

PMC for 400 MLD SWRO Desalination Plant at Perur, Chennai

Consortium Partners

SMEC International Pty. Ltd. (ACN-065440619/FCRN-F01483)

NJS Engineers India Pvt Ltd, India (CIN - U74210PN2007PTC129798)

Tata Consulting Engineers Limited, India (CIN- U74210MH1999PLC123010)

SMEC (India) Pvt. Ltd. (CIN: U93000DL1997PTC088574)



Ref: SSNT PMC 400 MLD / CMWSSB / 5061185/289

Date: 23rd February 2021

To,
The Superintending Engineer (Desalination)
Chennai Metropolitan Water Supply and Sewerage Board,
Urban Administrative Building, 2nd Floor,
No.75, Santhome High Road,
Raja Annamalaipuram,
Chennai 600 028
Tamil Nadu, India



Sub: JICA Assisted "Project for Construction of 400 MLD Capacity Seawater Reverse Osmosis Desalination Plant at Perur"
Submission of Demand Estimation for Chennai City Core Area – Reg.

Ref 1. Your Letter no. CMWSSB/SE(Desal)/400 MLD Plant / PMC/2020, dated 13.01.2020
2. Our Contract Agreement with CMWSSB, dated 09.01.2020

Dear Sir,

This is reference to the above subject, we are in the process of finalization of ward wise demand for water network model (Zone 10 & 13 on priority) corresponding to the each WDS zone. During the demand allocation, it is observed that there are discrepancies in the WDS wise demand details calculated based on the ward wise census data received from CMWSSB and demands considered in the JICA report. The details have been enclosed for your kind reference.

Even on scrutiny, it is observed that no ward wise population projections (with decadal growth densities considered) and demand details are available in either JICA or Master plan report, to cross verify. As these details are very crucial for design of the distribution network and additional storage facilities required for corresponding WDS, we request you to arrange a meeting to sort out these aspects and finalizing the ward wise demands for the hydraulic analysis and calculation of additional storage facilities and pumping required in each WDZ..

This is for your kind information and needful action.

Thanking you assuring our services at all times.

Yours truly,

For **Consortium of SMEC International Pty Ltd-TCE Ltd.-NJS Engineers India Pvt. Ltd.-SMEC (India) Pvt. Ltd.**


S.Srinivasarao
Project Coordinator



Encl: As Above

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CHENNAI CORE CITY POPULATION AND DEMAND PROJECTION DETAILS- WDS WISE (CMWSSB DATA Vs JICA REPORT)															
		Ward wise Population in Thousands - CMWSSB				WDS wise Cum. Pop (Thousands)- CMWSSB		Calculated Demand- CMWSSB Data		JICA Report Demand		Demand Difference		% of demand difference	
Ward No	Revised Water distrubution Zone as per JICA	Pop year 2011	Pop year 2015	Pop Year 2035	Pop Year 2050	Cumulative Population-WDS wise for year 2035	Cumulative Population-WDS wise for year 2050	Calculated Demand for year 2035 (MLD)	Calculated Demand for year 2050(MLD)	JICA Report Demand - for year 2035 (MLD)	JICA Report Demand - for year 2050(MLD)	Difference in year 2035 wrt JICA report	Difference in year 2050 wrt to JICA report	% of difference Year 2035	% of difference Year 2025
61	WDS-1	37.99	38.44	41.50	43.69	915.33	972.49	161.24	170.78	208.50	220.10	-47.26	-49.32	-22.67%	-22.41%
69		47.06	48.28	53.93	58.07										
71		35.19	35.34	36.16	36.81										
73		31.74	31.88	32.62	33.20										
76		43.12	43.56	46.45	48.53										
77		45.73	45.93	47.00	47.83										
78		35.00	35.32	37.41	38.92										
74		38.51	39.50	44.12	47.51										
75		35.77	36.41	39.87	42.39										
94		40.82	41.88	46.78	50.37										
95		76.90	78.78	87.65	94.11										
96		33.42	34.28	38.29	41.23										
97		49.73	51.02	56.98	61.37										
98		30.58	31.37	35.04	37.73										
99		36.07	36.90	40.88	43.74										
100		16.98	17.36	19.24	20.58										
101	35.64	36.46	40.39	43.22											
102	65.23	66.72	73.92	79.10											
103	39.88	40.79	45.19	48.36											
104	45.64	46.73	51.93	55.71											
42	WDS-2	18.40	18.83	20.87	22.44	409.41	431.93	72.17	75.93	58.20	61.30	13.97	14.63	24.00%	23.86%
43		42.52	43.09	46.05	48.21										
47		66.67	68.24	75.63	81.30										
48		36.56	37.42	41.47	44.58										
49		42.90	43.38	46.00	47.87										
50		54.18	54.79	58.10	60.46										
51		29.32	29.65	31.44	32.72										
52	28.55	28.87	30.61	31.86											
53	53.98	54.86	59.24	62.49											
54	WDS-3	48.56	48.90	50.73	52.08	279.70	289.95	49.37	51.08	55.70	57.60	-6.33	-6.52	-11.37%	-11.32%
55		53.50	54.10	57.36	59.70										
56		39.50	39.94	42.36	44.08										
57		43.56	43.92	45.89	47.33										
58		40.35	40.73	43.15	44.91										
60	37.50	37.93	40.21	41.85											
59	WDS-4	37.21	37.09	36.89	36.34	227.40	220.44	40.29	39.13	36.20	36.20	4.09	2.93	11.31%	8.10%
62		36.87	36.53	35.44	33.89										
63		35.48	35.15	34.10	32.61										
114		46.85	46.41	45.03	43.06										

CHENNAI CORE CITY POPULATION AND DEMAND PROJECTION DETAILS- WDS WISE (CMWSSB DATA Vs JICA REPORT)															
		Ward wise Population in Thousands - CMWSSB				WDS wise Cum. Pop (Thousands)- CMWSSB		Calculated Demand- CMWSSB Data		JICA Report Demand		Demand Difference		% of demand difference	
Ward No	Revised Water distrubution Zone as per JICA	Pop year 2011	Pop year 2015	Pop Year 2035	Pop Year 2050	Cumulative Population-WDS wise for year 2035	Cumulative Population-WDS wise for year 2050	Calculated Demand for year 2035 (MLD)	Calculated Demand for year 2050(MLD)	JICA Report Demand - for year 2035 (MLD)	JICA Report Demand - for year 2050(MLD)	Difference in year 2035 wrt JICA report	Difference in year 2050 wrt to JICA report	% of difference Year 2035	% of difference Year 2025
115		37.48	37.52	38.45	38.72										
116		39.00	38.63	37.49	35.84										
128	WDS-5	60.86	61.96	67.56	71.63	462.23	495.81	81.36	86.96	68.70	73.60	12.66	13.36	18.43%	18.16%
131		86.79	88.66	98.22	105.24										
132		23.74	24.05	25.75	27.01										
137		56.89	58.00	63.71	67.90										
138		29.23	30.00	33.80	36.58										
139		49.42	50.71	57.14	61.84										
140		33.48	34.35	38.71	41.89										
142		66.91	68.65	77.35	83.72										
177	WDS-6	47.87	49.27	56.17	61.59	168.51	184.76	29.62	32.33	35.20	38.40	-5.58	-6.07	-15.85%	-15.80%
178		47.87	49.27	56.17	61.59										
179		47.87	49.27	56.17	61.59										
170	WDS-7	58.02	59.54	67.09	72.61	67.09	72.61	11.80	12.72	6.7	7.3	5.10	5.42	76.10%	74.26%
105	WDS-8	47.04	48.12	53.30	57.04	608.85	645.86	107.26	113.44	105.00	111.00	2.26	2.44	2.16%	2.20%
106		51.14	52.31	57.95	62.01										
107		37.12	37.74	41.21	43.71										
108		58.54	59.88	66.34	70.99										
109		48.14	49.24	54.56	58.38										
112		46.05	46.76	50.52	53.28										
127		31.86	32.58	36.10	38.63										
129		61.52	62.63	68.27	72.38										
130		44.83	45.41	48.63	51.01										
133		49.47	50.11	53.66	56.29										
134	40.33	40.85	43.74	45.89											
135	WDS-9	31.87	32.28	34.57	36.26	283.37	305.16	49.86	53.50	37.40	40.10	12.46	13.40	33.32%	33.41%
64		55.24	56.67	63.29	68.16										
66		51.53	52.86	59.04	63.58										
68		46.25	47.45	52.99	57.07										
65		55.24	56.67	63.29	68.16										
67	WDS-10	39.06	40.07	44.75	48.20	475.33	493.11	83.91	86.88	72.50	75.30	11.41	11.58	15.74%	15.37%
34		38.38	39.28	43.54	46.80										
35		60.68	62.11	68.83	73.99										
36		62.37	63.08	66.48	69.11										
37		63.92	64.62	68.07	70.72										
44		49.56	49.78	50.93	51.84										
45		52.26	52.49	53.71	54.67										
46		32.27	32.41	33.16	33.75										
70		36.68	36.84	37.70	38.37										
72	51.48	51.71	52.91	53.85											

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38	WDS-11	53.00	54.24	60.12	64.62	197.02	211.79	34.68	37.15	37.60	40.30	-2.92	-3.15	-7.76%	-7.83%
39		57.31	58.66	65.01	69.89										
40		29.99	30.70	34.02	36.57										
41		33.39	34.17	37.87	40.71										
171	WDS-12	34.29	35.18	39.64	42.90	114.81	124.26	20.19	21.77	20.10	21.90	0.09	-0.13	0.46%	-0.59%
172		65.02	66.72	75.17	81.36										
122	WDS-13	36.01	36.48	39.06	40.98	76.26	81.76	13.43	14.35	21.30	23.10	-7.87	-8.75	-36.96%	-37.90%
173		31.70	32.63	37.20	40.78										
119	WDS-14	37.29	36.94	35.84	34.27	332.16	348.04	58.56	61.21	43.80	45.50	14.76	15.71	33.71%	34.54%
120		42.35	41.96	40.71	38.92										
121		35.36	35.04	33.99	32.50										
123		48.98	50.20	56.37	61.16										
124		49.17	50.61	57.70	63.26										
125		42.05	43.27	49.33	54.09										
126		49.62	51.07	58.22	63.83										
110	WDS-15	34.64	35.18	38.32	40.58	135.22	142.55	23.83	25.06	32.80	34.50	-8.97	-9.44	-27.34%	-27.37%
111		32.41	32.80	35.41	37.28										
113		21.76	22.03	23.68	24.88										
118		34.61	35.03	37.81	39.81										
117	WDS-16	54.67	55.37	59.38	62.33	130.75	138.05	23.04	24.26	33.20	33.70	-10.16	-9.44	-30.59%	-28.00%
136		30.02	30.41	32.56	34.16										
141		34.32	35.06	38.80	41.55										
175	WDS-12A	44.18	45.47	51.84	56.83	222.70	244.18	39.15	42.57	26.80	29.30	12.35	13.27	46.07%	45.30%
176		42.96	44.21	50.40	55.26										
180		26.93	27.71	31.59	34.64										
181		37.87	38.98	44.44	48.72										
182		37.87	38.98	44.44	48.72										
174	WDS-6A	27.30	28.01	31.56	34.16	31.56	34.16	5.55	5.98	5.6	6	-0.05	-0.02	-0.88%	-0.26%
	Total	4646.73	4727.71	5137.70	5436.90	5137.70	5436.90	905.32	955.10	905.30	955.20				