

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. : 041
Page No. :-

1 of 7

M Sewer 400,300mm, 300mmDWC, 200mm SW

9th R A BILL MEASUREMENTS

Sewer "M"

Date	Particulars of work	DETAILS						Content of area	Last measurement		TOTAL TO DATE
		GL	No		L	B	D		Page	Quantity	
			IL	EX.L							
	400mm dia at Mayur Park										
	Width of Trench - For Bottom Lift 0.00-1.50m- 0.4+0.15+0.15+0.5=1.2m										
	From Bottom Lift 1.50m-3.00m- 0.4+0.15+0.15+0.5+0.4=1.6m										
	From Bottom Lift 3.00m-4.50m- 0.4+0.15+0.15+0.5+0.4+0.4=2.0m										
	CH11237.30	604.105	601.045	600.845			3.260	3.260			
	CH11272.95	604.105	601.045	600.845			3.260				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			34.05	2.000	1.500	102.150	0.000	102.150	
	(b) For Lift 1.5m to 3.0m	1			34.05	1.600	1.500	81.720	0.000	81.720	
	(c) For Lift 3.0m to 4.5m	1			34.05	1.200	0.260	10.624	0.000	10.624	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			34.05	1.200	0.200	8.172	0.000	8.172	
	Item No. : 11 Transportation of earth Transportation charges including loading							16.258	0.000	16.258	
	Item No.17 (a) :- Lowering & Laying RCC NP3 class pipe of 400mm Dia	1			35.00			35.000	0.000	35.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							194.494			
	Deduction										
	pipe area	1		0.785	34.05	0.550	0.550	8.09			
	soling							0.00			
	PCC							0.00			
	Murum bedding							8.17			
	Total = B							16.26			
	Net Qty = A - B							178.24	0.000	178.236	
	MH 191										
	CH11272.95	604.105	601.045	600.845			3.260	3.140			
	CH11295.05	604.105	601.285	601.085			3.020				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			18.90	2.000	1.500	56.700	102.150	158.850	
	(b) For Lift 1.5m to 3.0m	1			18.90	1.600	1.500	45.360	81.720	127.080	
	(c) For Lift 3.0m to 4.5m	1			18.90	1.200	0.140	3.175	10.624	13.799	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			18.90	1.200	0.200	4.536	8.172	12.708	
	Item No. : 11 Transportation of earth Transportation charges including loading							9.024	16.258	25.282	
	Item No.17 (a) :- Lowering & Laying RCC NP3 class pipe of 400mm Dia	1			20.80			20.800	35.000	55.800	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							105.235			
	Deduction										
	pipe area	1		0.785	18.90	0.550	0.550	4.49			
	soling							0.00			
	PCC							0.00			
	Murum bedding							4.54			



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M Sewer 400,300mm, 300mmDWC ,200mm SW

Date	Particulars of work	DETAILS						Content of area	Last measurement		TOTAL TO DATE
		No							Page	Quantity	
		GL	IL	EX.L	L	B	D				
	Total = B							9.02			
	300mm dia at Mayur Park							96.21	178.236	274.447	
	width of Trench - For										
	Bottom Lift 0.00-1.50m- 0.3+0.08+0.08+0.5=0.96m										
	From Bottom Lift 1.50m-3.00m- 0.3+0.08+0.08+0.5+0.4=1.36m										
	From Bottom Lift 3.00m-4.50m- 0.3+0.08+0.08+0.5+0.4+0.4=1.76m										
	MH 192										
	CH11295.05	604.105	601.285	601.085							
	CH11326.35	603.915	601.405	601.205			3.020	2.865			
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1									
	(b) For Lift 1.5m to 3.0m	1			28.10	1.360	1.500	57.324	158.850	216.174	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			28.10	0.960	1.365	36.822	127.080	163.902	
	Item No. : 11 Transportation of earth Transportation charges including loading							5.395	12.708	18.103	
	Extra item no.-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			30.00			8.580	25.282	33.862	
	Item No 30 :- Refilling the excavated trenches ...							30.000	0.000	30.000	
	Total Excavation= A							94.146			
	Deduction										
	pipe area	1			0.785	28.10	0.380	0.380	3.19		
	soling							0.00			
	PCC							0.00			
	Murum bedding							0.00			
	Total = B							5.40			
								8.58			
								85.57	274.447	360.013	
	MH 193										
	CH11326.35	603.915	601.405	601.205							
	CH11347.00	604.013	601.705	601.505			2.710	2.609			
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1									
	(b) For Lift 1.5m to 3.0m	1			19.05	1.360	1.500	38.862	216.174	255.036	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			19.05	0.960	1.109	20.281	163.902	184.184	
	Item No. : 11 Transportation of earth Transportation charges including loading							3.658	18.103	21.761	
	Extra item no.-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			20.00			5.817	33.862	39.679	
	Item No 30 :- Refilling the excavated trenches ...							20.000	30.000	50.000	
	Total Excavation= A							59.143			
	Deduction										
	pipe area	1			0.785	19.05	0.380	0.380	2.16		
	soling							0.00			
	PCC							0.00			
	Murum bedding							0.00			
	Total = B							3.66			
								5.82			
								53.33	360.013	413.339	
	CH11347.00	604.013	601.705	601.505			2.508				



Jan

Name of work:- Development of Underground Sewerage collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

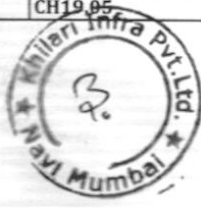
Book No. :- 043
Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

3 of 7

M Sewer 400,300mm, 300mmDWC ,200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	CH11367.55	604.110	602.005	601.805			2.305				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	1.250	32.674	255.036	287.710	
	(b) For Lift 1.5m to 3.0m	1			19.22	0.960	0.906	16.717	184.184	200.900	
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	0.200	5.228	0.000	5.228	
	Item No. 4:- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			19.22	1.360	0.050	1.307	0.000	1.307	
	Item No. 7 :- Filling in plinth and floors/trenches etc complete.(bedding)	1			19.22	0.960	0.200	3.690	21.761	25.451	
	Item No. : 11 Transportation of earth Transportation charges including loading							5.869	39.679	45.548	
	Extra item no.:-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			20.00			20.000	50.000	70.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							55.926			
	Deduction										
	pipe area	1		0.785	19.22	0.380	0.380	2.18			
	soling							0.00			
	PCC							0.00			
	Murrum bedding							3.69			
	Total = B							5.87			
	Net Qty = A - B							50.06	413.339	463.396	
	MH 194										
	CH11367.55	604.110	602.005	601.805			2.305				
	CH11383.65	604.110	602.070	601.870			2.240	2.273			
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			13.44	1.360	1.500	27.418	287.710	315.128	
	(b) For Lift 1.5m to 3.0m	1			13.44	0.960	0.773	9.974	200.900	210.874	
	Item No. 7 :- Filling in plinth and floors/trenches etc complete.(bedding)	1			13.44	0.960	0.200	2.580	25.451	28.032	
	Item No. : 11 Transportation of earth Transportation charges including loading							4.104	45.548	49.652	
	Extra item no.:-9. 4) Lowering & Laying RCC NP3 class pipe of 300mm Dia	1			15.00			15.000	70.000	85.000	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							37.391			
	Deduction										
	pipe area	1		0.785	13.44	0.380	0.380	1.52			
	soling							0.00			
	PCC							0.00			
	Murrum bedding							2.58			
	Total = B							4.10			
	Net Qty = A - B							33.29	463.396	496.683	
	MH 194 to Old Manhole										
	CH0.00	604.110	602.005	601.805			2.305				
	CH19.95	604.280	602.065	601.865			2.415	2.360			



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M Sewer 400,300mm, 300mmDWC, 200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			17.72	1.360	1.250	30.124		315.128	345.252
	(b) For Lift 1.5m to 3.0m	1			17.72	0.960	0.860	14.630		210.874	225.504
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murum etc complete.										
	(a) For Lift 0 to 1.5m	1			17.72	1.360	0.200	4.820		5.228	10.048
	Item No. 4:- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			17.72	1.360	0.050	1.205		1.307	2.512
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			17.72	0.960	0.200	3.402		28.032	31.434
	Item No. : 11 Transportation of earth Transportation charges including loading							5.411		49.652	55.063
	Extra item no.-9. 4) Lowering & Laying R/C/NP3 class pipe of 300mm Dia	1			18.50			18.500		85.000	103.500
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							50.778			
	Deduction										
	pipe area	1		0.785	17.72	0.380	0.380	2.01			
	soling							0.00			
	PCC							0.00			
	Murum bedding							3.40			
	Total = B							5.41			
								Net Qty = A - B		496.683	542.051
	MH 195										
	CH11383.65	604.110	602.070	601.870			2.240	2.195			
	CH11407.25	604.110	602.160	601.960			2.150				
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc complete.										
	(a) For Lift 0 to 1.5m	1			20.94	1.360	1.500	42.718		345.252	387.969
	(b) For Lift 1.5m to 3.0m	1			20.94	0.960	0.695	13.971		225.504	239.475
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			20.94	0.960	0.200	4.020		31.434	35.454
	Item No. : 11 Transportation of earth Transportation charges including loading							6.394		55.063	61.457
	Extra item no.-9. 4) Lowering & Laying R/C/NP3 class pipe of 300mm Dia	1			22.50			22.500		103.500	126.000
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							56.689			
	Deduction										
	pipe area	1		0.785	20.94	0.380	0.380	2.37			
	soling							0.00			
	PCC							0.00			
	Murum bedding							4.02			
	Total = B							6.39			
								Net Qty = A - B		542.051	592.345
	MH 196										
	CH11407.25	604.110	602.160	601.960			2.150	2.280			
	CH11438.35	604.250	602.040	601.840			2.410				



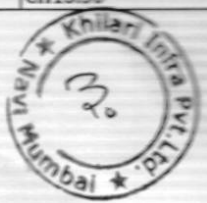
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Construction of Underground Sewerage Collection system for Zone I to VI
Constructing, Erecting, Testing and Commissioning of Sewage Treatment
technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth
Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission
stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward
CIDCO (Airport), Providing, lowering, laying jointing and testing rising main
line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to
Mumbai City.

M. Khilari Infrastructure Pvt Ltd & GECPL (Joint Venture)

M Sewer 400,300mm, 300mmDWC ,200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc										
	(a) For Lift 0 to 1.5m	1			10.54	0.815	1.360	11.683		470.262	481.945
	Item No. 7 :- Filling in plinth and floors/trenches etc complete.(bedding)	1			10.54	0.815	0.200	1.718		43.086	44.804
	Item No. : 11 Transportation of earth Transportation charges including loading & unloading excavated							2.539		73.350	75.889
	Item No. 13 :- (d) Lowering & Laying of Polyethylene DWC pipe of 315mm Dia	1			12.00			12.000		15.000	27.000
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							11.683			
	Deduction of 315mm dia pipe										
	pipe area	1.00		0.785	10.54	0.315	0.315	0.82			
	soiling							0.00			
	PCC							0.00			
	Murrum bedding							1.72			
								2.54			
								9.14		685.670	694.814
	Net Qty = A - B										
	200mm dia-SW										
	Width of Trench - For										
	Bottom Lift 0.00-1.50m- 0.2+0.02+0.02+0.5=0.74m										
	From Bottom Lift 1.50m-3.00m- 0.2+0.02+0.02+0.5+0.4=1.14m										
	From Bottom Lift 3.00m-4.50m- 0.2+0.02+0.02+0.5+0.4+0.4=1.54m										
	MH 193										
	CH0.00	603.915	602.405	602.305				1.610			
	CH13.30	603.940	602.630	602.530				1.410		1.510	
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			10.79	0.740	1.500	11.977		481.945	493.922
	(b) For Lift 1.5m to 3.0m	1			10.79	0.740	0.010	0.080		262.399	262.479
	Item No. 7 :- Filling in plinth and floors/trenches etc complete.(bedding)	1			10.79	0.690	0.100	0.745		44.804	45.548
	Item No. : 11 Transportation of earth Transportation charges including loading							0.989		75.889	76.878
	Extra Item no 9.2 :- Lowering & Laying SW pipe of 200mm Dia	1			12.30			12.300		0.000	12.300
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							12.057			
	Deduction										
	pipe area	1		0.785	10.79	0.170	0.170	0.24			
	soiling							0.00			
	PCC							0.00			
	Murrum bedding							0.74			
	Total = B							0.99			
								11.07		694.814	705.881
	Net Qty = A - B										
	MH 194										
	CH0.00	604.110	603.205	603.105				1.005			
	CH13.50	604.150	603.350	603.250				0.900		0.952	



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Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. :- **047**

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

7 of 7

M Sewer 400,300mm, 300mmDWC ,200mm SW

Date	Particulars of work	DETAILS					Content of area	Last measurement		TOTAL TO DATE	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			10.99	0.740	0.952	7.742		493.922	501.664
	(b) For Lift 1.5m to 3.0m	1			10.99	0.740	0.000	0.000		262.479	262.479
	(c) For Lift 3.0m to 4.5m	1			10.99	0.740	0.000	0.000		13.799	13.799
	Item No. 2 :- Excavation for foundation/pipe trenches in Hard murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			10.99	0.740	0.000	0.000		10.048	10.048
	Item No. 4:- Excavation for foundation/pipe trenches in soft rock etc complete.										
	(a) For Lift 0 to 1.5m	1			10.99	0.740	0.000	0.000		2.512	2.512
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			10.99	0.690	0.100	0.758		45.548	46.307
	Item No. : 11 Transportation of earth Transportation charges including loading							1.008		76.878	77.886
	Extra Item no 9.2 :- Lowering & Laying SW pipe of 200mm Dia	1			12.50			12.500		12.300	24.800
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A							7.742			
	Deduction										
	pipe area	1		0.785	10.99	0.170	0.170	0.25			
	soling							0.00			
	PCC							0.00			
	Murrum bedding							0.76			
	Total = B							1.01			
	Net Qty = A - B							6.73		705.881	712.616



Jan

Development of Underground Sewerage Collection system for Zone I to VI
 Constructing, Erecting, Testing and Commissioning of Sewage Treatment
 technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth
 CIDCO (Airport), Construction, Erection, Testing and Commission
 Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward
 CIDCO (Airport), Providing, lowering, laying jointing and testing rising main
 line from Gofwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to

Book No. :- 043
 Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

No. I/MC/W-1/D&C/T/DSSMT/2014/184 Date: 01.07.2014

1 of 1

M Sewer 1.5m MH Excavation

9th RA BILL MEASUREMENTS

Sewer "M"

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	Excavation of Chamber - For 1.50m dia Manhole (upto a depth of 2.0m to 5.0m)- 1.50+0.35+0.35+0.5+0.5=3.20m										
	Breadth for Manhole=3.2*3.2=10.24m										
	MH 192										
	CH11295.05	604.105	601.285	601.035			3.070				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	0.000	12.058	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.500	12.058	0.000	12.058	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.070	0.563	0.000	0.563	
	Item No. : 11 Transportation of earth Transportation charges							8.376	0.000	8.376	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							24.678			
	Deduction										
	Brick work	1			0.785	2.280	2.280	0.820	3.346		
		1			0.785	1.540	1.540	2.000	3.723		
	PCC	1			0.785	2.580	2.580	0.250	1.306		
	Soling	1			0.785	2.580	2.580	0.000	0.000		
								8.376			
	Net Qty = A - B							16.302	0.000	16.302	
	MH 193										
	CH11326.35	603.915	601.405	601.155			2.760				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	1.500	12.058	12.058	24.115	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	1.260	10.128	12.058	22.186	
	(c) For Lift 3.0m to 4.5m	1			0.785	10.240	0.000	0.000	0.563	0.563	
	Item No. : 11 Transportation of earth Transportation charges							7.111	8.376	15.487	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							22.186			
	Deduction										
	Brick work	1			0.785	2.280	2.280	0.510	2.081		
		1			0.785	1.540	1.540	2.000	3.723		
	PCC	1			0.785	2.580	2.580	0.250	1.306		
	Soling	1			0.785	2.580	2.580	0.000	0.000		
								7.111			
	Net Qty = A - B							15.075	16.302	31.377	



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Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewerage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewerage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP-DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :- 049
Page No. :-

M. Khilari Infrastructure Pvt Ltd & GECPL (Joint Venture)

1 of 2

M Sewer 1.2 & 0.9m MH Excavation

9th RA BILL MEASUREMENTS (Excavation of Manhole)

Date	Particulars of work	DETAILS					Content of arrears	Last measurement		Total Upto Date Quantity	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Excavation of Chamber - For 1.20m dia Manhole (upto a depth of 2.0m)- 1.20+0.23+0.23+0.5+0.5=2.66m Breadth for Manhole=2.66*2.66=7.0756m MH 194										
	CH11367.55	604.110	602.005	601.755			2.355				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	7.076	1.500	8.332	24.115	32.447	
	(b) For Lift 1.5m to 3.0m	1			0.785	7.076	0.855	4.749	22.186	26.935	
	Item No. : 11 Transportation of earth Transportation charges							3.931	15.487	19.418	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							13.080			
	Deduction										
	Brick work	1		0.785	1.390	1.390	2.105	3.193			
	PCC	1		0.785	1.940	1.940	0.250	0.739			
	Soling	1		0.785	1.940	1.940	0.000	0.000			
								3.931			
	Net Qty = A - B							9.149	31.377	40.526	
	MH 195										
	CH11383.65	604.110	602.070	601.820			2.290				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	7.076	1.500	8.332	32.447	40.778	
	(b) For Lift 1.5m to 3.0m	1			0.785	7.076	0.790	4.388	26.935	31.323	
	Item No. : 11 Transportation of earth Transportation charges							3.833	19.418	23.251	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							12.719			
	Deduction										
	Brick work	1		0.785	1.390	1.390	2.040	3.094			
	PCC	1		0.785	1.940	1.940	0.250	0.739			
	Soling	1		0.785	1.940	1.940	0.000	0.000			
								3.833			
	Net Qty = A - B							8.887	40.526	49.413	
	Excavation of Chamber - For 0.9 mt.dia chamber up to Depth of 1.5 mt.-0.9+0.5+0.3+0.3=2.0m Bredth for chamber up to Depth of 1.5m= 2 * 2=4m MH 185.1										
	CH16.10	603.250	601.990	601.740			1.510				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	4.000	1.500	4.710	40.778	45.488	
	(b) For Lift 1.5 to 3.0m	1			0.785	4.000	0.010	0.031	31.323	31.354	



Yup

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone VIII. Construction, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Dada Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main and 1000 mm dia from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-
Page No. :-

53

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

2 of 2

M Sewer 1.2 & 0.9m MH Excavation

Date	Particulars of work	DETAILS					Content of arrears	Last measurment		Total Upto Date Quantity	
		No			L	B		D	Page		Quantity
		GL	IL	EX.L							
	Item No. : 11 Transportation of earth Transportation charges including loading & unloading						1.809		23.251	25.059	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation(A)=						4.741				
	Deduction										
	Brick work	1.00		0.785	1.16	1.16	1.260	1.33			
	PCC	1.00		0.785	1.56	1.56	0.25	0.48			
	Soling							0.00			
							1.81				
	Net Qty = A - B						2.933		49.413	52.346	
	MH 185.2										
	CH29.00	603.300	602.250	602.000			1.300				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	4.000	1.300	4.082	45.488	49.570	
	(b) For Lift 1.5 to 3.0m	1			0.785	4.000	0.000	0.000	31.354	31.354	
	(c) For Lift 3.0m to 4.5m	1			0.785	4.000	0.000	0.000	0.563	0.563	
	Item No. : 11 Transportation of earth Transportation charges including loading & unloading							1.587	25.059	26.646	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation(A)=						4.082				
	Deduction										
	Brick work	1.00		0.785	1.16	1.16	1.050	1.11			
	PCC	1.00		0.785	1.56	1.56	0.25	0.48			
	Soling							0.00			
							1.59				
	Net Qty = A - B						2.495		52.346	54.841	
	MH 193.1										
	CH13.30	603.940	602.630	602.380			1.560				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	4.000	1.500	4.710	49.570	54.280	
	(b) For Lift 1.5 to 3.0m	1			0.785	4.000	0.060	0.188	31.354	31.543	
	(c) For Lift 3.0m to 4.5m	1			0.785	4.000	0.000	0.000	0.563	0.563	
	Item No. : 11 Transportation of earth Transportation charges including loading & unloading							1.861	26.646	28.507	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation(A)=						4.898				
	Deduction										
	Brick work	1.00		0.785	1.16	1.16	1.310	1.38			
	PCC	1.00		0.785	1.56	1.56	0.25	0.48			
	Soling							0.00			
							1.86				
	Net Qty = A - B						3.037		54.841	57.878	



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Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport). Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP-DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. :-

051

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

1 of 1

M Sewer 0.9 X 0.6

9th RA BILL MEASUREMENTS (Excavation of Manhole)

Sewer "M"

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		GL	No		L	B	D		Page	Quantity	
			IL	EX.L							
	Excavation of Chamber - For 0.9 X 0.6 m Manhole (upto a depth of 2.0m)-										
	Length for Manhole=0.9+0.23+0.23+0.5+0.5=2.36m										
	Breadth for Manhole=0.6+0.23+0.23+0.5+0.5=2.06m										
	MH 194.1										
	CH13.50	604.150	603.350	603.100			1.050				
	Item No. 1 :- Excavation for foundation/pipe trenches in earth soils, Soft murrum etc complete.										
	(a) For Lift 0 to 1.5m	1			2.360	2.060	1.050	5.105	54.280	59.385	
	(b) For Lift 1.5m to 3.0m	1			2.360	2.060	0.000	0.000	31.543	31.543	
	(c) For Lift 3.0m to 4.5m	1			2.360	2.060	0.000	0.000	0.563	0.563	
	Item No. : 11 Transportation of earth Transportation charges							1.863	28.507	30.370	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=							5.105			
	Deduction										
	Brick work	1			1.440	1.140	0.800	1.313			
	PCC	1			1.640	1.340	0.250	0.549			
	Soling	1			1.640	1.640	0.000	0.000			
								1.863			
	Net Qty = A - B							3.242	57.878	61.120	



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Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone VIII. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshirawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GPR pipe line from Golwadi SPS to Nakshirawadi (Kanchanwadi) STP and Ward No.98 to CIDCO Banerwadi City.

Book No. :-

052

Page No. :-

1 of 2

M Sewer Dewatering RA9

9th R A BILL MEASUREMENTS

Sewer "M" - Dewatering

Sr.No.	Date	Pump Capacity in Hp	No.of Pumps	Time		Total Hrs	Bhp/Hr
				From	To		
D-400mm MAYUR PARK							
1	15/02/2016	5	1	9:00	10:15	1:15	6:15:00
		5	1	10:20	10:45	0:25	2:05:00
		5	1	11:00	12:00	1:00	5:00:00
		5	1	13:05	13:30	0:25	2:05:00
2	17/02/2016	5	1	9:00	10:00	1:00	5:00:00
		5	1	10:00	11:05	1:05	5:25:00
		5	1	11:10	11:50	0:40	3:20:00
		5	1	12:00	13:30	1:30	7:30:00
		5	1	14:00	14:30	0:30	2:30:00
3	20/02/2016	5	1	9:00	9:30	0:30	2:30:00
		5	1	9:45	10:00	0:15	1:15:00
		5	1	10:05	10:35	0:30	2:30:00
		5	1	10:45	11:45	1:00	5:00:00
		5	1	12:00	13:30	1:30	7:30:00
		5	1	14:00	14:50	0:50	4:10:00
		5	1	15:00	15:30	0:30	2:30:00
4	22/02/2016	5	1	9:00	10:00	1:00	5:00:00
		5	1	10:00	10:15	0:15	1:15:00
		5	1	10:30	11:30	1:00	5:00:00
		5	1	11:45	12:45	1:00	5:00:00
		5	1	13:30	14:00	0:30	2:30:00
		5	1	14:10	14:50	0:40	3:20:00
5	23/02/2016	5	1	9:15	10:20	1:05	5:25:00
		5	1	10:30	11:20	0:50	4:10:00
		5	1	11:25	12:25	1:00	5:00:00
		5	1	13:00	13:30	0:30	2:30:00
		5	1	13:35	14:15	0:40	3:20:00
		5	1	14:30	15:30	1:00	5:00:00
		5	1	17:00	17:45	0:45	3:45:00
6	24/02/2016	5	1	9:00	10:30	1:30	7:30:00
		5	1	10:45	11:45	1:00	5:00:00
		5	1	11:55	12:55	1:00	5:00:00
		5	1	13:05	14:05	1:00	5:00:00
7	25/02/2016	5	1	9:10	10:10	1:00	5:00:00
		5	1	10:15	11:15	1:00	5:00:00





AURANGABAD MUNICIPAL CORPORATION.

(From No.52)

Measurement Book

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali, Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport).- Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :- **053**
Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

2 of 2

M Sewer Dewatering RA9

Sr.No.	Date	Pump Capacity in Hp	No.of Pumps	Time		Total Hrs	Bhp/Hr
				From	To		
		5	1	11:30	12:30	1:00	5:00:00
		5	1	12:45	13:15	0:30	2:30:00
		5	1	13:30	14:30	1:00	5:00:00
8	26/02/2016	5	1	10:00	11:30	1:30	7:30:00
		5	1	11:45	12:30	0:45	3:45:00
		5	1	12:45	13:45	1:00	5:00:00
		5	1	14:00	15:00	1:00	5:00:00
Total						36:25:00	182:05:00
							182.083



Jeep

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone VIII. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main CRP 150 pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Book No. :-

Page No. :-

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014

1 of 1

M Sewer MANHOLE

**9th RA BILL MEASURMENTS (Excavation of Manhole)
SEWER "M"**

to

Item No. : 23 Providing and constructing on sewer BBM manhole 1.5 m dia at bottom and 0.5 m dia at top and up to a depth of 2 to 5.0 M

Sr.No.	MB/ Page No	Chainage	MH No	MTL	IL	Depth	Depth Difference than 5 m	Total Difference	Rebate/Add for Excess height (per 50 cm)
1		11295.05	MH 192	604.105	601.285	2.82	-2.18	-4.67	-9.340
2		11326.35	MH 193	603.915	601.405	2.51	-2.49		

Item No. : 21 Providing and constructing on sewer BBM manhole 1.2 m dia at bottom and 0.5 m dia at top and up to a depth of 2 M

Sr.No.	MB/ Page No	Chainage	MH No	MTL	IL	Depth	Depth Difference than 2 m	Total Difference	Rebate/Add for Excess height (per 50 cm)
1		11367.55	MH 194	604.110	602.005	2.11	0.11	0.145	0.290
2		11383.65	MH 195	604.110	602.070	2.04	0.04		

Extra Item. No.02: Providing and constructing on sewer.BBM manhole 0.9 m dia at bottom and 0.5 m dia at top and up to a depth of 1.5 M etc., complete

Sr.No.	MB/ Page No	Chainage	MH No	MTL	IL	Depth	Depth Difference than 1.5 m	Total Difference	Rebate/Add for Excess height (per 30 cm)
1		16.10	MH 185.1	603.250	601.990	1.26	-0.24	-0.880	-2.933
2		29.00	MH 185.2	603.300	602.250	1.05	-0.45		
3		13.30	MH 193.1	603.940	602.630	1.31	-0.19		

Extra Item. No.03: Providing and constructing on sewer.BBM Square manhole 0.9m X 0.6m up to a depth of 1.5 M etc., complete

Sr.No.	MB/ Page No	Chainage	MH No	MTL	IL	Depth	Depth Difference than 1.5 m	Total Difference	Rebate/Add for Excess height (per 30 cm)
1		13.50	MH 194.1	604.150	603.350	0.80	-0.70	-0.700	-2.333



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Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone Salim Ali. Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport). Providing, lowering, laying jointing and testing rising main GRP/DI pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Venture)

M Sewer Quantity Node Abstract

9th R A BILL MEASUREMENTS

Main Sewer M

SR NO	Description	MB/PG	ITEM 1		ITEM 2	ITEM 4	ITEM 7	ITEM 10	ITEM 11	ITEM 12	ITEM 13	ITEM 17	ITEM 21	ITEM 21.1
			0-1.5	1.5-3.0										
1	For Pipe		501.664	262.479	13.799	10.048	2.512	46.307	182.083	27.000	27.000	55.800	upto 2 m	
2	For Manhole		59.385	31.543	0.563				30.370				Full Rate	
Total			561.049	294.022	14.361	10.048	2.512	46.307	182.083	27.000	27.000	55.800	2.000	0.290



Authorized Signatory

PMC



Project Engineer



Project Manager

[Signature]
Jr Engineer

CLIENT

Dy. Engineer

[Signature]
Ex. Engineer

Item	Quantity	Total up to Date
	9	10

M Sewer Quantity Node Abstract

9th R A BILL MEASUREMENTS

Main Sewer M

SR NO	Description	MB/PG	ITEM 23		ITEM 30	EIRL 2		EIRL 3.a	EIRL 9.1		EIRL 9.2		EIRL 9.3		EIRL 9.4
			2-5 m	Rebate		Full Rate	Rebate		200mm	200mm	200mm	300mm	200mm	300mm	
1	For Pipe				712.62										
2	For Manhole		2.00	(9.340)	61.120	3.000	(2.933)		24.800	24.800			156.000	156.000	
	Total		2.00	(9.340)	773.74	3.000	(2.933)		24.800	24.800			156.000	156.000	



Authorized Signatory



Project Engineer



Project Manager

CLIENT

Jr. Engineer

Dy. Engineer

Ex. Engineer

Total up to Date

10

Name of work:- Development of Underground Sewerage Collection system for Zone I to VI and Zone VII of Constructing, Erecting, Testing and Commissioning of Sewage Treatment Plant based on modern technology at Nakshtrawadi (Kanchanwadi), Banewadi, Siddharth Garden, Zalta, Padegaon, CIDCO (Airport), Construction, Erection, Testing and Commission of Sewage pumping stations at Banewadi, Siddharth Garden, Padegaon, Golwadi, Zalta, Ward No.98 and CIDCO (Airport), Providing, lowering, laying jointing and testing rising main GRI 150 pipe line from Golwadi SPS to Nakshtrawadi (Kanchanwadi) STP and Ward No.98 to STP for Aurangabad City.

Name of Agency:- M/s Khilari Infrastructure Pvt.Ltd. & GECPL (Joint Vencture)

Authority No. AMC/Ward B&C/UIDSSMT/2014/184 Date 01.07.2014