

**CWSS TO 1766 RURAL HABITATIONS IN VIRALIMALAI(PART), ANNAVASAL (PART), PONNAMARVATHI, THIRUMAYAM, ARIMALAM, KUNNANDARKOIL (PART) PUDUKKOTTAI (PART) UNIONS OF PUDUKKOTTAI DISTRICT, AND 125 HABITATIONS IN S. PUDUR& SAKOTTAI UNIONS OF SIVAGANGAI DISTRICT**

Administrative Sanction accorded vide **G.O.(Ms)No. 2/MA &WS (WS4) Department/Dated 10.01.2013**

Technical Sanction accorded vide **CE / TNJ / No: 50/2012 -13, Dated 28.01.2013**

**SALIENT DETAILS**

**I. Population**

Sl. No.	Name of Union	No.of habs.	Population		
			Present 2012	Intermediate (2027)	Ultimate (2042)
1	Viralimalai	504	122101	134311	146517
2	Annavasal	395	120038	132079	144015
3	Ponnamaravathi	297	98357	108219	118015
4	Thirumayam	274	72475	79757	86937
5	Arimalam	198	70283	77316	84335
6	Pudukkottai	50	12122	13336	14546
7	Kunnandar Kovil	48	13270	14605	15920
8	125 Habitations in S. Pudur and Sakottai union of Sivagangai District	125	45702	50279	54840
	<b>Total</b>	<b>1891</b>	<b>554348</b>	<b>609902</b>	<b>665125</b>

**2. Per capita supply : 30 LPCD/20 LPCD**

**3. Sustainability available : 10 LCPD/20 LCPD**

**4. Requirement of water (For 23 hours pumping)**

Sl. No.	Name of Union	No. of habitations	Requirement in litres including 10 % losses		Rate of pumping for 23 hours in LPM	
			Intermediate (2027)	Ultimate (2042)	Intermediate (2027)	Ultimate (2042)
1	Viralimalai	504	4432989	4835061	3221	3487

2	Annavasal	395	4358607	4752495	3162	3441
3	Ponnamaravathi	297	3571227	3894495	2585	2829
4	Thirumayam	274	2631981	2868921	1916	2074
5	Arimalam	198	1700952	1855370	1244	1341
6	Pudukkottai	50	440088	480018	321	352
7	Kunnandar Koil	48	481965	525360	352	378
8	125 Habitations in S.Pudur union and Sakottai of Sivagangai district	125	1659207	1809720	1198	1300
	Total in litres	1891	19277016	21021440	13999	15202
	Total in MLD		19.28MLD	21.02MLD		
	Industrial Demand @ 10 %		1.93MLD	2.10MLD	1399	1522
	GRAND TOTAL		21.21MLD	23.12MLD	15398	16724

5. Hours of Pumping

Head works and Booster sumps : 23 Hours  
Booster sumps at Mathur, Kanapur and Kailasapuram : 20 Hours  
Group sumps : 12 Hours

6. Rate of discharge for 23 hours of pumping

Intermediate : 15398 LPM  
Ultimate : 16724 LPM

7. Head works

: 1 No. of collector well  
6.00 m inner dia and  
16.50 m depth

**Salient details for collector well**

1. Average bed level of river		+ 74.000 m
2. Maximum flood level		+ 78.000 m
3. Lowest summer water level		+ 72.000 m
4. Bottom of well curb		+ 57.500 m
5. Top of well curb		+ 60.500 m
6. Foot valve level		+ 61.000 m
7. Invert level of radial arms	Bottom Row	+ 61.500 m
	Top row	+ 62.800 m
8. Floor level of pump house		+ 80.400 m

9	Roof level of pump house	+	85.400 m
10	Scour depth level	+	66.28 m
11	Inner dia of collector well		6.00 m
12	Inner dia of pump house		8.50 m
13	No.of radial arms	-	8 direction x 2 Rows = 16 Nos.
14	Total length of radial arms 16 X 44 m	=	704 m

8. **Pump house** : size 8.50 m inner dia

9. **Pumping main**

9.1 **PUMPING MAIN I –**

**HEAD WORKS AT THIRUPARAITHURAI TO INTERMEDIATE BOOSTER AT MADAYANIPATTI.**

711 x 6.3 mm MS pipe	-	34800 m
600mm DI K 7 PIPE	-	7785 m
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<b>Total</b>	-	<b>42585 m</b>
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9.2 **PUMPING MAIN II –**

**FROM MADAYANIPATTI BOOSTER SUMP TO EDAYAPATTY BOOSTER SUMP**

600mm DI K 7 Pipe	-	4690 m
400mm DI K 7 Pipe	-	10825 m
350 mm DI K7 Pipe	-	5750 m
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<b>Total</b>		<b>21265 m</b>
		-----

9.3 **PUMPING MAIN III – FROM EDAYAPATTY BOOSTER SUMP TO PULAVANARKUDI BOOSTER SUMP**

350 MM DI K7 Pipe	-	14175 m
300 mm DI K7 Pipe	-	7740 m
200 mm PVC 4 KSC Pipe	-	3935 m
		-----
<b>Total</b>		<b>25850 m</b>
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#### 9.4 PUMPING MAIN IV

##### FROM PULAVANARKUDI BOOSTER SUMP TO THIRUKALAMBUR TERMINAL GROUP SUMP

200 mm OD PVC 6 KSC pipe	-	1020 m
200 mm OD PVC 4 KSC pipe	-	8455 m
160 mm OD PVC 4 KSC pipe	-	4115m
140 mm OD PVC 4 KSC pipe	-	1060 m
110 mm OD PVC 4 KSC pipe	-	410 m
90 mm OD PVC 4 KSC pipe	-	3250 m
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<b>Total</b>	<b>-</b>	<b>18310 m</b>
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#### 9.5 PUMPING MAIN V --

##### FROM RAPOOSAL BOOSTER SUMP TO ARASAMALAI BOOSTER SUMP

500 mm DI K7 pipe	-	9205 m
450 mm DI K7 pipe	-	7095 m
400 mm DI k7 pipe	-	7670 m
140 mm OD PVC 6 KSC pipe	-	2120 m
140 mm OD PVC 4 KSC pipe	-	4110 m
110 mm OD PVC 4 KSC pipe	-	20 m
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<b>Total</b>		<b>30220 m</b>
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#### 9.6 PUMPING MAIN VI --

##### FROM ARASAMALAI BOOSTER SUMP TO P. USILAMPATTI TERMINAL GROUP SUMP

140 mm OD PVC 10 KSC pipe	-	2390 m
140 mm OD PVC 6 KSC pipe	-	3300 m
110 mm OD PVC 6 KSC pipe	-	2250 m
110 mm OD PVC 4 KSC pipe	-	3570 m
90 mm OD PVC 4 KSC pipe	-	3470 m
63 mm OD PVC 4 KSC pipe	-	535 m
50 mm OD PVC 6 KSC pipe	-	300m
		-----
<b>Total</b>		<b>15815 m</b>
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**9.7 PUMPING MAIN VII –  
FROM MADAYANIPATTI BOOSTER SUMP TO ACHANAICKANPATTY  
BOOSTER SUMP**

200 mm OD PVC 6 KSC pipe	-	4460 m
160 mm OD PVC 6 KSC pipe	-	3045 m
160 mm OD PVC 4 KSC pipe	-	605 m
140 mm OD PVC OD 4 KSC pipe	-	2570 m
		-----
<b>Total</b>	<b>-</b>	<b>10680 m</b>
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**9.8 PUMPING MAIN VIII – FROM ACHANAICKANPATTY BOOSTER SUMP TO  
THALINJI GROUP SUMP**

160 mm OD PVC 10 KSC pipe	-	450 m
160 mm OD PVC 6 KSC pipe	-	3390 m
140 mm OD PVC 6 KSC pipe	-	3295 m
140 mm OD PVC 4 KSC pipe	-	2300 m
110 mm OD PVC 4 KSC pipe	-	1100 m
75 mm OD PVC 4 KSC pipe	-	3820 m
50 mm OD PVC 6 KSC pipe	-	740 m
		-----
<b>Total</b>	<b>-</b>	<b>15095 m</b>
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**9.9 GRAVITY MAIN**

**FROM VIRACHALAI TAPPING SUMP TO KANAPUR BOOSTER SUMP**

300 mm DI K7 Pipe	-	5580 m
250 mm DI K7 Pipe	-	3845 m
200 mm OD PVC 6KSC pipe	-	11575 m
		-----
<b>Total</b>	<b>-</b>	<b>21000 m</b>
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**9.10 PUMPING MAIN IX –**

**FROM KANAPUR BOOSTER SUMP TO KALANIVASAL NORTH GROUP SUMP**

200 mm OD PVC 4 KSC pipe	-	5200 m
140 mm OD PVC 4 KSC pipe	-	4155 m
110 mm OD PVC 4 KSC pipe	-	2500 m
75 mm OD PVC 4 KSC pipe	-	2450 m
50 mm OD PVC 6 KSC pipe	-	1290 m
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<b>Total</b>	<b>-</b>	<b>15595 m</b>
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### 9.11 PUMPING MAIN X –

#### FROM KALASAPURAM BOOSTER SUMP TO PAMPARAMPATTI GROUP SUMP

140 mm OD PVC 4 KSC pipe	-	1740 m
110 mm OD PVC 4 KSC pipe	-	3610 m
75 mm OD PVC 4 KSC pipe	-	5310 m
63 mm OD PVC 4 KSC pipe	-	5765 m
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<b>Total</b>	<b>-</b>	<b>16425 m</b>
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### 9.12 Feeder mains to Booster Sumps/Tapping Sumps/Group sumps

Pipes of various sizes from 50 mm to 200 mm PVC

150 mm to 500 mm DI K7 pipes to a length of 559.83 Km

### 9.13 Feeder main to service reservoirs from group sumps

Pipes of various sizes from 50 mm to 140 mm PVC 1668 Km

## 10 PUMP SETS

SI.No.	Description	Type	Nos.	LPM	Head in M	Stand by
<b>10.1</b>	<b>Pumping main I</b>					
	From Head works to Booster sump at Madayanipatti	Turbine	2	7699	76	50 %
<b>10.2</b>	<b>Pumping main II</b>					
	From Madayanipatti Booster sump to Edayapatty Booster sump	Turbine	2	5918	74	50 %
<b>10.3</b>	<b>Pumping main III</b>					
	From Edayapatti Booster sump to Pulavanarkudi Booster sump	HSC Centrifugal	1	3712	64	100 %
<b>10.4</b>	<b>Pumping Main IV</b>					
	From Pulavanarkudi Booster sump to Thirukalambur Terminal sump	Open well submersible	1	880	37	100 %

Sl.No.	Description	Type	Nos.	LPM	Head in M	Stand by
<b>10.5</b>	<b>Pumping Main V</b>					
	Rapoosal Booster sump to Arasamalai Booster sump	Turbine	1	60369	51	100 %
<b>10.6</b>	<b>Pumping Main VI</b>					
	Arasamalai Booster sump to P.Usilampatti terminal group sump	Open well submersible	1	279	44	100 %
<b>10.7</b>	<b>Pumping Main VII</b>					
	Madayanipatti booster sump to Achanaikanpatti booster sump	Open well submersible	1	705	59	100 %
<b>10.8</b>	<b>Pumping Main VIII</b>					
	Achanaickenpatti Booster sump to Thalingi group sump	Open well submersible	1	446	54	100 %
<b>10.9</b>	<b>Pumping Main IX</b>					
	Kanapur booster sump to Kalanivasal North group sump(20 Hours)	Open well submersible	1	672	31	100 %
<b>10.10</b>	<b>Pumping Main XI</b>					
	Kailasapuram booster sump to Pamparampatti group sump(20 Hours)	Open well submersible	1	257	32	100 %

### 11 Booster sumps and Group sumps

Sl.No.	Description	Nos.
1.	Booster/Tapping sumps	24
2.	Panchayat group sumps	233
<b>Total</b>		<b>257</b>

### 12 Service Reservoirs

Sl.No.	Name of Union	Service reservoirs			
		Existing	Proposed	Capacity	No.
<b>Pudukkottai District</b>					
1	Viralimalai	398	33	10000	33
2	Annvasal	315	7	10000	7
3	Ponnamaravathi	262	9	10000 30000	8 1
4	Thirumayam	237	14	10000 30000	13 1

Sl.No.	Name of Union	Service reservoirs			
		Existing	Proposed	Capacity	No.
5	Arimalam	190	11	10000 30000	10 1
6	Kunnandarkoil	39	4	10000	4
7	Pudukkottai	36	7	10000 30000	6 1
	Total	1477	85		85
<b>Sivagangai District</b>					
8	S.Pudur	112	13	10000	13
9	Sakkottai	1	0	10000	0
	<b>Total</b>	<b>1590</b>	<b>98</b>		<b>98</b>

### 13. Distribution system and Public fountain Proposed

Sl.No.	Name of Union	D system & EPL	PF in Nos.
1	Viralimalai	16.15 Km	58
2	Annavasal	5.65 Km	9
3	Ponnamaravathi	7.4 Km	20
4	Thirumayam	9.2 km	25
5	Arimalam	4.8 km	17
6	Kunnandarkoil	1.2 km	4
7	Pudukkottai	5.0 km	16
	Total	<b>49.40 Km</b>	<b>149</b>
8	S.Pudur	<b>13.00 Km</b>	<b>26</b>
9	Sakkottai	<b>0</b>	<b>0</b>
	Total	<b>62.40 Km</b>	<b>175</b>

14. Estimate Cost : Rs. 301.50 Crores
15. Annual maintenance cost : Rs. 10.86 Crores
16. Per capita cost : Rs. 5439/-
17. Cost per 1000 litres of water : Rs. 27.01