

TAMILNADU WATER SUPPLY AND DRAINAGE BOARD



CIRCLE : CUDDALORE – VILLUPURAM CIRCLE, CUDDALORE
DIVISION: URBAN DIVISION, VILLUPURAM

NAME OF WORK

Water Supply Improvement Scheme to
Villupuram Municipality in
Villupuram District

SANCTIONED DETAILS

➤ *Administrative Sanction*

TUFIDCO Chennai, dated 09-03-2007 for Rs. 9.55 Crores

➤ *Technical Sanction*

CE/NR/TWWD/CER NO.24/2006-07/ dated 20-03-2007
for Rs. 9.55 Crores

POPULATION & REQUIREMENT

Population

Present (2001)	:	95439
Base year (2006)	:	101000
Intermediate (2021)	:	117000
Ultimate (2036)	:	134000

Requirement (90 LPCD)

Present (2001)	:	8.89 MLD
Base year (2006)	:	9.39 MLD
Intermediate (2021)	:	10.83 MLD
Ultimate (2036)	:	12.36 MLD
Balance Requirement (2036):		7.17 MLD

EXISTING WATER SUPPLY DETAILS

Hours of pumping	:	20 Hours
Supply	:	5.19 MLD (54LPCD)
Water supply arrangements	:	

Head works at Ellischatram

Source	:	Pennaiyar River, down stream of Ellischatram Anaicut about 11kms from Villupuram Town.
Head works	:	1. Three Nos. of Manhole of 2.50 m depth with infiltration gallery connected with collection well cum pump house of 6.00m dia is constructed during 1970 in the Pennaiyar river basin. During summer the above source become dry.

EXISTING WATER SUPPLY DETAILS

Two numbers of infiltration well constructed during 2002 are connected with connecting man to the above collection well cum pump house is not in use during summer season.

Additional Sources :

Six numbers of shallow bore wells have been constructed to augment the present requirements. These bore wells has been connected by individual connecting main with common main to the existing collection well cum pump house. The bore well are yielding only in flood season and may silted by day to day pumping

EXISTING WATER SUPPLY DETAILS

Pump set: Two Numbers of 15 HP submersible pump sets in existing infiltration well not in use.

6 nos. of 7.5HP submersible pump sets in existing bore well & 50 HP turbine pump set duty – 5219 x 28m Ex. Collection well cum pump house.

Pumping main: 400 mm CI LA Class – 11.53km long from Ellichatram

EXISTING WATER SUPPLY DETAILS

Service Reservoir

Zone – I 9.0 Lakhs Litres Capacity – 1 No.
At travelers Bungalow campus

Zone – IV 6.8 Lakhs Litres Capacity – 1 No.
At south Railway colony

Distribution System

Distribution System	-	55km
House service connection	-	5590Nos.
Commercial connection	-	118 Nos.
Total	-	5708 Nos.

EXISTING WATER SUPPLY DETAILS

Head works at Pillur :

Dia of Bore well	:	2 Nos. of 200mm dia
Depth of bore well	:	123 m Each
Casing pipe materials	:	PVC
Reported yield	:	1000 LPM
Quality	:	Satisfactory
Pump set	:	15HP submersible pump set in the bore well.
Sump	:	50,000 litres capacity
Pump set	:	20 HP centrifugal pump set with duty of 914 LPM against 33m head at sump.
Pumping Main	:	200 mm AC Class – 15 for 6.21 km long.

PROPOSED WATER SUPPLY DETAILS

Headworks (Ellis Chatrum)

Source

200mm Bore well, 23m depth – 9 Nos (expected yield > 523 LPM each)
Total Expected yield > 4707 LPM against the Intermediate (2021) requirements of 4703 LPM

Pump sets in Bore wells

11 Nos. (9 + 2 Stand by) of 7.5 HP Submersible with a duty of 523 LPM X 31 m Head.

Connecting Mains

125mm x 2.75 mm CI D/F pipes – 1750 m (From the bore wells to collection well cum pump house)

PROPOSED WATER SUPPLY DETAILS

Pump room : 6m x 4m size -1 No.

Collection well cum pump house

Capacity	-	2.0 lakhs litres
Diameter	-	8.0 m
Storage depth	-	4.0m
Av. G.L.	-	58.570 m
M.W.L	-	59.570 m
F.V.L	-	55.570 m

Pump sets in Collection well Cum pump house

65 HP Turbine pump sets - 2 Nos. (1+1) with a duty of 4703 LPM X 38 m Head

PROPOSED WATER SUPPLY DETAILS

PUMPING AND BRANCH MAINS

1. Main :LS 0 – 10630m	-	10630m 350mm DI K7 pipes
LS 10630 – 12430 m	-	1800 m 300mm DI K 7 Pipes
LS 12430 – 14460 m	-	2030m 250 mm DI K 7 pipes
[To Narasingapuram 6.0 LL SR]		
2.Branch 1 to 4.0 LL SR near GH		
150mm DI K7 pipes	-	30m tapping @ LS 10630 m of Proposed pumping Main
3.Branch 2 to Kilperumpakkam 4.0 LL SR		
(Tapping @ LS 12050 m of proposed pumping main)		
LS 0 – 2930 m	-	2930m 250mm DI K7 pipes
LS 2930 – 3430 m	-	500m 150mm DI K7 pipes
4.Branch 3 to Kamarajar HSS 4.0 LL SR		
	-	250mm DI K7 pipes – 250 m tapping @ LS 13330 m

PROPOSED WATER SUPPLY DETAILS

ABSTRACT FOR DI K7 PIPES USED FOR PUMPING MAIN

1.	350mm DI K7 pipes	-	10630M
2.	300mm DI K7 pipes	-	1800M
3.	250mm DI K7 Pipes	-	5210M
4.	150 mm DI K7 pipes	-	530M
Total		-	18170M

PROPOSED WATER SUPPLY DETAILS

Service Reservoirs

Zone II	4.0 LL Capacity	-	1 No. @ Kamaraj HSS Campus
Zone III	4.0 LL Capacity	-	1 No. @ Municipal Site, Kilperumpakkam
Zone V	6.0 LL Capacity	-	1 No. @ Municipal site near School in Narasingapuram
Zone VI	4.0 LL Capacity	-	1 No. @ Municipal site Near GH.

PROPOSED WATER SUPPLY DETAILS

Distribution Mains

i)	300mm AC Cl. 15 Pipes	-	895 m
ii)	250mm AC Cl. 15 pipes	-	1758 m
iii)	200mm AC Cl. 15 pipes	-	2529 m
iv)	150mm AC Cl. 15 pipes	-	3335 m
v)	140mm PVC 4Ksc Pipes	-	440 m
vi)	110mm PVC 4Ksc pipes	-	7246 m
vii)	90 mm PVC 4 Ksc pipes	-	7494 m
TOTAL		-	23689 m

FUNDING DETAILS

Per Capita Cost (Base year 2006) : Rs. 816.00

Cost Per 1000 Litres

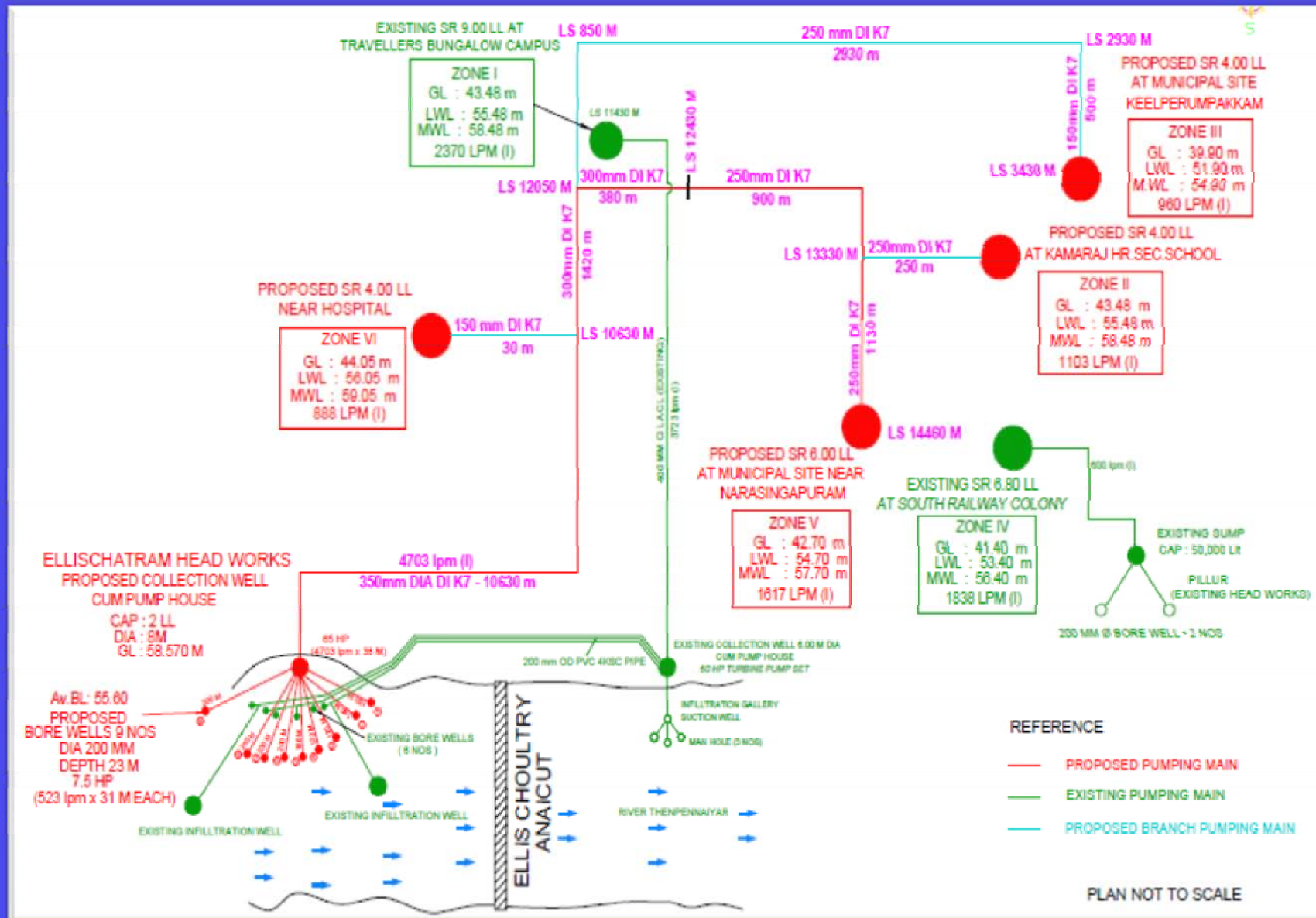
Intermediate : Rs.6.15

Ultimate : Rs.4.84

Finance:

GOI Grant	-	Rs. 601.65 Lakhs
Loan	-	Rs. 257.85 Lakhs
Local body contribution	-	Rs. 95.50 Lakhs

FLOW DIAGRAM



VILLUPURAM W.S.I.S

2.00.LL. SUMP CUM PUMP HOUSE - SUBMERSIBLE P'SET PANEL BOARD-9-NOS



VILLUPURAM W.S.I.S
HEAD WORKS BOREWELL - 9 NOS



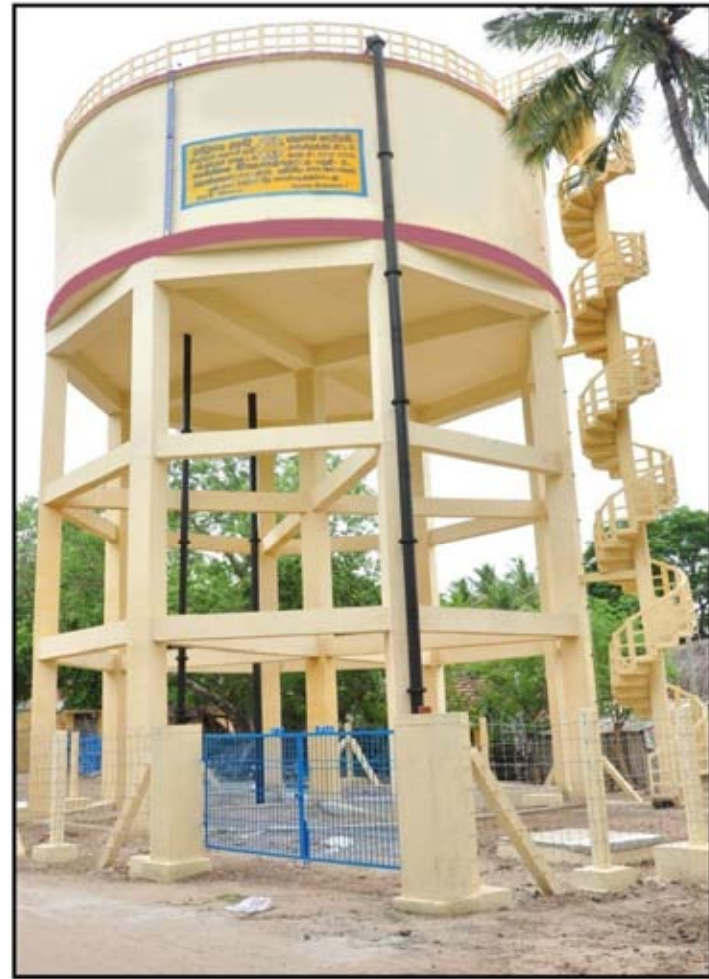
VILLUPURAM W.S.I.S

4.00.L.L O.H.T - NEAR G.H.



VILLUPURAM W.S.I.S

4.00.L.L O.H.T - KEELPERUMPAKKAM



VILLUPURAM W.S.I.S

4.00.L.L O.H.T - KAMARAJAR SCHOOL



VILLUPURAM W.S.I.S

6.00.L.L O.H.T - NARASINGAPURAM



THANK YOU

