	Rmt
	300 mm dia.	1.00	3529.00			3529.00	Rmt
	350 mm dia.	1.00	1162.00			1162.00	Rmt
	400 mm dia.	1.00	1241.00			1241.00	Rmt
	450 mm dia.	1.00	1087.00			1087.00	Rmt
	500 mm dia.	1.00	1098.00			1098.00	Rmt
	700 mm dia.	1.00	29.00			29.00	Rmt
	800 mm dia.	1.00	540.00			540.00	Rmt
	RCC NP 4 Class						
	250 mm dia.	1.00	165.00			165.00	Rmt
	300 mm dia.	1.00	238.00			238.00	Rmt
	350 mm dia.	1.00	91.00			91.00	Rmt
	400 mm dia.	1.00	140.00			140.00	Rmt
	600 mm dia.	1.00	567.00			567.00	Rmt
	800 mm dia.	1.00	60.00			60.00	Rmt
2	Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage , etc. complete.						
	H.D.P.E. pipes for Drainage CLASS SN 8						
	150 mm dia.(ID)	1.00	124424.00			124424.00	Rmt
	170 mm dia.(ID)	1.00	3543.00			3543.00	Rmt
	200 mm dia.(ID)	1.00	1261.00			1261.00	Rmt
	250 mm dia.(ID)	1.00	1434.00			1434.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
	156657.17	32413.08	5210.23	677.62	1.49	194959.59	Cum
	44250.04	17708.75	2383.60	294.18	0.00	64636.57	Cum
	200907.21	50121.83	7593.83	971.81	1.49	259596.16	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					38996.09	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					53963.68	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					99670.06	Cum
	Lift 1.5-3.0 M.					18670.38	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					8277.38	Cum
	Lift 1.5-3.0 M.					31451.45	Cum
	Lift 3.0-4.5 M.					7593.83	Cum
	Lift 4.5-6.0 M.					971.81	Cum
	Lift 6.0-7.5 M.					1.49	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	600.00	1.60	0.30	288.00	Cum
6	Providing & filling in sand boxing in pipeline or for foundation etc.complete.						
	(As per Computer generated sheet)					1829.98	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					16469.84	Cum
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	150 mm dia.	1.00	1961.00			1961.00	Rmt
	200 mm dia.	1.00	1710.00			1710.00	Rmt
	250 mm dia.	1.00	2174.00			2174.00	Rmt
	300 mm dia.	1.00	3767.00			3767.00	Rmt
	350 mm dia.	1.00	1253.00			1253.00	Rmt
	400 mm dia.	1.00	1381.00			1381.00	Rmt
	450 mm dia.	1.00	1087.00			1087.00	Rmt
	500 mm dia.	1.00	1098.00			1098.00	Rmt
	600 mm dia.	1.00	567.00			567.00	Rmt
	700 mm dia.	1.00	29.00			29.00	Rmt
	800 mm dia.	1.00	600.00			600.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	150 mm dia.	1.00	1.96			1.96	Rmt
	200 mm dia.	1.00	1.71			1.71	Rmt
	250 mm dia.	1.00	2.17			2.17	Rmt
	300 mm dia.	1.00	3.77			3.77	Rmt
	350 mm dia.	1.00	1.25			1.25	Rmt
	400 mm dia.	1.00	1.38			1.38	Rmt
	450 mm dia.	1.00	1.09			1.09	Rmt
	500 mm dia.	1.00	1.10			1.10	Rmt
	600 mm dia.	1.00	0.57			0.57	Rmt
	700 mm dia.	1.00	0.03			0.03	Rmt
	800 mm dia.	1.00	0.60			0.60	Rmt
10	Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications etc. complete						
	H.D.P.E. pipes for Drainage CLASS SN 8						
	150 mm dia.(ID)	1.00	124424.00			124424.00	Rmt
	170 mm dia.(ID)	1.00	3543.00			3543.00	Rmt
	200 mm dia.(ID)	1.00	1261.00			1261.00	Rmt
	250 mm dia.(ID)	1.00	1434.00			1434.00	Rmt
11	Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure etc.complete						
	150 mm dia.(ID)	1.00	124.42			124.42	Km
	170 mm dia.(ID)	1.00	3.54			3.54	Km

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	200 mm dia.(ID)	1.00	1.26			1.26	Km
	250 mm dia.(ID)	1.00	1.43			1.43	Km
12	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	340.50		1.50	1021.50	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	340.50		1.50	1021.50	Sqm
13	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	100.00	1.50	1.50	0.60	135.00	
	Deduct	100.00	0.79	1.00	0.60	47.10	
	Net Qty					87.90	Cum
	(As per Computer generated sheet)					327.67	Cum
	Total Qty					415.57	Cum
14	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	180.00	5.00	6.00	37800.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
15	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete						
	Upto 1.50 m depth.					3108.00	No.
	Upto 2.0 m depth.					1461.00	No.
	(As per Computer generated sheet)						
16	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					500.00	No.
	Upto 3.0 m depth.					210.00	No.
	Upto 3.5 m depth.					134.00	No.
	Upto 4.0 m depth.					92.00	No.
	Upto 4.5 m depth.					40.00	No.
	Upto 5.0 m depth.					20.00	No.
	(As per Computer generated sheet)						
17	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					14.00	No.
	Upto 6.0 m depth.					7.00	No.
	Upto 6.5 m depth.					2.00	No.
	(As per Computer generated sheet)						
18	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.42	3297			3.30	MT
19	Providing as per required dia S.W. or R.C.C. pipes in vertical drop arrangementetc. Complete						
	For 200 mm dia Pipes						
	a) For depth up to 1.10 M	5				5	No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	For 250 mm dia Pipes						
	a) For depth up to 1.10 M	5				5	No.
	b) For depth up to 1.10 M to 1.60 M	2				2	No.
	For 300 mm dia Pipes						
	a) For depth up to 1.10 M	5				5	No.
	b) For depth up to 1.10 M to 1.60 M	1				1	No.
	c) For depth up to 2.10 M to 2.60 M	1				1	No.
	For 350 mm dia Pipes						
	a) For depth up to 1.10 M to 1.60 M	1				1	No.
	b) For depth up to 1.60 M to 2.10 M	1				1	No.
	For 400 mm dia Pipes						
	a) For depth up to 1.10 M	1				1	No.
	b) For depth up to 1.10 M to 1.60 M	1				1	No.
	For 450 mm dia Pipes						
	a) For depth up to 1.10 M	2				2	No.
	For 500 mm dia Pipes						
	a) For depth up to 1.10 M	1				1	No.
20	Refilling the trenches with available excavated stuff etc.complete. (As per Computer generated sheet)					209329.69	Cum
21	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete (As per Computer generated sheet)					31966.65	Cum
22	Providing, fixing and erecting RCC (M20) Vent shaft etc. complete						
		10				10	No.
23	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete. (As per Computer generated sheet)					92727.75	Sqm
24	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete. (As per Computer generated sheet)					24727.00	Sqm
25	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete (As per Computer generated sheet)					6182.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		6182.00			0.10	618.20	Cum
	Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		6182.00			0.10	618.20	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		6182.00			0.05	309.10	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
26	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge. (Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	30	1			30	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	4	1			4	Rmt
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos
27	Highway Crossing						
	Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine etc. complete						
	MS Pipe 500 mm (ID) 10 mm thick	5	20			100	Rmt

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
NAME OF SUBWORK: PUMING STATION FOR ZONE IX @ DESAI NAGAR
ABSTRACT

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1			Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 1, Pg-35			
	686.29	Cum	upto 1.5m	148.05	Cum	101605.72
			Basic Rate	141.00		
			Add 5 % for M.C.	7.05		
			Total	148.05		
144.27	Cum	1.5 to 3 m	160.65	Cum	23176.31	
			Basic Rate	153.00		
			Add 5 % for M.C.	7.65		
			Total	160.65		
2			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 3, Pg-35			
	76.25	Cum	upto 1.5m	189.00	Cum	14412.16
			Basic Rate	180.00		
			Add 5 % for M.C.	9.00		
			Total	189.00		
144.27	Cum	1.5 to 3 m	201.60	Cum	29084.00	
			Basic Rate	192.00		
			Add 5 % for M.C.	9.60		
			Total	201.60		
61.83	Cum	3m to 4.5m	214.20	Cum	13243.61	
			Basic Rate	204.00		
			Add 5 % for M.C.	10.20		
			Total	214.20		
3			Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 5, Pg-35			
	432.80	Cum	1.5 to 3 m	486.15	Cum	210404.54
			Basic Rate	463.00		
			Add 5 % for M.C.	23.15		
			Total	486.15		
309.14	Cum	3m to 4.5m	507.15	Cum	156780.92	
			Basic Rate	483.00		
			Add 5 % for M.C.	24.15		
			Total	507.15		
346.24	Cum	4.5m to 6m	528.15	Cum	182865.63	
			Basic Rate	503.00		
			Add 5 % for M.C.	25.15		
			Total	528.15		

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		MJP 16-17, Section E, Item No 7, Pg-36			
	247.31	Cum 3m to 4.5m	830.55	Cum	205405.73
		Basic Rate	791.00		
		Add 5 % for M.C.	39.55		
		Total	830.55		
	230.83	Cum 4.5m to 6m	851.55	Cum	196559.35
		Basic Rate	811.00		
		Add 5 % for M.C.	40.55		
		Total	851.55		
	535.84	Cum 6m to 7.5m	872.55	Cum	467551.23
		Basic Rate	831.00		
		Add 5 % for M.C.	41.55		
		Total	872.55		
	494.63	Cum More than 7.5 m depth	892.50	Cum	441453.53
		Basic Rate	850.00		
		Add 5 % for M.C.	42.50		
		Total	892.50		
	61.83	Cum More than 7.5 m depth	913.50	Cum	56480.08
		Basic Rate	870.00		
		Add 5 % for M.C.	43.50		
		Total	913.50		
5	35.63	Cum Providing dry trap granite quartzite gneiss, rubble stone soling in 15 cm to 20 cm thick layer including hand packing and compacting royalty charges etc.complete	957.60	Cum	34118.13
		Basic Rate	912.00		
		Add 5 % for M.C.	45.60		
		Total	957.60		
		MJP 16-17, Section E, Item No 18, Pg-39			
6	18.00	Cum Filling in murum bedding in trenches with approved murum from excavated materials from foundation in 15cm to 20 cm layers including watering and compaction, etc. complete.	67.20	Cum	1209.60
		Basic Rate	64.00		
		Add 5 % for M.C.	3.20		
		Total	67.20		
		MJP 16-17, Section E, Item No 16, Pg-39			
7	111.88	Cum Providing and laying in situ, M-15 grade of C.C. of trap/ granite/ quartzite/ gneiss/ metal for foundation and bedding including dewatering, formwork, compacting and curing, finishing, etc.complete	4444.65	Cum	497250.84
		Basic Rate	4233.00		
		Add 5 % for M.C.	211.65		
		Total	4444.65		
		MJP 16-17, Section G, Item No 1 b, Pg-43			
8	1885.76	Cum Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.	195.62	Cum	368892.55
		Basic Rate	195.62		
		(CSR 2015-16, P. 22, Statement VI)			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
9	942.88	Cum	Refilling the trenches with available approved excavated stuff with soft materials first over pipeline and then hard material in 15cm layers with all lead and lifts including consolidation , surcharging etc. complete.	67.20	Cum	63361.57
			Basic Rate	64.00		
			Add 5 % for M.C.	3.20		
			Total	67.20		
			MJP 16-17, Section E, Item No. 15, Pg-38			
10	500.00	BHP/ Hr.	Dewatering the excavated trenches and pools of water in the building trenches / pipeline trenches, well works by using pumps and other devices including disposing off water to safe distance as directed by Engineer-in - charge (including cost of machinery, labour, fuel), stc complete	65.10	BHP/Hr	32550.00
			Basic Rate	62.00		
			Add 5 % for M.C.	3.10		
			Total	65.10		
			MJP 16-17, Section E, Item No. 14, Pg-38			
11			Bypass & Overflow			
	100.00	RMT	Providing ISI Standard RCC NP3 900 mm dia pipe as overflow pipe for sump suitable for rubbering joint including all taxes, duties inspection charges transportation to site, unloading stacking etc complete.	4791.00	RMT	479100.00
			900 mm NP3			
			Basic Rate	4791.00		
			MJP 16-17, Section I, Item No. 1E, Pg-104			
12	100.00	RMT	Lowering, laying and jointing in propergrade and alignment R.C.C.pipes with collar jointsinCM1:1proportion or socketed R.C.C.pipes with rubber joints(excluding cost of rubber ring or R.C.C.collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge. (IS-783/1985)	541.80	RMT	54180.00
			900 mm NP3			
			Basic Rate	516.00		
			Add 5 % for M.C.	25.80		
			Total	541.80		
			MJP 16-17, Section I, Item No. 2, Pg-105			
13			Providing and Constructing of manaholes on overflow and bypass line			
	3.00	No	Providing and constructing on sewer BB Masonary circular man hole with concentric cone 1.5 mm dia and 0.5 mm dia at top and upto a depth of 2m with 23cm brick work, upto depth of 2 m from top and 35mm thk brick work for balance depth in CM 1:4 proportion with 20 mm smooth plaster on both side in CM 1:2 proportion excluding excavation, including foundation concrete 250mm thick and haunches and channels in CC 1:2:4 proportion, finishing chanel in smooth rendering providing CI dapuri type steps each weighing 5.5 kg, 1:2:4 coping and providing and fixing approved make and quality SFRC frame and cover of 56 cm dia etc complete as directed by EIC	21155.40	No	63466.20
			Basic Rate	20148.00		
			Add 5 % for M.C.	1007.40		
			Total	21155.40		
			MJP 16-17, Section L, Item No. 7, Pg-272			

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.		
14		RCC					
		Providing and casting in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RC.C works as per detailed drawings and design as directed by Engineer-in-Charge including normal dewatering, centering form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc.complete.(By weigh batching and mix design for M-250 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement)					
		Grade M 30					
	55.28	Cum	Raft	6325.20	Cum	349668.65	
			Basic Rate	6024.00			
			Add 5 % for M.C.	301.20			
			Total	6325.20			
		MJP 16-17, , Item No. 2, Pg-43,44					
	15.44	Cum	Column	8086.05	Cum	124808.18	
			Basic Rate	7701.00			
			Add 5 % for M.C.	385.05			
			Total	8086.05			
		MJP 15-16, , Item No. ,3,, Pg-43,44					
	12.42	Cum	Beam	7966.35	Cum	98920.56	
			Basic Rate	7587.00			
			Add 5 % for M.C.	379.35			
			Total	7966.35			
		MJP 15-16, , Item No. ,4,, Pg-43,44					
	254.33	Cum	Vertical Wall/Slabs/Staircase	8620.50	Cum	2192468.98	
			Basic Rate	8210.00			
			Add 5 % for M.C.	410.50			
			Total	8620.50			
		MJP 16-17, , Item No.,5, Pg-43,44					
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parodies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).					
	33.75	M.T.	Tor Steel	54803.70	M.T.	1849439.25	
			Basic Rate	52194.00			
			Add 5 % for M.C.	2609.70			
			Total	54803.70			
		MJP 16-17, Section G, Item No. 8 b, Pg-46					
16	30.00	RM	Providing and fixing 900mm high S.S.304 Grade Stainless steel railing with 40mm diameter and 1.5mm thick at top,40mm diameter and 1.5mm thick vertical supports spaced at 1.5m center to center and 8mm thick toughened glass including fabricating ,fixtures, erecting, necessary welding, grinding, finishing, buffing to stainless steel pipe etc. complete.** Spec. No.: As directed by Engineer Incharge	4411.00	RM	132330.00	
				Basic Rate	4010.00		
				Add 5 % for M.C.+ 5% Sugarcane Area	401.00		
			Total	4411.00			
		PWD 17-18, BDV, Item No.59/21, Pg. No. 188					

Item No	Quantity	ITEM DESCRIPTION		Rate	Unit	Amount Rs.
17			Brick Masonry			
	37.24	Cum	Providing II nd class B.B. masonry with conventional bricks in C.M. 1:6 of following proportion in superstructure including striking out and raking out joints, watering and scaffolding, etc.complete	5940.00	Cum	221201.44
			Basic Rate	5400.00		
			Add 5 % for M.C.+ 5% Sugarcane Area	540.00		
			Total	5940.00		
			(PWD CSR 17-18 P.No. 71 I.No.4)			
18			Internal Plastering			
	161.91	Sq.m	Providing cement plaster for following thickness in two coats in cement mortar in following proportions without neeru finish to concrete, brick or stone surfaces in all positions including scaffolding and curing, etc.complete. 20 mm thick cement plaster in C.M.1:5	269.50	Sq.m	43634.75
			Basic Rate	245.00		
			Add 5 % for M.C.+ 5% Sugarcane Area	24.50		
			Total	269.50		
			(PWD CSR 17-18 P.No. 86 I.No. 3)			
19			External Plastering			
	161.91	Sq.m	Providing sand faced plaster externally in cement mortar using approved screened sand in all positions including base coat of 15 mm th in cement mortar 1:4 using water proofing compound @ 1 Kg per cement bag curing the same for not less than 2 days & keeping the surface of base coat rough to recieve the sand faced treatment of 6 to 8 mm th in cement mortar 1:4 finishing the surface by taking out grains & curing for 14 days, scaffolding etc comp.as directed.	440.00	Sq.m	71240.40
			Basic Rate	400.00		
			Add 5 % for M.C.+ 5% Sugarcane Area	40.00		
			Total	440.00		
			(PWD CSR 17-18 P.No. 87 I.No. 5)			
20			Providing cement based water proofing treatment to terraces(Indian water proofing or alike) with brick bats laid in requiredslope to drain the water for any span after cleaning the base surface. Applying a coat of cement slurry admixed with approved water proofing compound and laying the brick bats on bottom layer in C.M.1:5 admixed with approved water proofing compound filling up to half depth of brick bats, curing this layer for 3 days, applying cement slurry over this layer joints of brick bats with C.M.1:3 admixed with approved water proofing compound and finally top finishing with average 20 mm. thick layers of same mortar added with jute fiber at 1 Kg per bag including finishing the surface smooth with cement slurry admixed with approved water proofing compound. Marking finished surface with false squares of 300mm x 300 mm. making the junctions at the parapet rounded and tapered top for required height, with drip mould at the junction of plaster and parapet and curing and covering 10 years Guarantee against leakproofness on Court fee stamp paper of Rs. 500/including ponding test etc. complete			
	43.27	Sqm		632.50	Sqm	27370.25
			Basic Rate	575.00		
			Add 5 % for M.C.+ 5% Sugarcane Area	57.50		
			Total	632.50		
			PWD DSR 2017-18, BD -J, Item No. 4 / BDJ 31-04 / P.No80-			

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
21		Paving,Flooring and Dado			
		Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm thick and required width in plain/ diamond pattern on bed of 1:6 Cement mortar including cement float, filling joints with neat cement slurry, curing, polishing and cleaning complete. Spec. No.: Bd.M.3 Page No. 380			
	28.36	Sq.m a) 30 cm. X 30 cm	979.00	Sq.m	27762.60
		Basic Rate	890.00		
		Add 5 % for M.C.+ 5% Sugarcane Area	89.00		
		Total	979.00		
		PWD DSR, 2017-18, BD -M, Item No 4/12BDM 3B/			
22		Internal Painting			
		Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) complete. Spec. No.: Bd.P.5 Page No. 413			
	107.94	Sq.m a) Two coat	38.50	Sq.m	4155.69
		Basic Rate	35.00		
		Add 5 % for M.C.+ 5% Sugarcane Area	3.50		
		Total	38.50		
		(PWD CSR 2017-18 P.No.111 I.No.5b/Bdp -5 A)			
23		External Paintings			
		Providing and applying two coats of apex /Ace exterior paint of approved manufacture and of approved color to the plastered surfaces including cleaning, preparing the plaster surface applying primer coat, scaffolding if necessary and watering the surface for two days complete.			
	107.94	Sq.m a) Two coat	176.00	Sq.m	18997.44
		Basic Rate	160.00		
		Add 5 % for M.C.+ 5% Sugarcane Area	16.00		
		Total	176.00		
		(PWD CSR 2017-18 P.No.108 I.No.17/35.25)			
24		Furniture in pumping house			
	1.00	LS Providing installing erecting furnitruce and necessary accessories in pump house		LS	100000.00
25	1.00	Ls Drilling of 3 Nos. 100mm dia Vertical Passive Rock Anchor with rebar of 25mm. Of 3m deep with fabrication of steel reinforcement with L-bent at top, Grouting the Anchor with Non shrink Grout & Pull Out Test		Ls	200000.00

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
26		Door- Rolling shutter			
	19.80	Sqm. Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 6248-1979) (With mechanical gear) Spec. No. Bd.T. P. No. 510	2860.00	Sqm.	56628.00
			Basic Rate		2600.00
			Add 5 % for M.C.+ 5% Sugarcane Area		260.00
			Total		2860.00
		(PWD CSR 2017-18 P.No.133/134, I.No BDT-55)			
27		Windows			
	18.00	Sqm. Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 kg/Rmt. The shutter should be of bearing bottom 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. Inter locking section 40 x 18 x 1.10 mm at weight 0.469 kg/Rmt. And handle section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. and top section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. As per detailed drawings and as directed by Engineer in charge with all necessary Aluminium sections fixtures and fastenings such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter including 5 mm thick plain glass with all required screws and nuts etc, complete. with colour Anodising with box Spec. No.: As directed by Engineer-in-charge.	4306.50	Sqm.	77517.00
			Basic Rate		3915.00
			Add 5 % for M.C.+ 5% Sugarcane Area		391.50
			Total		4306.50
		PWD 17-18/ Item No. 31i / 18 BDT 39.40 / P.No-136			
28		Approach Road in Paver Block			
	120.00	Sqm. Providing and fixing heavy duty inter locking concrete Gray paving blocks of 80 mm thickness of having a strength of 300 kg/Sq.cm. of approved quality and shape on a bed of crushed sand of 25 to 30 mm thick including skirting joints and cleaning etc. complete.** Spec. No.: A directed by Engineer in charge	745.80	Sqm.	89496.00
			Basic Rate		678.00
			Add 5 % for M.C.+ 5% Sugarcane Area		67.80
			Total		745.80
		PWD DSR 2017-18/Sec-BDM 33.52 //Item No 21A ii /			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
29	791.28	Sqm.	Providing and Applying of Elastomeric (450% Elongation) thermoplastic, fire retardant, Coatingskin tensile strength 18 to 21 kg/cm ² , antifungalantibacterial, anticorrosive,graft, co polymer coating on smooth plastered surface 100 micron dyu film thickness of self bonding with plasterd surface and 100 micron of top coat for puming station as directed by Engineer-in-charge.	1143.45	Sqm.	904789.12
			Basic Rate	1089.00		
			Add 5 % for M.C.	54.45		
			Total	1143.45		
			MJP 16-17/Sec-I(XVII) / Pg 216/Item No 23			
30			Manual Coarse Screen			
	1.00	No	Providing, errecting, Manual Coarse Screen as dircted by Engineer-in-charge	119600.00	No	119600.00
			Market Rate	119600.00		
			Total	119600.00		
			As Per Rate Analysis			
31			Mechanical Screen			
	1.00	No	Providing, errecting, Mechanical Coarse Screen as dircted by Engineer-in-charge	1486000.00	No	1486000.00
			Market Rate	1486000.00		
			Total	1486000.00		
			As Per Rate Analysis			
32			Conveyor Belt			
	1.00	No	Providing, errecting, Conveyor Belt as directed by Engineer-in-charge	698390.00	No	698390.00
			Market Rate	698390.00		
			Total	698390.00		
			As Per Rate Analysis			
33			Penstock Gate			
	1.00	No	Providing, errecting, Penstock Gate as dircted by Engineer-in-charge	419035.00	No	419035.00
			Market Rate	419035.00		
			Total	419035.00		
			As Per Rate Analysis			
34			For Automation of SPS		Job	2500000.00
					Total	15506605.03
					Add RCC Design Charges @ 2 %	310132.10
					Total Cost Rs.	15816737.13
					Say Rs.	15816738.00
					Say Rs. Lakhs	158.17
					Say in Crore	1.58

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
NAME OF SUBWORK: PUMING STATION FOR ZONE IX @ DESAI NAGAR
MEASUREMENT SHEET**

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
	Sump Size (Inside Diameter and Inside depth)	1.00	10.50		8.00		
	Inner Sizes of Receiving chamber	1.00	4.00	3.60	5.20		
	Inner Sizes of Screen chamber	2.00	5.50	1.10	5.50		
	Receiving/Screen Chamber - Middle Wall Thickness			0.20			
	Wet Well - Outer Wall Thickness			0.55			
	Raft of wetwell thickness				0.45		
	Raft outside vertical wall				0.15		
	PCC thickness for Raft				0.10		
	PCC outside Vertical Wall				0.10		
	Soiling for Raft				0.30		
	Side margin for excavation of wet well outside wall		4.00				
	Pump Pit Size at Bottom for submergence of Pump		9.50	2.50	1.50		
	Valve chamber Vertical wall thickness				0.15		
	Outer Sizes of receiving Chamber		4.20	3.80	5.20		
	Outer Sizes of Screen Chamber		5.70	1.70	5.50		
	Valve chamber outside Wet well		9.50	2.50	2.00		
	Bypass Pipe Length in		100.00				900.00
	Excavation						
	Wet Well	1.00	0.79	20.60	9.15		3048.07
	Pump Pit	1.00	9.50	3.00	2.20		62.70
	Valve chamber outside Wet well	1.00	9.50	3.50	3.00		99.75
	Bypass arrangement	1.00	100.00	1.65	3.40		561.00
							3771.52
	0 to 1.5 m depth						762.55
	1.5 m to 3.0 m depth						721.33
	3 m to 4.5 m depth						618.28
	4.5 m to 6.0 m depth						577.06
	6.0 m to 7.5 m depth						535.84
	7.5 m to 9 m depth						494.63
	More than 9 m depth						61.83
1	Excavation for foundation/ pipes trenches in earth, soil of all types ,sand ,gravel and soft murum including removing the excavated material upto a distance of 50M beyond area & lift as below, stacking and spreading as directed, normal dewatering, preparing of bed for foundation & excluding backfilling,etc. complete						
	0 to 1.5 m depth	0.90	Of total qty of 1.5 m depth		762.55	Cum	686.29
	1.5 m to 3.0 m depth	0.20	Of total qty of 1.5 -3.0 m depth		721.33	Cum	144.27
2	Excavation for foundation/ pipe trenches in hard murum and boulders,W.B.M.road including removing the excation material up to a distance of 50 meter and lift as below,						
	0 to 1.5 m depth	0.10	Of total qty of 1.5 m depth =		762.55	Cum	76.25
	1.5 m to 3.0 m depth	0.20	Of total qty of 1.5 -3.0 m depth		721.33	Cum	144.27

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty	
	3.0 m to 4.5 m depth	0.10	Of total qty of 3.0 - 4.5 m dept		618.28	Cum	61.83	
3	Excavation for foundation/ pipe trenches by all means in soft rock and old cement and lime masonry foundation asphalt road including removing the excavated material							
	0 to 1.5 m depth	0.00	Of total qty of 1.5 m depth =		762.55	Cum	0.00	
	1.5 m to 3.0 m depth	0.60	Of total qty of 1.5 -3.0 m dept		721.33	Cum	432.80	
	3.0 m to 4.5 m depth	0.50	Of total qty of 3.0 - 4.5 m dept		618.28	Cum	309.14	
	4.5 m to 6.0 m depth	0.60	Of total qty of 4.5 -6.0 m dept		577.06	Cum	346.24	
4	Excavation for foundation/ pipe trenches in hard rock and concrete road by chiseling wedging line drill by mechanical means or							
	3.0 m to 4.5 m depth	0.40	Of total qty of 3.0 - 4.5 m dept		618.28	Cum	247.31	
	4.5 m to 6.0 m depth	0.40	Of total qty of 4.5 -6.0 m dept		577.06	Cum	230.83	
	6.0 m to 7.5 m depth	1.00	Of total qty of 4.5 -6.0 m dept		535.84	Cum	535.84	
	7.5 m to 9 m depth	1.00	Of total qty of 3.0 - 4.5 m dept		494.63	Cum	494.63	
	More than 9 m depth	1.00	Of total qty of 3.0 - 4.5 m dept		61.83	Cum	61.83	
5	providing dry trap granite quartzite gneiss, rubble stone soling in 15 cm to 20 cm thick							
	Wet Well	1.00	0.79	12.30	0.30	Cum	35.63	
6	Filling in murum bedding in trenches with approved murum from excavated materials							
	Bypass arrangement	1.00		100.00	0.90	0.20	Cum	18.00
7	Providing and laying in situ, M-15 grade of C.C. of trap/ granite/ quartzite/ gneiss/							
	Wet Well	1.00		12.30	0.00	0.10	Cum	11.88
	Qty for uplift						Cum	100.00
					Total		Cum	111.88
8	Transportation Disposal of excavated material including loading and unloading, lead up to 7.5 km etc. Complete	0.50	Of Excavated Qty				Cum	1885.76
9	Refilling the trenches with available approved excavated stuff with soft	0.25	of Excavated Qty				Cum	942.88
10	Dewatering the excavated trenches and pools of water in the building trenches / pipeline trenches, well works by using						BHP/Hr.	500.00
11	Bypass / Overflow channel							
	Providing ISI Standard RCC NP3 900 mm dia pipe as overflow pipe for sump suitable for rubbering joint including all taxes, duties	1.00		100.00			RMT	100.00
	600 mm NP3							
12	Lowering,laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM1:1 proportion or socketed R.C.C.pipes with rubber joints (excluding	1.00		100.00			RMT	100.00
	900 mm NP3							
13	Providing and Constructing of manholes on overflow and bypass line							
	Providing and constructing on sewer BB Masonary circular man hole with concentric cone 1.5 mm dia and 0.5 mm dia at top and upto a depth of 5m with 23cm brick work, upto depth of 2 m from top and 35mm thk						No	3.00
	Upto 2.5 M							

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
14	RCC						
	Providing and casting in situ ready mix cement concrete grade of trap/granite/gneiss metal of approved quality for RCC work as per detailed drawings and design for as directed by Engineer In charge including normal						
I	Wet well - Raft	1.00	0.79	12.10		0.45	51.72
II	Valve Chamber Raft	1.00		9.50	2.50	0.15	3.56
III	Columns for pumping station	10.00		0.30	0.35	13.50	14.18
IV	Columns to support receiving chamber and screen chamber	4.00		0.30	0.35	3.00	1.26
V	Cross beam Qty in sump (Wet well dia +	1.00		21.00	0.45	0.30	2.84
VI	Pump House beam Qty at floor slab (Wet well dia + cross beam over col) =(wet well dia =8.5 + 4.5*2)	1.00		21.00	0.45	0.30	2.84
VII	Pump House beam Qty at lintel level (Wet well dia + cross beam over col) =(wet well dia =8.5 + 4.5*2)	1.00		37.49	0.30	0.30	3.37
VIII	Pump House beam Qty at roof Level	1.00		37.49	0.30	0.30	3.37
VIX	Wetwell Vertical walls	1.00	3.14	11.60	0.55	8.30	166.28
X	Receiving chamber slab	1.00		4.20	3.80	0.20	3.19
XI	Screening chamber slab	0.00		5.70	1.70	0.25	2.42
XII	Receiving chamber Vertical wall (Length+Width) =4.55+1.55=6.1	1.00		8.00	0.20	5.20	8.32
XIII	Screening chamber Vertical wall length (3 Lengthwise+1Width side) =(5.25*3+2.05*1)	1.00		18.80	0.20	5.50	20.68
XIV	Pumping station floor slab (half portion of wet well)	1.00	3.14/8	10.50		0.15	6.49
XV	Pumping station roof slab (half portion of wet well)	1.00	3.14/8	10.50		0.15	6.49
XVI	Stair case up to bottom	5.00		5.00	1.20	0.20	6.00
XVII	Valve Chamber Walls	1.00		24.00	0.15	2.00	7.20
XVIII	Wet Well - Pump Pit	1.00		22.00	2.20	0.15	7.26
XIX	Qty for slabs for maintenance and screen disposal, Stairs Valve chamber slab and support slab for pump pipes, beams in wet well						20.00
xx	Total Concrete Qty of Grade M 30					Cum	337.47
	RCC qty of Raft, footing (sub item I +II)					Cum	55.28
	RCC Qty of Columns (sub item III + IV)					Cum	15.44
	RCC Qty of Beams (Sub item V to VIII)					Cum	12.42
	RCC Qty of Vertical walls, slabs, staircase (IX to XIX)					Cum	254.33
15	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per						
	a) Tor Steel= Steel consumption of 10% of RCC Qty					M.T.	33.75
16	Providing & Fixing stainless steel railing with top and vertical pipe of 50 mm dia at 0.90m c/c or as required and horizontal pipes of 25 mm dia in two rows, all pipes of			30.00		RM	30.00
17	Brick Masonry						
	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement						
	a) Pumping station	1.00		26.99	0.23	6.00	37.24
							37.24

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
18	Internal Plastering						
	Providing cement plaster for following thickness in two coats in cement mortar in following proportions without neeru finish to					Sq.m	
	20 mm thick cement plaster in C.M.1:5	1.00	26.99		6.00		161.91
							161.91
19	External Plastering						
	Providing sand faced plaster externally in cement mortar using approved screened sand in all positions including base coat of 15 mm th in cement mortar 1:4 using water proofing compound @ 1 Kg per cement bag curing the same for not less than 2 days &						
	a) Pumping station	1.00	26.99		6.00		161.91
							161.91
20	Providing and laying water proofing to Terrace						
	a) Pumping station	1.00	10.50		0.15		43.27
							43.27
21	Paving,Flooring and Dado						
	Providing and laying in position polished Kota stone flooring of approved quality 25mm to 30mm thick in plain/diamond pattern on a bed of cement mortar 1:6						
	a) Pumping station	1.00	8.50		1.00		28.36
							28.36
22	Internal Painting						
	Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding, preparing the surfaces.						
	a) Pumping station	1.00	26.99		4.00		107.94
							107.94
23	External Paintings						
	Providing and applying two coats of appex /Ace exterior paint of approved manufacture and of approved color to the plastered surfaces including cleaning, preparing the plaster surface applying primer coat, scaffolding if necessary and watering the surface for two days complete.						
	a) Pumping station	1.00	26.99		4.00		107.94
							107.94
24	Furniture in pumping house						
	Providing installing erecting furntiture and necessary accessories in pump house					LS	1.00
25	Drilling of 3 Nos. 100mm dia Vertical Passive Rock Anchor with rebar of 25mm. Of 3m deep with fabrication of steel					Ls	1.00

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
26	Door- Rolling shutter						
	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15	2.00	2.20		4.50	Sqm	19.80
27	Windows						
	Supplying and fixing in position anodized extruded modular aluminum section Two Track sliding window mounted on rectangular frame of size 100 x 50x 2.80 mm thick (2.183 kg/Rmt.) made up of three						
	Providing and fixing aluminum lowered window	3.00	2.00	3.00		Sqm	18.00
28	Approach Road in Paver Block						
	Providing and fixing m 25 grade precast factory made Interlocking paver blocs with 3.0m wide approach width and 25 m length with complete etc	1.00	40.00	3.00		Sqm	120.00
29	Providing and Applying of Elastomeric (450% Elongation) thermoplastic, fire retardant. Coatingskin tensile strength 18 to	3.00	32.97		8.00	Sqm	791.28
30	Manual Coarse Screen	1.00				No	1.00
31	Mechanical Coarse Screen	1.00				No	1.00
32	Conveyor Belt	1.00				No	1.00
33	Penstock Gate	1.00				No	1.00

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS - PUMPING MACHINERY AT **DESAI NAGER PUMPING STATION**

Sr. No.	Description	Amount
1	Part A- Electrical Works	7479080.00
2	Part B- Mechanical Works	11065173.00
	Total cost in Rs	18544253.00
	Total cost in Lakhs	185.44253
	Total cost in Crore	1.85

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS - MECHANICAL WORK COST ESTIMATES AT DESAI NAGER PUMPING
STATION
ABSTRACT

Sr. No.	Description	Qty	Unit	Rates	Amount
1	Submersible Non Clog Sewage Pump- 1 DWF flow Designing, Providing, installing, Commissioning & testing with satisfactory test & trail of Submersible Non Clog sewage pumps having Casing – CI IS 210 Gr. FG 220, Impeller – SS 304, Shaft and Sleeve – SS 316, Motor Parts – CI IS 210 Gr. FG 220, Fastners – BHT Steel, Guide Pipe – SS 304, Lifting Chain – SS 304 with three phase squirrel cage motor 730/1000/1460 rpm, suitable for continuous duty with F class Insulation, suitable to operate required duty conditions & specified requirement having minimum efficiency 70% suitable for solid handling capacity of 100 mm as below including cable set (30 mtr.), auto rail coupling, integral bend, duck foot bend, lifting chain, control panel with PMU having all protections, bottom stand, clamps etc. with TPI & Inspection				
1.A	Pump- 1/2 DWF				
	Pump discharge = 122 LPS	2	No	2,92,791.00	585582.00
	Duty Head = 15 m				
	B.H.P = 40				
1.B	Pump- 1 DWF				
	Pump discharge =244 LPS	2	No	4,70,753.00	941506.00
	Duty Head =15 mtr				
	B.H.P = 70				
1.C	Pump- Peak flow				
	Pump discharge =522 LPS	1	No	13,09,457.00	1309457.00
	Duty Head = 15 mtr				
	B.H.P = 150				
	As per Rate Analysis				
2	Glandless CIDF Sluice Valve - PN 1.0 Providing, erecting, testing and commissioning CI Glandless Sluice valve suitable for working pressure of 10 kg/cm ² with standard non rising spindle, handwheel, cap etc and manufactured as per IS 2906 / 14846 and as per detailed specification				
2.A	300 mm (for 1/2 X DWF)	2	No	70255.00	140510.00
2.B	400 mm (for 1 X DWF)	2	No	92481.00	184962.00
2.C	500 mm (for Peak flow)	1	No	111979.00	111979.00
2.D	600 mm (for common header)	1	No	140787.00	140787.00
	, I no- VL 1-10,13 Pg. No- 13+ (RS.4000.0 TPI)				

Sr. No.	Description	Qty	Unit	Rates	Amount
3	Valve Actuator :- Providing erecting electric valve actuators totally enclosed weather proof and dust proof construction with IP 67 protection class suitable for installation in any position without lubrication leakages or other operational difficulty with special grease filled gear box and hand wheel for emergency manual operation which will be automatically disengaged on restoration of power to motor and with 10 watt single phase space heater with TEFC squirrel cage including motor working on 440 V + /- 10% 3 phase 50 Hz AC of intermittent duty rating S-2 insulation class FG and temp rise restricted to class B with IP 67 protection class suitable for DOL starting and with three thermostat and 30% over loading margin				
3.A	300 mm (for 1/2 X DWF)	2	No	102381.00	204762.00
3.B	400 mm (for 1 X DWF)	2	No	109750.00	219500.00
3.C	500 mm (for Peak flow)	1	No	109750.00	109750.00
3.D	600 mm (for common header)	1	No	119106.00	119106.00
	, I no- VL 1-10,13 Pg. No- 13+ (RS.4000.0 TPI)				
4	Reflux Valve :- Providing & supplying ISI mark CI D/F Reflux valve(non return valve) PN 1 rating with bypass arrangement, as per IS 5312 Part I (1984), including all taxes, inspection charges, transportation etc.				
4A	300 mm (for 1/2 X DWF)	2	No	41933.00	83866.00
4B	400 mm (for 1 X DWF)	2	No	93880.00	187760.00
4C	500 mm (for Peak flow)	1	No	187416.00	187416.00
4D	600 mm (for common header)	1	No	201485.00	201485.00
	I no-1.B viii, x, , Pg. No- 153 & 4.vii, x, P. No. 159				
5	Kinetic Air Valve 200mm dia- Providing & supplying Kinetic Air Valves PN 1 as per IS 14845-2000 and MJP's standard specifications double orifice type combined with isolating sluice valve, mounted in horizontal position and operated by wheel gearing, small orifice elastic ball resting on gun metal orifice nipple, large orifice valcanite ball seating on moulded seat ring, inlet face and drilled, including all taxes (central and local), insurance third party inspection charges, loading, unloading, transportation up to departmental stores / site etc	1	No.	31679.00	31679.00
	As per Rate Analysis				
6	Pressure Gauge-150mm dia. Providing, installing, testing & commissioning of 150 mm dia Glycerine filled Pressure Gauges Bourdon type as IS 3624:1987 Mounting - direct bottom, stainless steel body, toughened glass window Range 0 to 15 kg/Cm ² .as per detailed specifications & as directed by Engineer.	6	No.	1796.00	10776.00
	Item No-PM 11-4, Pg No-9				
7	CIDF Pipes & Specials for Pump Delivery :- Providing and supplying ISI standard CIDF Pipes & specials for pump delivery including all taxes (central & local) etc. complete as directed by Engineer				

Sr. No.	Description	Qty	Unit	Rates	Amount
	up to 500 mm dia	15000	kgs	67.41	1011150.00
	I no- 6.A.i, Pg. No- 67				
8	Flanged Joints :- Providig & making flanged joints to the CIDF pipes & specials for pump delivery including all jointing material such as rubber packing, nut bolts & testing				
8A	300 mm (for 1/2 X DWF)	45	No	1071.00	48195.00
8B	400 mm (for 1 X DWF)	45	No	1806.00	81270.00
8C	500 mm (for Peak flow)	25	No	1806.00	45150.00
8D	600 mm (for common header)	10	No	2220.00	22200.00
	I no-4 xi, viii Pg. No-66				
9A	EOT Crane :- Providing, erecting and commissioning single girder Electrically Operated Rectangular Over head Travelling Crane with 6 m lift complete with wire rope hoist, class II duty, all three motions electrically operated by suitable rating motor IP 54, control panel and down pendant control block.	1	No	812450.00	8,12,450.00
	5 Tonne Capacity.Above 8m Upto 10m Span				
	As per Rate Analysis				
9B	DSL System - For D.S.L. (Down Shop Lead) system for above crane	36	M	2500.00	90000.00
	MJP E/M DSR 15-16, Note 5, Pg No-20				
10	Full bore electromagnetic flowmeter 500 mm dia :- Manufacture, supply and commission Electromagnetic Flow Meter (EMF), for Raw/Pure water with accuracy +/-0.5% of measured value & protection as per given specifications for size 500 mm Including sensor, transmitter surge arrestor, cable GI duct if suitable size for 25 mtrs. sensor, transmitter surge arrestor,built in GSM (without simcard) 25 Mtrs per flow meter, including the pipe cutting, leveling and installation of flow meter in the pipelines with necessary tool tackles, cranes including 36 months guarantee etc complete, as may be required at site & based on technical specifications (Annexure-A) attached	1	No	355035.75	314349.00
	As per Rate Analysis				
11	Structural Steel -Providing Structural steel work in rolled sections like joints, channels, angles, tees ect. As per detailed design and drawing including fix in position without connecting plates, braces ect. And one coat of anticorrosive paint and over it two coats of oil painting, of approved quality and shade, complete.	3	MT	58798.00	176394.00
	Section. F, Item no-5, Pg. No-42 + Add 5% Sugarcane Area+ 1% L. W+ 1% L. A				

Sr. No.	Description	Qty	Unit	Rates	Amount
12	RCC M 250 -Providing and laying in situ ready mix cement concrete grade of trap/ granite/ quartzite/gneiss metals for RCC work in foundation like raft , grillage, strip foundation and footing for RCC column and steel stanchions including normal dewatering, form work , compaction finishing and curing including transporting from mixing plant up to distance of 25 Km, pouring the concrete at work site for 1.5 mtrs lift above GL and 5 lift below GL etc complete. (excluding Reinforcement and Structural steel)	7	CUM	7835.00	54845.00
	Sect-G, Item No-10C Pg NO-48 + Add 5% Sugarcane Are+ 1% L. W				
13	Tor Steel -Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps ,footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc as per detailed design, drawing and schedules including cutting, bending , hooking, the bars , binding with wires or tack welding and supporting as requires etc complete (including cost of binding wires)	1	MT	52194.00	52194.00
	Sect-G, Item No-8b Pg No-46 + Add 5% Sugarcane Are+ 1% L. W+ 1% L. A				
				Total (Rs)	7479080.00

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS - ELECTRICAL WORK COST ESTIMATES AT DESAI NAGER
ABSTRACT

SR	Description	Qty	Unit	Rates	Amount
1	L.T.Main Control Panel Board :- Designing, Providing , Erecting Main L. T. Control Panel Board comprises of 300 Amp. MCCB for Incoming & other required switchgears as per attached rate analysis.	1	No	296020.06	296020.06
2	AT Starter :- Providing , Erecting A T Starters for following HP Pumps Providing erecting and giving test and trial of Fully Automatic, Auto Transformer Starter with Air Break Contactor, assembled locally with contactors of approved make in 14 SWG sheet steel fabricated, floor mounted type cubical panel, suitable for operation on 380 - 440 Volts, 3 Phase, 50 Hz, fitted with accessories as below. The incoming and outgoing cable end boxes shall be on either sides of main panel. The cable entries from auto transformer shall be totally enclosed in sheet metal. The starter shall have screened louvers on both sides etc complete.				
2A	AT Starter -For 1DWF-40HP	2	No	89258.00	178516.00
2B	FCMA Strater for 2 DWF-80 HP	2	No	122366.00	244732.00
2C	FCMA Strater-For Peak Flow -150HP	1	No	248139.00	248139.00
	As per Rate analysis				
3	Alluminium Armoured cable :- Providing, erecting Allum. Armoured cable of following sizes 1.1 kV grade etc complete.				
3A	3.5 Core 300Sq. MM Aluminium Armoured Cable for Transformer to LT Panel	50	M	1590.00	79500.00
3B	3.5 core x 95 sqmm 40 HP pumpset from Panel to starter	50	M	578.00	28900.00
3C	3.5 core x 120 sqmm 80 HP pumpset from Panel to starter	75	M	716.00	53700.00
3D	3.5 core x 150 sqmm 150 HP pumpset from Panel to starter	75	M	862.00	64650.00
3E	3.0 core x 95 sqmm for capacitor	100	M	575.00	57500.00
3F	3 Core 2.5 Sq.mm copper armoured cable for valve actuators	200	M	166.00	33200.00
	No.CB5.5 5. 5.6 5.7 4.10 & CB 2-3 P. No.69 Ino CB 4-15 Pno 68				
4	Submersible Copper Cable :- Providing, erecting 1.1 kV grade submersible copper cable for following sizes				
4A	40 HP pumpset from Starter to Motor	20	M	886.00	17720.00
4B	80 HP pumpset from Starter to Motor	20	M	2542.00	50840.00
4C	150 HP pumpset from Starter to Motor	10	M	5307.00	53070.00
	As per offer of M/s. Aqua & Kishor Pumps				
5	HT CABLE				
5A	11 kv XLPE cable 3 core x 120 sqmm	100	M	1133.00	113300.00
5B	Indoor termination kit 11 kv (70-120 sq.mm)	4	M	8223.00	32892.00
5C	Out door termination kit 11 kv (70-120 sq.mm)	4	M	11865.00	47460.00
	Pno 74 Ino CB 11-5 Pno 78 Ino CB 25-2 ,3				
6	Item No. 6 :- Cable Trench - Making the trench in hard murum/ tar road of suitable width and depth for laying provided L.T. Cable of 10 sq mm complete as per detailed specifications.	100	M	204.00	20400.00
	PWD Ele CSR I.No. 16-1-2 P. No. 160				
7	Making Trench -Making the trench in hard murum/ tar road of suitable width and depth for laying provided L.T. Cable of 25 sq mm & above covered with half round hume pipe complete	100	M	328.00	32800.00
	PWD Ele CSR I.No. 16-1-4 P. No. 160				

SR	Description	Qty	Unit	Rates	Amount
8	Cable Tray - Providing, fabricating and fixing G.I. perforated cable tray for cables as per requirement and specifications - 200 x 20 mm	100	M	170.00	17000.00
	MCSR 15-16 I. No. CB 34-2 P. No. 80				
9	Capacitor :- Providing, erecting bank of condenser for power factor correction	130	kVAR	349.00	45370.00
	MCSR I. No. CP 1 P. No. 57				
10	APFC Panel :- Supply & erecting 50 kVAR 440 V three phase 50 cycles thyrester switched Micro APFC passive filter panel consisting of steps of APP type capacitor units conforming to IS: 13585 (part -1) with harmonic filter reactors suitable for 150 KW load as per specifications.	1	No	197185.80	197185.80
	PWD Ele CSR 2015-16 I. No.6-7-8 P. No. 105				
11	Transformer 200kVA- 11/0.433kV- Suppling & erecting approved make of 200kVA 50 c/s oil immersed and naturally cooled indoor /outdoor type , copper wound transfoemer with delta conn. on HV side & star conn. on LV side with additional neutral brought out in load side , voltage rating 11/0.433 V with tapping of +/- 2.5 % -5 % ,continuously rated for full load with standered accessories complete with test certificate with losses below 580 watts at no load , 4200 watts at full load asp er IS 2026. and approved by engineering incharge.	1	No	336614.00	336614.00
	Pno 36 Ino TR 1.4				
12	H.T. sub station- Providing, supplying and erecting 11 Kv/ 0.433 Kv H T Substation as per Detailed specification. 6 x 4 sq mtr	1	Job	556322.00	556322.00
	As per Rate analysis				
13	GI Earthing - Supplying & erecting GI earth plate size 60x 60x6 cms complete with all materials, testing & recording results as per specifications . As per IS 3043-1987 & as directed by engineering incharge.	6	No	4323.00	25938.00
	PWD DSR 15-16, Page No.106, Item No.9-1-1				
14	Copper Earthing - Supplying & erecting copper earth plate size 30 x 30 x 0.6 cms complete with all materials, testing & recording results as per specifications . As per IS 3043-1987 & as directed by engineering incharge.	11	No	7732.00	85052.00
	PWD DSR 15-16, Page No 106 Item No.9-1-2				
15	Earthing Strip :- Supplying and erecting G.I.Strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joint required as per specification	200	kgs	199.50	39900.00
	PWD DSR 15-16, Page No 85 Item No.9-2-3				
16	Tools :- Providing Tools as per Detailed specification enclosed.	1	Lot	66825.00	66825.00
	As per RA enclosed				
17	Indoor Lighting :- The lighting shall comprise fleourescent - 4 nos Bulkhead fitting - 3 nos D.B. - 2 nos. Suitable size conductors with fuses, switches including H.G.conduit etc.	1	Job	15048.40	15048.40
	As per RA enclosed				
18	Area Lighting :- The area lighting shall comprise 2 250 w mercury vapour lamps with and mounted on tubular swivelled pole 7 m high including ballast, condensor,fuse reflector,cable and control switch etc out of the two lams.one shall be in the substation yard and the second lamp shall be erected for area lighting.	1	Job	107895.60	107895.60
	As per RA enclosed				

SR	Description	Qty	Unit	Rates	Amount
19	Diesel Generating Set :- Supplying Erecting diesel generating set 250 KVA capacity with AMF Panel as per Detailed specification with water cooled engine set including inspection charges	1	Set	2005607.10	2005607.10
	PWD DSR Pg- 129 Item No. 11-1-19				
20	PLC Automation System :- Providing, erecting PLC Automation	1	Job	913076.00	913076.00
	As per RA				
21	MSEDCL Charges	1	Job	5000000.00	5000000.00
				Total Rs	11065172.96
				Say Rs.	11065173.00

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
ABSTRACT

SUB ESTIMATE NO. :- PUMPING MAIN MAIN FROM PUMING STATION TO STP @ DESAI NAGAR

(600 mm Dia. D.I. K-9 Pipe, Length = 150 m)

Item	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
		Material :				
1		Providing & supplying ISI marked D.I. S&S pipes (push on joints pressure pipes of D. I. of following class & dia. confirming to IS specifications inclusive of the cost of jointing materials (rubber gasket of EPDM quality) including all statutory duties & taxes levied by Govt. of Maharashtra in all respect , education cess, VAT. third party inspection charges of TPI agency approved by MJP , including transit, insurance, railway freight, unloading from railway wagon, loading into truck, transport to departmental store / site, unloading, stacking etc. complete as directed by Engineer-in-charge. (IS-IS:1536/2001 for pipes and IS 158/1969 and IS 12820/1989 or latest edition / revision with ammendments for rubber gaskets).				
	150.00	Rmt	600 mm dia.D.I. K-9 Pipe (CSR 2016-17 P.No.63 I.No.3)	7900.00	Rmt	1185000.00
2		Providing and supplying ISI standard DI specials & fittings with sealing rubber gasket of SBR complete with cast iron follower gland & MS nutbolts coated or otherwise protected from rusting and suitable for DI pipes cost of labour , material, and transportation to stores/site loading unloading including all taxes, etc. complete as per IS -9523 For all types of specials, bends, TEEs, etc..				
	500.00	Kg	350 mm Dia.& above (CSR 2016-17 P.No.69/70 I.No.10a)	129.68	Kg	64840.00
3		Providing & supplying DI fittings with ISI mark mechanical joints confirming to table 12 to 31 of IS Supply of CI mechanical joint double socket with flanged TEEs as dimensionally described in Table 19 of IS 9523/2000 upto latest ammendments including cost of SBR/EPDM gaskets, nut bolts, washers, & ductile iron follower glands . Fittings should be internally OPC lined & externally metallic zinc coating / zinc rich paint with finishing layer of black bitumen coating including transportation and all taxes etc. complete				
	1.00	No	600 x600 x 150 mm dia. TEE (CSR 2015-16. P.No.85 I.No. 13 VIII)	23682.00	No	23682.00
	2.00	No	600 mm dia. Tail Piece	21994.00	No	43988.00
	1.00	No	150 mm dia. Tail Piece flanged socket PN 10 (CSR 2016-17 P.No.86 I.No.13 IX)	2599.00	No	2599.00
	1.00	No	600 mm dia. Collars (CSR 2016-17 P.No. 81 I.No.13 I)	27836.00	No	27836.00

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
	3.00	No	600 mm dia.90 Bend (CSR 2016-17 P.No.82 I.No.13II)	46557.00	No	139671.00
4			Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/16 rated, with body and bonnet of ductile iron conforming to IS 1865 Gr. 500/7 or Gr. 400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/ 1.4104, stem seals min 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min.600 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. Including all taxes and transportation charges etc. complete.			
	1.00	No	600 mm dia Sluice Valve PN - 1.0	589191.00	No	589191.00
	1.00	No	150 mm dia Sluice Valve PN - 1.0 (CSR 2016-17 P.No. 160 I.No. 24)	22672.00	No	22672.00
5			Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron conforming to EN 1563/IS 1865 GR. 500/7 or Gr. 400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 600 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845, Including all taxes and transportation charges etc. complete.			
	1.00	No	Air valve 150 mm dia PN 1.0 (CSR 2016-17 P.No.161 I.No.25)	40993.00	No	40993.00
6			Providing and supplying ISI standard MS specials of required thickness with 3 coats of approved make epoxy paint (Shalimar,Ciba or Mahindra & Mahindra make) from inside & outside including all taxes (Central & Local) , octroi , inspection charges, transportation to stores/site and stacking etc. complete.			
	500.00	Kg	Doble flanged specials of all Diameters (CSR 2016-17 P.No.68 I.No.7c)	67.41	Kg	33705.00
Total Cost Of Material						2174177.00

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			Labour :			
1			Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	90.00	Cum	Lift 0-1.50 m	155.10	Cum	13959.00
			Basic Rate	141.00		
			Add 10 %for M.C.	14.10		
			Total	155.10		
			(CSR 2016-17,P.35, I.No.1)			
2			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	90.00	Cum	Lift 0-1.50 m	198.00	Cum	17820.00
			Basic Rate	180.00		
			Add 10 %for M.C.	18.00		
			Total	198.00		
			(CSR 2016-17 P.No. 35, I No.3)			
3			Excavation for foundation / pipe trenches in soft rock and old cement & lime masonry foundation , asphalt road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	90.00	Cum	Lift 0-1.50 m	487.30	Cum	43857.00
			Basic Rate	443.00		
			Add 10 %for M.C.	44.30		
			Total	487.30		
			(CSR 2016-17 P.No. 35, I No.5)			
4			Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation 15 cm to 20 cm layers including watering and compaction complete.			
	27.00	Cum	Murum available @ site	67.20	Cum	1814.40
			Basic Rate	64.00		
			Add 5 %for M.C.	3.20		
			Total	67.20		
			(CSR 2016-17 P.No.39 I.No.16)			
5			Lowering, laying and jointing with SBR rubber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameters in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of materials from stores to site of work, including cost of jointing materials and rubber rings, labour giving hydraulic testing, etc.complete.			

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			Note :- Only SBR , rubber gaskets to be used.			
	150.00	Rmt	600 mm dia DI K-9	381.15	Rmt	57172.50
			Basic Rate	363.00		
			Add 5 %for M.C.	18.15		
			Total	381.15		
			(CSR 2016-17, P. 63, I. 2)			
6			Lowering,laying and jointing in position following C.I. D/F Reflux valves, Butterfly valves and Sluice valves including cost of all labour jointing material, including nut bolts and giving satisfactory hydraulic testing, etc.complete.			
	1.00	No	600 mm dia Sluice Valve PN - 1.0	9179.10	No	9179.10
			Basic Rate	8742.00		
			Add 5 %for M.C.	437.10		
			Total	9179.10		
	1.00	No	150 mm dia Sluice Valve PN - 1.0	3357.90	No	3357.90
			Basic Rate	3198.00		
			Add 5 %for M.C.	159.90		
			Total	3357.90		
			(CSR 2016-17 P.No.159 I.No.4)			
7			Lowering and fixing kinetic air valve of following dia in proper position and alignment as directed including cost of conveyance from store to site of work, all jointing material, labour and hydraulic testing etc. complete.			
	1.00	No	Air valve 150 mm dia PN 1.0	741.30	No	741.30
			Basic Rate	706.00		
			Add 5 %for M.C.	35.30		
			Total	741.30		
			(CSR 2016-17, P. 164, I. 13c)			
8			Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding , excluding excavation B.B. masonry in C.M. 1:5 proportion with precast steel fibre reinforced concrete frame and covers (S.F.R.C. frame and covers) etc			
	2.00	No	Clear Size 1.20 x1.20 x1.50 M.	18420.15	No	36840.30
			Basic Rate	17543.00		
			Add 5 %for M.C.	877.15		
			Total	18420.15		
			(CSR 2016-17 P.No. 271 I.No.3E)			

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
9			Providing and laying in situ following grades of C.C. of trap/ granite / quartzite / gneiss metal for foundation and bedding including dewatering form work, compacting and curing, finishing etc.complete.				
	5.40	Cum	PCC M150	4444.65	Cum	24001.11	
			Basic Rate	4233.00			
			Add 5 %for M.C.	211.65			
			Total	4444.65			
			(CSR 2016-17 P.No. 43 I.No.1)				
10			Providing and laying in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing , etc.complete (By weigh batching and mix design for M-600 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement) M-150 Grade				
	9.72	Cum	RCC M150 Grade	5373.90	Cum	52234.31	
			Basic Rate	5118.00			
			Add 5 %for M.C.	255.90			
			Total	5373.90			
			(CSR 2016-17 P.No. 43 I.No.2)				
11			Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings,and schedules, including cutting ,bending, hooking the bars, binding with wires or tack welding and supporting as required, etc.complete. (including cost of binding wire.)				
	0.34	MT	Tor Steel	54803.70	MT	18633.26	
			Basic Rate	52194.00			
			Add 5 %for M.C.	2609.70			
			Total	54803.70			
			(CSR 2016-17 P.No. 46 I.No.8)				
12			Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation , surcharging, etc. complete.				
	186.00	Cum		67.20	Cum	12499.20	
			Basic Rate	64.00			
			Add 5 %for M.C.	3.20			
			Total	67.20			
			(CSR 2016-17 P.No. 38 I.No.15)				

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
13			Hydraulic testing of C.I./D.I. pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position using water supplied by the contractor.			
	0.15	Km	600 mm dia DI K-9	42394.80	Km	6359.22
			Basic Rate	40376.00		
			Add 5 %for M.C.	2018.80		
			Total	42394.80		
			(CSR 2016-17 P.No. I.No. 12)			
			Total Cost Of Labour			298468.60
			Total Cost Of Material + Labour			2472645.60
			Total Cost Rs.			2472645.60
			Say Rs.in Lakhs			24.73
			Say in Crores			0.25

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
MEASUREMENT

SUB ESTIMATE NO. 5 :- PUMPING MAIN MAIN FROM PUMING STATION TO STP @ DESAI NAGAR

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
	Material :							
1	Providing & supplying ISI marked D.I. S&S pipes (push on joints pressure pipes of D. I. of following class & dia. confirming to IS specifications inclusive of the cost of jointing materials (rubber gasket of EPDM quality) including all statutory duties & taxes levied by Govt. of Maharashtra in all respect , education cess, VAT. third party inspection charges of TPI agency approved by MJP , including transit, insurance, railway freight, unloading from railway wagon, loading into truck, transport to departmental store / site, unloading, stacking etc. complete as directed by Engineer-in-charge. (IS-IS:1536/2001 for pipes and IS 158/1969 and IS 12820/1989 or latest edition / revision with ammendments for rubber gaskets).							
	600 mm dia.D.I. K-9 Pipe	1.00	150.00				150.00	Rmt
2	Providing and supplying ISI standard DI specials & fittings with sealing rubber gasket of SBR complete with cast iron follwer gland & MS nutbolts coated or otherwise protected from rusting and suitable for DI pipes cost of labour , material, and transportation to stores/site loading unloading including all taxes, etc. complete as per IS -9523 For all types of specials, bends, TEEs, etc..							
	80 -300 mm Dia.						500.00	Kg
3	Providing & supplying DI fittings with ISI mark mechanical joints confirming to table 12 to 31 of IS Supply of CI mechanical joint double socket with flanged TEEs as dimensionally described in Table 19 of IS 9523/2000 upto latest ammendments including cost of SBR/EPDM gaskets, nut bolts, washers, & ductile iron folloer glands . Fittings should be internally OPC lined & externally metallic zinc coating / zinc rich paint with finishing layer of black bitumen coating including transportation and all taxes etc. complete							
	600 x 600 x 150 mm dia. TEE	1.00					1.00	No
	600 mm dia. Tail Piece	2.00					2.00	No
	150 mm dia. Tail Piece	1.00					1.00	No
	600 mm dia. Collars	1.00					1.00	No

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
	600 mm dia.90 Bend	3.00					3.00	No
4	Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/16 rated, with body and bonnet of ductile iron conforming to IS 1865 Gr. 500/7 or Gr. 400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/ 1.4104, stem seals min 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min.600 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. Including all taxes and transportation charges etc. complete.							
	600 mm dia Sluice Valve PN - 1.0	1.00					1.00	No
	150 mm dia Sluice Valve PN - 1.0	1.00					1.00	No
5	Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron conforming to EN 1563/IS 1865 GR. 500/7 or Gr. 400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 600 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845, Including all taxes and transportation charges etc. complete.							
	a) Kinetic Air valve 150 mm dia PN 1.0	1.00					1.00	No

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
6	Providing and supplying ISI standard MS specials of required thickness with 3 coats of approved make epoxy paint (Shalimar,Ciba or Mahindra & Mahindra make) from inside & outside including all taxes (Central & Local) , octroi , inspection charges, transportation to stores/site and stacking etc. complete.							
	Doble flanged specials of all Diameters						500.00	Kg
	Labour :							
1	Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.20	0.50	90.00	90.00	Cum
						Say	90.00	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.20	0.50	90.00	90.00	Cum
						Say	90.00	Cum
3	Excavation for foundation / pipe trenches in soft rock and old cement & lime masonry foundation , asphalt road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.20	0.50	90.00	90.00	Cum
						Say	90.00	Cum
4	Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation 15 cm to 20 cm layers including watering and compaction complete.							
	Murum available @ site	1.00	150.00	1.20	0.15	27.00	27.00	Cum
						Say	27.00	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
5	Lowering, laying and jointing with SBR rubber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameters in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of materials from stores to site of work, including cost of jointing materials and rubber rings, labour giving hydraulic testing, etc.complete.							
	Note :- Only SBR , rubber gaskets to be used.							
	600 mm dia DI K-9	1.00	150.00				150.00	Rmt
6	Lowering, laying and jointing in position following C.I. D/F Reflux valves, Butterfly valves and Sluice valves including cost of all labour jointing material, including nut bolts and giving satisfactory hydraulic testing, etc.complete.							
	600 mm dia; Sluice Valve PN - 1.0	1.00					1.00	No
	150 mm dia Sluice Valve PN - 1.0	1.00					1.00	No
7	Lowering and fixing kinetic air valve of following dia in proper position and alignment as directed including cost of conveyance from store to site of work, all jointing material, labour and hydraulic testing etc. complete.							
	Kinetic Air valve 150 mm dia PN 1.0	1.00					1.00	No
8	Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding , excluding excavation B.B. masonry in C.M. 1:5 proportion with precast steel fibre reinforced concrete frame and covers (S.F.R.C. frame and covers) etc							
	Clear Size 1.20 x1.20 x1.50 M.	2.00					2.00	No
9	Providing and laying in situ following grades of C.C. of trap/ granite / quartzite / gneiss metal for foundation and bedding including dewatering form work, compacting and curing, finishing etc.complete.							
	PCC M150	3.00	5.00	1.20	0.30	5.40	5.40	Cum
						Total	5.40	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
10	Providing and laying in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stancthions including normal dewatering, form work, compaction, finishing and curing , etc.complete (By weigh batching and mix design for M-600 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement) M-150 Grade							
	RCC M150 Grade For Thrust Block	3.00	3.00	1.20	1.20	12.96	12.96	Cum
		-3.00	3.00	0.60	0.60	-3.24	-3.24	Cum
						Total	9.72	Cum
11	Providing and fixing in position steel bar reinforcemement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings,and schedules, including cutting ,bending, hooking the bars, binding with wires or tack welding and supporting as required, etc.complete. (including cost of binding wire.)							
	Tor Steel 5kg/sqm surface Area	3.00	3.00	1.50	25.00	337.50	0.34	MT
						Say	0.34	MT
12	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation , surcharging, etc. complete.							
	Qty Of Excavation						270.00	Cum
	Deduction							Cum
	Murum Bedding						27.00	Cum
	Concrete						15.12	Cum
	Pipe Volume						42.39	Cum
	Net Quantity						185.49	Cum
						Say	186.00	Cum
13	Hydraulic testing of C.I./D.I. pipe line to specified pressure etc complete							
	600 mm dia DI K-9	1.00	0.15				0.15	Km

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
NAME OF SUBWORK: STP Cap. 20 MLD FOR ZONE IX @ DESAI NAGAR
ABSTRACT

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1		STP Cap. 20 MLD @ Desai Nagar			
		Designing, providing, constructing, hydraulic testing, commissioning and giving satisfactory trials of STP based on MMBR/FAB (based on technologies providing attached growth on plastic meddi kept suspended in the waste water due to low density of plastic and provided with compressed air for aeration with very high MLSS of greater than 15000 mg/lit) technology consisting of Inlet Chamber, Screen Chamber, Detritus Tanks, Distribution Chamber and Biological CASP Basins, Sludge Sump, Chlorine Contact Tank, Chlorinator Room/Shed, Sludge Centrifuge necessary piping work with required valves, gates, drains, pathways Administration Block cum Laboratory, Laboratory Equipments, Tools and Plants, Spare Parts, etc. complete as turnkey job with all involved civil, electrical and mechanical works inclusive of following items, units as per detailed specification for civil, electrical and mechanical components with all duties and taxes, etc. complete to achieve BOD < 5 ppm, COD < 100 ppm, TSS < 10 ppm, to get recyclable quality of water for industrial / agricultural purposes. (In Case Cyclic activated sludge plant is designed for N, P outlet parameters shall also include TN < 10 ppm, Nh3N < 2 ppm and TP < 1 ppm)			
		UNITS INCLUDED			
		1. Inlet Chamber			
		2. Screen Chamber			
		3. Detritus Tank			
		4. CASP Basins			
		5. Chlorine Contact Tank			
		6. Chlorinator and Chlorinator Room / Tonner Room			
		7. Sludge Sump			
		8. Sludge Centrifuge Platform with Centrifuges			
		9. Outfall Sewer			
		10. Piping Work in CI-LA class including Sluice Valves,			
		11. Administrative Building cum Laboratory (G+1)			
		NOTES			
		These Rates are for Civil Works, in M- 30 grade RCC.			
		Water Table is considered at 5 m below ground level.			
		Soil bearing capacity considered as 20 T/m ² at 1.5 m below ground level.			
		All civil items, electrical, piping, valves, pumps, motors, blowers, etc. Are considered as per MJP Schedule of Rates.			
		These crates includes - Providing and Applying of Elastomeric (450% Elongation) thermoplastic, fire retardant, Coatingskin tensile strength 18 to 21 kg/cm ² , antifungalantibacterial, anticorrosive,graft, co polymer coating on smooth plastered surface 100 micron dyu film thickness of self bonding with plasterd surface and 100 micron of top coat for STP as directed by Engineer-in-charge.			
	1.00	No	STP Cap. 20 MLD - MMBR		
				99036000.00	No
			MMBR	943.20	
			MJP DSR 2016-17, P. No.247-253, I. No. 4D		
			Add 5 % for Municipal Corporation Area	47.16	
			Net Cost	990.36	

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		NOTE :- The Agency to give performance guarantee for the effluent quality as per pollution control board norms & as directed by Engineer-in-charge at all the times (EPC designs shall be submitted to the competent authority for the approval prior to commencement of work.)			
2		Providing and erecting chain link fencing 1.6 M. height with G.I. chain link of size 50 x 50 mm 8 guage thick with UCR wall Compund wall all around the STP as directed by Engineer-in-charge			
	590.00	Rmt	4938.15	Rmt	2913508.50
		Plot Area = 100 M X 200 M = 20000 sqm, Total Length = 100 * 2+ 200*2 =600 Rmt - Gate Length of 5m x 2 No =590 M Compund wall			
		As Per Rate Analysis			
3		Providing and fixing mild steel grill gate with angle iron frame 65 mm x 65 mm x 10 mm with iron bars at 150mm.C/C and diagonal flats as per the detailed drawing including hinges, pivot blocks locking arrangement, welding riveting and oil painting of three coats of approved shade. Weight of gate 35 Kg/smt. Spec. No.: Bd.W.6 Page No. 585			
	24.00	Sqm	1878.45	Sqm	45082.80
		Gate Size 4.0 m X 3.0 M			
			Basic Rate		1789.00
			Add 5 % for M.C.		89.45
			Total		1878.45
		PWD DSR 17-18, I. No. 5 / 21 BDW 6, Pg. No. 179			
4		Providing and fixing 50 mm. dia. medium class G.I.pipe gate with wicket gate of approved drawing with all fixtures & fittings in two leaves with strong hold fast embedded in c.c. block at top & bottom with locking arrangement including cutting, bending, making holes and with one coat of primer complete. Spec. No.: As directed by Engineer in charge.			
	2.00	Sqm	4042.50	Sqm	8085.00
		Gate Size 1.0 m X 2.0 M			
			Basic Rate		3850.00
			Add 5 % for M.C.		192.50
			Total		4042.50
		PWD DSR 17-18, I. No. 5 / 3 BDC, Pg. No. 24			
5		For Automation of STP		Job	2300000.00
			Total Rs.		104302676.30
			Say Rs.		104302677.00
			Say Rs. Lakhs		1043.03
			Say Rs. Crore		10.43

Average Rate of Sewage Treatment Plant (STP) Of 20.0 MLD					
Cyclic Activated Sludge Process SBR		Modernised Sewage Treatment Plant		Moving Media Bio Reactor Technology (MMBR)	
Basic Rate for 20 MLD in Lakhs		Cost of 20 MLD Plant in Lakhs		Basic Rate for 20 MLD in Lakhs	47.16
Total Cost for 20.0 MLD STP	0.00	Total Cost for 20.0 MLD STP	0.00	Total Cost for 20.0 MLD STP	943.20
*All rates in Lakhs					

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)

ABSTRACT

SUB ESTIMATE NO. 14 A :- SUMP CAP. 20 LAKH LIT. & PUMP HP USE @ DESAI NAGAR STP CAMPUS

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT (Rs. Ps.)
(A) SUMP					
		Designing (aesthetically), and constructing RCC ground service reservoirs/RCC sumps in M-300 mix of required capacity including excavation in all types of strata, foundation concrete, container walls, bottom slab to RCC roof slab/ or dome, 20 mm thick cement plaster with water proffing compound in CM 1:3 proportion to inside face of the container, including epoxy paint from inside including refilling and disposing of surplus stuff within lead of 50 M, all labour and material charges, for laying and jointing of pipe assembly for inlet, outlet washout, over flow and bye-pass arrangement consisting of C.I. M.S. D/F. pipes, specials and valves of given diameters, providing and fixing accessories such as S.S.ladder inside and outside, C.I. Manhole frame and cover, water top slab, B.B. masonry chamber for all valves, ventilating shafts, including giving satisfactory hydraulic test and water tightness test as per IS code and providing three coats of acrylic emulsion with silicon additives paint to all expose surface of structure including roof surface etc. complete as per design data, Anti-termite treatment shall be given for underground portion of the structure. criteria, obligatory requirements and detailed specifications.			
		(CSR 15-16 P.No.255, 256, 257, I.No.1)			
		Sump capacity - 20 Lakh Lit			
		Basic Rate for 15 Lakh Lit	5005671.00		
		Add Rs. 1.77/Lit	885000.00		
		Total	5890671.00		
		Add 10 % for Overhead Pumphouse	589067.10		
		Total	6479738.10		
		Add 5% For MC Area ,	323986.91		
		Add 1% Labour Welfare cess on (40% of 4847388.70)	25918.95		
1.00	No	Total	6829643.96	No	6829643.96

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT (Rs. Ps.)
(B) PUMPHOUSE					
		Designing, Providing and constructing pump house of required size and shape over sump well with RCC framed structure of M-200, columns, beams. Corbles for gantry griders, lintels with band, chajjas, roof slab as per requirement and design. The height of pump house shall vary depending upon HP of pump motors (minimum 5.5 m) . Providing and constructing brick masonry walls of 23 cm in CM 1:6 proportion with 1:3 cement plaster 20 mm thick from inside and outside, rolling shutter (65 qm size) out of 16 gauge M.S.flat fully glazed steel windows minimum 20% of floor area, RCC, M-150 gallery 1m wide around pump house with GI railing in 3 rows including 3 coats of oil paint to windows and rolling shutter, two coats of snowcem paint from outside, 2 coats of washable oil bound distemper from inside and white wash to ceiling, etc. complete as directed.			
		Item No. 1			
		Providing II nd class B.B. masonry with conventional bricks in C.M. 1:6 of following proportion in superstructure including striking out and raking out joints, watering and scaffolding, etc.complete			
			Basic Rate		4950.00
			Add 5 % For M.C.		247.50
17.50	Cum		Total	Cum	90971.84
		(PWD CSR 16-17 P.No. 71 I.No.4)			
		Item No. 2			
		Providing and casting in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RC.C works as per detailed drawings and design as directed by Engineer-in-Charge including normal dewatering, centering form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc.complete.(By weigh batching and mix design for M-250 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement)			
		A) RCC Footing			
		MJP 15-16, , Item No. 2, Pg-43,44			
			Basic Rate		5906.00
			Add 5 %+1% for M.C.&L.W.		354.36
8.10	Cum		Total	Cum	50708.92
		B) RCC Columns			
		MJP 15-16, , Item No. 3, Pg-43,44			
			Basic Rate		7550.00
			Add 5 %+1% for M.C.&L.W.		453.00
12.96	Cum		Total	Cum	103718.88
		C) RCC Beams			
		MJP 15-16, , Item No. 4, Pg-43,44			
			Basic Rate		7438.00

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT ^{UTEW} (Rs. Ps.)
		Add 5 %+1% for M.C.&L.W.	446.28		
17.28	Cum	Total	7884.28	Cum	136240.36
		D) RCC Landing/Steps			
		MJP 15-16, , Item No. 5, Pg-43,44			
		Basic Rate	8049.00		
		Add 5 %+1% for M.C.&L.W.	482.94		
0.43	Cum	Total	8531.94	Cum	3685.80
		E) RCC Lintels			
		MJP 15-16, , Item No. 4, Pg-43,44			
		Basic Rate	7438.00		
		Add 5 %+1% for M.C.&L.W.	446.28		
		Total	7884.28		
2.48	Cum		7554.99	Cum	18766.60
		F) RCC Chajjas			
		MJP 15-16, , Item No. 6, Pg-45			
		Basic Rate	8161.00		
		Add 5 %+1% for M.C.&L.W.	489.66		
		Total	8650.66		
1.20	Cum		8364.39	Cum	10037.27
		G) RCC Slab			
		MJP 15-16, , Item No. 5, Pg-43,44			
		Basic Rate	8049.00		
		Add 5 %+1% for M.C.&L.W.	482.94		
13.55	Cum	Total	8531.94	Cum	115582.53
		Item No. 3			
		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parodies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		MJP 15-16, Section G, Item No. 8 b, Pg-46			
		Basic Rate	50187.00		
		Add 5 %+1% for M.C.&L.W.	3011.22		
4.40	MT	Total	53198.22	MT	233872.07

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT ^{UTB} (Rs. Ps.)
		Item No.4 (A)			
		Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 6248-1979) (With mechanical gear) Spec. No. Bd.T. P. No. 510			
			Basic Rate		5245.00
6.25	Sqm		Add 5 % for M.C.		262.25
			Total	Sqm	34420.31
		(PWD CSR 2016-17 P.No.133/134, I.No 21b/18)			
		Item No.4 (B)			
		Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 kg/Rmt. The shutter should be of bearing bottom 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. Inter locking section 40 x 18 x 1.10 mm at weight 0.469 kg/Rmt. And handle section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. and top section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. As per detailed drawings and as directed by Engineer in charge with all necessary Aluminium sections fixtures and fastenings such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter including 5 mm thick plain glass with all required screws and nuts etc, complete. with colour Anodising with box Spec. No.: As directed by Engineer-in-charge.			
		PWD 16-17/ Item No. 31i / 18 BDT / P.No-136			
			Basic Rate		4480.00
			Add 5 % for M.C.		224.00
15.75	Sqm		Total	Sqm	74088.00

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT (Rs. Ps.)
		Item No. 5 (A)			
		Providing cement plaster for following thickness in two coats in cement mortar in following proportions without neeru finish to concrete, brick or stone surfaces in all positions including scaffolding and curing, etc.complete.			
		(PWD CSR 16-17 P.No. 86 I.No. 3)			
		Basic Rate	272.00		
		Add 5 % for M.C.	13.60		
270.00	Sqm	Total	285.60	Sqm	77112.00
		Item No. 5 (B)			
		Providing sand faced plaster externally in cement mortar using approved screened sand in all positions including base coat of 15 mm th in cement mortar 1:4 using water proofing compound @ 1 Kg per cement bag curing the same for not less than 2 days & keeping the surface of base coat rough to recieve the sand faced treatment of 6 to 8 mm th in cement mortar 1:4 finishing the surface by taking out grains & curing for 14 days, scaffolding etc comp.as directed.			
		(PWD CSR 16-17 P.No. 87 I.No. 5)			
		Basic Rate	398.00		
		Add 5 % for M.C.	19.90		
228.00	Sqm	Total	417.90	Sqm	95281.20
		Item No. 6			
		Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm thick and required width in plain/ diamond pattern on bed of 1:6 Cement mortar including cement float, filling joints with neat cement slurry, curing, polishing and cleaning complete. Spec. No.: Bd.M.3 Page No. 380			
		PWD DSR, 2016-17, BD -M, Item No 4/12BDM 3B/			
		Basic Rate	888.00		
		Add 5 % for M.C.	44.40		
80.10	Sqm	Total	932.40	Sqm	74685.24
		Item No. 7			
		Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) complete. Spec. No.: Bd.P.5 Page No. 413			
		(PWD CSR 2016-17 P.No.111 I.No.5b/15)			
		Basic Rate	36.00		
		Add 5 % for M.C.	1.80		
270.00	Sqm	Total	37.80	Sqm	10206.00

Qty	Unit	ITEM DESCRIPTION	Rate	Per	AMOUNT (Rs. Ps.)
		Item No. 8			
		Providing and applying two coats of apex /Ace exterior paint of approved manufacture and of approved color to the plastered surfaces including cleaning, preparing the plaster surface applying primer coat, scaffolding if necessary and watering the surface for two days complete.			
		(PWD CSR 2016-17 P.No.108 I.No.17/14)			
		Basic Rate	160.00		
		Add 5 % for M.C.	8.00		
228.00	Sqm	Total	168.00	Sqm	38304.00
		Item No. 9 :-			
		Providing and fixing 900mm high S.S.304 Grade Stainless steel railing with 40mm diameter and 1.5mm thick at top,40mm diameter and 1.5mm thick vertical supports spaced at 1.5m center to center and 8mm thick toughened glass including fabricating ,fixtures, erecting, necessary welding, grinding, finishing, buffing to stainless steel pipe etc. complete.** Spec. No.: As directed by Engineer Incharge			
		PWD 16-17, BDV, Item No.59/21, Pg. No. 188			
		Basic Rate	4010.00		
		Add 5 % for M.C.	200.50		
50.00	RM	Total	4210.50	RM	210525.00
		Total Cost of Pumphouse			1378206.01
		Total Cost of Sump + Pumphouse (A+B)			8207849.97
			Say Rs.		82.08
			Say in Croes.		0.82

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. 14 A :- SUMP CAP. 20 LAKH LIT. & PUMP HP USE @ DESAI NAGAR STP CAMPUS

MEASUREMENTS

ITEM DESCRIPTION	No.	L	B	D/H	Qty	Unit
(A) SUMP						
Designing (aesthetically), and constructing RCC ground service reservoirs/RCC sumps in M-300 mix of required capacity including excavation in all types of strata, foundation concrete, container walls, bottom slab to RCC roof slab/ or dome, 20 mm thick cement plaster with water proffing compound in CM 1:3 proportion to inside face of the container, including epoxy paint from inside including refilling and disposing of surplus stuff within lead of 50 M, all labour and material charges, for laying and jointing of pipe assembly for inlet, outlet washout, over flow and bye-pass arrangement consisting of C.I. M.S. D/F. pipes, specials and valves of given diameters, providing and fixing accessories such as M.S. ladder inside and outside, C.I. Manhole frame and cover, water top slab, B.B. masonry chamber for all valves, ventilating shafts, including giving satisfactory hydraulic test and water tightness test as per IS code and providing three coats of cement paints to all expose surface of structure including roof surface etc. complete as per design data, Anti-termite treatment shall be given for underground portion of the structure.criteria, obligatory requirements and detailed specifications.						
Cap 20 Lakh Lit	1				1	No
(B) PUMPHOUSE						
Designing, Providing and constructing pump house of required size and shape over sump well with RCC framed structure of M-200, columns, beams. Corbles for gantry griders, lintels with band, chajjas, roof slab as per requirement and design. The height of pump house shall vary depending upon HP of pump motors (minimum 5.5 m) . Providing and constructing brick masonry walls of 23 cm in CM 1:6 proportion with 1:3 cement plaster 20 mm thick from inside and outside, rolling shutter (65 qm size) out of 16 gauge M.S.flat fully glazed steel windows minimum 20% of floor area, RCC, M-150 gallery 1m wide around pump house with GI railing in 3 rows including 3 coats of oil paint to windows and rolling shutter, two coats of snowcem paint from outside, 2 coats of washable oil bound distemper from inside and white wash to ceiling, etc. complete as directed.						
Size of Pumphouse 12.60m x 6.0 m						
Item No. 1						
Providing 2 nd class Burnt Brick masonry with conventional type bricks in CM 1:6 in Superstructure including striking joints, racking out joints, watering and scaffolding complete.						
	2	12	0.23	4.70	12.97	Cum
	2	6	0.23	4.70	6.49	Cum
				Total	19.46	Cum

ITEM DESCRIPTION	No.	L	B	D/H	Qty	Unit
Deduction for Doors & windows	1.00	2.50	0.23	2.50	1.44	Cum
	7.00	1.50	0.23	1.50	0.52	Cum
				Total	1.96	Cum
Net Quantity					17.50	Cum
Item No. 2						
Providing and laying in situ cement concrete 1:1 ¹ / ₂ :3 of trap/granite/quartzite/gneiss metal for RCC structures as per detailed designs and drawings or as directed including centering, form work, compaction and roughening the surface if special finish is to be provided (Excluding reinforcement & structural steel) complete.						
A) RCC Footing	8	1.5	1.5	0.45	8.10	Cum
B) RCC Columns	8	0.3	0.6	9.00	12.96	Cum
C) RCC Plinth Beams/ Roof Beams	4	12	0.3	0.60	8.64	Cum
	8	6	0.3	0.60	8.64	Cum
				Total	17.28	Cum
D) RCC Landing/Steps	2	1.2	1.2	0.15	0.43	Cum
E) RCC Lintels	2	12	0.23	0.30	1.66	Cum
	2	6	0.23	0.30	0.83	Cum
				Total	2.48	Cum
F) RCC Chajjas	8	2	0.75	0.10	1.20	Cum
G) RCC Slab	1	13.36	6.76	0.15	13.55	Cum
Total Concrete Qty.					56.00	Cum
Item No. 3						
Providing and fixing in position HYSD bar reinforcement of various diameters for R.C.C. pils caps, footings, foundations, slabs, beams, columns, canopies, staircase, newels, chajjas, lintels, pardis, copings, fins, arches etc. as per detailed designs, drawings and schedules including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required complete.						
1% of Concrete Qty	0.01	56.00	7850.00	1000	4.40	MT
Item No. 4A						
Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 6248-1979) (With mechanical gear) Spec. No. Bd.T. P. No. 510						
Rolling Shutter	1.00	2.50		2.50	6.25	Sqm

ITEM DESCRIPTION	No.	L	B	D/H	Qty	Unit
Item No. 4 B						
Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 kg/Rmt. The shutter should be of bearing bottom 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. Inter locking section 40 x 18 x 1.10 mm at weight 0.469 kg/Rmt. And handle section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. and top section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. As per detailed drawings and as directed by Engineer in charge with all necessary Aluminium sections fixtures and fastenings such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter including 5 mm thick plain glass with all required screws and nuts etc, complete. with colour Anodising with box Spec. No.: As directed by Engineer-in-charge.						
Window	7.00	1.50		1.50	15.75	Sqm
				Total	15.75	Sqm
Item No. 5 (A)						
Providing cement plaster 20 mm thick in two coats in CM 1:4 without neeru finish to concrete brick surface in all positions including scaffolding and curing, etc.complete.						
Inside	2.0	12.60		5.50	138.60	Sqm
	2.0	6.00		5.50	66.00	Sqm
Ceiling	12.6	6.00		1.00	75.60	Sqm
				Total	280.20	Sqm
Deductions						
Door	1.00	2.50	0.50	2.50	3.125	Sqm
Window	7.00	1.50	0.50	1.50	7.875	Sqm
				Total	11.00	Sqm
Net Quantity		280.20	-	11.00	269.20	Sqm
				Say	270.00	Sqm
Item No. 5 (B)						
Providing sand faced plaster externally in cement mortar using approved screened sand in all positions including base coat of 15mm thick in cement mortar 1:4 using waterproofing compound at 1kg per cement bag curing the same for not less than 2 days and keeping the surface of base coat rough to receive the sand faced treatment of 6 to 8 mm thick in cement mortar in CM 1:4 finishing the surface by taking out grains and curing for 14 days , scaffolding etc. complete						
Outside	2.0	13.06		5.50	143.66	Sqm
	2.0	6.46		5.50	71.06	Sqm
Chajjas	8.0	2.00	0.75	2.00	24.00	Sqm
				Total	238.72	Sqm
Deductions						
Door	1.00	2.50	0.50	2.50	3.125	Sqm
Window	7.00	1.50	0.50	1.50	7.875	Sqm
				Total	11.00	Sqm
Net Quantity		238.72	-	11.00	227.72	Sqm
				Say	228.00	Sqm

ITEM DESCRIPTION	No.	L	B	D/H	Qty	Unit

ITEM DESCRIPTION	No.	L	B	D/H	Qty	Unit
Item No. 6						
Providing and laying Polished Tandur Stone Flooring 25 mm. to 30 mm. thick and of required width in plain / diamond pattern on a bed of CM 1:6 including cement float, filling joints, with neat cement slurry, curing, polishing and cleaning complete.						
Inside Room	1.00	12.60		6.00	75.60	Sqm
Gallery/Steps	1.00	3.00		1.5	4.50	Sqm
				Total	80.10	Sqm
Item No. 7						
Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) complete. Spec. No.: Bd.P.5 Page No. 413						
Quantity As Per Internal Plastering					270.00	Sqm
Item No. 8						
Providing and applying two coats of appex /Ace exterior paint of approved manufacture and of approved color to the plastered surfaces including cleaning, preparing the plaster surface applying primer coat, scaffolding if necessary and watering the surface for two days complete.						
Quantity As Per External Plastering					228.00	Sqm
Item No. 9 :-						
Providing and fixing 900mm high S.S.304 Grade Stainless steel railing with 40mm diameter and 1.5mm thick at top,40mm diameter and 1.5mm thick vertical supports spaced at 1.5m center to center and 8mm thick toughened glass including fabricating ,fixtures, errecting, necessary welding, grinding, finishing, buffing to stainless steel pipe etc. complete.** Spec. No.: As directed by Engineer Incharge						
	3.14	15.9			49.96	Rmt
					49.96	Rmt
				Say	50.0	Rmt

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE IX**

ABSTRACT						
Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1			Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
			H.D.P.E. DWC pipes for Drainage Class SN 8			
	174930.00	Rmt	150 mm dia.(ID) (CSR 2016-17, P. 132,133 I. 2)	378.00	Rmt	66123540.00
2			Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge			
			HDPE Pipes - Class SN8			
	699720.00	Rmt	110 mm dia.(OD) (PWD CSR 2017-18, P. 176, I. 88/20)	318.00	Rmt	222510960.00
3			Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.			
			Inspection Chamber {900 x 600x 1200}			
	29155.00	No.		11608.80	No.	338454564.00
			Basic Rate	11056.00		
			Add 5% for M.C.	552.80		
			Total	11608.80		
			(CSR 2016-17, P. 275 I. 13)			
4			Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	119535.50	Cum	Lift 0 -1.5 M.	487.30	Cum	58249649.15
			Basic Rate	443.00		
			Add 10% for M.C.	44.30		
			Total	487.30		
			(CSR 2016-17, P. 35 I. 5)			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
5			Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	119535.50	Cum	Lift 0.0 -1.5 M.	155.10	Cum	18539956.05
			Basic Rate	141.00		
			Add 10% for M.C.	14.10		
			Total	155.10		
6			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	119535.50	Cum	Lift 0 -1.5 M.	198.00	Cum	23668029.00
			Basic Rate	180.00		
			Add 10% for M.C.	18.00		
			Total	198.00		
7			Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
	20991.60	Cum		67.20	Cum	1410635.52
			Basic Rate	64.00		
			Add 5% for M.C.	3.20		
			Total	67.20		
			(CSR 2016-17, P. 39, I. 16)			
8			Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
			H.D.P.E. DWC pipes for Drainage CLASS SN 8			
	174930.00	Rmt	150 mm dia.(ID)	33.60	Rmt	5877648.00
			Basic Rate	32.00		
			Add 5% for M.C.	1.60		
			Total	33.60		
			(CSR 2016-17, P. 134, I. 4)			
9			Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
	174.930	KM	H.D.P.E. DWC pipes for Drainage CLASS SN 8	3150.00	KM	551029.50
			Basic Rate	3000.00		
			Add 5% for M.C.	150.00		
			Total	3150.00		
			(CSR 2016-17, P. 134, I. 4)			

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
10		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
	295733.84	Cum	67.20	Cum	19873314.05
		Basic Rate	64.00		
		Add 5% for M.C.	3.20		
		Total	67.20		
		(CSR 2016-17, P. 38, I.15)			
11		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
	24082.88	Cum	195.62	Cum	4711092.99
		(CSR 2016-17, P. 22, Statement VI)			
		Basic Rate	195.62		
12		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	131197.50	Sqm	873.47	Sqm	114597080.33
		(As per Rate Analysis)			
13		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
	29155.00	No.	175.35	No.	5112329.25
		(Similar Item PWD CSR 2017-18, P. 165, I No 442.61 BDV 5)			
		Basic Rate	167.00		
		Add 5% for M.C.	8.35		
		Total	175.35		
			Total Cost Rs.		879679827.83
			Say Rs.		879679828.00
			Total Cost Rs.		219919957.00
			Say in Lakhs.		2199.20
			Say in Crore		21.99

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE IX**

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Total Nos. of Properties in Zone -	116620	Nos.				
Considering four Property have one IC chamber size 90 x 60 x 120 cm ,common for 4 property	29155.00				29155.00	Nos.
				Total IC chamber	29155.00	Nos.
Item No. 1'Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.						
H.D.P.E. pipes for Drainage 'CLASS SN 8 150 mm dia.(ID)	29155.00	6.00			174930.00	Rmt
Item No.2 : Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge						
From House Chamber to IC Chamber HDPE Pipes - Class SN8 110 mm dia. (OD)	116620.00	6.00			699720.00	RMT
				Total	699720.00	RMT
Item No. 3 : Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.						
Inspection Chamber {900 x 600x 1200}	29155.00				29155.00	Nos.
Item No. 4: Excavation for foundation/ pipes trenches by all mean in soft rock & old cement and lime masonry foundation asphalt road excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole i} 0 to 1.5 m	29155.00	6.00	0.80	0.50	69972.00	Cum
b) Excavation for Property chamber of 900 x 600 x 1200 i} 0 to 1.5 m	29155.00	2.00	1.70	0.50	49563.50	Cum
				Total	119535.50	Cum
Item No. 5: Excavation for foundation/ pipes trenches in earth, soil of all types ,sand ,gravel and soft murum & excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole i} 0 to 1.5 m	29155.00	6.00	0.80	0.50	69972.00	Cum
b) Excavation for Property chamber of 900 x 600 x 1200 i} 0 to 1.5 m	29155.00	2.00	1.70	0.50	49563.50	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
				Total	119535.50	Cum
Item no. 6 Excavation for foundation/pipe trenches in Hard Murum & excluding the back filling, etc complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	29155.00	6.00	0.80	0.50	69972.00	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	29155.00	2.00	1.70	0.50	49563.50	Cum
				Total	119535.50	Cum
Item No : 7 :Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.						
for pipe line from IC to street Manhole	29155.00	6.00	0.80	0.15	20991.60	Cum
				Total	20991.60	Cum
Item No.8 Lowering ,Laying and jointing HDPE Double Wall Corrugated Pipes for non pressure Underground drainage and Sewerage applications etc complete						
for pipe line from IC to street Manhole	29155.00	6.00			174930.00	RMT
Item No.9 :Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing						
H.D.P.E. DWC pipes for Drainage CLASS SN 8	29155.00	6.00			0.006	KM
Item No.10: Refilling the trenches with approved excavated stuff with soft materialsetc. Complete.	Total refilling Qty = Total Ex. Qty - (Sand Bedding Qty + Pipe Volume)					
Pipe Volume:						
for pipe line from IC to street Manhole	29155.00	6.00	0.15	0.15	3091.28	Cum
Chamber Vol.	29155.00	1.40	1.10	1.50	38789.78	Cum
				Total	41881.06	Cum
				Refilling Quantity :	295733.84	Cum
Item No. 11: 'Disposing of surplus excavated stuff from site of work up to a distance of 2Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.	Disposal = Bedding Qty + Pipe Volume					
		20991.60	+	3091.28	24082.88	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Item No. 12 : Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.	50%	174930.00	1.50		131197.50	Sqm
Item No. 13 :Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
15 mm Dia.	25%	116620.00	0.00		29155.00	No

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IX					
(Underground Sewerage Network -150 to 900 mm dia RCC Pipes, HDPE DWC SN 8 Pipes ,					
ABSTRACT					
I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	2542.00	150 mm dia.	357.00	Rmt	907494.00
	334.00	200 mm dia.	394.00	Rmt	131596.00
	1393.00	300 mm dia.	757.00	Rmt	1054501.00
	1586.00	350 mm dia.	1260.00	Rmt	1998360.00
	831.00	400 mm dia.	1344.00	Rmt	1116864.00
	548.00	500 mm dia.	1785.00	Rmt	978180.00
	500.00	700 mm dia.	2940.00	Rmt	1470000.00
		RCC NP 4 Class			
	736.00	300 mm dia.	945.00	Rmt	695520.00
	138.00	350 mm dia.	1344.00	Rmt	185472.00
	314.00	400 mm dia.	1470.00	Rmt	461580.00
	618.00	600 mm dia.	2520.00	Rmt	1557360.00
	121.00	700 mm dia.	3150.00	Rmt	381150.00
		(CSR 2016-17, P. 103,104, I. E, F)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
2		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
		H.D.P.E. DWC pipes for Drainage			
	99858.00	150 mm dia.(ID)	378.00	Rmt	37746324.00
	4067.00	170 mm dia.(ID)	437.00	Rmt	1777279.00
	3100.00	200 mm dia.(ID)	594.00	Rmt	1841400.00
	3066.00	250 mm dia.(ID)	1007.00	Rmt	3087462.00
		(CSR 2016-17, P. 132,133 I. 2)			
			Material Cost		55390542.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	33347.90	Total	155.10	Cum	5172259.29
		Lift 1.5 -3.0 M.			
		Basic Rate	153.00		
		Add 10 % for M.C..	15.30		
	451.82	Total	168.30	Cum	76041.31
		(CSR 2016-17, P. 35 I. 1)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	49088.75	Total	198.00	Cum	9719572.50
		Lift 0 -1.5 M.			
		Basic Rate	192.00		
		Add 10 % for M.C..	19.20		
	404.26	Total	211.20	Cum	85379.71
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	74971.91	Total	487.30	Cum	36533811.74
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	21402.24	Total	509.30	Cum	10900160.83
		(CSR 2016-17, P. 35 I. 5)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	4868.31	Total	826.10	Cum	4021710.89
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	25302.20	Total	848.10	Cum	21458795.82
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	10373.78	Total	870.10	Cum	9026223.61
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	1487.79	Total	892.10	Cum	1327255.66
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	418.86	Total	957.60	Cum	401100.34
		(CSR 2016-17, P. 39 I.18)			
6		Providing & filling in sand boxing in pipeline or for foundation with sand of approved quality including watering and compaction,etc.complete.			
		Basic Rate	931.00		
		Add 5 % for M.C..	46.55		
	1488.08	Total	977.55	Cum	1454672.60
		(CSR 2016-17, P. 39 I. 19)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
			Basic Rate		64.00
			Add 5 % for M.C..		3.20
	13392.76		Total	Cum	899993.47
		(CSR 2016-17, P. 39, I. 16)			
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		150 mm dia.			
			Basic Rate		55.00
			Add 5 % for M.C..		2.75
	2542.00		Total	Rmt	146800.50
		200 mm dia.			
			Basic Rate		73.00
			Add 5 % for M.C..		3.65
	334.00		Total	Rmt	25601.10
		300 mm dia.			
			Basic Rate		115.00
			Add 5 % for M.C..		5.75
	2129.00		Total	Rmt	257076.75
		350 mm dia.			
			Basic Rate		118.00
			Add 5 % for M.C..		5.90
	1724.00		Total	Rmt	213603.60
		400 mm dia.			
			Basic Rate		151.00
			Add 5 % for M.C..		7.55
	1145.00		Total	Rmt	181539.75
		500 mm dia.			
			Basic Rate		197.00
			Add 5 % for M.C..		9.85
	548.00		Total	Rmt	113353.80
		600 mm dia.			
			Basic Rate		248.00
			Add 5 % for M.C..		12.40
	618.00		Total	Rmt	160927.20
		700 mm dia.			
			Basic Rate		281.00

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Add 5 % for M.C..	14.05		
	621.00	Total	295.05	Rmt	183226.05
		(CSR 2016-17, P. 105, I. 2)			
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		150 mm dia.			
		Basic Rate	6000.00		
		Add 5 % for M.C..	300.00		
	2.54	Total	6300.00	Km	16014.60
		200 mm dia.			
		Basic Rate	8000.00		
		Add 5 % for M.C..	400.00		
	0.33	Total	8400.00	Km	2805.60
		300 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	2.13	Total	13650.00	Km	29060.85
		350 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	1.72	Total	13650.00	Km	23532.60
		400 mm dia.			
		Basic Rate	17000.00		
		Add 5 % for M.C..	850.00		
	1.15	Total	17850.00	Km	20438.25
		500 mm dia.			
		Basic Rate	22000.00		
		Add 5 % for M.C..	1100.00		
	0.55	Total	23100.00	Km	12658.80
		600 mm dia.			
		Basic Rate	28000.00		
		Add 5 % for M.C..	1400.00		
	0.62	Total	29400.00	Km	18169.20

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		700 mm dia.			
		Basic Rate	31000.00		
		Add 5 % for M.C..	1550.00		
	0.62	Total	32550.00	Km	20213.55
		(CSR 2016-17, P. 105, I. 2)			
10		Lowering, laying and jointing H.D.P.E. Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
		CLASS SN 8			
		150 mm dia.(ID)			
		Basic Rate	32.00		
		Add 5 % for M.C..	1.60		
	99858.00	Total	33.60	Rmt	3355228.80
		170 mm dia.(ID)			
		Basic Rate	35.00		
		Add 5 % for M.C..	1.75		
	4067.00	Total	36.75	Rmt	149462.25
		200 mm dia.(ID)			
		Basic Rate	38.00		
		Add 5 % for M.C..	1.90		
	3100.00	Total	39.90	Rmt	123690.00
		250 mm dia.(ID)			
		Basic Rate	47.00		
		Add 5 % for M.C..	2.35		
	3066.00	Total	49.35	Rmt	151307.10
		(CSR 2016-17, P. 134, I. 4)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
11		Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position., etc. complete			
		CLASS SN 8			
		150 mm dia.(ID)			
		Basic Rate	3000.00		
		Add 5 % for M.C..	150.00		
	99.86	Total	3150.00	Km	314552.70
		170 mm dia.(ID)			
		Basic Rate	7000.00		
		Add 5 % for M.C..	350.00		
	4.07	Total	7350.00	Km	29892.45
		200 mm dia.(ID)			
		Basic Rate	4000.00		
		Add 5 % for M.C..	200.00		
	3.10	Total	4200.00	Km	13020.00
		250 mm dia.(ID)			
		Basic Rate	5000.00		
		Add 5 % for M.C..	250.00		
	3.07	Total	5250.00	Km	16096.50
		(CSR 2016-17, P. , I. 6)			
12		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, strutts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	2255.40	Total	252.00	Sqm	568360.80
		Water Logged Area			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	966.60	Total	250.95	Sqm	242568.27
		(CSR 2016-17, P. 39, I. 20a / b)			
13		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	772.31	Total	4444.65	Cum	3432664.83
		(CSR 2016-17, P. 43, I. 1b)			
14		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	84000.00	Total	65.10	HP/Hr	5468400.00
		(CSR 2016-17, P. 38, I. 14)			
15		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5 % for M.C..	864.95		

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
	2410.00	Total	18163.95	No.	43775119.50
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5 % for M.C..	1007.40		
	794.00	Total	21155.40	No.	16797387.60
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			
16		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 2.5 m depth.			
		Basic Rate	28011.00		
		Add 5 % for M.C..	1400.55		
	351.00	Total	29411.55	No.	10323454.05
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	209.00	Total	35596.05	No.	7439574.45
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	162.00	Total	41780.55	No.	6768449.10
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	96.00	Total	47965.05	No.	4604644.80
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	74.00	Total	54149.55	No.	4007066.70

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	40.00	Total	60334.05	No.	2413362.00
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50			
17		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	41.00	Total	75414.15	No.	3091980.15
		6.0 m depth.			
		Basic Rate	79233.00		
		Add 5 % for M.C..	3961.65		
	26.00	Total	83194.65	No.	2163060.90
		6.5 m depth.			
		Basic Rate	86643.00		
		Add 5 % for M.C..	4332.15		
	3.00	Total	90975.15	No.	272925.45
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C .=Rs.7780.50			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
18		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	6.04	Total	54803.70	MT	331260.96
		(CSR 2016-17, P. 46, I. 8b)			
19		Providing as per required dia S.W. or R.C.C. pipes in vertical drop arrangement including providing 150 mm dia S.W. and R.C.C. Pipe fixed in B.B. masonry of manhole at the required level including providing 150 mm dia. double tee, 150 mm dia right angled bend encasing in B.B. masonry 1:4 proportion all around the pipe, double tee, bend up to the foundation of manhole, jointing, cutting, filleting including neat cement rendering, plugging the opening with jungle wood knob complete as directed by Engineer-in-charge (0.60 M. depth) excluding cost of chamber.			
		For 200 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	3269.00		
		Add 5 % for M.C..	163.45		
	3.00	Total	3432.45	No.	10297.35
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 791/-Add 5% for M.C .=Rs.830.55			
		For 250 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	3772.00		
		Add 5 % for M.C..	188.60		
	2.00	Total	3960.60	No.	7921.20
		b) For depth up to 1.10 M to 1.60 M			
		Basic Rate	4575.00		
		Add 5 % for M.C..	228.75		
	1.00	Total	4803.75	No.	4803.75
		c) For depth up to 1.60 M to 2.10 M			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Basic Rate	5378.00		
		Add 5 % for M.C..	268.90		
	1.00	Total	5646.90	No.	5646.90
		d) For depth up to 3.10 M to 3.60 M			
		Basic Rate	7787.00		
		Add 5 % for M.C..	389.35		
	1.00	Total	8176.35	No.	8176.35
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 803/-Add 5% for M.C .=Rs.843.15			
		For 300 mm dia Pipes			
		a) For depth up to 1.10 M to 1.60 M			
		Basic Rate	5452.00		
		Add 5 % for M.C..	272.60		
	4.00	Total	5724.60	No.	22898.40
		b) For depth up to 2.60 M to 3.10 M			
		Basic Rate	8221.00		
		Add 5 % for M.C..	411.05		
	1.00	Total	8632.05	No.	8632.05
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 923/-Add 5% for M.C .=Rs.969.15			
		(CSR 2015-16, P. 275, I. 11)			
		For 350 mm dia Pipes			
		a) For depth up to 1.10 M to 1.60 M			
		Basic Rate	6415.00		
		Add 5 % for M.C..	320.75		
	3.00	Total	6735.75	No.	20207.25
		b) For depth up to 1.60 M to 2.10 M			
		Basic Rate	7453.00		
		Add 5 % for M.C..	372.65		
	1.00	Total	7825.65	No.	7825.65
		c) For depth up to 2.10 M to 2.60 M			
		Basic Rate	8491.00		
		Add 5 % for M.C..	424.55		
	2.00	Total	8915.55	No.	17831.10
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1029/-Add 5% for M.C .=Rs.1080.45			
		For 400 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	6225.00		
		Add 5 % for M.C..	311.25		
	2.00	Total	6536.25	No.	13072.50
		b) For depth up to 2.10 M to 2.60 M			
		Basic Rate	9684.00		
		Add 5 % for M.C..	484.20		
	1.00	Total	10168.20	No.	10168.20
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1135/-Add 5% for M.C .=Rs.1191.75			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		For 600 mm dia Pipes			
		a) For depth up to 1.10 M			
		Basic Rate	7945.00		
		Add 5 % for M.C..	397.25		
	2.00	Total	8342.25	No.	16684.50
		b) For depth up to 1.60 M to 2.10 M			
		Basic Rate	10831.00		
		Add 5 % for M.C..	541.55		
	1.00	Total	11372.55	No.	11372.55
		a) Rebate for every decrease in depth of 50 cm or part there of Rs. 1254/-Add 5% for M.C .=Rs.1316.7 (CSR 2016-17, P. 275 I. 12)			
20		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	179814.91	Total	67.20	Cum	12083562.01
		(CSR 2016-17, P. 38, I.15)			
21		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in-charge. (CSR 2015-16, P. 22, Statement VI)			
	27003.20	Basic Rate	195.62	Cum	5282365.35

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
22		Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- ammended upto date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer.Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete			
	10.00		18516.00	No.	185160.00
		(As per Rate Analysis)			
23		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	76641.00	(As per Rate Analysis)	208.74	Sqm	15998042.34

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
24		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	20438.00	(As per Rate Analysis)	873.47	Sqm	17851979.86
25		Concrete Road restoration :Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	510.90	Total	496.10	Cum	253457.49

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	510.90	Total	5918.00	Cum	3023506.20
		Item No. 25c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	255.45	Total	6998.20	Cum	1787690.19
26		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer- in-charge.			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Utility Shifting			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		
		Add 5% for M.C.	8.35		
	30	Total	175.35	Rmt	5260.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	4	Total	205.8	Rmt	823.2
B		Electrical Lines & Poles			
		Electrical Poles - RA for 10 km			
i)		Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)			
	1		2771.00	Nos	2771
		PWD DSR 15-16, E & M, Item No. 16.3.2, P.No. 161			
ii)		Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level			
	1		701.00	Nos	701
		PWD DSR 15-16, E & M, Item No. 8.8.2, P.No. 110			
iii)		Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.			
	1		12722.00	Nos	12722
		PWD DSR 15-16, E&M, Item No. 8.1.3, Page No.98			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
iv)	1	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1585.00	Nos	1585
		PWD DSR 14-15 E&M, Item No. 9.1.4, Page No.111			
C		Electrical Cable - Providing and Jointing			
		Communication Cable - Jelly Filled telephone lines and optical Fibre Cable			
i)	3	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	83.00	Rmt	249
		PWD DSR 15-16 Item 1-10-10, P No 17			
ii)	3	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG-COC/ OFC	247.00	Rmt	741
		PWD DSR 15-16 Item 1-12-8, P No 20			
iii)	1	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	4366.00	Nos	4366
		PWD DSR 15-16 Item 1-14-5 P No 21			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
27		Highway Crossing			
		Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through metod in all types of strata by using hydraulic jack and drilling machine of required diameter of below MS casing pipes, loweing, laying & jointing of material , reured welding machinery , tripod, chain pully block , crain , blower, compressor, loading & unloading of machinery into the trench , etc. transportation and dewatering , etc. complete as directed by Engineer-in-charge but excluding the cost of MS pipes.-500 to 1000 mm dia. MS Pipe			
		Basic Rate	22781.00		
		Add 5 % for M.C..	1139.05		
	100.00	Total	23920.05	Rmt	2392005.00
		(CSR 2016-17, P. 58, I. 14a)			
		MS Pipe 500 mm (ID) 10 mm thick			
	100.00	Basic Rate	6620.00	Rmt	662000.00
		(CSR 2016-17, P.193, I.2I)			
		Labour Cost			278070054.23
		Total Material + Labour Cost Rs.			333460596.23
		Say Rs.			333460597.00
		Say Rs. Lakhs			3334.61
		Say Crore			33.35

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IX
(Underground Sewerage Network -150 to 800 mm dia RCC Pipes, HDPE DWC SN 8 Pipes ,
L=146.29 Km)

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	150 mm dia.	1.00	2542.00			2542.00	Rmt
	200 mm dia.	1.00	334.00			334.00	Rmt
	300 mm dia.	1.00	1393.00			1393.00	Rmt
	350 mm dia.	1.00	1586.00			1586.00	Rmt
	400 mm dia.	1.00	831.00			831.00	Rmt
	500 mm dia.	1.00	548.00			548.00	Rmt
	700 mm dia.	1.00	500.00			500.00	Rmt
	RCC NP 4 Class						
	300 mm dia.	1.00	736.00			736.00	Rmt
	350 mm dia.	1.00	138.00			138.00	Rmt
	400 mm dia.	1.00	314.00			314.00	Rmt
	600 mm dia.	1.00	618.00			618.00	Rmt
	700 mm dia.	1.00	121.00			121.00	Rmt
2	Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage , etc. complete.						
	H.D.P.E. pipes for Drainage CLASS SN 8						
	150 mm dia.(ID)	1.00	99858.00			99858.00	Rmt
	170 mm dia.(ID)	1.00	4067.00			4067.00	Rmt
	200 mm dia.(ID)	1.00	3100.00			3100.00	Rmt
	250 mm dia.(ID)	1.00	3066.00			3066.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
Dt	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0		TOTAL	
Ex Line	128116.48	30774.02	7278.28	1067.01		167235.79	Cum
Ex MH	34160.38	16786.51	3095.50	420.77		54463.16	Cum
Say	162276.86	47560.52	10373.78	1487.79		221698.95	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					33347.90	Cum
	Lift 1.5 -3.0 M.					451.82	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					49088.75	Cum
	Lift 1.5 -3.0 M.					404.26	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road etc.complete.						
	Lift 0.0-1.50 M.					74971.91	Cum
	Lift 1.5-3.0 M.					21402.24	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					4868.31	Cum
	Lift 1.5-3.0 M.					25302.20	Cum
	Lift 3.0-4.5 M.					10373.78	Cum
	Lift 4.5-6.0 M.					1487.79	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	1074.00	1.30	0.30	418.86	Cum
6	Providing & filling in sand boxing in pipeline or for foundation etc.complete.						
	(As per Computer generated sheet)					1488.08	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					13392.76	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	150 mm dia.	1.00	2542.00			2542.00	Rmt
	200 mm dia.	1.00	334.00			334.00	Rmt
	300 mm dia.	1.00	2129.00			2129.00	Rmt
	350 mm dia.	1.00	1724.00			1724.00	Rmt
	400 mm dia.	1.00	1145.00			1145.00	Rmt
	500 mm dia.	1.00	548.00			548.00	Rmt
	600 mm dia.	1.00	618.00			618.00	Rmt
	700 mm dia.	1.00	621.00			621.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	150 mm dia.	1.00	2.54			2.54	Rmt
	200 mm dia.	1.00	0.33			0.33	Rmt
	300 mm dia.	1.00	2.13			2.13	Rmt
	350 mm dia.	1.00	1.72			1.72	Rmt
	400 mm dia.	1.00	1.15			1.15	Rmt
	500 mm dia.	1.00	0.55			0.55	Rmt
	600 mm dia.	1.00	0.62			0.62	Rmt
	700 mm dia.	1.00	0.62			0.62	Rmt
10	Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications etc. complete						
	H.D.P.E. pipes for Drainage						
	150 mm dia.(ID)	1.00	99858.00			99858.00	Rmt
	170 mm dia.(ID)	1.00	4067.00			4067.00	Rmt
	200 mm dia.(ID)	1.00	3100.00			3100.00	Rmt
	250 mm dia.(ID)	1.00	3066.00			3066.00	Rmt
11	Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure etc.complete						
	150 mm dia.(ID)	1.00	99.86			99.86	Km
	170 mm dia.(ID)	1.00	4.07			4.07	Km
	200 mm dia.(ID)	1.00	3.10			3.10	Km
	250 mm dia.(ID)	1.00	3.07			3.07	Km

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
12	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	751.80		1.50	2255.40	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	322.20		1.50	966.60	Sqm
13	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	200.00	1.50	1.50	0.60	270.00	
	Deduct	200.00	0.79	1.00	0.60	94.20	
	Net Qty					175.80	Cum
	(As per Computer generated sheet)					596.51	Cum
	Total Qty					772.31	Cum
14	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	400.00	5.00	6.00	84000.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
15	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete						
	Upto 1.50 m depth.					2410.00	No.
	Upto 2.0 m depth.					794.00	No.
	(As per Computer generated sheet)						
16	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					351.00	No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	Upto 3.0 m depth.					209.00	No.
	Upto 3.5 m depth.					162.00	No.
	Upto 4.0 m depth.					96.00	No.
	Upto 4.5 m depth.					74.00	No.
	Upto 5.0 m depth.					40.00	No.
	(As per Computer generated sheet)						
17	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					41.00	No.
	Upto 6.0 m depth.					26.00	No.
	Upto 6.5 m depth.					3.00	No.
	(As per Computer generated sheet)						
18	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.77	6044.5			6.04	MT
19	Providing as per required dia S.W. or R.C.C. pipes in vertical drop arrangement etc. Complete						
	For 200 mm dia Pipes						
	a) For depth up to 1.10 M	3				3	No.
	For 250 mm dia Pipes						
	a) For depth up to 1.10 M	2				2	No.
	b) For depth up to 1.10 M to 1.60 M	1				1	No.
	c) For depth up to 1.60 M to 2.10 M	1				1	No.
	d) For depth up to 3.10 M to 3.60 M	1				1	No.
	For 300 mm dia Pipes						
	a) For depth up to 1.10 M to 1.60 M	4				4	No.
	b) For depth up to 2.60 M to 3.10 M	1				1	No.
	For 350 mm dia Pipes						
	a) For depth up to 1.10 M to 1.60 M	3				3	No.
	b) For depth up to 1.60 M to 2.10 M	1				1	No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	c) For depth up to 2.10 M to 2.60 M	2				2	No.
	For 400 mm dia Pipes						
	a) For depth up to 1.10 M	2				2	No.
	b) For depth up to 2.10 M to 2.60 M	1				1	No.
	For 600 mm dia Pipes						
	a) For depth up to 1.10 M	2				2	No.
	b) For depth up to 1.60 M to 2.10 M	1				1	No.
20	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					179814.91	Cum
21	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					27003.20	Cum
22	Providing, fixing and erecting RCC (M20) Vent shaft etc. complete						
		10				10	No.
23	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					76641.00	Sqm
24	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					20438.00	Sqm

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
25	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete						
	(As per Computer generated sheet)					5109.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of approved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		5109.00			0.10	510.90	Cum
	Item No. 25b Providing and casting in situ cement concrete M-15 of trap / granite / quartzite / gneiss metal for etc complete						
		5109.00			0.10	510.90	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		5109.00			0.05	255.45	Cum
26	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer-in-charge.						
	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	30	1			30	Rmt

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	4	1			4	Rmt
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos
C	Electrical Cable - Providing and Jointing						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos
27	Highway Crossing						
	Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine etc. complete						
	MS Pipe 500 mm (ID) 10 mm thick	5	20			100	Rmt

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)**

NAME OF SUBWORK: PUMING STATION FOR ZONE X @ HYDRABAD ROAD MHADA

ABSTRACT

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1			Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 1, Pg-35			
	658.08	Cum	upto 1.5m	148.05	Cum	97428.27
				Basic Rate		141.00
			Add 5 % for M.C.		7.05	
			Total		148.05	
138.33	Cum	1.5 to 3 m	160.65	Cum	22223.43	
			Basic Rate		153.00	
			Add 5 % for M.C.		7.65	
			Total		160.65	
2			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 3, Pg-35			
	73.12	Cum	upto 1.5m	189.00	Cum	13819.61
				Basic Rate		180.00
			Add 5 % for M.C.		9.00	
			Total		189.00	
138.33	Cum	1.5 to 3 m	201.60	Cum	27888.23	
			Basic Rate		192.00	
			Add 5 % for M.C.		9.60	
			Total		201.60	
59.29	Cum	Add 5 % for M.C.	214.20	Cum	12699.10	
			Basic Rate		204.00	
			Add 5 % for M.C.		10.20	
			Total		214.20	
3			Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			

Pumping Station
Measurement

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			MJP 16-17, Section E, Item No 5, Pg-35			
	415.00	Cum	1.5 to 3 m	486.15	Cum	201753.89
			Basic Rate	463.00		
			Add 5 % for M.C.	23.15		
			Total	486.15		
	296.43	Cum	3m to 4.5m	507.15	Cum	150334.97
			Basic Rate	483.00		
			Add 5 % for M.C.	24.15		
			Total	507.15		
	332.00	Cum	4.5m to 6m	528.15	Cum	175347.23
			Basic Rate	503.00		
			Add 5 % for M.C.	25.15		
			Total	528.15		
4			Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
			MJP 16-17, Section E, Item No 7, Pg-36			
	237.14	Cum	3m to 4.5m	830.55	Cum	196960.60
			Basic Rate	791.00		
			Add 5 % for M.C.	39.55		
			Total	830.55		
	221.34	Cum	4.5m to 6m	851.55	Cum	188477.94
			Basic Rate	811.00		
			Add 5 % for M.C.	40.55		
			Total	851.55		
	513.81	Cum	6m to 7.5m	872.55	Cum	448328.15
			Basic Rate	831.00		
			Add 5 % for M.C.	41.55		
			Total	872.55		
	474.29	Cum	More than 7.5 m depth	893.55	Cum	423801.45
			Basic Rate	851.00		
			Add 5 % for M.C.	42.55		
			Total	893.55		
	59.29	Cum	More than 7.5 m depth	914.55	Cum	54220.19
			Basic Rate	871.00		
			Add 5 % for M.C.	43.55		
			Total	914.55		
5	30.07	Cum	Providing dry trap granite quartzite gneiss, rubble stone soling in 15 cm to 20 cm thick layer including hand packing and compacting royalty charges etc.complete	957.60	Cum	28795.98
			Basic Rate	912.00		
			Add 5 % for M.C.	45.60		
			Total	957.60		
			MJP 16-17, Section E, Item No 19, Pg-39			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
6	18.00	Cum	Filling in murum bedding in trenches with approved murum from excavated materials from foundation in 15cm to 20 cm layers including watering and compaction, etc. complete.	67.20	Cum	1209.60
			Basic Rate	64.00		
			Add 5 % for M.C.	3.20		
			Total	67.20		
			MJP 16-17, Section E, Item No 17 Pg-39			
7	110.02	Cum	Providing and laying in situ, M-15 grade of C.C. of trap/ granite/ quartzite/ gneiss/ metal for foundation and bedding including dewatering, formwork, compacting and curing, finishing, etc.complete	4444.65	Cum	489016.68
			Basic Rate	4233.00		
			Add 5 % for M.C.	211.65		
			Total	4444.65		
			MJP 16-17, Section G, Item No 1 b, Pg-43			
8	1808.23	Cum	Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering in- charge.	195.62	Cum	353725.76
			Basic Rate	195.62		
			(CSR 2015-16, P. 22, Statement VI)			
9	904.11	Cum	Refilling the trenches with available approved excavated stuff with soft materials first over pipeline and then hard material in 15cm layers with all lead and lifts including consolidation , surcharging etc. complete.	67.20	Cum	60756.50
			Basic Rate	64.00		
			Add 5 % for M.C.	3.20		
			Total	67.20		
			MJP 16-17, Section E, Item No. 15, Pg-38			
10	500.00	BHP/ Hr.	Dewatering the excavated trenches and pools of water in the building trenches / pipeline trenches, well works by using pumps and other devices including disposing off water to safe distance as directed by Engineer-in -charge (including cost of machinery, labour, fuel), stc complete	65.10	BHP/Hr	32550.00
			Basic Rate	62.00		
			Add 5 % for M.C.	3.10		
			Total	65.10		
			MJP 16-17, Section E, Item No. 14, Pg-38			
11	100.00	RMT	Bypass & Overflow Providing ISI Standard RCC NP3 900 mm dia 900 mm NP3	4791.00	RMT	479100.00
			Basic Rate	4791.00		
			MJP 16-17, Section I, Item No. 1E, Pg-104			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
12	100.00	RMT	Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc. complete as directed by Engineer-in-charge. (IS-783/1985)	541.80	RMT	54180.00
			900 mm NP3			
			Basic Rate	516.00		
			Add 5 % for M.C.	25.80		
			Total	541.80		
			MJP 16-17, Section I, Item No. 2, Pg-105			
13	3.00	No	Providing and Constructing of manholes on overflow and bypass line			
			Providing and constructing on sewer BB Masonary circular man hole with concentric cone 1.5 mm dia and 0.5 mm dia at top and upto a depth of 2m with 23cm brick work, upto depth of 2 m from top and 35mm thk brick work for balance depth in CM 1:4 proportion with 20 mm smooth plaster on both side in CM 1:2 proportion excluding excavation, including foundation concrete 250mm thick and haunches and channels in CC 1:2:4 proportion, finishing chanel in smooth rendering providing CI dapuri type steps each weighing 5.5 kg, 1:2:4 coping and providing and fixing approved make and quality SFRC frame and cover of 56 cm dia etc complete as directed by EIC.	21155.40	No	63466.20
			Basic Rate	20148.00		
			Add 5 % for M.C.	1007.40		
			Total	21155.40		
			MJP 16-17, Section L, Item No. 6, Pg-272			

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
14		RCC				
		Providing and casting in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RC.C works as per detailed drawings and design as directed by Engineer-in-Charge including normal dewatering, centering form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc.complete.(By weigh batching and mix design for M-250 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement)				
		Grade M 30				
	46.71	Cum	Raft	6325.20	Cum	295459.15
			Basic Rate	6024.00		
			Add 5 % for M.C.	301.20		
			Total	6325.20		
			MJP 15-16, , Item No. 2, Pg-43,44			
	15.96	Cum	Column	8086.05	Cum	129053.36
			Basic Rate	7701.00		
			Add 5 % for M.C.	385.05		
			Total	8086.05		
			MJP 15-16, , Item No. ,3,, Pg-43,44			
	11.23	Cum	Beam	7966.35	Cum	89499.55
		Basic Rate	7587.00			
		Add 5 % for M.C.	379.35			
		Total	7966.35			
		MJP 15-16, , Item No. ,4,, Pg-43,44				
243.51	Cum	Vertical Wall/Slabs/Staircase	8620.50	Cum	2099139.14	
		Basic Rate	8210.00			
		Add 5 % for M.C.	410.50			
		Total	8620.50			
		MJP 16-17, , Item No.,5, Pg-43,44				
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parodies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).				
	31.74	M.T.	Tor Steel	54803.70	M.T.	1739533.17
			Basic Rate	52194.00		
			Add 5 % for M.C.	2609.70		
			Total	54803.70		
		MJP 16-17, Section G, Item No. 8 b, Pg-46				

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
16	30.00	RM	Providing and fixing 900mm high S.S.304 Grade Stainless steel railing with 40mm diameter and 1.5mm thick at top,40mm diameter and 1.5mm thick vertical supports spaced at 1.5m center to center and 8mm thick toughened glass including fabricating ,fixtures, erecting , necessary welding , grinding , finishing, buffing to stainless steel pipe etc. complete.	4411.00	RM	132330.00
			Basic Rate	4010.00		
			Add 5 % for M.C. & 5% for Sugarcane area	401.00		
			Total	4411.00		
			PWD 17-18, BDV, Item No.40.07, Pg. No. 244			
			Brick Masonry			
17	33.69	Cum	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in superstructure including striking joints, raking out joints, watering and scaffolding etc. Complete	5940.00	Cum	200134.64
			Basic Rate	5400.00		
			Add 5 % for M.C. & 5% for Sugarcane area	540.00		
			Total	5940.00		
			(PWD CSR 17-18 P.No. 172 soft copy,			
			Internal Plastering			
18			Providing internal cement plaster 20mm thick in two coats in cement mortar 1:5 without neeru finish, to concrete, brick surface, in all positions including scaffolding and curing etc. complete			
	146.49	Sq.m	20 mm thick cement plaster in C.M.1:5	269.50	Sq.m	39479.06
			Basic Rate	245.00		
			Add 5 % for M.C. & 5% for Sugarcane area	24.50		
			Total	269.50		
			(PWD CSR 17-18 P.No. 186 soft copy, I.No.			
			External Plastering			
19	146.49	Sq.m	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1 kg per cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.	440.00	Sq.m	64455.60
			Basic Rate	400.00		
			Add 5 % for M.C. and 5% for Sugarcane area	40.00		
			Total	440.00		
			(PWD CSR 17-18 P.No. 187 soft copy,I.No. 32.11)			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
20	35.42	Sqm	Providing cement based water proofing treatment to terraces (Indian water proofing or alike) with brick bats laid in required slope to drain the water for any span after cleaning the base surface. Applying a coat of cement slurry admixed with approved water proofing compound and laying the brick bats on bottom layer in C.M.1:5 admixed with approved water proofing compound filling up to half depth of brick bats, curing this layer for 3 days, applying cement slurry over this layer joints of brick bats with C.M.1:3 admixed with approved water proofing compound and finally top finishing with average 20 mm. thick layers of same mortar added with jute fiber at 1 Kg per bag including finishing the surface smooth with cement slurry admixed with approved water proofing compound. Marking finished surface with false squares of 300mm x 300 mm. making the junctions at the parapet rounded and tapered top for required height, with drip mould at the junction of plaster and parapet and curing and covering 10 years Guarantee against leakproofness on Court fee stamp paper of Rs. 500/including ponding test etc. complete.	640.50	Sqm	22688.51
			Basic Rate	610.00		
			Add 5 % for M.C.	30.50		
			Total	640.50		
			PWD DSR 2016-17, BD -J, Item No. 4 / 9 BDJ / P.No80-			
			Paving,Flooring and Dado			
21			Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm thick and required width in plain/ diamond pattern on bed of 1:6 C. M. including cement float, filling joints with neat cement slurry, curing, polishing and leaning etc. complete.			
	28.36	Sq.m	a) Kotah stone flooring 30 cm. X 30 cm	979.00	Sq.m	27762.60
			Basic Rate	890.00		
			Add 5 % for M.C. and 5% for Sugarcane area	89.00		
			Total	979.00		
			PWD DSR, 2017-18, BD -M, Item No 33.06, Page No.191			
			Internal Painting			
22			Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) complete. Spec. No.: Bd.P.5 Page No. 413			
	97.66	Sq.m	a) Two coat	57.20	Sq.m	5586.15
			Basic Rate for oil bound distemper	35.00		

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			Basic Rate for Primer coat	17.00		
			Add 5 % for M.C. and 5% for Sugarcane area	5.20		
			Total	57.20		
			(PWD CSR 2017-18 P.No.207 I.No.36.11 and P. no.206, I.no. 36.02)			
23			External Paintings			
			Providing and applying two coats of appex Appex Ace white exterior paint of approved manufacture and of approved colour to the plastered surfaces including cleaning ,preparing the plaster surface ,applying primer coat ,scaffolding if necessary , and watering the surface for two days etc. complete.			
	97.66	Sq.m	a) Two coat	176.00	Sq.m	17188.16
			Basic Rate	160.00		
			Add 5 % for M.C . & 5% for sugarcane area	16.00		
			Total	176.00		
			(PWD CSR 2017-18 P.No.206 I.No.35.25)			
24			Furniture in pumping house			
	1.00	LS	Providing installing erecting furntniture and necessary accessories in pump house		LS	100000.00
25	1.00	Ls	Drilling of 3 Nos. 100mm dia Vertical Passive Rock Anchor with rebar of 25mm. Of 3m deep with fabrication of steel reinforcement with L-bent at top, Grouting the Anchor with Non shrink Grout & Pull Out Test		Ls	200000.00
26			Door- Rolling shutter			
	19.80	Sqm.	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 62481979)	2860.00	Sqm.	56628.00
			Basic Rate	2600.00		
			Add 5 % for M.C.	260.00		
			Total	2860.00		
			(PWD CSR 2017-18 P.No.227, I.No 39.25)			
						Pumping Station Measurement

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
27		Windows			
	18.00	Sqm. Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 kg/Rmt. The shutter should be of bearing bottom 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. Inter locking section 40 x 18 x 1.10 mm at weight 0.469 kg/Rmt. And handle section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. and top section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. As per detailed drawings and as directed by Engineer in charge with all necessary Aluminium sections fixtures and fastenings such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter	4306.50	Sqm.	77517.00
			Basic Rate		3915.00
			Add 5 % for M.C. and 5% for sugarcane area		391.50
			Total		4306.50
		PWD 17-18/ Item No. 39.37, BDT / P.No-229			
28		Approach Road in Paver Block			
	120.00	Sqm. Providing and fixing heavy duty inter locking concrete Gray paving blocks of 80 mm thickness of having a strength of 300 kg/Sq.cm. of approved quality and shape on a bed of crushed sand of 25 to 30 mm thick including skirting joints and cleaning etc. complete.	721.60	Sqm.	86592.00
			Basic Rate		656.00
			Add 5 % for M.C.		65.60
			Total		721.60
		PWD DSR 2017-18/Sec-BDM//Item No. 33.95, P.No-197			
29	760.67	Sqm. Providing and Applying of Elastomeric (450% Elongation) thermoplastic, fire retardant, Coatingskin tensile strength 18 to 21 kg/cm ² , antifungalantibacterial, anticorrosive,graft, co polymer coating on smooth plastered surface 100 micron dyu film thiclness of self bonding with plasterd surface and 100 micron of top coat for puming station as directed by Engineer-in-charge.	1143.45	Sqm.	869782.39
			Basic Rate		1089.00
			Add 5 % for M.C.		54.45
			Total		1143.45
		MJP 16-17/Sec-I(XVII) / Pg 216/Item No 23			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
30			Manual Coarse Screen			
	1.00	No	Providing, erecting, Manual Coarse Screen as directed by Engineer-in-charge	119600.00	No	119600.00
			Market Rate	118600.00		
			Total	118600.00		
			As Per Rate Analysis			
31			Mechanical Screen			
	1.00	No	Providing, erecting, Mechanical Coarse Screen as directed by Engineer-in-charge	1486000.00	No	1486000.00
			Market Rate	1366700.00		
			Total	1366700.00		
			As Per Rate Analysis			
32			Conveyor Belt			
	1.00	No	Providing, erecting, Conveyor Belt as directed by Engineer-in-charge	698390.00	No	698390.00
			Market Rate	698390.00		
			Total	698390.00		
			As Per Rate Analysis			
33			Penstock Gate			
	1.00	No	Providing, erecting, Penstock Gate as directed by Engineer-in-charge	419035.00	No	419035.00
			Market Rate	419035.00		
			Total	419035.00		
			As Per Rate Analysis			
34	Automation for SPS					2500000.00
				Total		15051937.30
				Add RCC Design Charges @ 2 %		301038.75
				Total Cost Rs.		15352976.04
				Say Rs.		15352977.00
				Say Rs. Lakhs		153.53
				Say Crore		1.53

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)**

**NAME OF SUBWORK: PUMING STATION FOR ZONE X @ HYDRABAD ROAD MHADA
MEASUREMENT SHEET**

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
	Sump Size (Inside Diameter and Inside depth)	1.00	9.50		8.50		
	Inner Sizes of Receiving chamber	1.00	4.00	3.00	5.20		
	Inner Sizes of Screen chamber	2.00	5.00	1.00	5.50		
	Receiving/Screen Chamber - Middle Wall Thickness			0.20			
	Wet Well - Outer Wall Thickness			0.55			
	Raft of wetwell thickness				0.45		
	Raft outside vertical wall				0.15		
	PCC thickness for Raft				0.10		
	PCC outside Vertical Wall				0.10		
	Soiling for Raft				0.30		
	Side margin for excavation of wet well outside wall		4.00				
	Pump Pit Size at Bottom for submergence of Pump		8.50	2.50	1.50		
	Valve chamber Vertical wall thickness				0.15		
	Outer Sizes of receiving Chamber		4.20	3.20	5.20		
	Outer Sizes of Screen Chamber		5.20	1.60	5.50		
	Valve chamber outside Wet well		8.50	2.50	2.00		
	Bypass Pipe Length in		100.00				900.00
1	Excavation						
	Wet Well	1.00	0.79	19.60	9.65		2910.11
	Pump Pit	1.00	8.50	3.00	2.20		56.10
	Valve chamber outside Wet well	1.00	8.50	3.50	3.00		89.25
	Bypass arrangement	1.00	100.00	1.65	3.40		561.00
							3616.46
	0 to 1.5 m depth						731.20
	1.5 m to 3.0 m depth						691.67
	3 m to 4.5 m depth						592.86
	4.5 m to 6.0 m depth						553.34
	6.0 m to 7.5 m depth						513.81
	7.5 m to 9 m depth						474.29
	More than 9 m depth						59.29
1	Excavation for foundation/ pipes trenches in earth, soil of all types ,sand ,gravel and soft murum including removing the excavated material upto a distance of 50M beyond area & lift as below, stacking and spreading as directed, normal dewatering, preparing of bed for foundation & excluding backfilling,etc. complete						
	0 to 1.5 m depth	0.90			731.20	Cum	658.08
	1.5 m to 3.0 m depth	0.20			691.67	Cum	138.30

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty	
2	Excavation for foundation/ pipe trenches in hard murum and boulders,W.B.M.road including removing the excation material up to							
	0 to 1.5 m depth	0.10	Of total qty of 1.5 m depth =		731.20	Cum	73.12	
	1.5 m to 3.0 m depth	0.20	Of total qty of 1.5 -3.0 m dep		691.67	Cum	138.33	
	3.0 m to 4.5 m depth	0.10	Of total qty of 3.0 - 4.5 m dep		592.86	Cum	59.29	
3	Excavation for foundation/ pipe trenches by all means in soft rock and old cement and lime masonry foundation asphalt road including							
	1.5 m to 3.0 m depth	0.60	Of total qty of 1.5 -3.0 m dep		691.67	Cum	415.00	
	3.0 m to 4.5 m depth	0.50	Of total qty of 3.0 - 4.5 m dep		592.86	Cum	296.43	
	4.5 m to 6.0 m depth	0.60	Of total qty of 4.5 -6.0 m dep		553.34	Cum	332.00	
4	Excavation for foundation/ pipe trenches in hard rock and concrete road by chiseling wedging line drill by							
	3.0 m to 4.5 m depth	0.40	Of total qty of 3.0 - 4.5 m dep		592.86	Cum	237.14	
	4.5 m to 6.0 m depth	0.40	Of total qty of 4.5 -6.0 m dep		553.34	Cum	221.34	
	6 m to 7.50m depth	1.00			513.81	Cum	513.81	
	7.5 m to 9 m depth	1.00	Of total qty of 3.0 - 4.5 m dep		474.29	Cum	474.29	
	More than 9 m depth	1.00	Of total qty of 3.0 - 4.5 m dep		59.29	Cum	59.29	
5	providing dry trap granite quartzite qneiss, rubble stone soling in 15 cm							
	Wet Well	1.00	0.79	11.30	0.30	Cum	30.07	
6	Filling in murum bedding in trenches with approved murum from excavated Bypass arrangement	1.00		100.00	0.90	0.20	Cum	18.00
7	Providing and laying in situ, M-15 grade of C.C. of trap/ granite/ Wet Well	1.00		11.30	0.00	0.10	Cum	10.02
	Qty for uplift						Cum	100.00
						Total	Cum	110.02
8	Transportation Disposal of excavated material including loading and unloading, lead up to 7.5 km etc. Complete	0.50	Of Excavated Qty				Cum	1808.23
9	Refilling the trenches with available approved excavated stuff with soft	0.25	of Excavated Qty				Cum	904.11
10	Dewatering the excavated trenches and pools of water in the building trenches / pipeline trenches, well						BHP/H r.	500.00
11	Bypass / Overflow channel Providing ISI Standard RCC NP3 900 mm dia pipe as overflow pipe for sump suitable for rubberring joint 600 mm NP3	1.00		100.00			RMT	100.00
12	Lowering,laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM1:1 proportion or socketed R.C.C.pipes with rubber 900 mm NP3	1.00		100.00			RMT	100.00

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
13	Providing and Constructing of manaholes on overflow and bypass line						
	Providing and constructing on sewer BB Masonary circular man hole with concentric cone 1.5 mm dia and 0.5 mm dia at top and upto a depth of 5m with 23cm brick work, upto depth of 2					No	3.00
	Upto 2.5 M						
14	RCC						
	Providing and casting in situ ready mix cement concrete grade of trap/granite/gneiss metal of approved quality for RCC work as per detailed drawings and design for as directed by Engineer In charge including						
I	Wet well - Raft	1.00	0.79	11.10			43.52
II	Vale Chamber Raft	1.00		8.50	2.50	0.15	3.19
III	Columns for pumping ststaion	10.00		0.30	0.35	14.00	14.70
IV	Columns to support receiving chamber and screen chamber	4.00		0.30	0.35	3.00	1.26
V	Cross beam Qty in sump (Wet well	1.00		19.00	0.45	0.30	2.57
VI	Pump House beam Qty at floor slab (Wet well dia + cross beam over col) =(wet well dia =8.5 + 4.5*2)	1.00		19.00	0.45	0.30	2.57
VII	Pump House beam Qty at lintel level (Wet well dia + cross beam over col) =(wet well dia =8.5 + 4.5*2)	1.00		33.92	0.30	0.30	3.05
VIII	Pump House beam Qty at roof Level	1.00		33.92	0.30	0.30	3.05
VIX	Wetwell Vertical walls	1.00	3.14	10.60	0.55	8.80	161.09
X	Receiving chamber slab	1.00		4.20	3.20	0.20	2.69
XI	Screening chamber slab	0.00		5.20	1.60	0.25	2.08
XII	Receiving chamber Vertical wall (Length+Width) =4.55+1.55=6.1	1.00		7.40	0.20	5.20	7.70
XIII	Screening chamber Vertical wall length (3 Lengthwise+1Width side) = (5.25*3+2.05*1)	1.00		17.20	0.20	5.50	18.92
XIV	Pumping station floor slab (half portion of wet well)	1.00	3.14/8	9.50		0.15	5.31
XV	Pumping station roof slab (half portion of wet well)	1.00	3.14/8	9.50		0.15	5.31
XVI	Stair case up to bottom	6.00		5.00	1.20	0.20	7.20
XVII	Valve Chamber Walls	1.00		22.00	0.15	2.00	6.60
XVIII	Wet Well - Pump Pit	1.00		20.00	2.20	0.15	6.60
XIX	Qty for slabs for maintenace and screen disposal, Stairs Valve chamber slab and support slab for pump pipes, beams in wet well						20.00
xx	Total Concrete Qty of Grade M 30					Cum	317.41
	RCC qty of Raft, footing (sub item I +II)					Cum	46.71
	RCC Qty of COLUMNS (sub item III + IV)					Cum	15.96

Item No.	Description of Item	Nos		Length or Dia	Breadth	Depth	Unit	Qty
	RCC Qty of Beams (Sub item V to VIII)						Cum	11.23
	RCC Qty of Vertical walls, slabs, staircase (IX to XIX)						Cum	243.51

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
15	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels,						
	a) Tor Steel= Steel consumption of 10% of RCC Qty					M.T.	31.74
16	Providing & Fixing stainless steel railing with top and vertical pipe of 50 mm dia at 0.90m c/c or as required and horizontal pipes of 25 mm dia in		30.00			RM	30.00
17	Brick Masonry						
	Providing second class Burnt Brick masonry with conventional/ I.S. type						
	a) Pumping station	1.00	24.42	0.23	6.00		33.69
							33.69
18	Internal Plastering						
	Providing cement plaster for following thickness in two coats in cement mortar in following proportions					Sq.m	
	20 mm thick cement plaster in C.M.1:5	1.00	24.42		6.00		146.49
							146.49
19	External Plastering						
	Providing sand faced plaster externally in cement mortar using approved screened sand in all positions including base coat of 15 mm th in cement mortar 1:4 using water proofing compound @ 1 Kg per						
	a) Pumping station	1.00	24.42		6.00		146.49
							146.49
20	Providing and laying water proofing to Terrace						
	a) Pumping station	1.00	9.50		0.15		35.42
							35.42
21	Paving, Flooring and Dado						
	Providing and laying in position polished Kota stone flooring of approved quality 25mm to 30mm thick in plain/diamond pattern on a						
	a) Pumping station	1.00	8.50		1.00		28.36
							28.36
22	Internal Painting						
	Providing & applying washable oil-bound distemper of approved colour and shade to old & new surfaces in two coats including scaffolding,						
	a) Pumping station	1.00	24.42		4.00		97.66
							97.66

Item No.	Description of Item	Nos	Length or Dia	Breadth	Depth	Unit	Qty
23	External Paintings						
	Providing and applying two coats of appex /Ace exterior paint of approved manufacture and of approved color to the plastered surfaces including cleaning, preparing the plaster surface applying primer coat, scaffolding if necessary and watering the surface for two days complete.						
	a) Pumping station	1.00	24.42		4.00		97.66
							97.66
24	Furniture in pumping house						
	Providing installing erecting furntiture and necessary accessories in pump house					LS	1.00
25	Drilling of 3 Nos. 100mm dia Vertical Passive Rock Anchor with rebar of 25mm. Of 3m deep with fabrication of		1.00			Ls	1.00
26	Door- Rolling shutter						
	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock	2.00	2.20		4.50	Sqm	19.80
27	Windows						
	Supplying and fixing in position anodized extruded modular aluminum section Two Track sliding window mounted on rectangular frame of size 100 x 50x 2.80 mm thick (2.183						
	Providing and fixing aluminum lowered window	3.00	2.00	3.00		Sqm	18.00
28	Approach Road in Paver Block						
	Providing and fixing m 25 grade precast factory made Interlocking paver blocs with 3.0m wide approach width and 25 m length with complete etc	1.00	40.00	3.00		Sqm	120.00
29	Providing and Applying of Elastomeric (450% Elongation) thermoplastic, fire retardant,	3.00	29.83		8.50	Sqm	760.67
30	Manual Coarse Screen	1.00				No	1.00
31	Mechanical Coarse Screen	1.00				No	1.00
32	Conveyor Belt	1.00				No	1.00
33	Penstock Gate	1.00				No	1.00

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS -PUMPING MACHINERY ESTIMATES AT HYDRABAD ROAD PUMPING STATION

Sr. No.	Description	Amount
1	Part A- Mechanical Works	5989057.00
2	Part B-Electrical Works	10863468.00
	Total cost in Rs	16852525.00
	Total cost in Lakhs	168.53
	Total cost in Crore	1.69

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS - MECHANICAL WORK COST ESTIMATES AT HYDRABAD ROAD
PUMPING STATION
ABSTRACT

SR	Description	Qty	Unit	Rates	Amount
1	Submersible Non Clog Sewage Pump- 1 DWF flow Designing, Providing, installing, Commissioning & testing with satisfactory test & trail of Submersible Non Clog sewage pumps having Casing – CI IS 210 Gr. FG 220, Impeller – SS 304, Shaft and Sleeve – SS 316, Motor Parts – CI IS 210 Gr. FG 220, Fastners – BHT Steel, Guide Pipe – SS 304, Lifting Chain – SS 304 with three phase squirrel cage motor 730/1000/1460 rpm, suitable for continuous duty with F class Insulation, suitable to operate required duty conditions & specified requirement having minimum efficiency 70% suitable for solid handling capacity of 100 mm as below including cable set (30 mtr.), auto rail coupling, integral bend, duck foot bend, lifting chain, control panel with PMU having all protections, bottom stand, clamps etc. with TPI & Inspection				
1.A	Pump- 1/2 DWF				
	Pump discharge = 95 LPS	2	No	3,19,713.00	639426.00
	Duty Head = 14mtr				
	B.H.P = 30				
1.B	Pump- 1 DWF				
	Pump discharge =190 LPS	2	No	4,25,662.00	851324.00
	Duty Head =14 mtr				
	B.H.P = 55				
1.C	Pump- Peak flow				
	Pump discharge =407 LPS	1	No	8,80,479.00	880479.00
	Duty Head = 14 mtr				
	B.H.P = 120				
	As per Rate Analysis				
2	Glandless CIDF Sluice Valve - PN 1.0 Providing, erecting, testing and commissioning CI Glandless Sluice valve suitable for working pressure of 10 kg/cm ² with standard non rising spindle, handwheel, cap etc and manufactured as per IS 2906 / 14846 and as per detailed specification				
2.A	250 mm (for 1 X DWF)	2	No	41326.00	82652.00
2.B	350 mm (for 2 X DWF)	2	No	70255.00	140510.00
2.C	500 mm (for Peak flow) & Common header	2	No	119106.00	238212.00

SR	Description	Qty	Unit	Rates	Amount
	, I no- VL 1-8, as per rate analysis				
3	Valve Actuator :- Providing erecting electric valve actuators totally enclosed weather proof and dust proof construction with IP 67 protection class suitable for installation in any position without lubrication leakages or other operational difficulty with special grease filled gear box and hand wheel for emergency manual operation which will be automatically disengaged on restoration of power to motor and with 10 watt single phase space heater with TEFC squirrel cage including motor working on 440 V + /- 10% 3 phase 50 Hz AC of intermittent duty rating S-2 insulation class FG and temp rise restricted to class B with IP 67 protection class suitable for DOL starting and with three thermostat and 30% over loading margin				
3.A	300 mm (for 1/2 X DWF)	2	No	102381.00	204762.00
3.B	400 mm (for 1 X DWF)	2	No	109750.00	219500.00
3.C	500 mm (for Peak flow) & Common header	2	No	109750.00	219500.00
	, I no- VL 1-10,13 Pg. No- 13+ (RS.4000.0 TPI)				
4	Reflux Valve :- Providing & supplying ISI mark CI D/F Reflux valve(non return valve) PN 1 rating with bypass arrangement, as per IS 5312 Part I (1984), including all taxes, inspection charges, transportation etc.				
4A	300 mm (for 1/2 X DWF)	2	No	41933.00	83866.00
4B	400 mm (for 1 X DWF)	2	No	93880.00	187760.00
4C	500 mm (for Peak flow) & Common header	2	No	187416.00	374832.00
5	Kinetic Air Valve 200mm dia- Providing & supplying Kinetic Air Valves PN 1 as per IS 14845-2000 and MJP's standard specifications double orifice type combined with isolating sluice valve, mounted in horizontal position and operated by wheel gearing, small orifice elastic ball resting on gun metal orifice nipple, large orifice vulcanite ball seating on moulded seat ring, inlet face and drilled, including all taxes (central and local), insurance third party inspection charges, loading, unloading, transportation up to departmental stores / site etc	1	No.	31679.00	31679.00
	As per Rate Analysis				

SR	Description	Qty	Unit	Rates	Amount
6	Pressure Gauge-150mm dia. Providing, installing, testing & commissioning of 150 mm dia Glyserine filled Pressure Gauges Bourdon type as IS 3624:1987 Mounting - direct bottom, stainless steel body, toughened glass window Range 0 to 15 kg/Cm ² .as per detailed specifications & as directed by Engineer.	6	No.	1796.00	10776.00
	Item No-PM 11-4, Pg No-9				
7	CIDF Pipes & Specials for Pump Delivery :- Providing and supplying ISI standard CIDF Pipes & specials for pump delivery including all taxes (central & local) railway freight, insurance, unloading from railway wagon, loading into truck transport to store / site, unloading, stacking etc. complete as directed by Engineer				
	up to 500 mm dia	15000	kgs	67.41	1011150.00
	I no- 6.A.i, Pg. No- 67				
8	Flanged Joints :- Providig & making flanged joints to the CIDF pipes & specials for pump delivery including all jointing material such as rubber packing, nut bolts & testing				
8A	300 mm (for 1/2 X DWF)	45	No	1071.00	48195.00
8B	400 mm (for 1 X DWF)	45	No	1806.00	81270.00
8C	500 mm (for Peak flow)	30	No	1806.00	54180.00
	I no-4 xi, viii Pg. No-66				
9	DSL System - For D.S.L. (Down Shop Lead) system for above crane	36	M	2500.00	90000.00
	MJP E/M DSR 15-16, Note 5, Pg No-20				
10	Full bore electromagnetic flowmeter 450mm dia :- Providing, Installing & giving satisfactory test and trial of ultrasonic Insertion fixed type flow meter working on conditions and specifications, calibration, inspection, testing, training, guarantees, and manufacturers test certificate along with mandatory accessories given bellow complete with detailed specifications and as directed by engineer in charge.	1	No	328944.00	314349.00
	MJP Electro-mech DSR 15-16, Section WM 3-11 P. No-118				
11	Structural Steel- Providing Structural steel work in rolled sections like joints, channels, angles, tees ect. As per detailed design and drawing including fix in position without connecting plates, braces ect. And one coat of anticarrossive paint and over it two coats of oil painting, of approved quality and shade, complete.	2	MT	58798.00	117596.00
	Section. F, Item no-5, Pg. No-42 + Add 5% Sugarcane Area+ 1% L. W+ 1% L. A				

SR	Description	Qty	Unit	Rates	Amount
12	RCC M 250 -Providing and laying in situ ready mix cement concrete grade of trap/ granite/ quartzite/gneiss metals for RCC work in foundation like raft , grillage, strip foundation and footing for RCC column and steel stanchions including normal dewatering, form work , compaction finshing and curing including tranporting from mixing plant up to distance of 25 Km, pouring the concrte at work site for 1.5 mtrs lift above GL and 5 lift bellow GL etc complete. (excluding Reinfrcement and Structural steel)	7	CUM	7835.00	54845.00
	Sect-G, Item No-10C Pg NO-48 + Add 5% Sugarcane Are+ 1% L. W				
13	Tor Steel -Providing and fixing in position steel bar reinforcement of varoius diameters for RCC piles, caps ,footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc as per detailed design, drawing and schedules including cutting, bending , hooking, the bars , binding with wires or tack welding and supporting as requires etc complete (including cost of binding wires)	1	MT	52194.00	52194.00
	Sect-G, Item No-8b Pg No-46 + Add 5% Sugarcane Are+ 1% L. W+ 1% L. A				

SOLAPUR MUNICIPAL CORPORATION
NAME OF SCHEME - UNDERGROUND SEWERAGE PROJECT OF SOLAPUR CITY
NAME OF SUB WORKS - ELECTRICAL WORK COST ESTIMATES AT HYDRABAD ROAD
ABSTRACT

SR	Description	Qty	Unit	Rates	Amount
1	L.T.Main Control Panel Board :- Designing, Providing , Erecting Main L. T. Control Panel Board comprises of 300 Amp. MCCB for Incoming & other required switchgears as per attached rate analysis.	1	No	296020.06	296020.06
2	AT Starter :- Providing , Erecting A T Starters for following HP Pumps Providing erecting and giving test and trial of Fully Automatic, Auto Transformer Starter with Air Break Contactor, assembled locally with contactors of approved make in 14 SWG sheet steel fabricated, floor mounted type cubical panel, suitable for operation on 380 - 440 Volts, 3 Phase, 50 Hz, fitted with accessories as below. The incoming and outgoing cable end boxes shall be on either sides of main panel. The cable entries from auto transformer shall be totally enclosed in sheet metal. The starter shall have screened louvers on both sides etc				
2A	AT Starter -For 1DWF-30HP	1	No	89258.00	89258.00
2B	AT Strater for 2 DWF-55HP	2	No	122366.00	244732.00
2C	AT Strater-For Peak Flow -120HP	2	No	238244.00	476488.00
	As per Rate analysis				
3	Alluminium Armoured cable :- Providing, erecting Allum. Armoured cable of following sizes 1.1 kV grade etc complete.				
3A	3.5 Core 300Sq. MM Aluminium Armoured Cable for Transformer to LT Panel	50	M	1590.00	79500.00
3B	3.5 core x 95 sqmm 30 HP pumpset from Panel to starter	50	M	578.00	28900.00
3C	3.5 core x 120 sqmm 55 HP pumpset from Panel to starter	75	M	716.00	53700.00
3D	3.5 core x 150 sqmm 120 HP pumpset from Panel to starter	75	M	862.00	64650.00
3E	3.0 core x 95 sqmm for capacitor	100	M	575.00	57500.00
3F	3 Core 2.5 Sq.mm copper armoured cable for valve actuators	200	M	166.00	33200.00
	I. No. CB5.5 5. 5.6 5.7 4.10 & CB 2-3 P. No.69 Ino CB 4-15 Pno 68				
4	Submersible Copper Cable :- Providing, erecting 1.1 kV grade submersible copper cable for following sizes				
4A	30 HP pumpset from Starter to Motor	20	M	886.00	17720.00
4B	55 HP pumpset from Starter to Motor	20	M	2542.00	50840.00
4C	120 HP pumpset from Starter to Motor	10	M	5307.00	53070.00
	As per offer of M/s. Aqua & Kishor Pumps				
5	HT CABLE				
5A	11 kv XLPE cable 3 core x 120 sqmm	100	M	1133.00	113300.00
5B	Indoor termination kit 11 kv (70-120 sq.mm)	4	M	8223.00	32892.00
5C	Out door termination kit 11 kv (70-120 sq.mm)	4	M	11865.00	47460.00
	Pno 74 Ino CB 11-5 Pno 78 Ino CB 25-2 ,3				
6	Item No. 6 :- Cable Trench - Making the trench in hard murum/ tar road of suitable width and depth for laying provided L.T. Cable of 10 sq mm complete	100	M	204.00	20400.00
	PWD Ele CSR I.No. 16-1-2 P. No. 160				

SR	Description	Qty	Unit	Rates	Amount
7	Making Trench -Making the trench in hard murum/ tar road of suitable width and depth for laying provided L.T. Cable of 25 sq mm & above covered with half round hume pipe complete as per detailed specifications.	100	M	328.00	32800.00
	PWD Ele CSR I.No. 16-1-2 P. No. 160				
8	Cable Tray - Providing, fabricating and fixing G.I. perforated cable tray for cables as per requirement and specifications - 200 x 20 mm	100	M	170.00	17000.00
	MJP CSR I. No. CB 34-2 P. No. 74				
9	Capacitor :- Providing, erecting bank of condenser for power factor correction	110	kVAR	349.00	38390.00
	MJP CSR I. No. CP 1 P. No. 57				
10	APFC Panel :- Supply & erecting 50 kVAR 440 V three phase 50 cycles thyrester switched Micro APFC passive filter panel consisting of (25 x 2)steps of APP type capacitor units confirming to IS: 13585 (part -1) with harmonic filter reactors suitable for 150 KW load as per specifications.	1	No	197185.80	197185.80
	PWD Ele CSR 2016.17 I. No.6-7-9 P. No. 82				
11	Transformer 160kVA- 11/0.433kV- Suppling & erecting approved make of 160kVA 50 c/s oil immersed and naturally cooled indoor /outdoor type , copper wound transfoemer with delta conn. on HV side & star conn. on LV side with additional neutral brought out in load side , voltage rating 11/0.433 V with tapping of +/- 2.5 % -5 % ,continuosly rated for full load with standered accessories complete with test certificate with losses below 580 watts at no load , 4200 watts at full load asp er IS 2026. and approved by engineering incharge.	1	No	278535.00	278535.00
	Pno 31 Ino TR 1.3				
12	H.T. sub station -Providing, supplying and erecting 11 Kv/ 0.433 Kv H T Substation as per Detailed specification. 6 x 4 sq mtr	1	Job	556322.00	556322.00
	As per Rate analysis				
13	GI Earthing - Supplying & erecting GI earth plate size 60x 60x6 cms complete with all materials, testing & recording results as per specifications . As per IS 3043-1987 & as directed by engineering incharge.	6	No	4323.00	25938.00
	PWD DSR 16.17, Page No.106, Item No.9-1-1				
14	Copper Earthing - Supplying & erecting copper earth plate size 30 x 30 x 0.6 cms complete with all materials, testing & recording results as per specifications . As per IS 3043-1987 & as directed by engineering incharge.	11	No	7732.20	85054.20
	PWD DSR 16.17, Page No 106 Item No.9-1-2				
15	Earthing Strip :- Supplying and erecting G.I.Strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joint required as per specification	200	kgs	199.50	39900.00
	PWD DSR 16.17, Page No 85 Item No.9-2-3				
16	Tools :- Providing Tools as per Detailed specification enclosed.	1	Lot	66825.00	66825.00
	As per RA enclosed				

SR	Description	Qty	Unit	Rates	Amount
17	Indoor Lighting :- The lighting shall comprise fleuorescent - 4 nos Bulkhead fitting - 3 nos D.B. - 2 nos. Suitable size conductors with fuses, switches including H.G.conduit etc.	1	Job	15048.40	15048.40
	As per RA enclosed				
18	Area Lighting :- The area lighting shall comprise 2 250 w mercury vapour lamps with and mounted on tubular swivelled pole 7 m high including ballast, condensor,fuse reflector,cable and control switch etc out of the two lams.one shall be in the substation yard and the second lamp shall be erected for area lighting.	1	Job	107895.60	107895.60
	As per RA enclosed				
19	Diesel Generating Set :- Supplying Errecting diesel generating set 200 KVA capacity with AMF Panel as per Detailed specification with water cooled engine set including inspection charges	1	Set	1608419.40	1608419.40
	Ino . 11-1-18				
20	PLC Automation System :- Providing, erecting PLC Automation	1	Job	1034525.00	1034525.00
	As per RA				
21	MSEDCL Charges	1	Job	5000000.00	5000000.00
				Total Rs	10863468.46
				Say Rs.	10863468.00

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
ABSTRACT**

**SUB ESTIMATE NO. :- PUMPING MAIN MAIN FROM PUMING STATION TO STP @ HYDRABAD
ROAD (MHADA)**

(500 mm Dia. D.I. K-9 Pipe, Length = 150 m)

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			Material :			
1			Providing DI Pipes (push on joints pressure pipes of DI of following class & Dia meters confirming to the Indian Standard Specification inclusive cost of jointing materials (Rubber Gasket of EPDM Quality) including all statutory duties & taxes such as GST levied by GOI & GOM in all respect, Third Party Inspection charges of TPI agency approved by the MJP including transit insurance, Railway freight, unloading from railway wagon, loading in to the truck, transportation to departmental store / site of work, unloading, stacking etc. completed as directed by Engineer-in-Charge (IS:1536:2001 for pipes & IS:158:1969 & IS:12820:1989 or latest edition / revision with amendments for rubber gaskets). (IS:8329:2000 latest version)			
	150.00	Rmt	500 mm dia.D.I. K-9 Pipe (CSR 2016-17 P.No.63 I.No.3)	5968.00	Rmt	895200.00
2			Providing and supplying ISI standard DI specials & fittings with sealing rubber gasket of SBR complete with cast iron follower gland & MS nutbolts coated or otherwise protected from rusting and suitable for DI pipes cost of labour , material, and transportation to stores/site loading unloading including all taxes, etc. complete as per IS -9523 For all types of specials, bends, TEEs, etc..			
	500.00	Kg	350 mm Dia.& above (CSR 2016-17 P.No.69/70 I.No.10b)	129.68	Kg	64840.00

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
3			Providing & supplying DI fittings with ISI mark mechanical joints confirming to table 12 to 31 of IS Supply of CI mechanical joint double socket with flanged TEEs as dimensionally described in Table 19 of IS 9523/2000 upto latest ammendments including cost of SBR/EPDM gaskets, nut bolts, washers, & ductile iron folloer glands . Fittings should be internally OPC lined & externally metallic zinc coating / zinc rich paint with finishing layer of black bitumen coating including transportation and all taxes etc. complete			
	1.00	No	500 x500 x 150 mm dia. TEE (CSR 2016-17. P.No.85 I.No. 13 VIII)	24866.00	No	24866.00
	2.00	No	500 mm dia. Tail Piece	15800.00	No	31600.00
	1.00	No	150 mm dia. Tail Piece (CSR 2016-17 P.No.86 I.No.13 IX)	2599.00	No	2599.00
	1.00	No	500 mm dia. Collars (CSR 2016-17 P.No. 81 I.No.13 I)	22040.00	No	22040.00
	3.00	No	500 mm dia.90 Bend (CSR 2016-17 P.No.82 I.No.13II)	31875.00	No	95625.00
4			Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/16 rated, with body and bonnet of ductile iron confirming to IS 1865 Gr. 500/7 or Gr. 400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/ 1.4104, stem seals min 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostaically applied epoxy powder coated bule colour (suitable for drinking water) as per DIN 30677-2 & GSK guideliness with a coating thickness of min.600 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. Including all taxes and transportation charges etc. complete.			
	1.00	No	500 mm dia Sluice Valve PN - 1.0	387849.00	No	387849.00
	1.00	No	150 mm dia Sluice Valve PN - 1.0 (CSR 2016-17 P.No. 160 I.No. 6)	21592.00	No	21592.00

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
5			Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron conforming to EN 1563/IS 1865 GR. 500/7 or Gr. 400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 600 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845, Including all taxes and transportation charges etc. complete.			
	1.00	No	Air valve 150 mm dia PN 1.0 (CSR 2016-17 P.No.161 I.No.7)	29041.00	No	29041.00
6			Providing and supplying ISI standard MS specials of required thickness with 3 coats of approved make epoxy paint (Shalimar,Ciba or Mahindra & Mahindra make) from inside & outside including all taxes (Central & Local) , octroi , inspection charges, transportation to stores/site and stacking etc. complete.			
	500.00	Kg	Doble flanged specials of all Diameters (CSR 2016-17 P.No.68 I.No.7c)	64.20	Kg	32100.00
			Total Cost Of Material			1607352.00
			Labour :			
1			Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	83.00	Cum	Lift 0-1.50 m	148.05	Cum	12288.15
			Basic Rate	141.00		
			Add 5 % for M.C..	7.05		
			Total	148.05		
			(CSR 2016-17,P.35, I.No.1)			

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
2			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	83.00	Cum	Lift 0-1.50 m	189.00	Cum	15687.00
			Basic Rate	180.00		
			Add 5 % for M.C..	9.00		
			Total	189.00		
			(CSR 2016-17 P.No. 35, I No.3)			
3			Excavation for foundation / pipe trenches in soft rock and old cement & lime masonry foundation , asphalt road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.			
	83.00	Cum	Lift 0-1.50 m	465.15	Cum	38607.45
			Basic Rate	443.00		
			Add 5 % for M.C..	22.15		
			Total	465.15		
			(CSR 2016-17 P.No. 35, I No.5)			
4			Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation 15 cm to 20 cm layers including watering and compaction complete.			
	25.00	Cum	Murum available @ site	68.48	Cum	1712.00
			Basic Rate	64.00		
			Add 5 % for M.C..	4.48		
			Total	68.48		
			(CSR 2016-17 P.No.39 I.No.16)			
5			Lowering, laying and jointing with SBR rubber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameters in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of materials from stores to site of work, including cost of jointing materials and rubber rings, labour giving hydraulic testing, etc.complete.			
	150.00	Rmt	Note :- Only SBR , rubber gaskets to be used. 500 mm dia DI K-9	286.65	Rmt	42997.50
			Basic Rate	273.00		

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
			Add 5 % for M.C.	13.65		
			Total	286.65		
6			(CSR 2016-17, P. 63, I. 2) Lowering, laying and jointing in position following C.I. D/F Reflux valves, Butterfly valves and Sluice valves including cost of all labour jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete.			
	1.00	No	500 mm dia Sluice Valve PN - 1.0	8648.85	No	8648.85
			Basic Rate	8237.00		
			Add 5% for M.C. area	411.85		
			Total	8648.85		
	1.00	No	150 mm dia Sluice Valve PN - 1.0	3357.90	No	3357.90
			Basic Rate	3198.00		
			Add 5% for M.C. area	159.90		
			Total	3357.90		
7			(CSR 2016-17 P.No.159 I.No.4) Lowering and fixing kinetic air valve of following dia in proper position and alignment as directed including cost of conveyance from store to site of work, all jointing material, labour and hydraulic testing etc. complete.			
	1.00	No	Air valve 150 mm dia PN 1.0	741.30	No	741.30
			Basic Rate	706.00		
			Add 5% for M.C. area	35.30		
			Total	741.30		
8			(CSR 2016-17, P. 164, I. 13c) Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation B.B. masonry in C.M. 1:5 proportion with precast steel fibre reinforced concrete frame and covers (S.F.R.C. frame and covers) etc			
	2.00	No	Clear Size 1.20 x1.20 x1.50 M.	18420.15	No	36840.30
			Basic Rate	17543.00		
			Add 5% for M.C. area	877.15		
			Total	18420.15		
9			(CSR 2016-17 P.No. 271 I.No.3E) Providing and laying in situ following grades of C.C. of trap/ granite / quartzite / gneiss metal for foundation and bedding including dewatering form work, compacting and curing, finishing etc. complete.			
	5.40	Cum	PCC M150	4444.65	Cum	24001.11
			Basic Rate	4233.00		
			Add 5% for M.C. area	211.65		
			Total	4444.65		
			(CSR 2016-17 P.No. 43 I.No.1)			

Item	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
10			Providing and laying in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing , etc.complete (By weigh batching and mix design for M-600 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement) M-150 Grade			
	9.72	Cum	RCC M150 Grade	5373.90	Cum	52234.31
			Basic Rate	5118.00		
			Add 5% for M.C. area	255.90		
			Total	5373.90		
			(CSR 2016-17 P.No. 43 I.No.2)			
11			Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings,and schedules, including cutting ,bending, hooking the bars, binding with wires or tack welding and supporting as required, etc.complete. (including cost of binding wire.)			
	0.34	MT	Tor Steel	54803.70	MT	18633.26
			Basic Rate	52194.00		
			Add 5% for M.C. area	2609.70		
			Total	54803.70		
			(CSR 2016-17 P.No. 46 I.No.8)			
12			Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation , surcharging, etc. complete.			
	180.00	Cum		65.28	Cum	11750.40
			Basic Rate	64.00		
			Add 5% for M.C. area	1.28		
			Total	65.28		
			(CSR 2016-17 P.No. 38 I.No.16)			

Item	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
13	0.15 Km	Hydraulic testing of C.I./D.I. pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position using water supplied by the contractor.			
		500 mm dia DI K-9	31796.10	Km	4769.42
		Basic Rate	30282.00		
		Add 5 %for M.C.	1514.10		
		Total	31796.10		
		(CSR 2016-17 P.No. I.No. 12)			
		Total Cost Of Labour			272268.94
		Total Cost Of Material + Labour			1879620.94
		Total Cost Rs.			1879620.94
		Say Rs.			18.80
		Say Crore			0.19

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)**

MEASUREMENT

SUB ESTIMATE NO. :- PUMPING MAIN MAIN FROM PUMING STATION TO STP @ HYDRABAD ROAD (MHADA)

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
	Material :							
1	Providing& supplying ISI marked D.I. S&S pipes (push on jointspressure pipes of D. I. of following class & dia. confirming to IS specifications iclusive of the cost of jointing materials (rubber gasket of EPDM quality)including all staturoty duties & taxes levied by Govt. of Maharashtra in all respect , education cess, VAT. third party inspection charges of TPI agecy approved by MJP , including transit, insurance, railway freight, unloading from railway wagon, loading into truck, transport to departmental store / site, unloading, stacking etc. complete as directed by Engineer-in-charge. (IS-IS:1536/2001 for pipes and IS 158/1969 and IS 12820/1989 or latest edition / revision with ammendments for rubber gaskets).							
	500 mm dia.D.I. K-9 Pipe	1.00	150.00				150.00	Rmt
2	Providing and supplying ISI standard DI specials & fittings with sealing rubber gasket of SBR complete with cast iron follwer gland & MS nutbolts coated or otherwise protected from rusting and suitable for DI pipes cost of labour , material, and transportation to stores/site loading unloading including all taxes, etc. complete as per IS -9523 For all types of specials, bends, TEEs, etc..							
	350 mm Dia.& above						500.00	Kg

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
3	Providing & supplying DI fittings with ISI mark mechanical joints confirming to table 12 to 31 of IS Supply of CI mechanical joint double socket with flanged TEEs as dimensionally described in Table 19 of IS 9523/2000 upto latest ammendments including cost of SBR/EPDM gaskets, nut bolts, washers, & ductile iron folloer glands . Fittings should be internally OPC lined & externally metallic zinc coating / zinc rich paint with finishing layer of black bitumen coating including transportation and all taxes etc. complete							
	500 x500 x 150 mm dia. TEE	1.00					1.00	No
	500 mm dia. Tail Piece	2.00					2.00	No
	150 mm dia. Tail Piece	1.00					1.00	No
	500 mm dia. Collars	1.00					1.00	No
	500 mm dia.90 Bend	3.00					3.00	No
4	Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/16 rated, with body and bonnet of ductile iron confirming to IS 1865 Gr. 500/7 or Gr. 400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/ 1.4104, stem seals min 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostaically applied epoxy powder coated bule colour (suitable for drinking water) as per DIN 30677-2 & GSK guideliness with a coating thickness of min.600 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. Including all taxes and transportation charges etc. complete							
	500 mm dia Sluice Valve PN - 1.0	1.00					1.00	No
	150 mm dia Sluice Valve PN - 1.0	1.00					1.00	No

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
5	Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron conforming to EN 1563/IS 1865 GR. 500/7 or Gr. 400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 600 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845, Including all taxes and transportation charges etc. complete.							
	a) Kinetic Air valve 150 mm dia PN 1.0	1.00					1.00	No
6	Providing and supplying ISI standard MS specials of required thickness with 3 coats of approved make epoxy paint (Shalimar,Ciba or Mahindra & Mahindra make) from inside & outside including all taxes (Central & Local) , octroi , inspection charges, transportation to stores/site and stacking etc. complete.							
	Doble flanged specials of all Diameters						500.00	Kg
	Labour :							
1	Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.10	0.50	82.50	82.50	Cum
						Say	83.00	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.10	0.50	82.50	82.50	Cum
						Say	83.00	Cum
3	Excavation for foundation / pipe trenches in soft rock and old cement & lime masonry foundation , asphalt road including removing the excavated material up to distance of 50 M. and lift as below,. stacking and spreading as directed, normal dewatering, preparing, the bed for foundation and excluding backfilling etc.complete.							
	Lift 0-1.50 m	1.00	150.00	1.10	0.50	82.50	82.50	Cum
						Say	83.00	Cum
4	Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation 15 cm to 20 cm layers including watering and compaction complete.							
	Murum available @ site	1.00	150.00	1.10	0.15	24.75	24.75	Cum
						Say	25.00	Cum
5	Lowering, laying and jointing with SBR rubber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameters in proper position, grade and allignment as directed by Engineer-in-charge including conveyance of materials from stores to site of work, including cost of jointing materials and rubber rings, labour giving hydraulic testing, etc.complete.							
	Note :- Only SBR , rubber gaskets to be used.							
	500 mm dia DI K-9	1.00	150.00				150.00	Rmt
6	Lowering,laying and jointing in position following C.I. D/F Reflux valves, Butterfly valves and Sluice valves including cost of all labour jointing material, cincluding nut bolts and giving satisfactory hydraulic testing, etc.complete.							

Pumping Main
Measurement

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
	500 mm dia; Sluice Valve PN - 1.0	1.00					1.00	No
	150 mm dia Sluice Valve PN - 1.0	1.00					1.00	No
7	Lowering and fixing kinetic air valve of following dia in proper position and alignment as directed including cost of conveyance from store to site of work, all jointing material, labour and hydraulic testing etc. complete.							
	Kinetic Air valve 150 mm dia PN 1.0	1.00					1.00	No
8	Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding , excluding excavation B.B. masonry in C.M. 1:5 proportion with precast steel fibre reinforced concrete frame and covers (S.F.R.C. frame and covers) etc							
	Clear Size 1.20 x1.20 x1.50 M.	2.00					2.00	No
9	Providing and laying in situ following grades of C.C. of trap/ granite / quartzite / gneiss metal for foundation and bedding including dewatering form work, compacting and curing, finishing etc.complete.							
	PCC M150	3.00	5.00	1.20	0.30	5.40	5.40	Cum
						Total	5.40	Cum
10	Providing and laying in situ cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing , etc.complete (By weigh batching and mix design for M-600 and M-300 only. Use of L & T, A.C.C. , Ambuja, Birla Gold, Manikgad, Rajashree, etc.cement is permitted.) (Excluding M.S. or Tor reinforcement) M-150 Grade							
	RCC M150 Grade For Thrust Block	3.00	3.00	1.20	1.20	12.96	12.96	Cum
		-3.00	3.00	0.60	0.60	-3.24	-3.24	Cum
						Total	9.72	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Total Qty.	Unit
11	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings, and schedules, including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire.)							
	Tor Steel 5kg/sqm surface Area	3.00	3.00	1.50	25.00	337.50	0.34	MT
						Say	0.34	MT
12	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc. complete.							
	Qty Of Excavation						249.00	Cum
	Deduction							Cum
	Murrum Bedding						25.00	Cum
	Concrete						15.12	Cum
	Pipe Volume						29.44	Cum
	Net Quantity						179.44	Cum
							Say	180.00
13	Hydraulic testing of C.I./D.I. pipe line to specified pressure etc complete							
	500 mm dia DI K-9	1.00	0.15				0.15	Km

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
NAME OF SUBWORK: STP Cap. 15.50 MLD FOR ZONE X @ HYDRABAD ROAD MHADA**

ABSTRACT

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1		STP Cap. 15.50 MLD @ Hydrabad Road (MHADA)			
		Designing, providing, constructing, hydraulic testing, commissioning and giving satisfactory trials of STP based on SBR/MMBR/Moderinsed technology consisting of Inlet Chamber, Screen Chamber, Detritus Tanks, Distribution Chamber and Biological CASP Basins, Sludge Sump, Chlorine Contact Tank, Chlorinator Room/Shed, Sludge Centrifuge necessary piping work with required valves, gates, drains, pathways Administration Block cum Laboratory, Laboratory Equipments, Tools and Plants, Spare Parts, etc. complete as turnkey job with all involved civil, electrical and mechanical works inclusive of following items, units as per detailed specification for civil, electrical and mechanical components with all duties and taxes, etc. complete to achieve BOD < 5 ppm, COD < 100 ppm, TSS < 10 ppm, to get recyclable quality of water for industrial / agricultural purposes. (In Case Cyclic activated sludge plant is designed for N, P outlet parameters shall also include TN < 10 ppm, Nh3N < 2 ppm and TP < 1 ppm)			
		UNITS INCLUDED			
		1. Inlet Chamber			
		2. Screen Chamber Designing, providing, constructing, testing and commissioning of screen chamber, designed for average 1 DWF and maximum peak flow of 2 DWF in RCC (M-300), including inlet pipe / channel from inlet chamber, outlet pipe channel to detritus tank, free board of 0.5 m minimum, RCC walkway 1.2 m wide with SS Pipe railing, RCC staircase of 1.2 m width from GL to screen chamber.			
		3. Detritus Tank			
		4. CASP Basins			
		5. Chlorine Contact Tank			
		6. Chlorinator and Chlorinator Room / Tonner Room Designing, providing and constructing chlorinators vacuum type 2 Nos. with auto switchover facility and having capacity for dosage of adequate chlorine to ensure 99.99% coliform reduction as per obligatory provisions and detailed specifications with necessary provision of having chlorinator room of adequate size. The chlorinator equipment shall include cost of chlorine cylinders / tonner piping, valves, measuring and controlling equipments, safety devices, lifting equipments, etc. complete as per IS- 10553 (Part II) 1982. The tonner room should have minimum 3 MT capacity hoist for loading and unloading facility. Tonner storage should be distinctly isolated and should be for minimum storage space as directed in the design specification and as per Gas Laws 1981 and Factory Act shall be provided. All other matching amenities shall be provided. 5 MT gantry rail shall be provided for full length of tonner room at 6 m height from level of tonner room, with outlet chamber and treated effluent outlet channel, etc. complete as per detailed specification.			
		7. Sludge Sump			
		8. Sludge Centrifuge Platform with Centrifuges			
		9. Outfall Sewer			
		10. Piping Work in CI-LA class including Sluice Valves, Reflux			
		11. Administrative Building cum Laboratory (G+1)			
		NOTES			
		These Rates are for Civil Works, in M- 30 grade RCC.			
		Water Table is considered at 5 m below ground level.			

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE**

ABSTRACT					
Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
		H.D.P.E. DWC pipes for Drainage Class SN			
	139002.00	Rmt	150 mm dia.(ID)	378.00	Rmt
			(CSR 2016-17, P. 132,133 I. 2)		52542756.00
2		Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge			
			HDPE Pipes - Class SN8		
	556008.00	Rmt	110 mm dia.(OD)	318.00	Rmt
			(PWD CSR 2017-18, P. 176, I. 88/20)		176810544.00
3		Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.			
			Inspection Chamber {900 x 600x 1200}		
	23167.00	No.		11608.80	No.
			Basic Rate	11056.00	
			Add 5% for M.C.	552.80	
			Total	11608.80	
			(CSR 2016-17, P. 275 I. 13)		268941069.60

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4			Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	94984.70	Cum	Lift 0 -1.5 M.	487.30	Cum	46286044.31
			Basic Rate	443.00		
			Add 10% for M.C.	44.30		
			Total	487.30		
			(CSR 2016-17, P. 35 I. 5)			
5			Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	94984.70	Cum	Lift 0.0 -1.5 M.	155.10	Cum	14732126.97
			Basic Rate	141.00		
			Add 10% for M.C.	14.10		
			Total	155.10		
6			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	94984.70	Cum	Lift 0 -1.5 M.	198.00	Cum	18806970.60
			Basic Rate	180.00		
			Add 10% for M.C.	18.00		
			Total	198.00		
7			Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
	16680.24	Cum		67.20	Cum	1120912.13
			Basic Rate	64.00		
			Add 5% for M.C.	3.20		
			Total	67.20		
			(CSR 2016-17, P. 39, I. 16)			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
8			Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
			H.D.P.E. DWC pipes for Drainage CLASS			
	139002.00	Rmt	150 mm dia.(ID)	33.60	Rmt	4670467.20
			Basic Rate	32.00		
			Add 5% for M.C.	1.60		
			Total	33.60		
			(CSR 2016-17, P. 134, I. 4)			
9			Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
	139.002	KM	H.D.P.E. DWC pipes for Drainage CLASS	3150.00	KM	437856.30
			Basic Rate	3000.00		
			Add 5% for M.C.	150.00		
			Total	3150.00		
			(CSR 2016-17, P. 134, I. 4)			
10			Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
	234994.55	Cum		67.20	Cum	15791633.76
			Basic Rate	64.00		
			Add 5% for M.C.	3.20		
			Total	67.20		
			(CSR 2016-17, P. 38, I.15)			
11			Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
	19136.61	Cum		195.62	Cum	3743503.65
			(CSR 2016-17, P. 22, Statement VI)			
			Basic Rate	195.62		

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
12			Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	104251.50	Sqm	(As per Rate Analysis)	873.47	Sqm	91060557.71
13			Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
	23167.00	No.	(Similar Item PWD CSR 2017-18, P. 165, I No 442.61 BDV 5)	175.35	No.	4062333.45
			Basic Rate	167.00		
			Add 5% for M.C.	8.35		
			Total	175.35		
					Total Cost Rs.	699006775.67
					Say Rs.	699006776.00
					Total Cost Rs.	174751694.00
					Say Rs.	1747.52
					Say Crore	17.48

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE**

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Total Nos. of Properties in Zone -	92668	Nos.				
Considering four Property have one IC chamber size 90 x 60 x 120 cm ,common for 4 property	23167.00				23167.00	Nos.
			Total IC chamber		23167.00	Nos.
Item No. 1'Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.						
H.D.P.E. pipes for Drainage 'CLASS SN 8						
150 mm dia.(ID)	23167.00	6.00			139002.00	Rmt
Item No.2 : Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge						
From House Chamber to IC Chamber						
HDPE Pipes - Class SN8					Property Connection	
110 mm dia. (OD)	92668.00	6.00			556008.00	Rmt

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
				Total	556008.00	RMT
Item No. 3 : Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.						
Inspection Chamber {900 x 600x 1200}	23167.00				23167.00	Nos.
Item No. 4: Excavation for foundation/ pipes trenches by all mean in soft rock & old cement and lime masonry foundation asphalt road excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	23167.00	6.00	0.80	0.50	55600.80	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	23167.00	2.00	1.70	0.50	39383.90	Cum
				Total	94984.70	Cum
Item No. 5: Excavation for foundation/ pipes trenches in earth, soil of all types ,sand ,gravel and soft murum & excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	23167.00	6.00	0.80	0.50	55600.80	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	23167.00	2.00	1.70	0.50	39383.90	Cum
				Total	94984.70	Cum
Item no. 6 Excavation for foundation/pipe trenches in Hard Murum & excluding the back filling, etc complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	23167.00	6.00	0.80	0.50	55600.80	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	23167.00	2.00	1.70	0.50	39383.90	Cum
				Total	94984.70	Cum
Item No : 7 :Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.						
for pipe line from IC to street Manhol	23167.00	6.00	0.80	0.15	16680.24	Cum
	148			Total	16680.24	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Item No.8 Lowering ,Laying and jointing HDPE Double Wall Corrugated Pipes for non pressure Underground drainage and Sewerage applications etc complete						
for pipe line from IC to street Manhol	23167.00	6.00			139002.00	RMT
Item No.9 :Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing .						
H.D.P.E. DWC pipes for Drainage	23167.00	6.00			0.006	KM
Item No.10: Refilling the trenches with approved excavated stuff with soft materialsetc. Complete.	Total refilling Qty = Total Ex. Qty - (Sand Bedding Qty + Pipe Volume)					
Pipe Volume:						
for pipe line from IC to street Manhole	23167.00	6.00	0.15	0.15	2456.37	Cum
Chamber Vol.	23167.00	1.40	1.10	1.50	30822.94	Cum
				Total	33279.31	Cum
			Refilling Quantity :		234994.55	Cum
Item No. 11: 'Disposing of surplus excavated stuff from site of work up to a distance of 2Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.	Disposal = Bedding Qty + Pipe Volume					
		16680.24	+	2456.37	19136.61	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Item No. 12 : Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.	50%	139002.00	1.50		104251.50	Sqm
Item No. 13 :Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
15 mm Dia.	25%	92668.00	0.00		23167.00	No

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- TRUNK MAIN FOR ZONE XI					
(Underground Sewerage Network -300 to 1000 mm dia RCC Pipes, L=7.904 Km)					
ABSTRACT No.3A					
S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	787.00	300 mm dia.	757.00	Rmt	595759.00
	657.00	350 mm dia.	1260.00	Rmt	827820.00
	1660.00	450 mm dia.	1449.00	Rmt	2405340.00
	759.00	500 mm dia.	1785.00	Rmt	1354815.00
	25.00	700 mm dia.	2940.00	Rmt	73500.00
	2535.00	1000 mm dia.	4095.00	Rmt	10380825.00
		RCC NP 4 Class			
	30.00	350 mm dia.	1344.00	Rmt	40320.00
	93.00	450 mm dia.	1575.00	Rmt	146475.00
	60.00	500 mm dia.	1943.00	Rmt	116580.00
	1298.00	600 mm dia.	2520.00	Rmt	3270960.00
		(CSR 2016-17, P. 103,104, I. E, F)			
				Material Cost	19212394.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
			Basic Rate	141.00	
			Add 10 % for M.C	14.10	
	5460.76		Total	155.10	Cum 846963.88
		Lift 1.50 -3.0 M.			
			Basic Rate	153.00	
			Add 10 % for M.C	15.30	
	1769.02		Total	168.30	Cum 297726.07
		(CSR 2016-17, P. 35 I. 1)			
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
			Basic Rate	180.00	
			Add 10 % for M.C	18.00	
	8734.92		Total	198.00	Cum 1729514.16

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Lift 0 -1.5 M.			
			Basic Rate	192.00	
			Add 10 % for M.C	19.20	
	885.18		Total	211.20	Cum 186950.02
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
			Basic Rate	443.00	
			Add 10 % for M.C	44.30	
	2183.32		Total	487.30	Cum 1063931.84
		Lift 1.5 -3.0 M.			
			Basic Rate	463.00	
			Add 10 % for M.C	46.30	
	8847.78		Total	509.30	Cum 4506174.35
		(CSR 2016-17, P. 35 I. 5)			
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 1.5 -3.0 M.			
			Basic Rate	771.00	
			Add 10 % for M.C	77.10	
	1769.02		Total	848.10	Cum 1500305.86
		Lift 3.0 -4.5 M.			
			Basic Rate	791.00	
			Add 10 % for M.C	79.10	
	3778.00		Total	870.10	Cum 3287237.80
		Lift 4.5-6.0 M.			
			Basic Rate	811.00	
			Add 10 % for M.C	81.10	
	453.00		Total	892.10	Cum 404121.30
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
			Basic Rate	912.00	
			Add 5% for M.C	45.60	
	1292.85		Total	957.60	Cum 1238033.16
		(CSR 2016-17, P. 39 I.18)			
6		Providing & filling in sand boxing in pipeline or for foundation with sand of approved quality including watering and compaction,etc.complete.			
			Basic Rate	931.00	
			Add 5% for M.C	46.55	
	164.66		Total	977.55	Cum 160961.49
		(CSR 2016-17, P. 39 I. 19)			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
			Basic Rate	64.00	
			Add 5% for M.C	3.20	
	1481.92		Total	67.20	Cum 99585.19
		(CSR 2016-17, P. 39, I. 16)			
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubbar joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		300 mm dia.			
			Basic Rate	115.00	
			Add 5% for M.C	5.75	
	787.00		Total	120.75	Rmt 95030.25
		350 mm dia.			
			Basic Rate	118.00	
			Add 5% for M.C	5.90	
	687.00		Total	123.90	Rmt 85119.30
		450 mm dia.			
			Basic Rate	180.00	
			Add 5% for M.C	9.00	
	1753.00		Total	189.00	Rmt 331317.00
		500 mm dia.			
			Basic Rate	197.00	
			Add 5% for M.C	9.85	
	819.00		Total	206.85	Rmt 169410.15
		600 mm dia.			
			Basic Rate	248.00	
			Add 5% for M.C	12.40	
	1298.00		Total	260.40	Rmt 337999.20
		700 mm dia.			
			Basic Rate	281.00	
			Add 5% for M.C	14.05	
	25.00		Total	295.05	Rmt 7376.25
		1000 mm dia.			
			Basic Rate	532.00	
			Add 5% for M.C	26.60	
	2535.00		Total	558.60	Rmt 1416051.00
		(CSR 2016-17, P. 105, I. 2)			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.				
		300 mm dia.				
			Basic Rate	13000.00		
			Add 5% for M.C	650.00		
	0.79		Total	13650.00	KM	10742.55
		350 mm dia.				
			Basic Rate	13000.00		
			Add 5% for M.C	650.00		
	0.69		Total	13650.00	KM	9377.55
		450 mm dia.				
			Basic Rate	20000.00		
			Add 5% for M.C	1000.00		
	1.75		Total	21000.00	KM	36813.00
		500 mm dia.				
			Basic Rate	22000.00		
			Add 5% for M.C	1100.00		
	0.82		Total	23100.00	KM	18918.90
		600 mm dia.				
			Basic Rate	28000.00		
			Add 5% for M.C	1400.00		
1.30		Total	29400.00	KM	38161.20	
	700 mm dia.					
		Basic Rate	31000.00			
		Add 5% for M.C	1550.00			
0.03		Total	32550.00	KM	813.75	
	1000 mm dia.					
		Basic Rate	44000.00			
		Add 5% for M.C	2200.00			
2.54		Total	46200.00	KM	117117.00	
		(CSR 2016-17, P. 105, I. 2)				
10		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)				
		Non Water Logged Area				
		Lift 1.50 to 3.00 m.				
			Basic Rate	240.00		
			Add 5% for M.C	12.00		
	696.60		Total	252.00	Sqm	175543.20
		Water Logged Area				
		Lift 1.50 to 3.00 m.				
			Basic Rate	239.00		
			Add 5% for M.C	11.95		
464.40		Total	250.95	Sqm	116541.18	
		(CSR 2016-17, P. 39, I. 20a / b)				

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
11		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually , formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5% for M.C	211.65		
	561.78	Total	4444.65	Cum	2496932.07
		(CSR 2016-17, P. 43, I. 1b)			
12		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5% for M.C	3.10		
	16200.00	Total	65.10	HP/Hr	1054620.00
		(CSR 2016-17, P. 38, I. 14)			
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5% for M.C	864.95		
	10.00	Total	18163.95	No.	181639.50
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5% for M.C	1007.40		
	45.00	Total	21155.40	No.	951993.00
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5%for M.C.=Rs.2991.45			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 2.5 m depth.			
			Basic Rate	28011.00	
			Add 5% for M.C	1400.55	
	41.00		Total	29411.55	No. 1205873.55
		Upto 3.0 m depth.			
			Basic Rate	33901.00	
			Add 5% for M.C	1695.05	
	46.00		Total	35596.05	No. 1637418.30
		Upto 3.50 m depth.			
			Basic Rate	39791.00	
			Add 5% for M.C	1989.55	
	10.00		Total	41780.55	No. 417805.50
		Upto 4.0 m depth.			
			Basic Rate	45681.00	
			Add 5% for M.C	2284.05	
	14.00		Total	47965.05	No. 671510.70
		Upto 4.5 m depth.			
			Basic Rate	51571.00	
			Add 5% for M.C	2578.55	
	4.00		Total	54149.55	No. 216598.20
		Upto 5.0 m depth.			
			Basic Rate	57461.00	
			Add 5% for M.C	2873.05	
	3.00		Total	60334.05	No. 181002.15
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5%for M.C.=Rs.6184.50			
15		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		5.50 m depth.			
			Basic Rate	71823.00	
			Add 5% for M.C	3591.15	
	2.00		Total	75414.15	No. 150828.30
		(CSR 2016-17, P. 273, I. 8)			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.7410/-Add 5% for M.C=Rs.7780.50			
16		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
			Basic Rate	52194.00	
			Add 5% for M.C	2609.70	
	4.40		Total	54803.70	MT
		(CSR 2016-17, P. 46, I. 8b)			240917.07
17		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
			Basic Rate	64.00	
			Add 5% for M.C	3.20	
	26621.97		Total	67.20	Cum
		(CSR 2016-17, P. 38, I.15)			1788996.54
18		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2016-17, P. 22, Statement VI)			
	905.63		Basic Rate	195.62	Cum
					177159.55
19		Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- ammended upto date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer.Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.			
	3.00			18432.00	No.
		(As per Rate Analysis)			55296.00

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
20		Highway Crossing			
		Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through metod in all types of strata by using hydraulic jack and drilling machine of required diameter of below MS casing pipes, loweing, laying & jointing of material , requred welding machinery , tripod, chain pully block , crain , blower, compressor, loading & unloading of machinery into the trench , etc. transportation and dewatering , etc. complete as directed by Engineer-in-charge but excluding the cost of MS pipes.-500 to 1000 mm dia. MS Pipe			
			Basic Rate	28476.00	
			Add 5% for M.C	1423.80	
	150.00		Total	29899.80	Rmt 4484970.00
		(CSR 2016-17, P. 58, I. 14b)			
		MS Pipe 1500 mm (ID) 12 mm thick			
	150.00		Basic Rate	23550.00	Rmt 3532500.00
		(CSR 2016-17, P.197, I.2AA)			
			Labour Cost		37733897.01
			Total Material + Labour Cost Rs.		56946291.01
			Say Rs.		56946292.00
			Say Rs. Lakhs		569.46
			Say Rs.Crores		5.69

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- TRUNK MAIN FOR ZONE XI
(Underground Sewerage Network -300 to 1000 mm dia RCC Pipes, L=7.904 Km)

MEASUREMENT No. 3A							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	300 mm dia.	1.00	787.00			787.00	Rmt
	350 mm dia.	1.00	657.00			657.00	Rmt
	450 mm dia.	1.00	1660.00			1660.00	Rmt
	500 mm dia.	1.00	759.00			759.00	Rmt
	700 mm dia.	1.00	25.00			25.00	Rmt
	1000 mm dia.	1.00	2535.00			2535.00	Rmt
	RCC NP 4 Class						
	350 mm dia.	1.00	30.00			30.00	Rmt
	450 mm dia.	1.00	93.00			93.00	Rmt
	500 mm dia.	1.00	60.00			60.00	Rmt
	600 mm dia.	1.00	1298.00			1298.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
Dt	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
Ex Line	14708.08	11663.60	3359.95	375.89	0.00	30107.52	Cum
Ex MH	1671.07	1607.19	418.42	76.79	0.00	3773.46	Cum
Say	16379.00	13271.00	3778.00	453.00	0.00	33881.00	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					5460.76	Cum
	Lift 1.5-3.0 M.					1769.02	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					8734.92	Cum
	Lift 1.5-3.0 M.					885.18	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					2183.32	Cum
	Lift 1.5-3.0 M.					8847.78	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 1.5-3.0 M.					1769.02	Cum
	Lift 3.0-4.5 M.					3778.00	Cum
	Lift 4.5-6.0 M.					453.00	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	2535.00	1.70	0.30	1292.85	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
6	Providing & filling in sand boxing in pipeline or for foundation etc.complete.						
	(As per Computer generated sheet)					164.66	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					1481.92	Cum
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	300 mm dia.	1.00	787.00			787.00	Rmt
	350 mm dia.	1.00	687.00			687.00	Rmt
	450 mm dia.	1.00	1753.00			1753.00	Rmt
	500 mm dia.	1.00	819.00			819.00	Rmt
	600 mm dia.	1.00	1298.00			1298.00	Rmt
	700 mm dia.	1.00	25.00			25.00	Rmt
	1000 mm dia.	1.00	2535.00			2535.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.						
	300 mm dia.	1.00	0.79			0.79	KM
	350 mm dia.	1.00	0.69			0.69	KM
	450 mm dia.	1.00	1.75			1.75	KM
	500 mm dia.	1.00	0.82			0.82	KM
	600 mm dia.	1.00	1.30			1.30	KM
	700 mm dia.	1.00	0.03			0.03	KM
	1000 mm dia.	1.00	2.54			2.54	KM
10	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	232.20		1.50	696.60	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	154.80		1.50	464.40	Sqm
11	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	250.00	1.80	1.80	0.60	486.00	
	Deduct	250.00	0.79	1.44	0.60	169.56	
	Net Qty					316.44	Cum
	(As per Computer generated sheet)					245.34	Cum
	Total Qty					561.78	Cum
12	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	3.00	180.00	5.00	6.00	16200.00	Bhp/hr
	3 Fronts, 5 BHP Pump- 6Hrs- 180 Days						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metr.complete						
	Upto 1.50 m depth.					10.00	No.
	Upto 2.0 m depth.					45.00	No.
	(As per Computer generated sheet)						
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					41.00	No.
	Upto 3.0 m depth.					46.00	No.
	Upto 3.5 m depth.					10.00	No.
	Upto 4.0 m depth.					14.00	No.
	Upto 4.5 m depth.					4.00	No.
	Upto 5.0 m depth.					3.00	No.
	(As per Computer generated sheet)						
15	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					2.00	No.
	(As per Computer generated sheet)						
16	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.56	4396			4.40	MT
17	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					26621.97	Cum
18	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					905.63	Cum
19	Providing, fixing and erecting RCC (M20) Vent shaft etc. complete						
		3				3	No.
	(As per Rate Analysis)					5.00	Km
20	Highway Crossing						
	Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine etc. complete						
	MS Pipe 1500 mm (ID) 12 mm thick	5	30			150	Rmt

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- TRUNK MAIN FOR ZONE XII					
(Underground Sewerage Network -350 to 1100 mm dia RCC Pipes, L=3.909 Km)					
ABSTRACT No.3B					
S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	298.00	350 mm dia.	1260.00	Rmt	375480.00
	452.00	500 mm dia.	1785.00	Rmt	806820.00
	1776.00	1100 mm dia.	6916.00	Rmt	12282816.00
		RCC NP 4 Class			
	131.00	350 mm dia.	1344.00	Rmt	176064.00
	61.00	450 mm dia.	1575.00	Rmt	96075.00
	1191.00	500 mm dia.	1943.00	Rmt	2314113.00
		(CSR 2016-17, P. 103,104, I. E, F)			
				Material Cost	16051368.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	3852.56	Total	155.10	Cum	597532.06
		Lift 1.50 -3.0 M.			
		Basic Rate	153.00		
		Add 10 % for M.C..	15.30		
	2143.20	Total	168.30	Cum	360700.56
		(CSR 2016-17, P. 35 I. 1)			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.				
		Lift 0 -1.5 M.				
			Basic Rate	180.00		
			Add 10 % for M.C..	18.00		
	5135.15		Total	198.00	Cum	1016759.70
		Lift 0 -1.5 M.				
			Basic Rate	192.00		
			Add 10 % for M.C..	19.20		
	1428.44		Total	211.20	Cum	301686.53
		(CSR 2016-17, P. 35 I. 3)				
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.				
		Lift 0 -1.5 M.				
			Basic Rate	443.00		
			Add 10 % for M.C..	44.30		
	641.29		Total	487.30	Cum	312500.62
		Lift 1.5 -3.0 M.				
			Basic Rate	463.00		
			Add 10 % for M.C..	46.30		
	5714.84		Total	509.30	Cum	2910568.01
		(CSR 2016-17, P. 35 I. 5)				
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.				
		Lift 1.5 -3.0 M.				
			Basic Rate	771.00		
			Add 10 % for M.C..	77.10		
	1429.51		Total	848.10	Cum	1212367.43

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	4712.00	Total	870.10	Cum	4099911.20
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	605.00	Total	892.10	Cum	539720.50
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	1172.70	Total	957.60	Cum	1122977.52
		(CSR 2016-17, P. 39 I.18)			
6		Providing & filling in sand boxing in pipeline or for foundation with sand of approved quality including watering and compaction,etc.complete.			
		Basic Rate	931.00		
		Add 5 % for M.C..	46.55		
	60.49	Total	977.55	Cum	59132.00
		(CSR 2016-17, P. 39 I. 19)			
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	730.11	Total	67.20	Cum	49063.39
		(CSR 2016-17, P. 39, I. 16)			
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubbar joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		350 mm dia.			
		Basic Rate	118.00		
		Add 5 % for M.C..	5.90		
	429.00	Total	123.90	Rmt	53153.10

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		450 mm dia.			
		Basic Rate	180.00		
		Add 5 % for M.C..	9.00		
	61.00	Total	189.00	Rmt	11529.00
		500 mm dia.			
		Basic Rate	197.00		
		Add 5 % for M.C..	9.85		
	1643.00	Total	206.85	Rmt	339854.55
		1100 mm dia.			
		Basic Rate	532.00		
		Add 5 % for M.C..	26.60		
	1776.00	Total	558.60	Rmt	992073.60
		(CSR 2016-17, P. 105, I. 2)			
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
		350 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	0.43	Total	13650.00	KM	5855.85
		450 mm dia.			
		Basic Rate	20000.00		
		Add 5 % for M.C..	1000.00		
	0.06	Total	21000.00	KM	1281.00
		500 mm dia.			
		Basic Rate	22000.00		
		Add 5 % for M.C..	1100.00		
	1.64	Total	23100.00	KM	37953.30
		1100 mm dia.			
		Basic Rate	59000.00		
		Add 5 % for M.C..	2950.00		
	1.78	Total	61950.00	KM	110023.20
		(CSR 2016-17, P. 105, I. 2)			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
10		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	180.00	Total	252.00	Sqm	45360.00
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	120.00	Total	250.95	Sqm	30114.00
		(CSR 2016-17, P. 39, I. 20a / b)			
11		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually , formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	659.42	Total	4444.65	Cum	2930872.73
		(CSR 2016-17, P. 43, I. 1b)			
12		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	16200.00	Total	65.10	HP/Hr	1054620.00
		(CSR 2016-17, P. 38, I. 14)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.	
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.				
		Upto 2.5 m depth.				
			Basic Rate	28011.00		
			Add 5 % for M.C..	1400.55		
	2.00		Total	29411.55	No.	58823.10
		Upto 3.0 m depth.				
			Basic Rate	33901.00		
			Add 5 % for M.C..	1695.05		
	2.00		Total	35596.05	No.	71192.10
		Upto 3.50 m depth.				
			Basic Rate	39791.00		
			Add 5 % for M.C..	1989.55		
	6.00		Total	41780.55	No.	250683.30
	Upto 4.0 m depth.					
		Basic Rate	45681.00			
		Add 5 % for M.C..	2284.05			
7.00		Total	47965.05	No.	335755.35	
	Upto 4.5 m depth.					
		Basic Rate	51571.00			
		Add 5 % for M.C..	2578.55			
5.00		Total	54149.55	No.	270747.75	
	Upto 5.0 m depth.					
		Basic Rate	57461.00			
		Add 5 % for M.C..	2873.05			
6.00		Total	60334.05	No.	362004.30	
		(CSR 2016-17, P. 273, I. 7)				
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50				

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		5.50 m depth.			
			Basic Rate		71823.00
			Add 5 % for M.C..		3591.15
	4.00		Total	No.	301656.60
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C .=Rs.7780.50			
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc complete			
		Tor Steel			
			Basic Rate		52194.00
			Add 5 % for M.C..		2609.70
	5.18		Total	MT	283937.97
		(CSR 2016-17, P. 46, I. 8b)			
16		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
			Basic Rate		64.00
			Add 5 % for M.C..		3.20
	20003.47		Total	Cum	1344233.23
		(CSR 2016-17, P. 38, I.15)			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
17		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	1734.15	Basic Rate	195.62	Cum	339234.59
18		Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- ammended upto date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer.Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.			
	1.00		18432.00	No.	18432.00
19		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer-in-charge.			
	1.00	(As per Rate Analysis)	13506.00	Km	13506.00

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
20		Highway Crossing			
		Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine of required diameter of below MS casing pipes, lowering, laying & jointing of material, required welding machinery, tripod, chain pulley block, crane, blower, compressor, loading & unloading of machinery into the trench, etc. transportation and dewatering, etc. complete as directed by Engineer-in-charge but excluding the cost of MS pipes.-500 to 1000 mm dia. MS Pipe			
			Basic Rate		28476.00
			Add 5 % for M.C..		1423.80
	150.00		Total		29899.80
				Rmt	4484970.00
		(CSR 2016-17, P. 58, I. 14b)			
		MS Pipe 1500 mm (ID) 12 mm thick			
	150.00		Basic Rate		23550.00
		(CSR 2016-17, P.197, I.2AA)			
			Labour Cost		29863286.14
			Total Material + Labour Cost Rs.		45914654.14
			Say Rs.		45914655.00
			Say Rs. Lakhs		459.15
			Say Rs. Crores		4.59

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- TRUNK MAIN FOR ZONE XII
(Underground Sewerage Network -350 to 1100 mm dia RCC Pipes, L=3.909 Km)

MEASUREMENT No. 3B							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	350 mm dia.	1.00	298.00			298.00	Rmt
	500 mm dia.	1.00	452.00			452.00	Rmt
	1100 mm dia.	1.00	1776.00			1776.00	Rmt
	RCC NP 4 Class						
	350 mm dia.	1.00	131.00			131.00	Rmt
	450 mm dia.	1.00	61.00			61.00	Rmt
	500 mm dia.	1.00	1191.00			1191.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
Dt	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
Ex Line	8515.11	8438.73	3902.27	469.49	0.00	21325.60	Cum
Ex MH	1113.44	2277.15	809.41	135.38	0.00	4335.38	Cum
Say	9629.00	10716.00	4712.00	605.00	0.00	25661.00	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					3852.56	Cum
	Lift 1.5-3.0 M.					2143.20	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					5135.15	Cum
	Lift 1.5-3.0 M.					1428.44	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					641.29	Cum
	Lift 1.5-3.0 M.					5714.84	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					0.00	Cum
	Lift 1.5-3.0 M.					1429.51	Cum
	Lift 3.0-4.5 M.					4712.00	Cum
	Lift 4.5-6.0 M.					605.00	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	1954.50	2.00	0.30	1172.70	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
6	Providing & filling in sand boxing in pipeline or for foundation etc.complete.						
	(As per Computer generated sheet)					60.49	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					730.11	Cum
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	350 mm dia.	1.00	429.00			429.00	Rmt
	450 mm dia.	1.00	61.00			61.00	Rmt
	500 mm dia.	1.00	1643.00			1643.00	Rmt
	1100 mm dia.	1.00	1776.00			1776.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.						
	350 mm dia.	1.00	0.43			0.43	KM
	450 mm dia.	1.00	0.06			0.06	KM
	500 mm dia.	1.00	1.64			1.64	KM
	1100 mm dia.	1.00	1.78			1.78	KM
10	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	60.00		1.50	180.00	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	40.00		1.50	120.00	Sqm
11	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	200.00	2.00	2.00	0.60	480.00	
	Deduct	200.00	0.79	1.44	0.60	135.65	
	Net Qty					344.35	Cum
	(As per Computer generated sheet)					315.06	Cum
	Total Qty					659.42	Cum
12	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	3.00	180.00	5.00	6.00	16200.00	Bhp/hr
	3 Fronts, 5 BHP Pump- 6Hrs- 180 Days						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					2.00	No.
	Upto 3.0 m depth.					2.00	No.
	Upto 3.5 m depth.					6.00	No.
	Upto 4.0 m depth.					7.00	No.
	Upto 4.5 m depth.					5.00	No.
	Upto 5.0 m depth.					6.00	No.
	(As per Computer generated sheet)						
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					4.00	No.
	(As per Computer generated sheet)						
15	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.66	5181			5.18	MT
16	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					20003.47	Cum
17	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					1734.15	Cum
18	Providing, fixing and erecting RCC (M20) Vent shaft etc. complete						
		1				1	No.
19	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
	(As per Rate Analysis)					1.00	Km
20	Highway Crossing						
	Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through method in all types of strata by using hydraulic jack and drilling machine etc. complete						
	MS Pipe 1500 mm (ID) 12 mm thick	5	30			150	Rmt

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- TRUNK SEWER FOR ZONE XIII**

(Underground Sewerage Network -1100 to 1200 mm dia RCC Pipes, L=3.709 Km)

ABSTRACT No.3C

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	1786.00	1100 mm dia.	6916.00	Rmt	12351976.00
	1593.00	1200 mm dia.	7884.00	Rmt	12559212.00
		RCC NP 4 Class			
	220.00	1100 mm dia.	8463.00	Rmt	1861860.00
	110.00	1200 mm dia.	8578.00	Rmt	943580.00
		(CSR 2016-17, P. 103,104, I. E, F)			
		Material Cost			27716628.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	13168.09	Total	155.10	Cum	2042370.76
		Lift 1.50 -3.0 M.			
		Basic Rate	153.00		
		Add 10 % for M.C..	15.30		
	11666.17	Total	168.30	Cum	1963416.41
		(CSR 2016-17, P. 35 I. 1)			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	17551.97	Total	198.00	Cum	3475290.06
		Lift 0 -1.5 M.			
		Basic Rate	192.00		
		Add 10 % for M.C..	19.20		
	7000.40	Total	211.20	Cum	1478484.48
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	2191.94	Total	487.30	Cum	1068132.36
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	14000.80	Total	509.30	Cum	7130607.44
		Lift 3.0 -4.5 M.			
		Basic Rate	483.00		
		Add 10 % for M.C..	48.30		
	29735.00	Total	531.30	Cum	15798205.50
		Lift 4.5-6.0 M.			
		Basic Rate	503.00		
		Add 10 % for M.C..	50.30		
	13419.00	Total	553.30	Cum	7424732.70
		Lift 6.0-7.50 M.			
		Basic Rate	523.00		
		Add 10 % for M.C..	52.30		
	119.00	Total	575.30	Cum	68460.70
		(CSR 2016-17, P. 35 I. 5)			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 1.5 -3.0 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	2334.63	Total	826.10	Cum	1928637.84
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	2225.40	Total	957.60	Cum	2131043.04
		(CSR 2016-17, P. 39 I.18)			
6		Providing & filling in sand boxing in pipeline or for foundation with sand of approved quality including watering and compaction etc.complete.			
		Basic Rate	931.00		
		Add 5 % for M.C..	46.55		
	25.33	Total	977.55	Cum	24761.34
		(CSR 2016-17, P. 39 I. 19)			
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	227.98	Total	67.20	Cum	15320.26
		(CSR 2016-17, P. 39, I. 16)			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		1100 mm dia.			
		Basic Rate	532.00		
		Add 5 % for M.C..	26.60		
	2006.00	Total	558.60	Rmt	1120551.60
		1200 mm dia.			
		Basic Rate	566.00		
		Add 5 % for M.C..	28.30		
	1703.00	Total	594.30	Rmt	1012092.90
		(CSR 2016-17, P. 105, I. 2)			
	24106.00				
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
		1100 mm dia.			
		Basic Rate	59000.00		
		Add 5 % for M.C..	2950.00		
	2.01	Total	61950.00	Rmt	124271.70
		1200 mm dia.			
		Basic Rate	63000.00		
		Add 5 % for M.C..	3150.00		
	1.70	Total	66150.00	Rmt	112653.45
		(CSR 2016-17, P. 105, I. 2)			
10		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	3121.20	Total	252.00	Sqm	786542.40
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	2080.80	Total	250.95	Sqm	522176.76
		(CSR 2016-17, P. 39, I. 20a / b)			
11		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually , formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	759.53	Total	4444.65	Cum	3375837.75
		(CSR 2016-17, P. 43, I. 1b)			
12		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in-charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	16200.00	Total	65.10	HP/Hr	1054620.00
		(CSR 2016-17, P. 38, I. 14)			
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	1.00	Total	41780.55	No.	41780.55
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	1.00	Total	47965.05	No.	47965.05
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	1.00	Total	54149.55	No.	54149.55
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	2	Total	60334.05	No.	120668.10
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C.=Rs.6184.50			
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	6.00	Total	75414.15	No.	452484.90
		6.0 m depth.			
		Basic Rate	79233.00		
		Add 5 % for M.C..	3961.65		
	3.00	Total	83194.65	No.	249583.95
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C			

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	5.97	Total	54803.70	MT	326958.87
		(CSR 2016-17, P. 46, I. 8b)			
16		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	38648.24	Total	67.20	Cum	2597162.02
		(CSR 2016-17, P. 38, I.15)			
17		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	3374.54	Basic Rate	195.62	Cum	660127.51

S. No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
18		Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- ammended upto date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer.Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.			
	4.00		18432.00	No.	73728.00
		(As per Rate Analysis)			
19		Highway Crossing			
		Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through metod in all types of strata by using hydraulic jack and drilling machine of required diameter of below MS casing pipes, loweing, laying & jointing of material , required welding machinery , tripod, chain pully block , crain , blower, compressor, loading & unloading of machinery into the trench , etc. transportation and dewatering , etc. complete as directed by Engineer-in-charge but excluding the cost of MS pipes.-500 to 1000 mm dia. MS Pipe			
			Basic Rate	28476.00	
			Add 5 % for M.C..	1423.80	
	90.00		Total	29899.80	Rmt 2690982.00
		(CSR 2016-17, P. 58, I. 14b)			
		MS Pipe 1500 mm (ID) 12 mm thick			
	90.00		Basic Rate	23550.00	Rmt 2119500.00
		(CSR 2016-17, P.197, I.2AA)			
			Labour Cost		62093299.96
			Total Material + Labour Cost Rs.		89809927.96
			Say Rs.		89809928.00
			Say Rs. Lakhs		898.10
			Say Rs. Crores		8.98

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 1.5-3.0 M.					2334.63	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	3709.00	2.00	0.30	2225.40	Cum
6	Providing & filling in sand boxing in pipeline or for foundation etc.complete.						
	(As per Computer generated sheet)					25.33	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					227.98	Cum
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	1100 mm dia.	1.00	2006.00			2006.00	Rmt
	1200 mm dia.	1.00	1703.00			1703.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.						
	1100 mm dia.	1.00	2.01			2.01	KM
	1200 mm dia.	1.00	1.70			1.70	KM

SMC Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
10	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	1040.40		1.50	3121.20	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	693.60		1.50	2080.80	Sqm
11	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	250.00	2.00	2.00	0.60	600.00	
	Deduct	250.00	0.79	1.69	0.60	199.00	
	Net Qty					401.00	Cum
	(As per Computer generated sheet)					358.53	Cum
	Total Qty					759.53	Cum
12	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	3.00	180.00	5.00	6.00	16200.00	Bhp/hr
	1 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 3.5 m depth.					1.00	No.
	Upto 4.0 m depth.					1.00	No.
	Upto 4.5 m depth.					1.00	No.
	Upto 5.0 m depth.					2.00	No.
	(As per Computer generated sheet)						
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					6.00	No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	Upto 6.0 m depth. (As per Computer generated sheet)					3.00	No.
15	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.76	5966			5.97	MT
16	Refilling the trenches with available excavated stuff etc.complete. (As per Computer generated sheet)					38648.24	Cum
17	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete (As per Computer generated sheet)					3374.54	Cum
18	Providing, fixing and erecting RCC (M20) Vent shaft etc. complete						
		4				4	No.
19	Highway Crossing						
	Pushing of M.S. pipe of following dia. For road crossing and railway crossing by push through metod in all types of strata by using hydraulic jack and drilling machine etc. complete						
	MS Pipe 1500 mm (ID) 12 mm thick	3	30			90	Rmt

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE I					
(Underground Sewerage Network -250 to 300 mm dia RCC Pipes L=2.95Km)					
ABSTRACT No.4A					
S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	1177.00	300 mm dia.	757.00	Rmt	890989.00
		RCC NP 4 Class			
	884.00	300 mm dia.	945.00	Rmt	835380.00
		(CSR 2016-17, P. 103,104, I. E, F)			
2		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
		H.D.P.E. DWC pipes for Drainage Class SN 8			
	892.00	250 mm dia.(ID)	1007.00	Rmt	898244.00
		(CSR 2016-17, P. 132,133 I. 2)			
				Material Cost	2624613.00
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
			Basic Rate	141.00	
			Add 10 % for M.C..	14.10	
	915.89		Total	155.10	Cum
		(CSR 2016-17, P. 35 I. 1)			142054.54
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
			Basic Rate	180.00	
			Add 10 % for M.C..	18.00	
	1332.69		Total	198.00	Cum
		(CSR 2016-17, P. 35 I. 3)			263872.62

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	2942.53	Total	487.30	Cum	1433894.87
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	1886.75	Total	509.30	Cum	960921.78
		(CSR 2016-17, P. 35 I. 5)			
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	221.93	Total	826.10	Cum	183336.37
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	3368.82	Total	848.10	Cum	2857096.24
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	1541.72	Total	870.10	Cum	1341450.51
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	68.33	Total	892.10	Cum	60958.51
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	192.00	Total	957.60	Cum	183859.20
		(CSR 2016-17, P. 39 I.18)			
		(CSR 2016-17, P. 39 I. 19)			
6		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	505.77	Total	67.20	Cum	33987.74
		(CSR 2016-17, P. 39, I. 16)			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
7		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		300 mm dia.			
			Basic Rate	115.00	
			Add 5 % for M.C..	5.75	
	2061.00		Total	120.75	Rmt 248865.75
		(CSR 2016-17, P. 105, I. 2)			
8		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		300 mm dia.			
			Basic Rate	13000.00	
			Add 5 % for M.C..	650.00	
	2.06		Total	13650.00	Km 28132.65
		(CSR 2016-17, P. 105, I. 2)			
9		Lowering, laying and jointing H.D.P.E. Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN 8			
		250 mm dia.(ID)			
			Basic Rate	47.00	
			Add 5 % for M.C..	2.35	
	892.00		Total	49.35	Rmt 44020.20
		(CSR 2016-17, P. 134, I. 4)			
10		Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position., etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN 8			
		250 mm dia.(ID)			
			Basic Rate	5000.00	
			Add 5 % for M.C..	250.00	
	0.89		Total	5250.00	Km 4683.00
		(CSR 2016-17, P. , I. 6)			
		(CSR 2016-17, P. 39, I. 20a / b)			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
11		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curing etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	63.60	Total	4444.65	Cum	282682.11
		(CSR 2016-17, P. 43, I. 1b)			
12		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	21000.00	Total	65.10	HP/Hr	1367100.00
		(CSR 2016-17, P. 38, I. 14)			
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5 % for M.C..	864.95		
	3.00	Total	18163.95	No.	54491.85
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5 % for M.C..	1007.40		
	7.00	Total	21155.40	No.	148087.80
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 2.5 m depth.			
			Basic Rate		28011.00
			Add 5 % for M.C..		1400.55
	13.00		Total	No.	382350.15
		Upto 3.0 m depth.			
			Basic Rate		33901.00
			Add 5 % for M.C..		1695.05
	12.00		Total	No.	427152.60
		Upto 3.50 m depth.			
			Basic Rate		39791.00
			Add 5 % for M.C..		1989.55
	31.00		Total	No.	1295197.05
		Upto 4.0 m depth.			
			Basic Rate		45681.00
			Add 5 % for M.C..		2284.05
	25.00		Total	No.	1199126.25
		Upto 4.5 m depth.			
			Basic Rate		51571.00
			Add 5 % for M.C..		2578.55
	9.00		Total	No.	487345.95
		Upto 5.0 m depth.			
			Basic Rate		57461.00
			Add 5 % for M.C..		2873.05
	1.00		Total	No.	60334.05
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C.=Rs.6184.50			
15		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		5.50 m depth.			
			Basic Rate		71823.00
			Add 5 % for M.C..		3591.15
	2.00		Total	No.	150828.30
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C. =Rs.7780.50			

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
16		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
			Basic Rate		52194.00
			Add 5 % for M.C..		2609.70
	0.47		Total	MT	25812.54
		(CSR 2016-17, P. 46, I. 8b)			
17		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
			Basic Rate		64.00
			Add 5 % for M.C..		3.20
	10160.11		Total	Cum	682759.43
		(CSR 2016-17, P. 38, I.15)			
18		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	1612.79		Basic Rate	Cum	315494.52
19		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	2635.50	(As per Rate Analysis)	208.74	Sqm	550134.27
20		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	1933.00	(As per Rate Analysis)	873.47	Sqm	1688417.51

S.No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
21		Concrete Road restoration :Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
			Basic Rate		451.00
			Add 5% for M.C		22.55
	87.80		Total	Cum	41577.69
		Item No. 25b Providing and casting in situ cement concrete M-15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
			Basic Rate		5380.00
			Add 5% for M.C		269.00
	87.80		Total	Cum	495982.20
		Item No. 25c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
			Basic Rate		6362.00
			Add 5% for M.C		318.10
	43.90		Total	Cum	293256.39
22		Utility Shifting			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
			Basic Rate		167
			Add 5% for M.C.		8.35
	30		Total	Rmt	5260.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
			Basic Rate		196
			Add 5% for M.C.		9.8
	4		Total	Rmt	823.2

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE I**

(Underground Sewerage Network -250 to 300 mm dia RCC Pipes, HDPE DWC SN 8 Pipes , L=2.95 Km)

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	300 mm dia.	1.00	1177.00			1177.00	Rmt
	RCC NP 4 Class						
	300 mm dia.	1.00	884.00			884.00	Rmt
2	Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage , etc. complete.						
	H.D.P.E. pipes for Drainage CLASS SN 8						
	250 mm dia.(ID)	1.00	892.00			892.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
Dt	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
Ex Line	4180.11	3708.87	1152.72	51.18	0.00	9092.88	Cum
Ex MH	1232.94	1546.70	389.00	17.16	0.00	3185.80	Cum
Say	5413.04	5255.58	1541.72	68.33	0.00	12278.67	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					915.89	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					1332.69	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					2942.53	Cum
	Lift 1.5-3.0 M.					1886.75	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					221.93	Cum
	Lift 1.5-3.0 M.					3368.82	Cum
	Lift 3.0-4.5 M.					1541.72	Cum
	Lift 4.5-6.0 M.					68.33	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	400.00	1.60	0.30	192.00	Cum
6	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					505.77	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
7	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete 300 mm dia.	1.00	2061.00			2061.00	Rmt
8	Hydraulic testing of RCC pipe line to specified pressure etc.complete 300 mm dia.	1.00	2.06			2.06	Rmt
9	Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications etc. complete H.D.P.E. pipes for Drainage CLASS SN 8 250 mm dia.(ID)	1.00	892.00			892.00	Rmt
10	Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure etc.complete 250 mm dia.(ID)	1.00	0.89			0.89	Km
11	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete. Provision of anchor block Made for trunk sewer along nallah	40.00	1.50	1.50	0.60	54.00	
	Deduct	40.00	0.79	1.00	0.60	18.84	
	Net Qty					35.16	Cum
	(As per Computer generated sheet)					28.44	Cum
	Total Qty					63.60	Cum
12	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete. For nalla / where water table high 7 Fronts, 5 BHP Pump- 6Hrs- 180 Days	7.00	100.00	5.00	6.00	21000.00	Bhp/hr
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete Upto 1.50 m depth. Upto 2.0 m depth. (As per Computer generated sheet)					3.00 7.00	No. No.
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete Upto 2.50 m depth. Upto 3.0 m depth. Upto 3.5 m depth. Upto 4.0 m depth. Upto 4.5 m depth. Upto 5.0 m depth. (As per Computer generated sheet)					13.00 12.00 31.00 25.00 9.00 1.00	No. No. No. No. No. No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
15	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth. (As per Computer generated sheet)					2.00	No.
16	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.06	471			0.47	MT
17	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					10160.11	Cum
18	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					1612.79	Cum
19	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					2635.50	Sqm
20	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					1933.00	Sqm
21	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete						
	(As per Computer generated sheet)					878.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		878.00			0.10	87.80	Cum
	Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		878.00			0.10	87.80	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		878.00			0.05	43.90	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
22	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
	(As per Rate Analysis)					1.00	Km
	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	30	1			30	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	4	1			4	Rmt
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
			Basic Rate	443.00	
			Add 10 % for M.C..	44.30	
	6149.24		Total	487.30	Cum 2996524.65
		Lift 1.5 -3.0 M.			
			Basic Rate	463.00	
			Add 10 % for M.C..	46.30	
	4389.33		Total	509.30	Cum 2235485.77
		(CSR 2016-17, P. 35 I. 5)			
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
			Basic Rate	751.00	
			Add 10 % for M.C..	75.10	
	496.41		Total	826.10	Cum 410084.30
		Lift 1.5 -3.0 M.			
			Basic Rate	771.00	
			Add 10 % for M.C..	77.10	
	8355.53		Total	848.10	Cum 7086324.99
		Lift 3.0 -4.5 M.			
			Basic Rate	791.00	
			Add 10 % for M.C..	79.10	
	5791.18		Total	870.10	Cum 5038906.61
		Lift 4.5-6.0 M.			
			Basic Rate	811.00	
			Add 10 % for M.C..	81.10	
	426.99		Total	892.10	Cum 380920.24
		Lift 6.0-7.5 M.			
			Basic Rate	831.00	
			Add 10 % for M.C..	83.10	
44.25		Total	914.10	Cum 40447.11	
	(CSR 2016-17, P. 36 I. 7)				
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
			Basic Rate	912.00	
			Add 5 % for M.C..	45.60	
	878.40		Total	957.60	Cum 841155.84
	(CSR 2016-17, P. 39 I.18)				
7		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
			Basic Rate	64.00	
			Add 5 % for M.C..	3.20	
	1054.66		Total	67.20	Cum 70873.15
	(CSR 2016-17, P. 39, I. 16)				

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
8		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubbar joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		500 mm dia.			
			Basic Rate		197.00
			Add 5 % for M.C..		9.85
	305.00		Total	Rmt	63089.25
		600 mm dia.			
			Basic Rate		248.00
			Add 5 % for M.C..		12.40
	800.00		Total	Rmt	208320.00
		700 mm dia.			
			Basic Rate		281.00
			Add 5 % for M.C..		14.05
	0.00		Total	Rmt	0.00
		800 mm dia.			
			Basic Rate		325.00
			Add 5 % for M.C..		16.25
	1830.00		Total	Rmt	624487.50
		900 mm dia.			
			Basic Rate		359.00
			Add 5 % for M.C..		17.95
	1350.00		Total	Rmt	508882.50
		(CSR 2016-17, P. 105, I. 2)			
9		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		500 mm dia.			
			Basic Rate		22000.00
			Add 5 % for M.C..		1100.00
	0.31		Total	Km	7045.50
		600 mm dia.			
			Basic Rate		28000.00
			Add 5 % for M.C..		1400.00
	0.80		Total	Km	23520.00
		800 mm dia.			
			Basic Rate		36000.00
			Add 5 % for M.C..		1800.00
	1.83		Total	Km	69174.00
		900 mm dia.			
			Basic Rate		40000.00
			Add 5 % for M.C..		2000.00
	1.35		Total	Km	56700.00
		(CSR 2016-17, P. 105, I. 2)			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
12		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, strutts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	294.00	Total	252.00	Sqm	74088.00
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	294.00	Total	250.95	Sqm	73779.30
		(CSR 2016-17, P. 39, I. 20a / b)			
13		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curing etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	214.62	Total	4444.65	Cum	953891.23
		(CSR 2016-17, P. 43, I. 1b)			
14		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	42000.00	Total	65.10	HP/Hr	2734200.00
		(CSR 2016-17, P. 38, I. 14)			
16		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in-charge.			
		Upto 2.5 m depth.			
		Basic Rate	28011.00		
		Add 5 % for M.C..	1400.55		
	14.00	Total	29411.55	No.	411761.70
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	15.00	Total	35596.05	No.	533940.75
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
	18.00	Total	41780.55	No.	752049.90
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	58.00	Total	47965.05	No.	2781972.90
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	45.00	Total	54149.55	No.	2436729.75
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	4.00	Total	60334.05	No.	241336.20
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C.=Rs.6184.50			
17		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	5.00	Total	75414.15	No.	377070.75
		6.0 m depth.			
		Basic Rate	79233.00		
		Add 5 % for M.C..	3961.65		
	2.00	Total	83194.65	No.	166389.30
		6.5 m depth.			
		Basic Rate	86643.00		
		Add 5 % for M.C..	4332.15		
	2.00	Total	90975.15	No.	181950.30
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C .=Rs.7780.50			
18		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	1.65	Total	54803.70	MT	90343.90
		(CSR 2016-17, P. 46, I. 8b)			

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
20		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	23621.08	Total	67.20	Cum	1587336.61
		(CSR 2016-17, P. 38, I.15)			
21		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	5511.97	Basic Rate	195.62	Cum	1078252.32
23		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	5748.75	(As per Rate Analysis)	208.74	Sqm	1199994.08
24		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	3832.00	(As per Rate Analysis)	873.47	Sqm	3347137.04
25		Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer-in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	229.90	Total	496.10	Cum	114053.39

S. No.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Item No. 25b Providing and casting in situ cement concrete M-15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete, with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	229.90	Total	5918.00	Cum	1360548.20
		Item No. 25c: Providing and laying in situ cement concrete M - 30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	114.95	Total	6998.20	Cum	804443.09
28		Utility Shifting			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		
		Add 5% for M.C.	8.35		
	50	Total	175.35	Rmt	8767.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	15	Total	205.8	Rmt	3087
B		Electrical Lines & Poles			
		Electrical Poles - RA for 10 km			
i)		Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)			
	1		2771.00	Nos	2771
		PWD DSR 15-16, E & M, Item No. 16.3.2, P.No. 161			
ii)		Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level			
	1		701.00	Nos	701
		PWD DSR 15-16, E & M, Item No. 8.8.2, P.No. 110			
iii)		Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.			
	1		12722.00	Nos	12722
		PWD DSR 15-16, E&M, Item No. 8.1.3, Page No.98			

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE II
(Underground Sewerage Network -500 to 900 mm dia RCC Pipes, L=4.3 Km)

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	500 mm dia.	1.00	109.00			109.00	Rmt
	800 mm dia.	1.00	1456.00			1456.00	Rmt
	900 mm dia.	1.00	1276.00			1276.00	Rmt
	RCC NP 4 Class						
	500 mm dia.	1.00	196.00			196.00	Rmt
	600 mm dia.	1.00	800.00			800.00	Rmt
	800 mm dia.	1.00	374.00			374.00	Rmt
	900 mm dia.	1.00	74.00			74.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
	9347.26	9280.65	4668.66	318.07	15.12	23629.76	Cum
	1833.17	3464.22	1122.52	108.93	29.12	6557.96	Cum
	11180.43	12744.87	5791.18	426.99	44.25	30187.72	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					1863.78	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					2671.00	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					6149.24	Cum
	Lift 1.5-3.0 M.					4389.33	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					496.41	Cum
	Lift 1.5-3.0 M.					8355.53	Cum
	Lift 3.0-4.5 M.					5791.18	Cum
	Lift 4.5-6.0 M.					426.99	Cum
	Lift 6.0-7.5 M.					44.25	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	1830.00	1.60	0.30	878.40	Cum
7	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	(As per Computer generated sheet)					1054.66	Cum
8	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	500 mm dia.	1.00	305.00			305.00	Rmt
	600 mm dia.	1.00	800.00			800.00	Rmt
	800 mm dia.	1.00	1830.00			1830.00	Rmt
	900 mm dia.	1.00	1350.00			1350.00	Rmt
9	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	500 mm dia.	1.00	0.31			0.31	Rmt
	600 mm dia.	1.00	0.80			0.80	Rmt
	700 mm dia.	1.00	0.00			0.00	Rmt
	800 mm dia.	1.00	1.83			1.83	Rmt
	900 mm dia.	1.00	1.35			1.35	Rmt
12	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	98.00		1.50	294.00	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	98.00		1.50	294.00	Sqm
13	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	100.00	1.50	1.50	0.60	135.00	
	Deduct	100.00	0.79	1.00	0.60	47.10	
	Net Qty					87.90	Cum
	(As per Computer generated sheet)					126.72	Cum
	Total Qty					214.62	Cum
14	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	200.00	5.00	6.00	42000.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
16	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					14.00	No.
	Upto 3.0 m depth.					15.00	No.
	Upto 3.5 m depth.					18.00	No.
	Upto 4.0 m depth.					58.00	No.
	Upto 4.5 m depth.					45.00	No.
	Upto 5.0 m depth.					4.00	No.
	(As per Computer generated sheet)						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
17	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					5.00	No.
	Upto 6.0 m depth.					2.00	No.
	Upto 6.5 m depth.					2.00	No.
	(As per Computer generated sheet)						
18	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.21	1648.5			1.65	MT
20	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					23621.08	Cum
21	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					5511.97	Cum
23	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					5748.75	Sqm
24	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					3832.00	Sqm
25	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete						
	(As per Computer generated sheet)					2299.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		2299.00			0.10	229.90	Cum
	Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		2299.00			0.10	229.90	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		2299.00			0.05	114.95	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
26	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
28	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	50	1			50	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	15	1			15	Rmt
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	1675.03	Total	198.00	Cum	331655.94
		Lift 0 -1.5 M.			
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	2518.34	Total	487.30	Cum	1227187.08
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	2641.62	Total	509.30	Cum	1345377.07
		(CSR 2016-17, P. 35 I. 5)			
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	2965.72	Total	848.10	Cum	2515227.13
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	2899.51	Total	870.10	Cum	2522867.53
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	542.69	Total	892.10	Cum	484136.26
		(CSR 2016-17, P. 36 I. 7)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	113.88	Total	957.60	Cum	109051.49
		(CSR 2016-17, P. 39 I.18)			
6		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	339.26	Total	67.20	Cum	22798.04
		(CSR 2016-17, P. 39, I. 16)			
7		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		450 mm dia.			
		Basic Rate	180.00		
		Add 5 % for M.C..	9.00		
	439.00	Total	189.00	Rmt	82971.00
		500 mm dia.			
		Basic Rate	197.00		
		Add 5 % for M.C..	9.85		
	342.00	Total	206.85	Rmt	70742.70
		600 mm dia.			
		Basic Rate	248.00		
		Add 5 % for M.C..	12.40		
	679.00	Total	260.40	Rmt	176811.60
		700 mm dia.			
		Basic Rate	281.00		
		Add 5 % for M.C..	14.05		
	731.00	Total	295.05	Rmt	215681.55
		(CSR 2016-17, P. 105, I. 2)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
8		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		450 mm dia.			
		Basic Rate	20000.00		
		Add 5 % for M.C..	1000.00		
	0.44	Total	21000.00	Km	9219.00
		500 mm dia.			
		Basic Rate	22000.00		
		Add 5 % for M.C..	1100.00		
	0.34	Total	23100.00	Km	7900.20
		600 mm dia.			
		Basic Rate	28000.00		
		Add 5 % for M.C..	1400.00		
	0.68	Total	29400.00	Km	19962.60
		700 mm dia.			
		Basic Rate	31000.00		
		Add 5 % for M.C..	1550.00		
	0.73	Total	32550.00	Km	23794.05
		(CSR 2016-17, P. 105, I. 2)			
9		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	350.40	Total	252.00	Sqm	88300.80

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	525.60	Total	250.95	Sqm	131899.32
		(CSR 2016-17, P. 39, I. 20a / b)			
10		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	274.50	Total	4444.65	Cum	1220035.68
		(CSR 2016-17, P. 43, I. 1b)			
11		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in-charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	105000.00	Total	65.10	HP/Hr	6835500.00
		(CSR 2016-17, P. 38, I. 14)			
12		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5 % for M.C..	1007.40		
	11.00	Total	21155.40	No.	232709.40
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 2.5 m depth.			
		Basic Rate	28011.00		
		Add 5 % for M.C..	1400.55		
	11.00	Total	29411.55	No.	323527.05
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	5.00	Total	35596.05	No.	177980.25
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	6.00	Total	41780.55	No.	250683.30
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	15.00	Total	47965.05	No.	719475.75
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	11.00	Total	54149.55	No.	595645.05
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	14.00	Total	60334.05	No.	844676.70
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	13.00	Total	75414.15	No.	980383.95
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C .=Rs.7780.50			
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parodies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	2.12	Total	54803.70	MT	116156.44
		(CSR 2016-17, P. 46, I. 8b)			
16		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	11351.93	Total	67.20	Cum	762849.62
		(CSR 2016-17, P. 38, I.15)			
17		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	2629.07	Basic Rate	195.62	Cum	514297.77

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
18		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	2593.50	(As per Rate Analysis)	208.74	Sqm	541367.19
19		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	1729.00	(As per Rate Analysis)	873.47	Sqm	1510229.63
20		Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
		Item No. 20a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	69.20	Total	496.10	Cum	34330.12

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Item No. 20b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	69.20	Total	5918.00	Cum	409525.60
		Item No. 20c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	34.60	Total	6998.20	Cum	242137.72
21		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer- in-charge.			
22		Utility Shifting			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		
		Add 5% for M.C.	8.35		
	50	Total	175.35	Rmt	8767.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	20	Total	205.8	Rmt	4116

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE III
 (Underground Sewerage Network -450 to 700 mm dia RCC Pipes, L=2.2 Km)

MEASUREMENT

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	450 mm dia.	1.00	368.00			368.00	Rmt
	500 mm dia.	1.00	152.00			152.00	Rmt
	600 mm dia.	1.00	0.00			0.00	Rmt
	700 mm dia.	1.00	660.00			660.00	Rmt
	RCC NP 4 Class						
	450 mm dia.	1.00	71.00			71.00	Rmt
	500 mm dia.	1.00	190.00			190.00	Rmt
	600 mm dia.	1.00	679.00			679.00	Rmt
	700 mm dia.	1.00	71.00			71.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
	4214.42	3660.48	2195.44	420.14	0.00	10490.48	Cum
	1056.29	1946.85	704.08	122.55	0.00	3829.77	Cum
	5270.71	5607.34	2899.51	542.69	0.00	14320.25	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					1077.33	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					1675.03	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					2518.34	Cum
	Lift 1.5-3.0 M.					2641.62	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 1.5-3.0 M.					2965.72	Cum
	Lift 3.0-4.5 M.					2899.51	Cum
	Lift 4.5-6.0 M.					542.69	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	292.00	1.30	0.30	113.88	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
6	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					339.26	Cum
7	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	450 mm dia.	1.00	439.00			439.00	Rmt
	500 mm dia.	1.00	342.00			342.00	Rmt
	600 mm dia.	1.00	679.00			679.00	Rmt
	700 mm dia.	1.00	731.00			731.00	Rmt
8	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	450 mm dia.	1.00	0.44			0.44	Rmt
	500 mm dia.	1.00	0.34			0.34	Rmt
	600 mm dia.	1.00	0.68			0.68	Rmt
	700 mm dia.	1.00	0.73			0.73	Rmt
9	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	116.80		1.50	350.40	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	175.20		1.50	525.60	Sqm
10	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	40.00	1.50	1.50	0.60	54.00	
	Deduct	40.00	0.79	1.00	0.60	18.84	
	Net Qty					35.16	Cum
	(As per Computer generated sheet)					239.34	Cum
	Total Qty					274.50	Cum
11	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	500.00	5.00	6.00	105000.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
12	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete						
	Upto 2.0 m depth.					11.00	No.
	(As per Computer generated sheet)						
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					11.00	No.
	Upto 3.0 m depth.					5.00	No.
	Upto 3.5 m depth.					6.00	No.

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	Upto 4.0 m depth.					15.00	No.
	Upto 4.5 m depth.					11.00	No.
	Upto 5.0 m depth.					14.00	No.
	(As per Computer generated sheet)						
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					13.00	No.
	(As per Computer generated sheet)						
15	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.27	2119.5			2.12	MT
16	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					11351.93	Cum
17	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					2629.07	Cum
18	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					2593.50	Sqm
19	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					1729.00	Sqm
20	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete						
	(As per Computer generated sheet)					692.00	Sqm
	Item No. 20a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		692.00			0.10	69.20	Cum
	Item No. 20b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		692.00			0.10	69.20	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	Item No. 20c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		692.00			0.05	34.60	Cum
21	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
22	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	50	1			50	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	20	1			20	Rmt
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 µM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG- COC/ OFC	1	3			3	Rmt

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IV					
(Underground Sewerage Network -250 to 350 mm dia RCC Pipes, HDPE DWC SN 8 Pipes , L=1.25					
ABSTRACT					
I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	225.00	300 mm dia.	757.00	Rmt	170325.00
	75.00	350 mm dia.	1260.00	Rmt	94500.00
		RCC NP 4 Class			
	254.00	300 mm dia.	945.00	Rmt	240030.00
	100.00	350 mm dia.	1344.00	Rmt	134400.00
		(CSR 2016-17, P. 103,104, I. E, F)			
2		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
		H.D.P.E. DWC pipes for Drainage Class			
	603.00	250 mm dia.(ID)	1007.00	Rmt	607221.00
		(CSR 2016-17, P. 132,133 I. 2)			
			Material Cost		1246476.00

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	400.84	Total	155.10	Cum	62170.28
		(CSR 2016-17, P. 35 I. 1)			
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	585.88	Total	198.00	Cum	116004.24
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, asphalt road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	1233.51	Total	487.30	Cum	601089.42
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	721.99	Total	509.30	Cum	367709.51
		(CSR 2016-17, P. 35 I. 5)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	92.52	Total	826.10	Cum	76430.77
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	1334.38	Total	848.10	Cum	1131687.68
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	569.34	Total	870.10	Cum	495385.90
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	21.54	Total	892.10	Cum	19216.51
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	84.00	Total	957.60	Cum	80438.40
		(CSR 2016-17, P. 39 I.18)			
6		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	211.29	Total	67.20	Cum	14198.88
		(CSR 2016-17, P. 39, I. 16)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
7		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		300 mm dia.			
		Basic Rate	115.00		
		Add 5 % for M.C..	5.75		
	479.00	Total	120.75	Rmt	57839.25
		350 mm dia.			
		Basic Rate	118.00		
		Add 5 % for M.C..	5.90		
	175.00	Total	123.90	Rmt	21682.50
		(CSR 2016-17, P. 105, I. 2)			
8		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		300 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	0.48	Total	13650.00	Km	6538.35
		350 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	0.18	Total	13650.00	Km	2388.75
		(CSR 2016-17, P. 105, I. 2)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
10		Lowering, laying and jointing H.D.P.E. Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN 8			
		250 mm dia.(ID)			
		Basic Rate	47.00		
		Add 5 % for M.C..	2.35		
	603.00	Total	49.35	Rmt	29758.05
		(CSR 2016-17, P. 134, I. 4)			
11		Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position., etc. complete			
		H.D.P.E. DWC pipes for Drainage CLASS SN 8			
		250 mm dia.(ID)			
		Basic Rate	5000.00		
		Add 5 % for M.C..	250.00		
	0.60	Total	5250.00	Km	3165.75
		(CSR 2016-17, P. , I. 6)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
12		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curring etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	29.57	Total	4444.65	Cum	131449.04
		(CSR 2016-17, P. 43, I. 1b)			
13		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other divices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	31500.00	Total	65.10	HP/Hr	2050650.00
		(CSR 2016-17, P. 38, I. 14)			
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5 % for M.C..	864.95		
	2.00	Total	18163.95	No.	36327.90
		Upto 2 m depth.			
		Basic Rate	20148.00		
		Add 5 % for M.C..	1007.40		

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
	5.00	Total	21155.40	No.	105777.00
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			
15		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 2.5 m depth.			
		Basic Rate	28011.00		
		Add 5 % for M.C..	1400.55		
	8.00	Total	29411.55	No.	235292.40

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	3.00	Total	35596.05	No.	106788.15
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	15.00	Total	41780.55	No.	626708.25
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	10.00	Total	47965.05	No.	479650.50
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	1.00	Total	54149.55	No.	54149.55
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	1.00	Total	60334.05	No.	60334.05
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50			
16		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	0.24	Total	54803.70	MT	12906.27
		(CSR 2016-17, P. 46, I. 8b)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
20		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	4082.22	Total	67.20	Cum	274325.09
		(CSR 2016-17, P. 38, I.15)			
21		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	666.72	Basic Rate	195.62	Cum	130424.72
23		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	1101.75	(As per Rate Analysis)	208.74	Sqm	229979.30

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
24		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	881.00	(As per Rate Analysis)	873.47	Sqm	769527.07
25		Concrete Road restoration :Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	22.00	Total	496.10	Cum	10914.20

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No.			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	22.00	Total	5918.00	Cum	130196.00
		Item No. 25c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	11.00	Total	6998.20	Cum	76980.20
26		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer- in-charge.			
28		Utility Shifting			
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Add 5% for M.C.	8.35		
	30	Total	175.35	Rmt	5260.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	10	Total	205.8	Rmt	2058
B		Electrical Lines & Poles			
		Electrical Poles - RA for 10 km			
i)		Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)			
	1		2771.00	Nos	2771
		PWD DSR 15-16, E & M, Item No. 16.3.2, P.No. 161			
ii)		Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level			
	1		701.00	Nos	701
		PWD DSR 15-16, E & M, Item No. 8.8.2, P.No. 110			
iii)		Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.			
	1		12722.00	Nos	12722
		PWD DSR 15-16, E&M, Item No. 8.1.3, Page No.98			
iv)		Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.			
	1		1585.00	Nos	1585
		PWD DSR 14-15 E&M, Item No. 9.1.4, Page No.111			

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE IV**

(Underground Sewerage Network -250 to 350 mm dia RCC Pipes, HDPE DWC SN 8 Pipes ,

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	300 mm dia.	1.00	225.00			225.00	Rmt
	350 mm dia.	1.00	75.00			75.00	Rmt
	RCC NP 4 Class						
	300 mm dia.	1.00	254.00			254.00	Rmt
	350 mm dia.	1.00	100.00			100.00	Rmt
2	Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage , etc. complete.						
	H.D.P.E. pipes for Drainage CLASS SN 8						
	250 mm dia.(ID)	1.00	603.00			603.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
Dt	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0		TOTAL	
Ex Line	1758.50	1456.57	427.13	15.54		3657.74	Cum
Ex MH	554.48	599.80	142.22	6.00		1302.50	Cum
Say	2312.98	2056.37	569.34	21.54		4960.24	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					400.84	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					585.88	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					1233.51	Cum
	Lift 1.5-3.0 M.					721.99	Cum
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					92.52	Cum
	Lift 1.5-3.0 M.					1334.38	Cum
	Lift 3.0-4.5 M.					569.34	Cum
	Lift 4.5-6.0 M.					21.54	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	175.00	1.60	0.30	84.00	Cum
6	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					211.29	Cum
7	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	300 mm dia.	1.00	479.00			479.00	Rmt
	350 mm dia.	1.00	175.00			175.00	Rmt
8	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	300 mm dia.	1.00	0.48			0.48	Rmt
	350 mm dia.	1.00	0.18			0.18	Rmt

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
9	Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications etc. complete						
	H.D.P.E. pipes for Drainage CLASS						
	250 mm dia.(ID)	1.00	603.00			603.00	Rmt
10	Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure etc.complete						
	250 mm dia.(ID)	1.00	0.60			0.60	Km
11	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	20.00	1.50	1.50	0.60	27.00	
	Deduct	20.00	0.79	1.00	0.60	9.42	
	Net Qty					17.58	Cum
	(As per Computer generated sheet)					11.99	Cum
	Total Qty					29.57	Cum
12	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	150.00	5.00	6.00	31500.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete						
	Upto 1.50 m depth.					2.00	No.
	Upto 2.0 m depth.					5.00	No.
	(As per Computer generated sheet)						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					8.00	No.
	Upto 3.0 m depth.					3.00	No.
	Upto 3.5 m depth.					15.00	No.
	Upto 4.0 m depth.					10.00	No.
	Upto 4.5 m depth.					1.00	No.
	Upto 5.0 m depth.					1.00	No.
	(As per Computer generated sheet)						
15	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.03	235.5			0.24	MT
16	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					4082.22	Cum
17	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					666.72	Cum
18	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					1101.75	Sqm

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
19	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					881.00	Sqm
20	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thicketc., complete						
	(As per Computer generated sheet)					220.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of approved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		220.00			0.10	22.00	Cum
	Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		220.00			0.10	22.00	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		220.00			0.05	11.00	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
21	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm dia	30	1			30	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm dia	10	1			10	Rmt

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG-COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos

SOLAPUR MUNICIPAL CORPORATION					
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR					
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)					
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE VI					
(Underground Sewerage Network -350 to 600 mm dia RCC Pipes L=5.5 Km)					
ABSTRACT					
I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		MATERIAL :			
1		Providing ISI Standard RCC pipes in standard length of following class and diameter, suitable for either collar joints or rubber ring joints, including all taxes (central and local) inspection charges, transport to departmental store / site unloading and stacking etc.complete.			
		Notes :- One rubber ring should be supplied with each full length of socketed pipe, cost included in the rates below.			
		RCC NP 3 Class			
	628.00	350 mm dia.	1260.00	Rmt	791280.00
	754.00	400 mm dia.	1344.00	Rmt	1013376.00
	728.00	450 mm dia.	1449.00	Rmt	1054872.00
	2268.00	500 mm dia.	1785.00	Rmt	4048380.00
	0.00	600 mm dia.	2940.00	Rmt	0.00
		RCC NP 4 Class			
	289.00	350 mm dia.	617.00	Rmt	178313.00
	0.00	400 mm dia.	945.00	Rmt	0.00
	126.00	450 mm dia.	1344.00	Rmt	169344.00
	0.00	500 mm dia.	1470.00	Rmt	0.00
	729.00	600 mm dia.	2520.00	Rmt	1837080.00
		(CSR 2016-17, P. 103,104, I. E, F)			
			Material Cost		9092645.00

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		LABOUR :			
1		Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0.0 -1.5 M.			
		Basic Rate	141.00		
		Add 10 % for M.C..	14.10		
	1963.95	Total	155.10	Cum	304608.65
		(CSR 2016-17, P. 35 I. 1)			
2		Excavation for foundation / pipe trenches in hard murum & boulders , WBM road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	180.00		
		Add 10 % for M.C..	18.00		
	2945.92	Total	198.00	Cum	583292.16
		(CSR 2016-17, P. 35 I. 3)			
3		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0 -1.5 M.			
		Basic Rate	443.00		
		Add 10 % for M.C..	44.30		
	5891.85	Total	487.30	Cum	2871098.51
		Lift 1.5 -3.0 M.			
		Basic Rate	463.00		
		Add 10 % for M.C..	46.30		
	2458.55	Total	509.30	Cum	1252139.52
		(CSR 2016-17, P. 35 I. 5)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
4		Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, including trimming and levelling the bed, removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
		Lift 0-1.50 M.			
		Basic Rate	751.00		
		Add 10 % for M.C..	75.10		
	420.85	Total	826.10	Cum	347664.19
		Lift 1.5 -3.0 M.			
		Basic Rate	771.00		
		Add 10 % for M.C..	77.10		
	4245.98	Total	848.10	Cum	3601015.64
		Lift 3.0 -4.5 M.			
		Basic Rate	791.00		
		Add 10 % for M.C..	79.10		
	3278.84	Total	870.10	Cum	2852914.77
		Lift 4.5-6.0 M.			
		Basic Rate	811.00		
		Add 10 % for M.C..	81.10		
	1424.18	Total	892.10	Cum	1270512.93
		Lift 6.0-7.5 M.			
		Basic Rate	831.00		
		Add 10 % for M.C..	83.10		
	879.11	Total	914.10	Cum	803590.41
		(CSR 2016-17, P. 36 I. 7)			
5		Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling in 15 cm to 20 cm thick layers including hand packing and compacting etc.complete.			
		Basic Rate	912.00		
		Add 5 % for M.C..	45.60		
	349.92	Total	957.60	Cum	335083.39
		(CSR 2016-17, P. 39 I.18)			
6		Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	946.91	Total	67.20	Cum	63632.35
		(CSR 2016-17, P. 39, I. 16)			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
7		Lowering laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in CM 1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar), including cost of conveyance from stores to site of works, cost of jointing material, labour, giving hydraulic testing, etc.complete as directed by Engineer-in-charge			
		350 mm dia.			
		Basic Rate	118.00		
		Add 5 % for M.C..	5.90		
	917.00	Total	123.90	Rmt	113616.30
		400 mm dia.			
		Basic Rate	151.00		
		Add 5 % for M.C..	7.55		
	754.00	Total	158.55	Rmt	119546.70
		450 mm dia.			
		Basic Rate	180.00		
		Add 5 % for M.C..	9.00		
	854.00	Total	189.00	Rmt	161406.00
		500 mm dia.			
		Basic Rate	197.00		
		Add 5 % for M.C..	9.85		
	2268.00	Total	206.85	Rmt	469135.80
		600 mm dia.			
		Basic Rate	248.00		
		Add 5 % for M.C..	12.40		
	729.00	Total	260.40	Rmt	189831.60
		(CSR 2016-17, P. 105, I. 2)			
8		Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position. New item to be added			
		350 mm dia.			
		Basic Rate	13000.00		
		Add 5 % for M.C..	650.00		
	0.92	Total	13650.00	Km	12517.05
		400 mm dia.			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Basic Rate	17000.00		
		Add 5 % for M.C..	850.00		
	0.75	Total	17850.00	Km	13458.90
		450 mm dia.			
		Basic Rate	20000.00		
		Add 5 % for M.C..	1000.00		
	0.85	Total	21000.00	Km	17934.00
		500 mm dia.			
		Basic Rate	22000.00		
		Add 5 % for M.C..	1100.00		
	2.27	Total	23100.00	Km	52390.80
		600 mm dia.			
		Basic Rate	28000.00		
		Add 5 % for M.C..	1400.00		
	0.73	Total	29400.00	Km	21432.60
		(CSR 2016-17, P. 105, I. 2)			
9		Open timbering in trenches of depth more than 1.5 m for shoring and strutting including use of and waste of all necessary timber works including walling, struttts, open polling boards/ horizontal sheeting, runners, etc. as may be necessary and fixing and removal complete. (Measurements to be taken of the face/area timbered)			
		Non Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	240.00		
		Add 5 % for M.C..	12.00		
	328.50	Total	252.00	Sqm	82782.00

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Water Logged Area			
		Lift 1.50 to 3.00 m.			
		Basic Rate	239.00		
		Add 5 % for M.C..	11.95		
	328.50	Total	250.95	Sqm	82437.08
		(CSR 2016-17, P. 39, I. 20a / b)			
10		Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding including bailing out water manually, formwork, compacting and curing etc. complete.			
		Basic Rate	4233.00		
		Add 5 % for M.C..	211.65		
	169.96	Total	4444.65	Cum	755410.34
		(CSR 2016-17, P. 43, I. 1b)			
11		Dewatering the excavated trenches and pools of water in the pipeline trenches, well works by using pumps and other devices including disposing off water to safe distance as directed by Engineer-in- charge (including cost of machionary, labour,fuel) etc.complete.			
		Basic Rate	62.00		
		Add 5 % for M.C..	3.10		
	37800.00	Total	65.10	HP/Hr	2460780.00
		(CSR 2016-17, P. 38, I. 14)			
12		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 1.50 m depth.			
		Basic Rate	17299.00		
		Add 5 % for M.C..	864.95		
	95.00	Total	18163.95	No.	1725575.25

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 2 m depth.			
			Basic Rate	20148.00	
			Add 5 % for M.C..	1007.40	
	67.00		Total	21155.40	No. 1417411.80
		(CSR 2016-17, P. 272, I. 6)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.2849/-Add 5% for M.C..=Rs.2991.45			
13		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		Upto 2.5 m depth.			
			Basic Rate	28011.00	
			Add 5 % for M.C..	1400.55	
	5.00		Total	29411.55	No. 147057.75

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Upto 3.0 m depth.			
		Basic Rate	33901.00		
		Add 5 % for M.C..	1695.05		
	6.00	Total	35596.05	No.	213576.30
		Upto 3.50 m depth.			
		Basic Rate	39791.00		
		Add 5 % for M.C..	1989.55		
	1.00	Total	41780.55	No.	41780.55
		Upto 4.0 m depth.			
		Basic Rate	45681.00		
		Add 5 % for M.C..	2284.05		
	3.00	Total	47965.05	No.	143895.15
		Upto 4.5 m depth.			
		Basic Rate	51571.00		
		Add 5 % for M.C..	2578.55		
	3.00	Total	54149.55	No.	162448.65
		Upto 5.0 m depth.			
		Basic Rate	57461.00		
		Add 5 % for M.C..	2873.05		
	1.00	Total	60334.05	No.	60334.05
		(CSR 2016-17, P. 273, I. 7)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs.5890/-Add 5% for M.C..=Rs.6184.50			
14		Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in CM 1:4 proportion with 20 mm thick smooth plaster on both sides in CM 1:2 proportion excluding excavation including foundation concrete 250 mm thick and haunches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing C.I. dapuri type steps each weighing 5.5 Kg., 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56 cm dia. etc.complete as directed by Engineer-in- charge.			
		5.50 m depth.			
		Basic Rate	71823.00		
		Add 5 % for M.C..	3591.15		
	1.00	Total	75414.15	No.	75414.15
		6.0 m depth.			
		Basic Rate	79233.00		
		Add 5 % for M.C..	3961.65		
	3.00	Total	83194.65	No.	249583.95
		6.5 m depth.			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		Basic Rate	86643.00		
		Add 5 % for M.C..	4332.15		
	2.00	Total	90975.15	No.	181950.30
		(CSR 2016-17, P. 273, I. 8)			
		a) Rebate for every decrease in depth of 50 cm or part there of Rs7410/-Add 5% for M.C .=Rs.7780.50			
15		Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, lintels, parapets, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete. (including cost of binding wire).			
		Tor Steel			
		Basic Rate	52194.00		
		Add 5 % for M.C..	2609.70		
	1.33	Total	54803.70	MT	73135.54
		(CSR 2016-17, P. 46, I. 8b)			
16		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
		Basic Rate	64.00		
		Add 5 % for M.C..	3.20		
	16132.60	Total	67.20	Cum	1084110.88
		(CSR 2016-17, P. 38, I.15)			
17		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
		(CSR 2015-16, P. 22, Statement VI)			
	6429.70	Basic Rate	195.62	Cum	1257778.34

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
18		WBM Road restoration: Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum as a blindage, above WBM surfaceFor all the above layers watering & compacting with Power roller, including Excavation of required depth for road reinstating or as directed by Engineer-in-charge etc. complete.			
	5042.25	(As per Rate Analysis)	208.74	Sqm	1052519.27
19		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	2689.00	(As per Rate Analysis)	873.47	Sqm	2348760.83
20		Concrete Road restoration :Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PCC M30 grade of 300 mm thick including dewatering etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
		Item No. 25a Providing and filling in the foundation with sand of ap-proved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		PWD DSR 17-18, Item No. 12 / 1 BDA 13, Pg-17			
		Basic Rate	451.00		
		Add 5% for M.C. + 5% Sugarcane Area	45.10		
	67.20	Total	496.10	Cum	33337.92
		Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for steps including centering, formwork, compacting, roughening them if special finish is to be provided and curing and finishing if required complete,with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer ... With natural sand. Spec. No.: Bd.E.2 Page No. 288 and B.7 Page No 38			
		PWD DSR 2017-18, I. No. 2 i a 4, Pg. No. 25			
		Basic Rate	5380.00		
		Add 5% for M.C. + 5% Sugarcane Area	538.00		
	67.20	Total	5918.00	Cum	397689.60
		Item No. 25c: Providing and laying in situ cement concrete M -30 with tremix treatment for 200 mm thickness for Concrete Road is including laying plastic sheet for 125 micron thickness with groove cutting of 4 mm wide and 20 mm deep with necessary refilling with bitumen (excluding reinforcement) with Natural sand etc. complete Spec : As directed by Engineer incharge			
		PWD DSR 2017-18, I. No. 93 / 23 MORTH, Pg. No. 228			
		Basic Rate	6362.00		
		Add 5% for M.C. + 5% Sugarcane Area	636.20		
	33.60	Total	6998.20	Cum	235139.52
21		Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying work etc., complete as per specifications and or as directed by engineer- in-charge.			
		Utility Shifting			

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
A		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
		Water Supply Connections - 15 mm dia			
		Basic Rate	167		
		Add 5% for M.C.	8.35		
	30	Total	175.35	Rmt	5260.5
		(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)			
		Water Supply Connections - 20 mm dia		Rmt	
		Basic Rate	196		
		Add 5% for M.C.	9.8		
	4	Total	205.8	Rmt	823.2
B		Electrical Lines & Poles			
		Electrical Poles - RA for 10 km			
i)		Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)			
	1		2771.00	Nos	2771
		PWD DSR 15-16, E & M, Item No. 16.3.2, P.No. 161			
ii)		Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level			
	1		701.00	Nos	701
		PWD DSR 15-16, E & M, Item No. 8.8.2, P.No. 110			
iii)		Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.			
	1		12722.00	Nos	12722
		PWD DSR 15-16, E&M, Item No. 8.1.3, Page No.98			
iv)		Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.			
	1		1585.00	Nos	1585

I. N.	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
		PWD DSR 14-15 E&M, Item No. 9.1.4, Page No.111			

SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
SUB ESTIMATE NO. :- SEWERAGE SYSTEM FOR ZONE VI
 (Underground Sewerage Network - 350 to 600 mm dia RCC Pipes, L=5.5 Km)

MEASUREMENT							
Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
	MATERIAL :						
1	Providing ISI Standard RCC pipes in standard length of following class and diameter, etc.complete.						
	RCC NP 3 Class						
	350 mm dia.	1.00	628.00			628.00	Rmt
	400 mm dia.	1.00	754.00			754.00	Rmt
	450 mm dia.	1.00	728.00			728.00	Rmt
	500 mm dia.	1.00	2268.00			2268.00	Rmt
	600 mm dia.	1.00	0.00			0.00	Rmt
	RCC NP 4 Class						
	350 mm dia.	1.00	289.00			289.00	Rmt
	400 mm dia.	1.00	0.00			0.00	Rmt
	450 mm dia.	1.00	126.00			126.00	Rmt
	500 mm dia.	1.00	0.00			0.00	Rmt
	600 mm dia.	1.00	729.00			729.00	Rmt
	LABOUR :						
	EXCAVATION DETAILS -From computer generated design sheet						
	0-1.5	1.5-3.0	3.0 - 4.5	4.5-6.0	6.0-7.5	TOTAL	
	8720.88	1474.54	662.94	319.52	8.73	11186.61	Cum
	2501.69	5229.99	2615.89	1104.66	870.38	12322.61	Cum
	11222.57	6704.53	3278.84	1424.18	879.11	23509.22	Cum
1	Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum etc.complete.						
	Lift 0.0 -1.5 M.					1963.95	Cum
2	Excavation for foundation / pipe trenches in hard murum & boulders , WBM road etc.complete.						
	Lift 0.0 -1.5 M.					2945.92	Cum
3	Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road etc.complete.						
	Lift 0.0-1.50 M.					5891.85	Cum
	Lift 1.5-3.0 M.					2458.55	Cum

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
4	Excavation for pipe trenches in hard rock and concrete road, by chiselling, wedging, lime drilling by mechanical means or by all means other than blasting, etc.complete.						
	Lift 0.0-1.50 M.					420.85	Cum
	Lift 1.5-3.0 M.					4245.98	Cum
	Lift 3.0-4.5 M.					3278.84	Cum
	Lift 4.5-6.0 M.					1424.18	Cum
	Lift 6.0-7.5 M.					879.11	Cum
5	Providing dry trap/ granite/quartzite/ gneiss, rubble stone soling etc.complete.						
	Provision Made for trunk sewer along nallah	1.00	729.00	1.60	0.30	349.92	Cum
6	Providing murum bedding in trenches with approved murum from excavated materials etc.n complete.						
	(As per Computer generated sheet)					946.91	Cum
7	Lowering laying and jointing in proper grade and alignment R.C.C. pipes etc.complete						
	350 mm dia.	1.00	917.00			917.00	Rmt
	400 mm dia.	1.00	754.00			754.00	Rmt
	450 mm dia.	1.00	854.00			854.00	Rmt
	500 mm dia.	1.00	2268.00			2268.00	Rmt
	600 mm dia.	1.00	729.00			729.00	Rmt
8	Hydraulic testing of RCC pipe line to specified pressure etc.complete						
	350 mm dia.	1.00	0.92			0.92	Rmt
	400 mm dia.	1.00	0.75			0.75	Rmt
	450 mm dia.	1.00	0.85			0.85	Rmt
	500 mm dia.	1.00	2.27			2.27	Rmt
	600 mm dia.	1.00	0.73			0.73	Rmt
9	Open timbering in trenches of depth more than 1.5 m for shoring and strutting etc. complete.						
	Non Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	109.50		1.50	328.50	Sqm
	Water Logged Area						
	Lift 1.50 to 3.00 m.	2.00	109.50		1.50	328.50	Sqm

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
10	Providing and laying in situ cement concrete 1:2:4 of trap/ granite / quartzite/ gneiss metal for foundation and bedding etc. complete.						
	Provision of anchor block Made for trunk sewer along nallah	100.00	1.50	1.50	0.60	135.00	
	Deduct	100.00	0.79	1.00	0.60	47.10	
	Net Qty					87.90	Cum
	(As per Computer generated sheet)					82.06	Cum
	Total Qty					169.96	Cum
11	Dewatering the excavated trenches and pools of water in the pipeline trenches, etc.complete.						
	For nalla / where water table high	7.00	180.00	5.00	6.00	37800.00	Bhp/hr
	7 Fronts, 5 BHP Pump- 6Hrs- 180 Days						
12	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.2 M. dia. at bottom and 0.5 M. from top and up to depth of 2 m. with 23 cm thick brick work up to depth of 2 Metc.complete						
	Upto 1.50 m depth.					95.00	No.
	Upto 2.0 m depth.					67.00	No.
	(As per Computer generated sheet)						
13	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and up to depth of 5 m. with 23 cm thick brick work up to depth of 2 M from top and 35 cm thick brick work for remaining depth up to 5 M etc.complete						
	Upto 2.50 m depth.					5.00	No.
	Upto 3.0 m depth.					6.00	No.
	Upto 3.5 m depth.					1.00	No.
	Upto 4.0 m depth.					3.00	No.
	Upto 4.5 m depth.					3.00	No.
	Upto 5.0 m depth.					1.00	No.
	(As per Computer generated sheet)						

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
14	Providing and constructing on sewer, B.B. masonry circular manhole with concentric cone 1.5 M. dia. at bottom and 0.5 M. from top and 35 cm thick brick work for depth of 2 M and 45 cm thick brick work for remaining depth up to 9 M in etc.complete						
	Upto 5.5 m depth.					1.00	No.
	Upto 6.0 m depth.					3.00	No.
	Upto 6.5 m depth.					2.00	No.
	(As per Computer generated sheet)						
15	Providing and fixing in position steel bar reinforcement etc. complete						
	Wt of Steel = 0.1% of Concrete Qty =	0.17	1334.5			1.33	MT
16	Refilling the trenches with available excavated stuff etc.complete.						
	(As per Computer generated sheet)					16132.60	Cum
17	Disposing of surplus excavated stuff from site of work up to a distance of 2Km etc.complete						
	(As per Computer generated sheet)					6429.70	Cum
18	WBM Road Restoration : Reinstating the road surface with supplying & spreading 60mm metal of 20 cm thick with Hard murum & 40mm metal of 15 cm thick with Soft murum etc. complete.						
	(As per Computer generated sheet)					5042.25	Sqm
19	Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick etc., complete.						
	(As per Computer generated sheet)					2689.00	Sqm

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
20	Concrete Road restoration : Reinstatement of Concrete road by excavating the concrete panels in rectangular shape and filling the trench with one layer of natural sand of 300 mm thick , one layer of M20 grade PCC of 150 mm thick and one layer of PQC M30 grade of 300 mm thick etc., complete						
	(As per Computer generated sheet)					672.00	Sqm
	Item No. 25a Providing and filling in the foundation with sand of approved quality including watering, compaction complete. Spec. No.: Bd.A.13 Page No. 264						
		672.00			0.10	67.20	Cum
	Item No. 25b Providing and casting in situ cement concrete M- 15 of trap / granite / quartzite / gneiss metal for etc complete						
		672.00			0.10	67.20	Cum
	Item No. 25c Providing and laying in situ cement concrete M -30 with tremix treatment for 300 mm thickness for Concrete Road etc. complete Spec :						
		672.00			0.05	33.60	Cum
21	Shifting of Utilities: All utilities like Electric Poles, waterline & Communication line Shifting while Manhole and Line Laying etc., complete as per specifications and or as directed by engineer- in-charge.						
	Utility Shifting						
A	Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
	(Similar Item PWD CSR 2016-17, P. 165, I No 42.61)						
	Water Supply Connections - 15 mm	30	1			30	Rmt
	(Similar Item PWD CSR 2016-17, P. 166, I No 42.62)						
	Water Supply Connections - 20 mm	4	1			4	Rmt

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
B	Electrical Lines & Poles						
	Electrical Poles - RA for 10 km						
i)	Pole Foundation : Providing cement concrete foundation including excavation for the pole 60 cms x 60 cms x 1.5 mtr deep in 1:3:6 cement concrete (20x 25 mm stone metal) and 45 cm x 45cm x45 cm / 45 cm x 45 cm height plinth duly plaster and with necessary curing & finishing in above manner (for 9 mtr pole)	1				1	Nos
ii)	Dismantling of existing poles above 6 mtr height with brackets. Clamps, insulators stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to ground level	1				1	Nos
iii)	Re-Erecting: Supplying and erecting steel tubular swaged pole 165.1 X 139.7 X 114.3 mm dia with 4.5 X 4.5 X3.65 mm thick (5+2+2m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specifications.	1				1	Nos
iv)	Earthing : Providing erecting pipe type earthing of 40 mm GI pipe dia with double earthing to the all equipments as per Detailed specifications.	1				1	Nos

Item No	ITEM DESCRIPTION	No	L	B	D/H	Quantity	Unit
C	Electrical Cable - Providing and Jointing						
	Communication Cable - Jelly Filled telephone lines and optical Fibre Cable						
i)	Supply & Erecting of Jelly filled armoured telephone cable 10 pair with 0.5 mm dia laid in provided trench as per specification no. WG-TW	1	3			3	Rmt
ii)	Supply & erecting of FR grade PVC armoured multi mode Optical Fibre Cable with 6 fibres with core dia 50 μM , suitable for 1 GBps Ethernet distance at 850 nm of wavelength on wall/ ceiling or laid in provided pipe / trench as per specification no. WG-COC/ OFC	1	3			3	Rmt
iii)	Supply & fixing of wall /rack type 12 port light guide interconnection unit for termination of optical fibre cable on wall /provided U rack complete as per specification no. EG- NAS / LIU	1				1	Nos

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE I,II,III,IV,VI
ABSTRACT**

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
1		Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/ compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.			
		H.D.P.E. DWC pipes for Drainage Class SN 8			
	34428.00	Rmt 150 mm dia.(ID) (CSR 2016-17, P. 132,133 I. 2)	378.00	Rmt	13013784.00
2		Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge			
		HDPE Pipes - Class SN8			
	137712.00	Rmt 110 mm dia.(OD) (PWD CSR 2017-18, P. 176, I. 88/20)	318.00	Rmt	43792416.00
3		Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.			
		Inspection Chamber {900 x 600x 1200}			
	5738.00	No.	11608.80	No.	66611294.40
			Basic Rate	11056.00	
			Add 5% for M.C.	552.80	
			Total	11608.80	
		(CSR 2016-17, P. 275 I. 13)			
4		Excavation for pipe trenches in soft rock and old cement and lime masonry foundation, ashphalt road includng removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	23525.80	Cum Lift 0 -1.5 M.	487.30	Cum	11464122.34
			Basic Rate	443.00	
			Add 10% for M.C.	44.30	
			Total	487.30	
		(CSR 2016-17, P. 35 I. 5)			

Item No	Quantity		ITEM DESCRIPTION	Rate	Unit	Amount Rs.
5			Excavation for foundation / pipe trenches in earth, soils of all types , sand, gravel, and soft murum including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	23525.80	Cum	Lift 0.0 -1.5 M.	155.10	Cum	3648851.58
			Basic Rate	141.00		
			Add 10% for M.C.	14.10		
			Total	155.10		
6			Excavation for foundation / pipe trenches in hard murum & boulders , WBM road including removing the excavated material up to a distance of 50 m. and lift as below, stacking and spreading as directed by the Engineer-in- charge, normal dewatering, preparing the bed for foundation and excluding back filling. etc.complete.			
	23525.80	Cum	Lift 0 -1.5 M.	198.00	Cum	4658108.40
			Basic Rate	180.00		
			Add 10% for M.C.	18.00		
			Total	198.00		
7			Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.			
	4131.36	Cum		67.20	Cum	277627.39
			Basic Rate	64.00		
			Add 5% for M.C.	3.20		
			Total	67.20		
			(CSR 2016-17, P. 39, I. 16)			
8			Lowering, laying and jointing H.D.P.E.Double Wall Corrugated Pipes for nonpressure Underground drainage and Sewerage applications and specials offollowing class and diameter includingcost of conveyance from stores to site of works including cost of all labour,material except O ring coupler giving satisfactory hydraulic testing as per relevent ISO, etc. complete			
			H.D.P.E. DWC pipes for Drainage CLASS SN 8			
	34428.00	Rmt	150 mm dia.(ID)	33.60	Rmt	1156780.80
			Basic Rate	32.00		
			Add 5% for M.C.	1.60		
			Total	33.60		
			(CSR 2016-17, P. 134, I. 4)			
9			Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.			
	34.428	KM	H.D.P.E. DWC pipes for Drainage CLASS SN 8	3150.00	KM	108448.20
			Basic Rate	3000.00		
			Add 5% for M.C.	150.00		
			Total	3150.00		
			(CSR 2016-17, P. 134, I. 4)			

Item No	Quantity	ITEM DESCRIPTION	Rate	Unit	Amount Rs.
10		Refilling the trenches with available excavated stuff with soft material first over pipe line and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc.complete.			
	58203.43	Cum			
			67.20	Cum	3911270.50
			Basic Rate		64.00
			Add 5% for M.C.		3.20
			Total		67.20
		(CSR 2016-17, P. 38, I.15)			
11		Disposing of surplus excavated stuff from site of work up to a distance of 2 Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.			
	4739.75	Cum			
			195.62	Cum	927189.90
		(CSR 2016-17, P. 22, Statement VI)			
			Basic Rate		195.62
12		Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.			
	25821.00	Sqm			
		(As per Rate Analysis)	873.47	Sqm	22553868.87
13		Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.			
	5738.00	No.			
		(Similar Item PWD CSR 2017-18, P. 165, I No 442.61 BDV 5)	175.35	No.	1006158.30
			Basic Rate		167.00
			Add 5% for M.C.		8.35
			Total		175.35
			Total Cost Rs.		173129920.67
			Say Rs.		173129921.00
			Cost for one Property		43282480.25
			Say Rs.		432.82
			Say in Crores		4.33

**SOLAPUR MUNICIPAL CORPORATION
MAHARASHTRA JEEVAN PRADHIKARAN DIVISION SOLAPUR
SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)
PROPERTY CONNECTION FOR ZONE I,II,III,IV,VI**

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
For Zone I	400					
For Zone II	1200					
For Zone III	1500					
For Zone IV	788					
For Zone VI	1850					
Total	5738.00					
Total Nos. of Properties in Zone -	22952	Nos.				
Considering four Property have one IC chamber size 90 x 60 x 120 cm ,common for 4 property	5738.00				5738.00	Nos.
				Total IC chamber	5738.00	Nos.
Item No. 1'Providing and supplying in standard lengths Polyethelene (PE) Pipes for non pressure underground drainage and sewerage with smooth internal and corrugated (profiled) external surface with anti rodent property conforming to ISO-21138-3:2007 with necessary jointing material like mechanical connectors, i.e. thread/ insert joint/quick release coupler joint/compression fitting joint or flanged joint, including all taxes (Central and local), transportation and freight charges, inspection charges, loading/ unloading charges, conveyance to the departmental stores/site and stacking the same in closed shade duly protecting from sunrays and rains, etc. complete.						
H.D.P.E. pipes for Drainage 'CLASS SN 8						
150 mm dia.(ID)	5738.00	6.00			34428.00	Rmt
Item No.2 : Providing , laying & fixing ,jointing Supreme Eco- drain 110 mm SN 8 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec : As directed by Engineer In Charge						
From House Chamber to IC Chamber						
HDPE Pipes - Class SN8						
110 mm dia. (OD)	22952.00	6.00			137712.00	RMT
				Total	137712.00	RMT
Item No. 3 : Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C.frame and cover, etc. complete as directed by Engineer-in-charge.						
Inspection Chamber {900 x 600x 1200}	5738.00				5738.00	Nos.
Item No. 4: Excavation for foundation/ pipes trenches by all mean in soft rock & old cement and lime masonry foundation asphalt road excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	5738.00	6.00	0.80	0.50	13771.20	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	5738.00	2.00	1.70	0.50	9754.60	Cum
				Total	23525.80	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Item No. 5: Excavation for foundation/ pipes trenches in earth, soil of all types ,sand ,gravel and soft murum & excluding backfilling, etc. complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	5738.00	6.00	0.80	0.50	13771.20	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	5738.00	2.00	1.70	0.50	9754.60	Cum
				Total	23525.80	Cum
Item no. 6 Excavation for foundation/pipe trenches in Hard Murum & excluding the back filling, etc complete						
a) Excavation : for pipe line from IC to street Manhole						
i} 0 to 1.5 m	5738.00	6.00	0.80	0.50	13771.20	Cum
b) Excavation for Property chamber of 900 x 600 x 1200						
i} 0 to 1.5 m	5738.00	2.00	1.70	0.50	9754.60	Cum
				Total	23525.80	Cum
Item No : 7 :Providing murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm. to 20 cm. layers including watering & compaction complete.						
for pipe line from IC to street Manhole	5738.00	6.00	0.80	0.15	4131.36	Cum
				Total	4131.36	Cum
Item No.8 Lowering ,Laying and jointing HDPE Double Wall Corrugated Pipes for non pressure Underground drainage and Sewerage applications etc complete						
for pipe line from IC to street Manhole	5738.00	6.00			34428.00	RMT
Item No.9 :Hydraulic testing of HDPE double wall corrugated pipe for non pressure underground line to specified pressure including cost of all materials and labour and water for testing						
H.D.P.E. DWC pipes for Drainage CLASS SN 8	5738.00	6.00			0.006	KM
Item No.10: Refilling the trenches with approved excavated stuff with soft materialsetc. Complete.						
	Total refilling Qty = Total Ex. Qty - (Sand Bedding Qty + Pipe Volume)					
Pipe Volume:						
for pipe line from IC to street Manhole	5738.00	6.00	0.15	0.15	608.39	Cum
Chamber Vol.	5738.00	1.40	1.10	1.50	7634.22	Cum
				Total	8242.61	Cum
				Refilling Quantity :	58203.43	Cum
Item No. 11: 'Disposing of surplus excavated stuff from site of work up to a distance of 2Km.including, loading, unloading, transportation etc.complete or as directed by the Engineering- in- charge.						
	Disposal = Bedding Qty + Pipe Volume					
		4131.36	+	608.39	4739.75	Cum

MEASUREMENT SHEET						
DESCRIPTION	NO	L / D	B	H / D	QTY	UNIT
Item No. 12 : Asphalt Road restoration: Reinstatement of road by excavating the potholes in rectangular shape and filling of potholes by one layers of one layer of 80 mm trap metal of 200 mm thick, one layer of 40 mm trap metal of 100 mm thick including supplying and spreading of stone dust/murum of 100 mm thick, watering compaction and 75 mm thick bituminous bound macadam with cold emulsion 60/70 grade and bituminous macadam of 50 mm thick with bitumen of S-65 grade and 20 mm thick asphalt concrete with S-35 grade of bitumen including compaction by vibratory roller of all layers and providing and applying tack coat of 50 Kg / 100 m2 on black top surface and seal coat of 1kg/sqm. B.B.M. surface and disposal of surplus soil etc., complete. for pipeline trenches of various diameter etc., complete as per specifications and or as directed by engineer- in-charge.	50%	34428.00	1.50		25821.00	Sqm
Item No. 13 :Reconnection of existing damaged connection including 15 mm dia. CPVC pipe with necessary fittings, remaking good the demolished portion etc. complete including all labour, etc. complete. as directed by Engineer in charge.						
15 mm Dia.	25%	22952.00	0.00		5738.00	No

**SOLAPUR CITY UNDERGROUND SEWERAGE SHCME UNDER AMRUT
ABSTRACT SHEET**

Quantity	No	Item of work	Rate	Unit	Amount
1		2	3	4	5
350 mm		Nalla aresting work - 50.0M	1350400.00		
		chamber (3.75)	435961.00		
			1786361.00		

**SOLAPUR CITY UNDERGROUND SEWERAGE SHCME UNDER AMRUT
ABSTRACT SHEET**

Quantity	No	Item of work	Rate	Unit	Amount
1		2	3	4	5
350 mm		Nalla aresting work - 50.0M	1258947.00		
		chamber (3.75)	435961.00		
			1694908.00		

**SOLAPUR CITY UNDERGROUND SEWERAGE SHCEME UNDER AMRUT
ABSTRACT SHEET**

Quantity	No	Item of work	Rate	Unit	Amount
1		2	3	4	5
350 mm		Nalla aresting work - 50.0M	1384013.00		
		chamber (3.75)	462408.00		
			1846421.00		

**SOLAPUR CITY UNDERGROUND SEWERAGE SHCEME UNDER AMRUT
ABSTRACT SHEET**

Quantity	No	Item of work	Rate	Unit	Amount
1		2	350 mm	600 mm	900 mm
		K T WIER	1258947.00	1533311.00	1541528.00
		SCREEN CHAMBER	435961.00	257298.00	257298.00
			1694908.00	1790609.00	1798826.00
			NO OF K T WIERS IN ZONE 1 & 4	NO OF K T WIERS IN ZONE 2. 3 & 6	NO OF K T WIERS IN ZONE 11, 12 & 13
			2	3	3
			3389816.00	5371827.00	5396478.00
		TOTAL COST -	14158121.00		

**SOLAPUR MUNICIPAL CORPORATION
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 SOLAPUR CITY UNDERGROUND SEWERAGE SCHEME (AMRUT)**

MISCELLANEOUS WORKS		
Sr. No.	Item of work	Amount
	2	5
1	Road Crossing	2000000
2	Railway Crossing	2000000
	Total	4000000
	Say in Lakhs	40
	Say in Crores	0.4