

## Service Level Benchmarking - Sewerage and Drainage for 2019

## 166 Ghaziabad

S.No	Code	Input Nomenclature		Value	Logic/Remark
	I	<b>COVERAGE OF TOILETS</b>	%	100.0	31+26 Input fields (FC*100/XM)
		<i>Sanitation Coverage</i>			
1	XM	Total Number of Properties in the City	Number	336495	XM
2	FA	Properties with toilets	Number	329908	Input field
3	FB	Households dependent on functional community toilets	Number	6587	Input field
4	FC	Total Number of Properties with access to toilets	Number	336495	FA+FB
	II	<b>COVERAGE OF SEWAGE NETWORK SERVICES</b>	%	75.93	(FD*100/XM)
5	XM	Total Number of Properties in the City	Number	336495	XM
6	FD	Properties with sewer connections	Number	255486	Input field
7	FE	Properties with onsite sanitary disposal	Number	29428	Input field
	III	<b>COLLECTION EFFICIENCY OF SEWAGE NETWORK</b>	%	96.18	(FZ*100/FW)
		<i>Waste Water Production - Volume of Water Consumed and Waste Water Generated</i>			
8	FF	Volume of water consumed and billed from Domestic Connections	MLD	237	BC
9	FG	Volume of water consumed and billed from Bulk supply - Apartments	MLD	15	BD
10	FH	Volume of water consumed and billed from Bulk supply - Layouts/Societies	MLD	12	BE
11	FI	Volume of water consumed and billed from Non domestic Connections	MLD	0	BF
12	FJ	Volume of water consumed (both billed and unbilled) from Public taps	MLD	1.6	BG+BJ
13	FK	Volume of water from free supplies (other connections)	MLD	1	BK
14	FL	Volume of water consumed and billed from any other ULB sources	MLD	0	BH
15	FM	Volume of water consumed from any Non ULB water sources	MLD	70	Input field
16	FN	Total Water Consumption (billed and unbilled) from ULB and Non ULB sources)	MLD	336.6	FF+FG+FH+FI+FJ+FK+FL+FM
17	FO	Volume of waste water generated from Domestic Water Consumption	MLD	189.6	0.80*FF
18	FP	Volume of waste water generated from Bulk Supply - Apartments	MLD	12	0.80*FG
19	FQ	Volume of waste water generated from Bulk Supply - Layouts/Societies	MLD	9.6	0.80*FH
20	FR	Volume of waste water generated from Non Domestic Water Consumption	MLD	0	0.80*FI
21	FS	Volume of waste water generated from Public Tap Water Consumption	MLD	1.28	0.80*FJ
22	FT	Volume of waste water generated from free supplies (other connections)	MLD	0.8	0.80*FK
23	FU	Volume of waste water generated from other ULB source water consumption	MLD	0	0.80*FL
24	FV	Volume of waste water generated from Non ULB source Water consumption	MLD	56	0.80*FM
25	FW	Total Waste Water Generated	MLD	269.28	FO+FP+FQ+FR+FS+FT+FU+FV
		<i>Waste Water Collection and Treatment</i>			
26	FX	Volume of sewage actually treated at the Primary Treatment Plant	MLD	259	Input field
27	FY	Volume of sewage actually treated at Secondary Treatment Plant	MLD	0	Input field
28	FZ	Total Volume of Waste Water collected and Treated at Sewage Treatment Plants	MLD	259	FX+FY
	IV	<b>ADEQUACY OF SEWAGE TREATMENT CAPACITY</b>	%	115.86	(GC*100/FW)
29	GA	Installed Capacity of Primary Treatment Plant	MLD	312	Input field
30	GB	Installed Capacity of Secondary Treatment Plant	MLD	0	Input field
31	GC	Total Installed Capacity (Primary + Secondary Treatment)	MLD	312	GA+GB
32	FW	Total Waste Water Generated	MLD	269.28	FW
	V	<b>EXTENT OF REUSE AND RECYCLING OF SEWAGE</b>	%	1.16	(GD*100/FY)
33	FY	Volume of sewage actually treated at Secondary Treatment Plant	MLD	259	FZ
34	GD	Volume of treated waste water reused after Secondary Treatment	MLD	3	Input field
	VI	<b>QUALITY OF SEWAGE TREATMENT</b>	%	87.40	(GF*100/GE)
		<i>Discharge Compliance after Secondary Treatment of Sewage</i>			
35	GE	Number of Treated Effluent Samples Tested in the previous year	Number	1270	Input field
36	GF	Number of Treated Effluent Samples Passed in the previous year	Number	1110	Input field
	VII	<b>EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS</b>	%	99.23	(GH*100/GG)
		<i>Consumer Services</i>			
37	GG	Sewage related Complaints received during the year	Number	13713	Input field
38	GH	Sewage related Complaints resolved within 24 hours during the year	Number	13608	Input field
	VIII	<b>EXTENT OF COST RECOVERY IN SEWAGE MANAGEMENT</b>	%	85.5	(GU*100/GP)
		<i>Financial Information - Annual Operating Expenses</i>			
39	GI	Regular Staff and Administration	Rs. Lakhs	134.30	Input field
40	GJ	Outsourced /Contract Staff Costs	Rs. Lakhs	371.70	Input field
41	GK	Electricity Charges /Fuel Costs	Rs. Lakhs	1059.00	Input field
42	GL	Chemicals Costs	Rs Lakhs	0.00	Input field
43	GM	Repairs/Maintenance Costs	Rs Lakhs	473.13	Input field
44	GN	Contractor Costs for O&M	Rs Lakhs	222.02	Input field
45	GO	Others (Specify)	Rs Lakhs	0.00	Input field
46	GP	Total Annual Operating Expenses	Rs. Lakhs	2260.15	GH+GJ+GK+GL+GM+GN+GO
		<i>Financial Information - Annual Operating Revenues</i>			
47	GQ	Arrears at the beginning of previous year (2018-19)	Rs. Lakhs	540.48	Input field

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48	GR	Revenue demand from user charges - sewerage only	Rs. Lakhs	50.00	Input field
49	GS	Revenue demand from tax/cess - sewerage only	Rs. Lakhs	1881.80	Input field
50	GT	Revenue demand from other sources (eg. connection costs/donations etc.)	Rs. Lakhs	0.00	Input field
51	GU	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	1931.80	GR+GS+GT

<b>IX EFFICIENCY IN COLLECTION OF SEWAGE CHARGES</b>				69.9	(GW*100/GU)
52	GU	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	1931.80	GU
53	GV	Collection against arrears (2016-17)	Rs. Lakhs	117.67	Input field
54	GW	Collection against current demand (2017-18)	Rs. Lakhs	1350.62	Input field

**Additional Information (Optional)****Staff Information**

55	HA	Senior Management (Sanctioned)	Number	1	Input field
56	HB	Senior Management (Working)	Number	1	Input field
57	HC	Engineers (Sanctioned)	Number	9	Input field
58	HD	Engineers (Working)	Number	7	Input field
59	HE	Clerks/Accountants (Sanctioned)	Number	2	Input field
60	HF	Clerks/Accountants (Working)	Number	2	Input field
61	HG	Labourers/Cleaners (Sanctioned)	Number	0	Input field
62	HH	Labourers/Cleaners (Working)	Number	320	Input field
63	HI	Total (Sanctioned)	Number	12	HA+HC+HE+HG
64	HJ	Total (Working)	Number	330	HB+HD+HF+HH

**Septage Management**

65	HL	Does the ULB practice septage management	Yes/No	YES	Input field
66	HM	Septage sucking machines available within ULB	Number	13	Input field
67	HN	Private Septage machines licenced by ULB	Number	26	Input field

**Connection Costs for Sewerage Connections**

68	HO	Residential - General	Rs.	2000	Input field
69	HP	Residential - Urban Poor	Rs.	1250	Input field
70	HQ	Institutional	Rs.	0	Input field
71	HR	Commercial	Rs.	4000	Input field
72	HS	Industrial	Rs.	0	Input field

**Sewerage Tariff Structure - Flat Rate Tariff**

73	HT	Residential - General	Rs./Month	0	Input field
74	HU	Residential - Urban Poor	Rs./Month	0	Input field
75	HV	Institutional	Rs./Month	0	Input field
76	HW	Commercial	Rs./Month	0	Input field
77	HX	Industrial	Rs./Month	0	Input field

**Sewerage Tariff Structure - Volumetric Tariff**

78	HY	Residential - General	Rs./KL	0	Input field
79	HZ	Residential - Urban Poor	Rs./KL	0	Input field
80	IA	Institutional	Rs./KL	0	Input field
81	IB	Commercial	Rs./KL	0	Input field
82	IC	Industrial	Rs./KL	0	Input field

**Storm Water Drainage Data**

<b>I COVERAGE OF STORM WATER DRAINAGE NETWORK</b>					
83	ID	Total Length of Road Network	%	78.25	IE*100/ID
84	IE	Total Length of Pucca covered drains	Kilometers	2547	Input field
			Kilometers	1993	Input field

**II INCIDENCE OF WATER LOGGING/FLOODING**

85	IF	Number of Flood Prone Points in the city	Number	7	Input field
86	IG	Average Frequency of Flooding	Number	2	Input field

**SEWERAGE SERVICE INDICATOR VALUES**

S.No.	Indicator	Unit	Value	Reliability
1	Coverage of Toilets	%	100.0	
2	Coverage of wastewater network services	%	75.9	
3	Collection efficiency of wastewater networks	%	96.2	
4	Adequacy of wastewater treatment capacity	%	115.9	
5	Extent of reuse and recycling of treated wastewater	%	1.2	
6	Quality of wastewater treatment	%	87.4	
7	Efficiency in redressal of customer complaints	%	99.2	
8	Extent of cost recovery in wastewater management	%	85.5	
9	Efficiency in collection of sewerage charges	%	69.9	

**STORM WATER DRAINAGE SERVICE INDICATOR VALUES**

S.No.	Indicator	Unit	Value	Reliability
1	Coverage of Storm Water Drainage Network	%	78	
2	Incidence of water logging/flooding	Number	14	

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## Service Level Benchmarking - Solid Waste Management for 2019

166 Ghaziabad				
No	Code	Input Nomenclature	Value	Logic/Remark
	I	HOUSEHOLD LEVEL COVERAGE OF SOLID WASTE MANAGEMENT SERVICES		65*17 input fields
		Door to Door Collection - Number of HUs and establishments covered by Door to Door Collection	94.01	KE*100/(XE+XT)
1	KA	Number of Households covered by Door to Door Collection	Number	335804
2	KB	Number of Hotels and Restaurants covered by Door to Door Collection	Number	584
3	KC	Number of Commercial Establishments (institutions, offices) covered by Door to Door Collection	Number	380
4	KD	Number of any other establishments (incl. markets) covered by Door to Door Collection	Number	98
5	KE	Total Number of Households and Establishments covered by Door to Door Collection	Number	336866
	II	EFFICIENCY OF COLLECTION OF MUNICIPAL SOLID WASTE		99.10
		Waste Generation		IF(KO=0,(LO*100/KL),(KO*100/KL))
6	KF	Waste Generated by Households	MT/month	24300
7	KG	Waste Generated by Street Sweeping	MT/month	1900
8	KH	Waste Generated by Hotels and Restaurants	MT/month	1050
9	KI	Waste Generated by Markets (Vegetable Markets, Mandis etc)	MT/month	3550
10	KJ	Waste Generated by Commercial Establishments (eg. Institutions, etc)	MT/month	550
11	KK	Waste Generated by other sources (eg. debris, horticulture waste etc)	MT/month	150
12	KL	Total Waste Generated	MT/month	31500
		Waste Collection and Transportation - Details of waste received at Processing/ Disposal Facilities		
13	KM	Quantity of waste received at processing and recycling facilities	MT/month	0
14	KN	Quantity of waste received at disposal sites	MT/month	31218
15	KO	Total waste received at processing/disposal facility and recycled	MT/month	31218
		Waste Collection and Transportation - Details of waste transported to Processing/ Disposal Facilities		
16	KP	Number of lorries/trucks used for transportation of waste (RC)	Number	19
17	KQ	Capacity of each lorry/truck	Metric Tons (MT)	4
18	KR	Total number of trips made by each lorries/trucks each day to the disposal site	Trips per day	3
19	KS	Total quantity of waste collected by mini lorries/trucks	MT/month	6840
20	KT	Number of dumper placers used for transportation of waste (Hiva)	Number	20
21	KU	Capacity of each dumper placer	Metric Tons (MT)	3
22	KV	Total number of trips made by each dumper placers each day to the disposal site	Trips per day	3
23	KW	Total quantity of waste collected by dumper placers	MT/month	5400
24	KX	Number of mini lorries used for transportation of waste (DP)	Number	12
25	KY	Capacity of each mini lorry	Metric Tons (MT)	0.8
26	KZ	Total number of trips made by each mini lorries each day to the disposal site	Trips per day	3
27	LA	Total quantity of waste collected by mini lorries	MT/month	864
28	LB	Number of tractor trailers used for transportation of waste	Number	27
29	LC	Capacity of each tractor trailer	Metric Tons (MT)	0.3
30	LD	Total number of trips made by each tractor trailer each day to the disposal site	Trips per day	3
31	LE	Total quantity of waste collected by tractor trailer	MT/month	729
32	LF	Number of upper trucks used for transportation of waste	Number	56
33	LG	Capacity of each tipper trucks	Metric Tons (MT)	2
34	LH	Total number of trips made by each tipper trucks each day to the disposal site	Trips per day	5
35	LI	Total quantity of waste collected by tipper trucks	MT/month	16800
36	LJ	Number of 3 wheeler auto tippers used for transportation of waste	Number	65
37	LK	Capacity of each 3 wheeler auto tipper	Metric Tons (MT)	0.1
38	LM	Total number of trips made by each 3 wheeler auto tippers each day to the disposal site	Trips per day	3
39	LN	Total quantity of waste collected by 3 wheeler auto tippers	MT/month	585
40	LO	Total quantity of waste collected and transported to disposal site	MT/month	31218
	III	EXTENT OF SEGREGATION OF MUNICIPAL SOLID WASTE		47.14
		Segregation of Waste		((LP+LQ)/IF(MH=0,LO,MH))*100
41	LP	Quantity of waste arriving at Processing/ Disposal facility in segregated manner	MT/month	1400
42	LQ	Quantity of waste taken away by recyclers from intermediate points	MT/month	0
	IV	EXTENT OF MUNICIPAL SOLID WASTE RECOVERED		3.22
		Quantity of Waste Processing		(MF)/IF(KO=0,LO,KO))*100
43	LR	Installed Capacity of Composting Plant	MT/month	900
44	LS	Waste Quantity Input at the Composting Plant	MT/month	900
45	LT	Installed Capacity of Vermi-composting Plant	MT/month	24
46	LU	Waste Quantity Input at the Vermi-composting Plant	MT/month	24
47	LV	Installed Capacity of Refuse Derived Fuel	MT/month	0
48	LW	Waste Quantity Input at the Refuse Derived Fuel	MT/month	0
49	LX	Installed Capacity of Bio Methanation/ Waste-to-Energy Plants	MT/month	0
50	LY	Waste Quantity Input at Bio methanation/ Waste-to-Energy plants	MT/month	0
51	LZ	Installed Capacity of any other processing facilities	MT/month	80
52	MA	Waste Quantity Input at other processing facilities	MT/month	80
53	MB	Total Installed Capacity of Processing facilities	MT/month	1004
54	MC	Total Waste Quantity Input at all types of processing facilities	MT/month	1004
55	MD	Quantity of waste rejected by processing facilities at intake point	MT/month	0
56	ME	Quantity of post-processing rejects sent to dumpsite/ landfills	MT/month	0
57	MF	Total Waste Processed in the ULB	MT/month	1004
	V	EXTENT OF SCIENTIFIC DISPOSAL OF MUNICIPAL SOLID WASTE		90.57
		Quantity of Waste Disposal		(MG*100)/(MG+MH)
58	MG	Quantity of waste disposed in compliant landfill sites	MT/month	28530

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VI	Quantity of waste disposed in open dump sites	MT/month	2970	Input field
<b>VI EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS</b>				
<i>Customer Service</i>				
			99.90	(MI*100/M)
60	MI	Complaints received during the year		
61	MJ	Complaints resolved within 24 hours during the year	Number 7920	Input field
			7912	Input field
<b>VII EXTENT OF COST RECOVERY IN SWM SERVICES</b>				
<i>Financial Information - Operational Expenditure on SWM during previous year</i>				
62	MR	Regular Staff & Administration		0.16 (NA*100/MR)
63	MI	Outsourced/Contracted Staff Costs	Rs. In Lakhs 454.59	Input field
64	MM	Electricity Charges/Fuel Costs	Rs. In Lakhs 2793.62	Input field
65	MN	Chemical Costs	Rs. In Lakhs 2750.93	Input field
66	MO	Repair/Maintenance Costs	Rs. In Lakhs 88.07	Input field
67	MP	Contracted Services Cost	Rs. In Lakhs 444.32	Input field
68	MQ	Other Costs (Specify)	Rs. In Lakhs 1683.48	Input field
69	MR	Total Operational Expenses	Rs. In Lakhs 0	Input field
			12755.31	MR=MI+MM+MN+MO+MP+MQ
<i>Financial Information - Operational Revenues from SWM during previous year</i>				
70	M5	Arrears at the end of previous year		
71	MT	Tax / Cess - Solid Waste only	Rs. In Lakhs 0	Input field
72	MU	User Charges	Rs. In Lakhs 0	Input field
73	MV	Fixed Charges based on Property Tax/State Taxes/Cess/Surcharges	Rs. In Lakhs 19.3	Input field
74	MW	Sale of Recyclables	Rs. In Lakhs 0	Input field
75	MX	Sale from processing - compost/energy	Rs. In Lakhs 0	Input field
76	MY	Rentals	Rs. In Lakhs 0	Input field
77	MZ	Others (Specify)	Rs. In Lakhs 0	Input field
78	NA	Total Revenue Demand Raised for the previous year	Rs. In Lakhs 0	Input field
			19.3	MT+MU+MV+MW+MX+MY+MZ
<b>VIII EFFICIENCY IN COLLECTION OF SWM CHARGES</b>				
<i>Financial Information - Operational Revenues from SWM during previous year</i>				
79	NA	Total Revenue Demand Raised for the previous year		(NC*100/NA)
80	NB	Collection against arrears	Rs. In Lakhs 19.3	NA
81	NC	Collection against Current Demand	Rs. In Lakhs 0	Input field
			0	Input field
<i>Additional Information (Optional)</i>				
<i>Staff Information</i>				
82	ND	Senior Management-Health Officer (Sanctioned)	Number 1	Input field
83	NE	Senior Management-Health Officer (Working)	Number 0	Input field
84	NF	Sanitary Inspector (Sanctioned)	Number 6	Input field
85	NG	Sanitary Inspector (Working)	Number 6	Input field
86	NH	Sanitary Supervisor (Sanctioned)	Number 28	Input field
87	NI	Sanitary Supervisor (Working)	Number 17	Input field
88	NJ	Mistress Safai Karam chahi (Sanctioned)	Number 1319	Input field
89	NK	Mistress Safai Karam chahi (Working)	Number 1090	Input field
90	NL	Cleaners/Drivers (Sanctioned)	Number 12	Input field
91	NM	Cleaners/Drivers (Working)	Number 348	Input field
92	NN	Labourers (Sanctioned)	Number 0	Input field
93	NO	Labourers (Working)	Number 0	Input field
94	NP	Others Specify	Number 0	Input field
95	NQ	Total (Sanctioned)	Number 1384	ND+NE+NF+NG+NH+NI+NJ
96	NR	Total (Working)	Number 1461	NI+NI+NI+NI+NI+NI+NI+NI+NI+NI
97	NS	Are daily records of waste received at compliant landfill maintained (MSW 2000)	Yes/No	Yes
98	NT	Is weighbridge available at landfill site?	Yes/No	Yes
99	NU	Are daily records of waste received at open dumpsites maintained?	Yes/No	Yes
100	NV	Is weighbridge available at dumpsite?	Yes/No	Yes
<b>SOLID WASTE MANAGEMENT INDICATORS</b>				
<i>Indicators</i>				
1		Household level coverage of solid waste management services	%	94.0
2		Efficiency of collection of municipal solid waste	%	99.1
3		Extent of segregation of municipal solid waste	%	47.1
4		Extent of municipal solid waste recovered	%	3.2
5		Extent of scientific disposal of municipal solid waste	%	90.6
6		Extent of cost recovery in solid waste management services	%	0.2
7		Efficiency in collection of solid waste management charges	%	0.0
8		Efficiency in redressal of customer complaints	%	99.9

*[Signature]*  
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