

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)

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

1 of 1

L Sewer Ambikanagar-500mm Branch

9th RA BILL MEASUREMENTS

SEWER "L"

Date	Particulars of work	DETAILS						Content of arrears	Last measurement		Total Upto Date Quantity
		No			L	B	D		Page	Quantity	
		GL	IL	EX.L							
	500mm Dia										
	Width of Trench - For Bottom Lift 0.00-1.50m- 0.5+0.15+0.15+0.5=1.3m										
	From Bottom Lift 1.50m-3.00m- 0.5+0.15+0.15+0.5+0.4=1.7m										
	From Bottom Lift 3.00m-4.50m- 0.5+0.15+0.15+0.5+0.4+0.4=2.1m										
	Old Manhole to LA 44	200m Gap from MH LA 36 to old Manhole									
	CH2041.30	590.050	588.700	588.500			1.550	1.575			
	CH2060.00	590.130	588.730	588.530			1.600				
	Item No. 3 :- Excavation for foundation/pipe trenches in slush etc complete.										
	(a) For Lift 0 to 1.5m	1			17.10	1.300	0.200	4.446	0.000	4.446	
	Item No. 1 :- Excavation for foundation/pipe trenches in all types of soil & soft murum etc										
	(a) For Lift 0 to 1.5m	1			17.10	1.300	1.300	28.899	0.000	28.899	
	(b) For Lift 1.5m to 3.0m	1			17.10	1.300	0.075	1.667	0.000	1.667	
	Item No. 7 :- Filling in plinth and floors/ trenches etc complete.(bedding)	1			17.10	1.300	0.200	4.446	0.000	4.446	
	Item No. : 11 Transportation of earth Transportation charges							10.117	0.000	10.117	
	Item No.17 (c) :- Lowering & Laying RCC NP3 class pipe of 500mm Dia	1			17.50			17.500	0.000	17.500	
	Item No 30 :- Refilling the excavated trenches ...										
	Total Excavation= A=							35.012			
	Deduction										
	pipe area	1.00		0.785	17.10	0.650	0.650	5.67			
	soling							0.00			
	PCC							0.00			
	Murum bedding							4.45			
	Total = B							10.12			
	Net Qty = A - B							24.89	0.000	24.895	



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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.

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

1 of 1

L Sewer 1.5m MH Excavation

9th RA BILL MEASUREMENTS

SEWER "L"

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 LA 44										
	CH2060.00	590.130	588.730	588.480			1.650				
	Item No. 3 :- Excavation for foundation/pipe trenches in slush etc complete.										
	(a) For Lift 0 to 1.5m	1			0.785	10.240	0.200	1.608	0.000	1.608	
	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	1.300	10.450	0.000	10.450	
	(b) For Lift 1.5m to 3.0m	1			0.785	10.240	0.150	1.206	0.000	1.206	
	Item No. : 11 Transportation of earth Transportation charges							5.466	0.000	5.466	
	Item No. 30 :- Refilling the excavated trenches ...										
	Total Excavation=						13.263				
	Deduction										
	Brick work	1		0.785	2.280	2.280	0.700	2.857			
		1		0.785	1.540	1.540	0.700	1.303			
	PCC	1		0.785	2.580	2.580	0.250	1.306			
	Soling	1		0.785	2.580	2.580	0.000	0.000			
							5.466				
	Net Qty = A - B						7.797	0.000		7.797	



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L Sewer MANHOLE

9th R A BILL MEASUREMENTS

SEWER "L"

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 5 M

Sr.No.	Chainage	MH No	MTL	IL	Depth	Depth Difference than 5 m	Total Difference	Rebate/Add for Excess height (per 50 cm)
1	CH 2060.00	LA 44	591.130	588.730	2.400	-2.600	-2.600	-5.200
							Total	-5.200



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1 of 2

L Sewer Extra Work

9th R A BILL MEASUREMENTS
SEWER "L"

Sr.No.	Description	Unit	No.	Length	Width	Height	Quantity
A	ITEM NO. 2 :- Excavation for foundation / pipe trenches in hard murum and Boulders,WBM road including removing the excavated material upto a distance of 50 M and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling etc.complete.						
1	In between Manhole LA 30 to LA31 to right side part I	Cum	1	6.90	0.19	1.00	1.311
2	In between Manhole LA 30 to LA 31 to right side part II	Cum	1	5.30	0.28	1.00	1.484
3	BBM Manhole From LA 37 to LA 41	Cum	5	0.79	0.86	1.50	5.037
							7.832
B	Item No. 4 :- Excavation for foundation/pipe trenches in soft rock and old cement and lime masonry foundation asphalt road manually or by using mechanical means including & removing the excavated materials, up to a distance of 50.0 m beyond the area, and lifts as below. Stacking and spreading as directed,						
1	In between Manhole LA 30 to LA 31 to right side	Cum	1	17.00	0.75	1.90	24.225
2	In between Manhole LA 30 to LA 31 to left side	Cum	1	3.20	0.80	1.30	3.328
3	In between Manhole LA 30 to LA 31 to right side	Cum	1	2.00	0.80	1.00	1.600
4	In between Manhole LA 30 to LA 31 to right side	Cum	1	3.15	0.78	1.00	2.441
5	In between Manhole LA 31 to LA 32 to left side	Cum	1	3.70	0.80	1.80	5.328
6	In between Manhole LA 32 to LA 33 to left side	Cum	1	22.00	0.75	1.60	26.400
7	In between Manhole LA 32 to LA 33 to right side	Cum	1	3.50	0.75	1.50	3.938
8	In between Manhole LA 34 to LA 36 to right side	Cum	1	24.00	0.80	2.00	38.400
9	In between Manhole LA 34 to LA 36 to left side	Cum	1	16.00	0.85	1.60	21.760
10	In between Manhole LA 34 to LA 36 to right side	Cum	1	13.00	0.80	1.60	16.640
11	In between Manhole LA 34 to LA 36 to right side	Cum	1	12.50	0.80	1.60	16.000
12	In between Manhole LA 35 to LA 36 to left side	Cum	1	16.50	0.75	1.00	12.375
13	In between Manhole LM29 to LM30 to right side	Cum	1	6.40	1.00	2.00	12.800
14	In between Manhole LM29 to LM30 to right side	Cum	1	8.50	0.88	2.00	14.875
15	In between Manhole LM26 to LM27 (Road Crossing)	Cum	1	6.40	0.52	0.80	2.662
16	In between Manhole LM27 to LM28 to left side	Cum	1	5.95	1.25	1.60	11.900
17	In between Manhole LM27 to LM28 to right side	Cum	1	5.35	0.40	0.85	1.819
18	Bridge In between Manhole LM29 to LM30 near Mamta Hospital	Cum	1	12.00	0.80	2.00	19.200
		Cum	1	8.90	0.70	2.00	12.460
		Cum	1	7.50	0.60	2.30	10.350
							258.501
C	Item No 15:- Supply of RCC Pipes						
1	h) Supply of RCC Pipes of 1000mm dia NP3 pipe for Pipe culvert at Ramnagar near Mamta Hospital	Rmt	12	2.50			30.000
D	Item No 17:- Laying of RCC Pipes Item						
1	h) Laying of RCC Pipes of 1000mm dia NP3 pipe for Pipe culvert at Ramnagar near Mamta Hospital	Rmt	12	2.50			30.000
E	Extra item no.-4. a) Construction of Brick work						
1	In between Manhole LA 30 to LA31 to right side part I	Cum	1	6.90	0.19	1.00	1.311
2	In between Manhole LA 30 to LA 31 to right side part II	Cum	1	5.30	0.28	1.00	1.484
3	BBM Manhole Raising From LA 37 to LA 41	Cum	5	0.79	0.86	1.50	5.037
							7.832
F	Extra item no.-4. b) Internal Plaster for Brick work						
	BBM Manhole Raising From LA 37 to LA 41	Sqm	5	3.14	0.70	1.50	16.485
G	Extra item no.-4. c) External Plaster for Brick work						
	BBM Manhole Raising From LA 37 to LA 41	Sqm	5	3.14	1.16	1.50	27.318



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L Sewer Extra Work

Sr.No.	Description	Unit	No.	Length	Width	Height	Quantity
H	Extra item no.-4. e) i) Providing and fixing in position SFRC manhole cover with frame for circular Manhole						
	BBM Manhole From LA 37 to LA 41	Nos	5				5.000
I	Extra item no.-5. b) Providing & casting M 15 Grade Concrete						
1	In between Manhole LA 30 to LA 31 to right side	Cum	1	17.00	0.60	0.10	1.020
2	In between Manhole LA 30 to LA 31 to left side	Cum	1	3.20	0.60	0.10	0.192
3	In between Manhole LA 30 to LA 31 to right side	Cum	1	2.00	0.70	0.10	0.140
4	In between Manhole LA 30 to LA 31 to right side	Cum	1	3.15	0.65	0.10	0.205
5	In between Manhole LA 31 to LA 32 to left side	Cum	1	3.70	0.60	0.10	0.222
6	In between Manhole LA 32 to LA 33 to left side	Cum	1	22.00	0.60	0.10	1.320
7	In between Manhole LA 32 to LA 33 to right side	Cum	1	3.50	0.60	0.10	0.210
8	In between Manhole LA 34 to LA 36 to right side	Cum	1	24.00	0.60	0.10	1.440
9	In between Manhole LA 34 to LA 36 to left side	Cum	1	16.00	0.70	0.10	1.120
10	In between Manhole LA 34 to LA 36 to right side	Cum	1	13.00	0.70	0.10	0.910
11	In between Manhole LA 34 to LA 36 to right side	Cum	1	12.50	0.60	0.10	0.750
12	In between Manhole LA 35 to LA 36 to left side	Cum	1	16.50	0.60	0.10	0.990
13	In between Manhole LM29 to LM30 to right side	Cum	1	6.40	1.00	0.10	0.640
14	In between Manhole LM29 to LM30 to right side	Cum	1	8.50	0.75	0.10	0.638
15	In between Manhole LM26 to LM27 (Road Crossing)	Cum	1	6.40	0.52	0.10	0.333
16	In between Manhole LM27 to LM28 to left side	Cum	1	5.95	1.00	0.10	0.595
17	In between Manhole LM27 to LM28 to right side	Cum	1	5.35	0.40	0.10	0.214
18	Bridge In between Manhole LM29 to LM30 near Mamta Hospital	Cum	1	12.00	0.60	0.10	0.720
		Cum	1	8.90	0.70	0.10	0.623
		Cum	1	7.50	0.60	0.10	0.450
		Cum	1	11.60	3.30	1.20	45.936
	Deduction for pipes	Cum	-2	0.79	1.51	11.60	-27.553
	For Slab	Cum	1	11.60	5.00	0.30	17.400
							48.514
J	Extra item no.-5. c) Construction of UCR Masonry						
1	In between Manhole LA 30 to LA 31 to right side	Cum	1	17.00	0.75	1.80	22.950
2	In between Manhole LA 30 to LA 31 to left side	Cum	1	3.20	0.80	1.20	3.072
3	In between Manhole LA 30 to LA 31 to right side	Cum	1	2.00	0.80	0.90	1.440
4	In between Manhole LA 30 to LA 31 to right side	Cum	1	3.15	0.78	0.90	2.197
5	In between Manhole LA 31 to LA 32 to left side	Cum	1	3.70	0.80	1.70	5.032
6	In between Manhole LA 32 to LA 33 to left side	Cum	1	22.00	0.75	1.50	24.750
7	In between Manhole LA 32 to LA 33 to right side	Cum	1	3.50	0.75	1.40	3.675
8	In between Manhole LA 34 to LA 36 to right side	Cum	1	24.00	0.80	1.90	36.480
9	In between Manhole LA 34 to LA 36 to left side	Cum	1	16.00	0.85	1.50	20.400
10	In between Manhole LA 34 to LA 36 to right side	Cum	1	13.00	0.80	1.50	15.600
11	In between Manhole LA 34 to LA 36 to right side	Cum	1	12.50	0.80	1.50	15.000
12	In between Manhole LA 35 to LA 36 to left side	Cum	1	16.50	0.75	0.90	11.138
13	In between Manhole LM29 to LM30 to right side	Cum	1	6.40	1.00	1.90	12.160
14	In between Manhole LM29 to LM30 to right side	Cum	1	8.50	0.88	1.90	14.131
15	In between Manhole LM26 to LM27 (Road Crossing)	Cum	1	6.40	0.52	0.70	2.330
16	In between Manhole LM27 to LM28 to left side	Cum	1	5.95	1.25	1.50	11.156
17	In between Manhole LM27 to LM28 to right side	Cum	1	5.35	0.40	0.75	1.605
18	Bridge In between Manhole LM29 to LM30 near Mamta Hospital	Cum	1	12.00	0.80	1.90	18.240
		Cum	1	8.90	0.70	1.90	11.837
		Cum	1	7.50	0.60	2.20	9.900
		Cum	1	11.60	0.45	1.20	6.264
							249.357



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Name of Authori

Date of Measurement

L Sewer Quantity Node Abstract

9th R A BILL MEASUREMENTS

Main Sewer L

SR NO	Description	MB/PG	ITEM 1		ITEM 2	ITEM 3	ITEM 4	ITEM 7	ITEM 11	ITEM 17		ITEM 23	ITEM 23.1	ITEM 30	EIRL 4			EIRL 5		
			0-1.5	1.5-3.0						500mm	1000mm				2-5	m	Rebate	a	b	c
1	For Pipe		28.899	1.667	7.832	4.446	258.501	4.446	10.117	17.500	30.000			24.89	7.832	16.485	27.318	5.000	48.514	249.357
2	For Manhole		10.450	1.206					5.466			1.00	(5.200)	7.797						
Total			39.349	2.873	7.832	6.054	258.501	4.446	15.583	17.500	30.000	1.00	(5.200)	32.69	7.832	16.485	27.318	5.000	48.514	249.357



Authorized Signatory



PMC

[Signature]
Jr. Engineer

[Signature]
Dy. Engineer

[Signature]
Ex. Engineer

CLIENT