



GOVERNMENT OF TAMILNADU

WATER RESOURCES DEPARTMENT

MADURAI REGION, MADURAI

VAIPPAR BASIN CIRCLE, VIRUDHUNAGAR

UPPER VAIPPAR BASIN DIVISION, RAJAPALAYAM

IAMWARM PROJECT

ARJUNANADHI SUB BASIN DETAILED PROJECT REPORT

**NAME OF PACKAGE: REHABILITATION OF LEFTOUT WORKS IN TN
IAM WARM PROJECT IN ARJUNANADHI SUB
BASIN OF VIRDHUNAGAR DISTRICT**

ESTIMATE AMOUNT: Rs. 60.56 Lakhs

**REPORT ACCOMPANY THE ESTIMATE FOR THE WORK “
ADDITIONAL PROPOSAL (LEFT OUT COMPONENTS) NON SYSTEM
TANKS COVERED IN PACKAGE No. 03 AND 04 UNDER
ARJUNANADHI SUB BASIN IN SRIVILLIPUTHUR TALUKS OF
VIRUDHUNAGAR DISTRICT.”**

ESTIMATE Rs.60.56 Lakhs.

GENERAL

Arjunanadhi sub basin is located on the North side of Gundar basin which is formed from the surplus courses of Watrap Big tank which gets supply from the Pilavakkal Periyar and Kovilar reservoir and finally Arjunanadhi joins Vaippar river near Nenmeni village of Sattur Taluk, below the Nenmeni Anicut. Arjunanadhi Sub Basin area is 1096 Sq Km including a hilly area of 195 Sqkm. The taluks covered in this sub basin are Srivilliputhur, Sivakasi, Sattur, Virudhunagar of Virudhunagar district and Peraiyur of Madurai district. The tanks and supply channels under the Arjunanadhi sub basin has been proposed for rehabilitation under IAMWARM Project in Phase I. This sub basin consists of 66 tanks and 118.43km supply channels.

The Government has accorded the administrative sanction for Rs.399.26 Crores Vide in G,O.No. 43/Public works (WRO) Department dated: 26.02.07 for implementing IAMWARM Project in 9 sub basins under Phase I. The Arjunanadhi sub basin is one among the above 9 sub basins for which an amount of 45.43 crores has been provided for rehabilitation works comprising forur packages. Accordingly the following works were carried out in this sub basin.

REHABILITATION TAKEN UP UNDER PHASE I AND COMPLETED:

In the original proposals rehabilitation to infrastructures in Arjunanadhi sub basin have been taken up vide Phase I. Out of the 78 tanks and 155.38km supply channels rehabilitation works were carried out in 77 tanks and 155.38km length supply channels.1 tank does not require any improvement, since they were improved through other schemes. The following infrastructures have been contemplated in the Phase I works.

- **Raising and strengthening the tank bund by using Machineries for 139.15Km in 77 tanks out of 78 tanks.**
- **Desilting the supply channels by earthwork excavation using Machineries for 155.38Km supply channels in the sub basin.**
- **Reconstruction of 21 Nos. of dilapidated weirs and 48 Nos. weirs repair works in the sub basin.**
- **Reconstruction of 70 Nos. of Collapsed Sluices and 95 Nos. repair works to sluices in the sub basin.**
- **Retaining walls and Model Section in selective area of the tanks**
- **Providing S.G. Shutter / Plug arrangements to Sluices, Head sluices, Scour vents etc.,**
- **Fixing Boundary Stones in the tank bund and water spread area**

LEFT OUT COMPONENTS:-

Out of the 78 tanks in the sub basin only 77 tanks have been rehabilitated. Still in these tanks certain components have been left out. But during the WRO officials visit in the sub basin need for rehabilitation of certain components in the infrastructures which have been left out was emphasized and WUA people also requested to carry out the left out components to make up the system in functional condition.

Hence this estimate is prepared to carry out the left out components by using the overall savings amount available and based on the agreed actions in the wrap up meeting chaired by the Finance secretary on 17.09.2012, which was communicated in the Engineer in Chief WRD Letter No. Tech cell / 57252/WB Mission/ 2009/Dated: 05.10.2012 and also the World Bank Implementation support mission draft aide memoir.

LEFT OUT COMPONENTS NOW PROPOSED TO BE TAKEN UP:

- **Raising and strengthening the tank bund for 2.04 Km in 1 tanks in which tank bund strengthening has not been taken up in the Phase I IAMWARM works.**
- **Reconstruction of 1 Nos. sluice in the above 1 tank where tank bund strengthening is proposed now.**
- **Providing S.G. Shutter arrangements to Sluices, Head sluices, Scour vents etc.,**
- **Repairs to Ilandaikulam Sirukulam tank weir.**

Providing additional downstreamside apron in Mathur anicut.

1.	01/IAMWARM/WRD/AJN/LE FT OUT/2012-13.	Rehabilitation and Modernisation of left out components in the Non System tanks under Arjunanadhi Sub Basin in Virudhunagar district.	60.56 Lakhs
Total			60.56 Lakhs

Executive Engineer, PWD/WRD
Upper Vaippar Basin Division
Rajapalayam

Superintending Engineer, PWD/WRD
Vaippar Basin Circle
Virudhunagar

Chief Engineer, PWD/WRD
Madurai Region, Madurai

ARJUNANADHI SUB BASIN

Sl. No	Originally Taken up in Phase I			Now Proposed	
	Package No	Administrative Sanction in Lakhs (AS)	Revised Administrative Sanction in Lakhs (RAS)	Package No	Amount in Lakhs
1	Package No-I	847.00	1061.00	Package No-I	---
2	Package No-II	1080.00	1306.97	Package No-II	---
3	Package No-III	547.00	664.41	Package No-III	21.65 Lakhs
4	Package No-IV	849.00	927.00	Package No-IV	38.91 Lakhs
5	Package No-V	Deferred due to misprocurement	---	Package No-V	---
	Total	3323.00	3959.38		60.56 Lakhs

ARJUNANADHI SUB BASIN

Sl. No	Description	Total Infrastructures in the sub basin in Nos	Already Taken up under phase I		Now Proposed in Left out Works	
			Repairs	Reconstruction	Repairs	Reconstruction
	I TANKS					
	Tank Bund	78	77(Standardization)		1	1 (Standardization)
	Sluices	170	95	70 Nos	5	1 No
	Weirs	113	48 Nos	21 Nos	44	4 Nos
	Supply Channel	155.38Km	155.38Km			
	Field Channel					
	II ANICUTS					
	Head Sluices					
	Repairs to Anicut	29	18	9	2	2 Nos
	Flood Banks					
	Supply Channel					
	Shutters					

1) No Sluices reconstruction is proposed in the tanks were already earth work bund strengthening in IAMWARM

2) For the last five years no tanks, anicuts have been rehabilitated under any scheme.

WRO Cost Table

Name of Work: Rehabilitation of Left out works in TN IAMWARM Project in Arjunanadhi Sub Basin of Virudhunagar District.

Estimate Amount: 60.56 Lakhs.

SL. No	Discription	Nos	Amount in Lakhs
i)	Tank bund Improvements	1 No	20.14
ii)	Reconstruction of Sluice	1 No	8.99
iii)	Repairs to weirs	4 Nos	17.77
iv)	Repairs to Anicut	2 Nos	12.02
	Total		58.92 Lakhs
v)	LS Provisions for Advertisement Charges, Documentation charges, Photographic charges, Name board charges, PS charges and contingencies charges at 2.50%		
			1.46
vi)	Labour welfare fund 0.30%		0.18
	Total		60.56 Lakhs

STATEMENT -1

**REHABILITATION OF LEFTOUT WORKS IN ARJUNA NADHI SUB BASIN
ABSTRACT SHOWING THE DETAILS OF REHABILITATION WORKS PROPOSED**

S.No.	Description	Tank Nos	Anicut	Supply Channel (Km)
1	Available Infrastructure in the Sub Basin	110Nos	29Nos	155.38 Km
2	<u>Rehabilitation works tankenup Under IAMWARM Project</u>	77Nos	27Nos	155.38Km
	a) Infrastructure in which all the components are good condition and does not require rehabilitation now.			
	b) Infrastructure takenup under IAMWARM but certain components not taken up then, but require rehabilitation now	2Nos	-	-
3	<u>Tanks not taken up for rehabilitation since 2005 under any other schemes</u>	-	-	-
	a) Infrastructure which all the components are in good condition and does not require rehabilitation now			
	b) Infrastructure in which certain components not taken up since 2005 but require rehabilitation now	1 No	2 Nos	-
4	Total No. of infrastructures requiring rehabilitation now	3 Nos	2 Nos	-

32 numbers of tanks under Package No.5 have been misprocured

1. Certified that the works are proposed in the selected IAMWARM sub basin area.
2. Certified that the Panchayat Union Tanks are not considered in this project
3. Certified that for item 2b the components of the infrastructure now proposed were not taken up under IAMWARM project.
4. For Item No.3 certified that the works are not executed under various schemes (viz NABARD, Part II Schemes etc.,) and IAMWARM since 2005.

Executive Engineer, PWD/WRO
Upper Vaippar Basin Division
Rajapalayam

Superintending Engineer, PWD/WRO
Vaippar Basin Circle
Virudhunagar

Chief Engineer, PWD/WRO
Madurai Region
Madurai

STATEMENT - II A
REHABILITATION OF LEFT OUT TANKS & INFRASTRUCTURE IN SUB BASIN OF IAM WARM PROJECT
REHABILITATION OF TANK WORKS

Name of subbasin :- Arjunanadhisubbasin Phase – I

Amount in Lakhs :- 32.75 Lakhs

S No.	Name of Tanks	Tank Bund Improvements		Repairs to sluices		Re construction of sluices		Repairs to weirs		Re construction of weirs		Shutter Renewal		Total
		Length	Amount	No	Amount	No	Amount	No	Amount	No	Amount	No	Amount	
1	Malli Big Tank	2040m	20.14	-	-	1	8.99	2	4.49	-	-	-	-	33.62
	Total	2040m	20.14	-	-	1	8.99	2	4.49	-	-	-	-	33.62

Executive Engineer, PWD/WRO
Upper Vaippar Basin Division
Rajapalayam

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Vaippar Basin Circle
Virudhunagar

Chief Engineer, PWD/WRO
Madurai Region
Madurai

STATEMENT II – B

REHABILITATION OF IRRIGATION CHANNELS

Name of subbasin :- Arjunanadhisubbasin Phase – I

Amount in Lakhs :- Nil

S.No	Name of Tanks	Desilting of Irrigation channels		Lining of Irrigation Channels		Measuring Device		Repairs to Drops siphon, cistern		Repairs to culvert aqueduct etc.		Shutter Renewal		Total
		Length	Amount	No	Amount	No	Amount	No	Amount	No	Amount	No	Amount	
						-NIL-								

Executive Engineer, PWD/WRO
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Virudhunagar

Chief Engineer, PWD/WRO
Madurai Region
Madurai

STATEMENT II-C
REHABILITATION OF ANICUTS AND SUPPLY CHANNEL

Name of Subbasin :- Arjunanadhi Subbasin
Phase.I

Amount in Lakhs:- Rs.53.40 Lakhs.

S.No	Name of the Anicut/ Supply Channel	Reconsbuction of Anicut		Repairs to Anicut		Repairs to Head Sluice		Shutter Renewal		Supply Channel		Total
		No	Amount	No	Amount	No	Amount	No	Amount	Length in Metre	Amount	
1	Vannankulam Anicut	-	-	-	-	-	-	2	1.35	-	-	1.35
2	Mathur Anicut	-	-	1	10.67	-	-	-	-	-	-	10.67
3	Ilanthai Kulam Sirukulam Tank	-	-	1	9.03	-	-	-	-	-	-	9.03
4	Valaikulam Tank	-	-	-	-	-	-	4	4.25	-	-	4.25
	Total	-	-	2	19.70	-	-	6	5.60	-	-	25.30

Executive Engineer, PWD/WRO	Superintending Engineer, PWD/WRO	Chief Engineer, PWD/WRO
Upper Vaippar Basin Division	Vaippar Basin Circle	Madurai Region
Rajapalayam	Virudhunagar	Madurai

WRO COST TABLE

Name Sub Basin : Ajunanadhi Sub Basin Backage - I

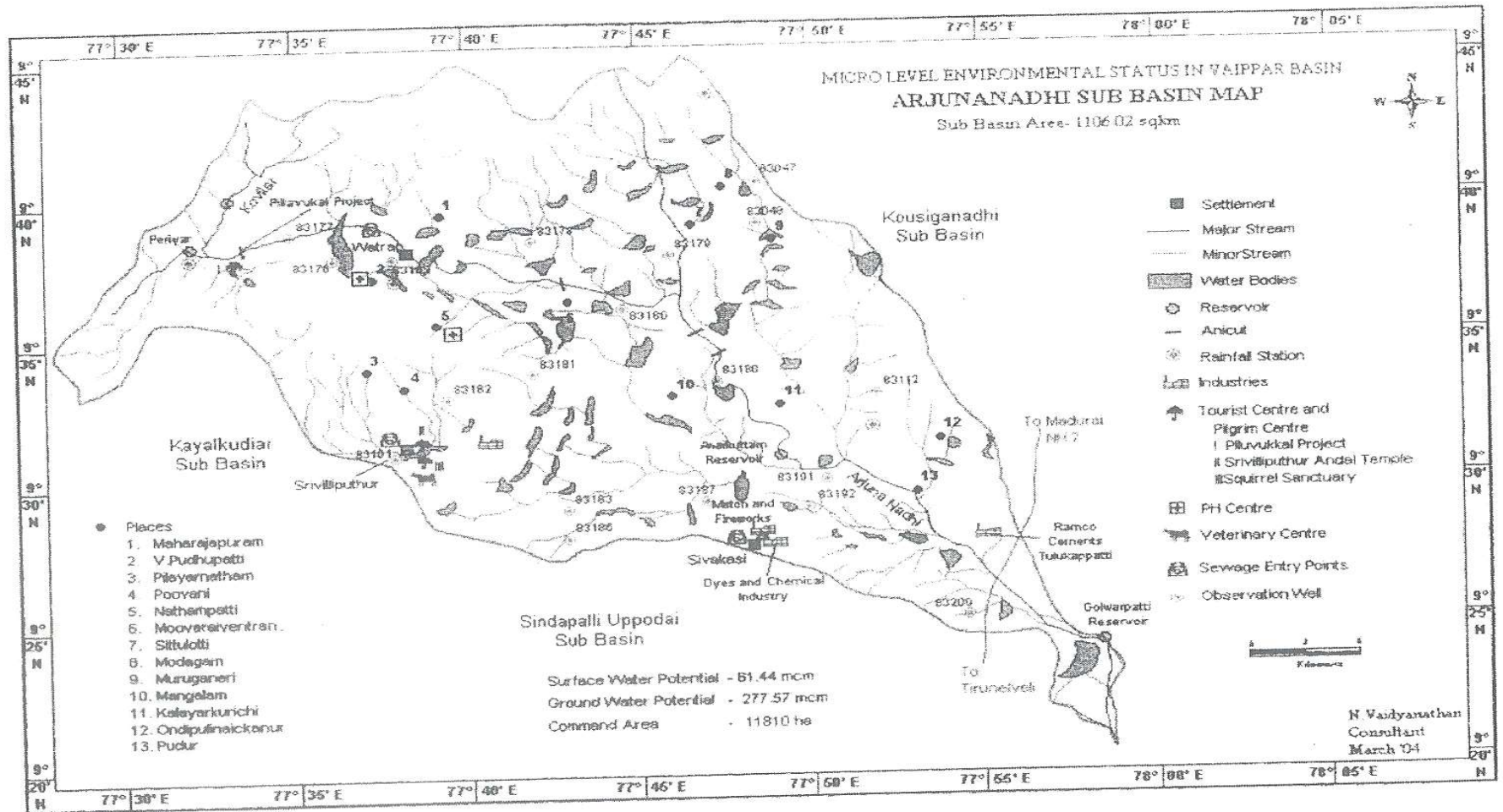
S. No	Description	Quantity	Amount in Lakhs	Remarks
1	Tank Component Improvements of Tank bund (a)Earth work for formation of bund	26000 m ³	20.14	
2	<u>Improvement of Sluice</u>			
	(a)Reconstruction of Sluice	1 No	8.99	
	(b) Repair to Sluice	—	—	
3	<u>Improvement of Weir</u>			
	(a)Reconstruction	-	-	
	(b)Repair	2 Nos	4.49	
	(c)Shutter Renewal	4 Nos	4.25	
4	Anicut			
	(a)Anicut Repairs	2 Nos	19.70	
	(b)Anicut Shutter Renewal	2 Nos	1.35	
	Total		58.92	
5	LS Provision for Advertisement Charges, Documentation charges, Photographic charges, Name board charges, PS Charges & contingencies charges @ 2.50%		1.46	
6	Labour welfare fund 0.30%		0.18	
	Total		60.56 Lakhs	

Executive Engineer, PWD/WRO
Upper Vaippar Basin Division
Rajapalayam

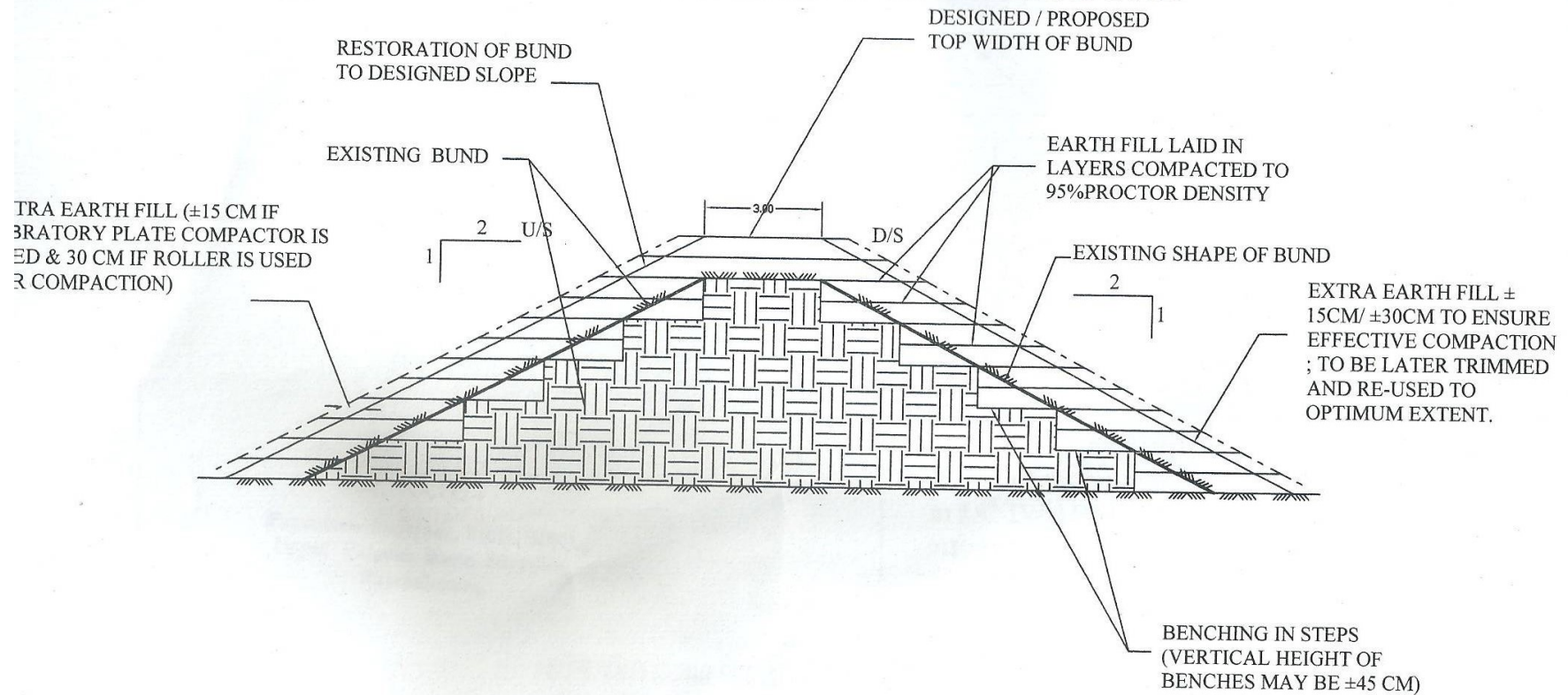
Superintending Engineer, PWD/WRO
Vaippar Basin Circle
Virudhunagar

Chief Engineer, PWD/WRO / Madurai Region
Madurai

ARJUNA NADHI SUB BASIN MAP



RAISING & STRENGTHENING OF TANK BUND

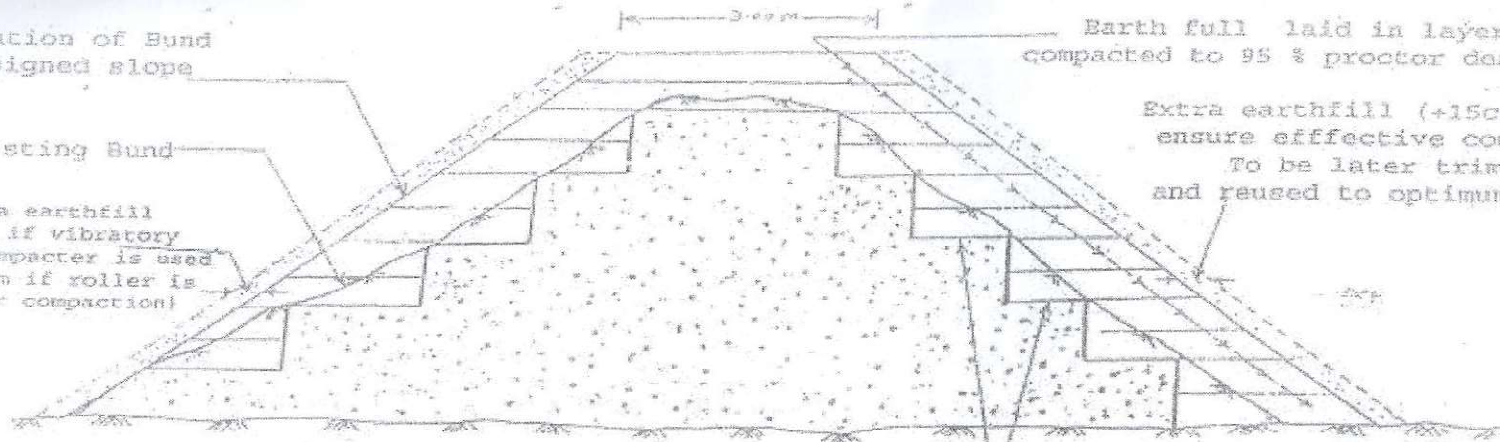


ALL DIMENSIONS ARE IN METER

Restoration of Bund
to designed slope

Existing Bund

Extra earthfill
(+15cm if vibratory
plate compactor is used
& +30 cm if roller is
used for compaction)



Earth fill laid in layers
compacted to 95 % proctor density

Extra earthfill (+15cm/+30cm) to
ensure effective compaction.
To be later trimmed
and reused to optimum extent.

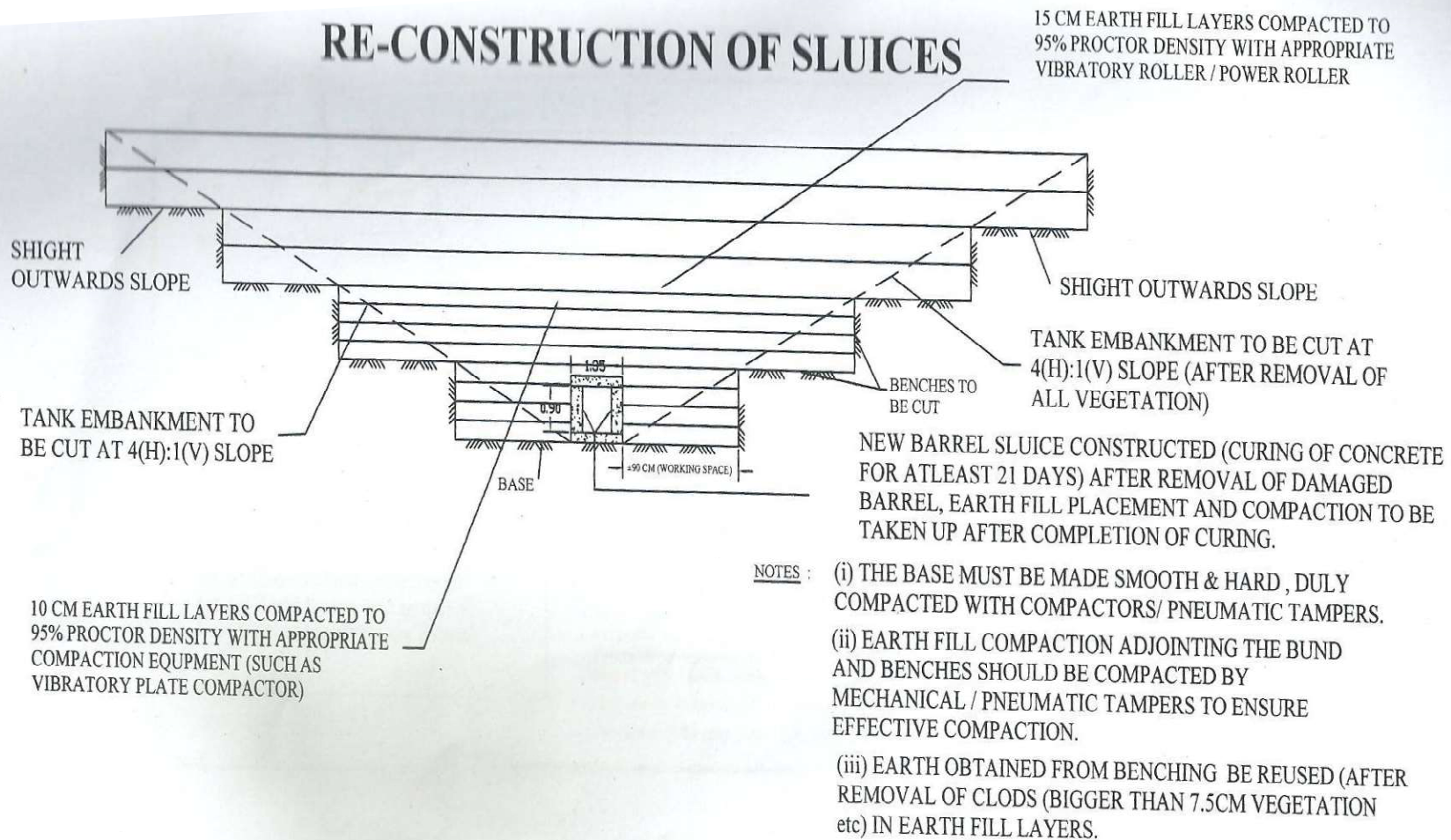
Benching in steps
(Vertical height of benches
may be +30cm/+45cm)

G. V. S.
21/12/2020
Executive Engineer, PWD, WRO.,
Upper Vaippar Basin Division,
Rajapalayam.

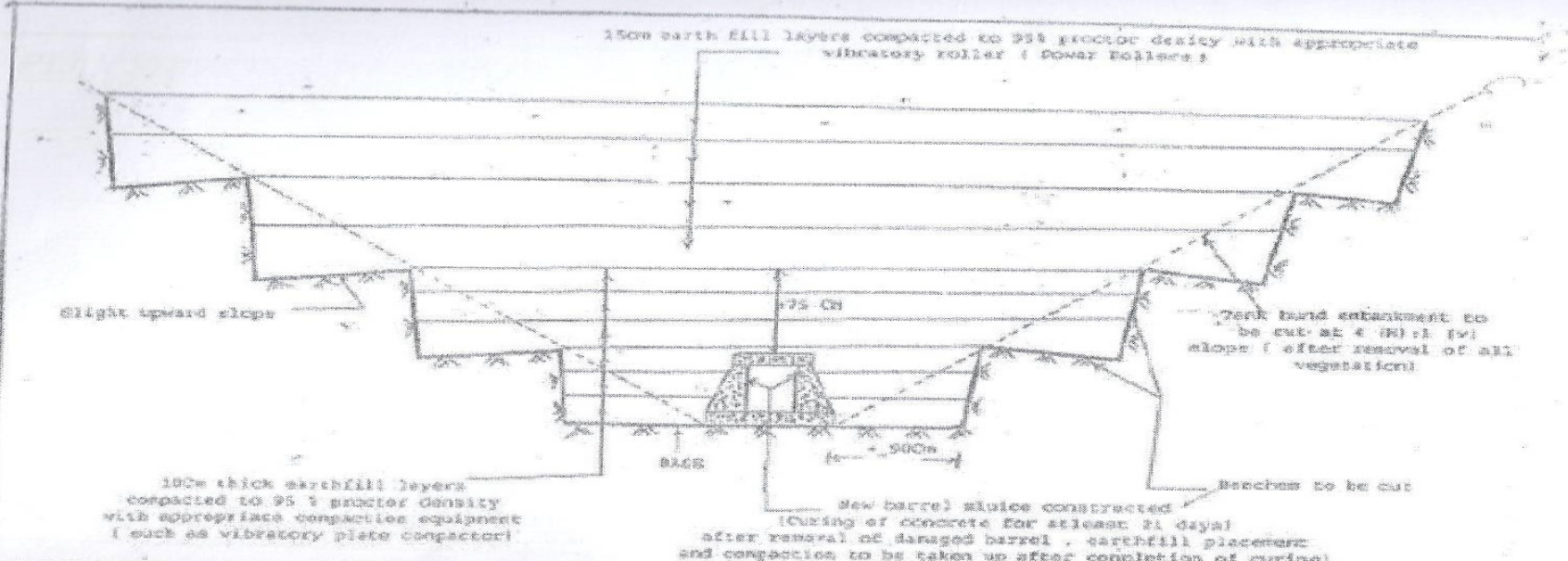
Rehabilitation of Left out Works
in IAMWARM Project in
Arjumanadhi Sub Basin,
Virudhunagar District

SUPERINTENDING ENGINEER P.W D
Water Resources Organisation
Vaippar Basin Circle
Virudhunagar-626001

RE-CONSTRUCTION OF SLUICES



ALL DIMENSIONS ARE IN METER



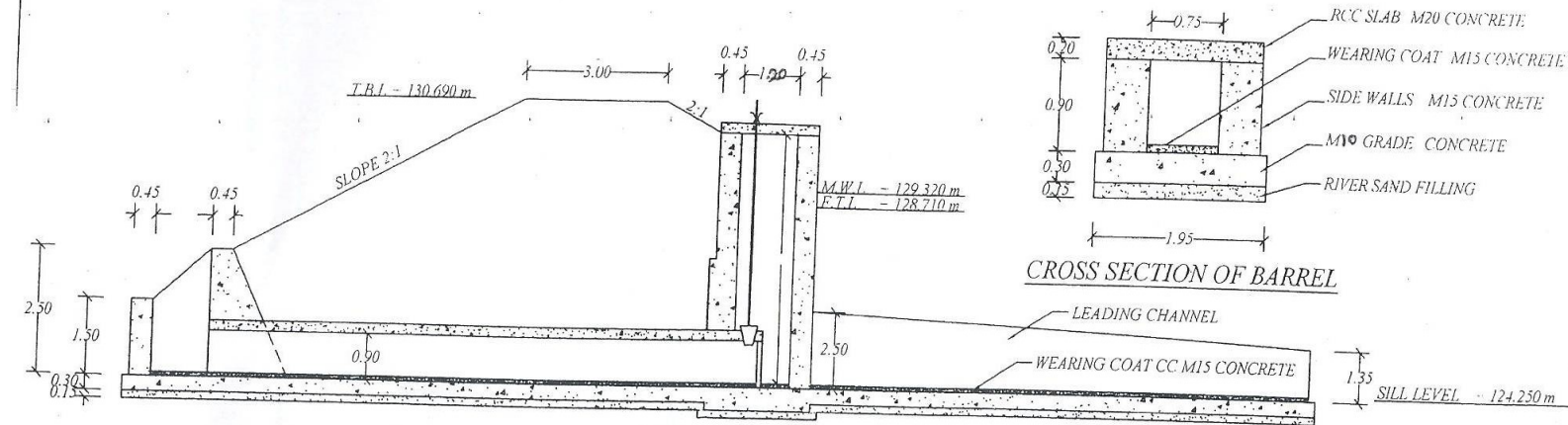
Rehabilitation of left out works in
IAMWARM Project in Arjunanadhi
Sub Basin of Virudhunagar District

- NOTES:-
- I) The Base must be made smooth & hard daily compacted with compactors / pneumatic tampers.
 - II) (a) & (b) compaction adjoining the barrel and benches should be compacted by mechanical / pneumatic tampers to ensure effective compaction.
 - III) Earth obtained from benching be reused (after removal of clods (bigger than 7.5 cm) , Vegetation etc) in earth fill layers.

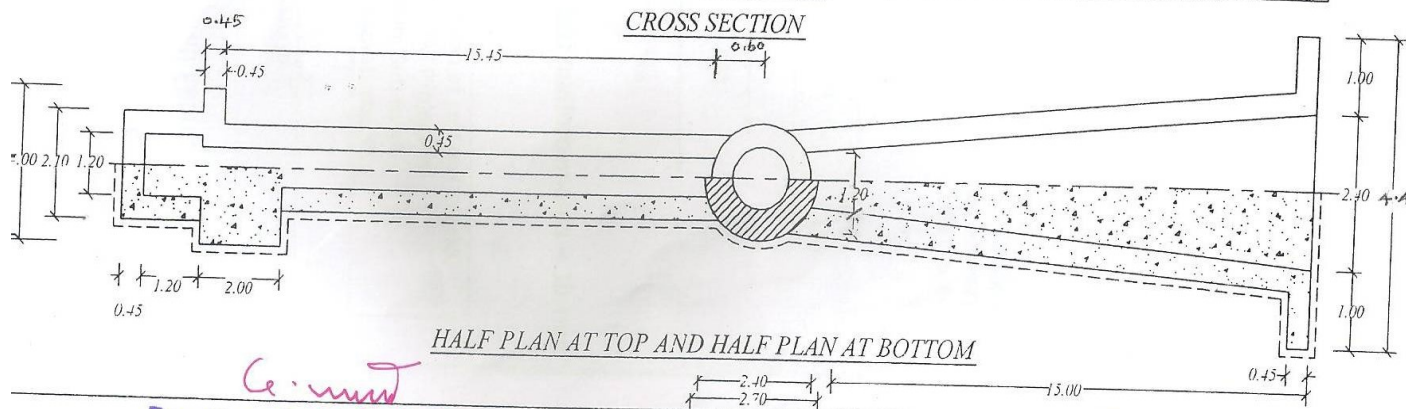
G. Sundar
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Rajapalayam.

SUPERINTENDING ENGINEER P.W.D
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PLAN SHOWING THE REPAIRS OF SLUICE OF MALLI TANK



CROSS SECTION OF BARREL



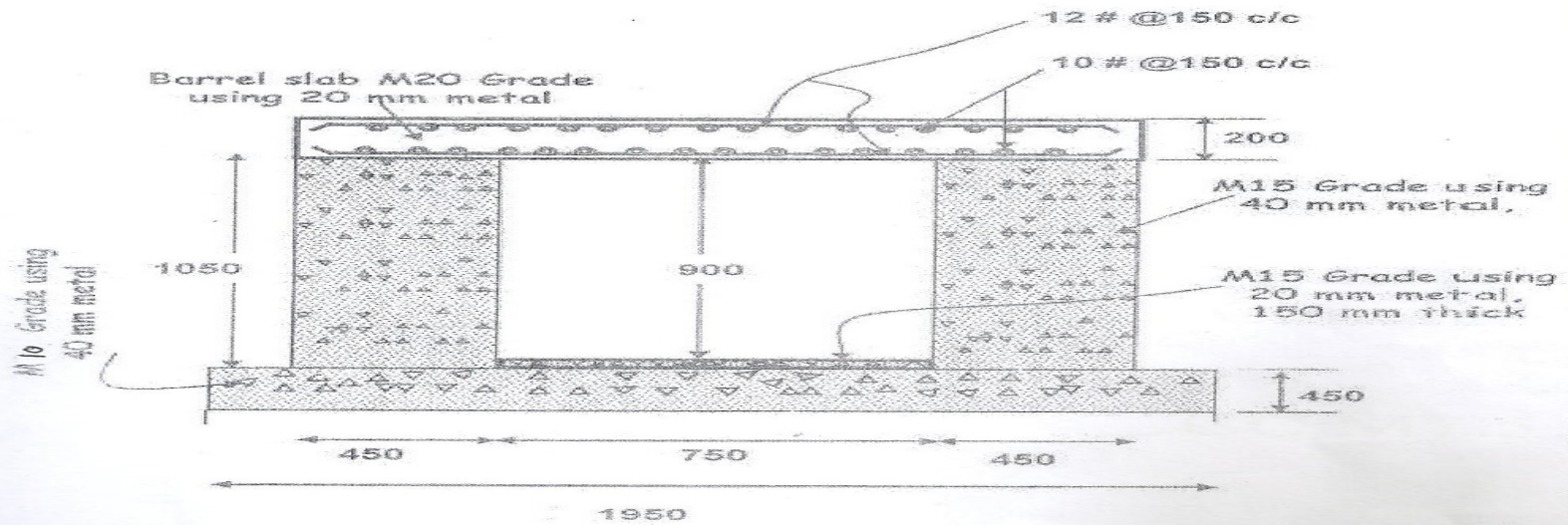
HALF PLAN AT TOP AND HALF PLAN AT BOTTOM

HYDRAULIC PARTICULARS	
LOCATION	: 1150 m
FTL	: 128.710 m
MWL	: 129.320 m
TBL	: 130.690 m
SILL LEVEL	: 124.250 m
VENT SIZE	: 0.15 m x 0.15 m
PLUG SIZE	: 0.15 m
NAME OF WORK :- REHABILITATION OF LEFT OUT WORKS IN INIAMWARM PROJECT IN ARJUNANADHI SUB BASIN OF VIRUDHU NAGAR DISTRICT	

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 Rajapalayam.

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 Water Resources Organisation
 Vaippar Basin Circle
 Virudhunagar-626001

TYPICAL CROSS SECTION OF SLUICE BARREL



Nominal cover to steel reinforcements = 30 mm

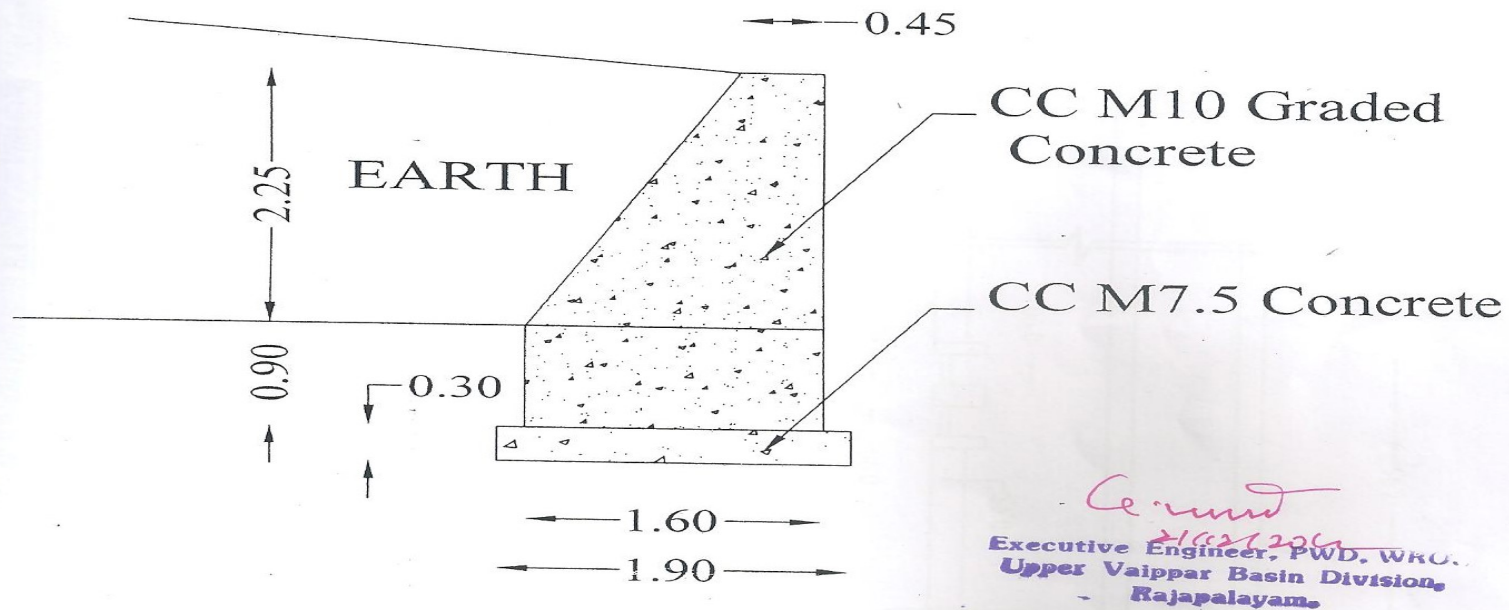
Rehabilitation of Left out Works
in IAMWARM Project in
Arjunanadhi Sub Basin
Virudhunagar District.

C. S. Srinivasan
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NAME OF WORK :- REHABILITATION OF LEFT OUT WORKS
IN TN IAMWARM PROJECT IN ARJUNANADHI SUB BASIN OF
VIRUDHUNAGAR DISTRICT

MALLI TANK
IMPROVEMENTS SLUICE



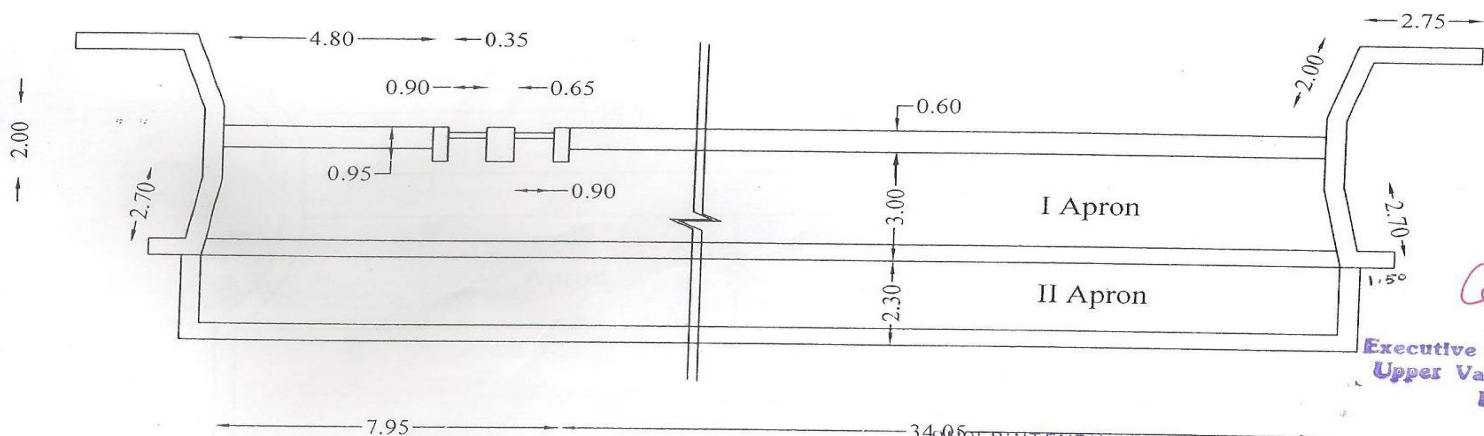
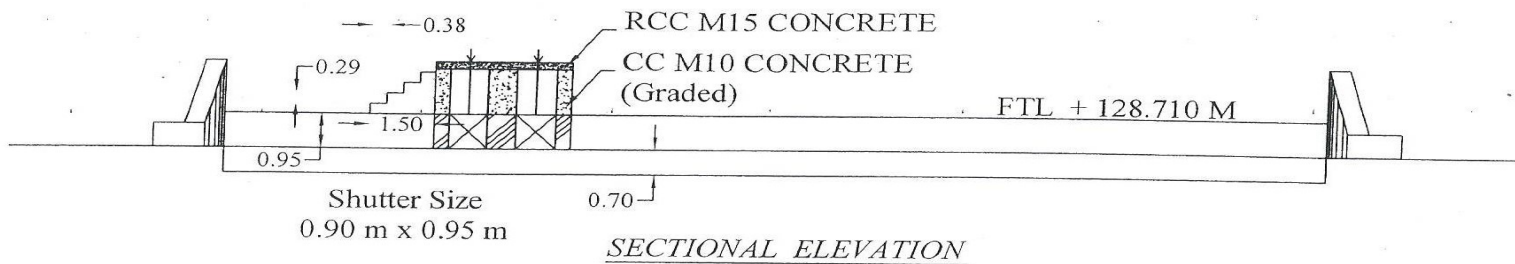
C. S. S.
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CROSS SECTION

SUPERINTENDING ENGINEER P.W.D
Water Resources Organisation
Vaippar Basin Circle
Virudhunagar-626001

NAME OF WORK :- REHABILITATION OF LEFT OUT WORKS IN TN IAMWARM PROJECT IN ARJUNANADHI SUB BASIN OF VIRUDHUNAGAR DISTRICT

MALLI TANK
IMPROVEMENTS TO LEFT FLANK WEIR

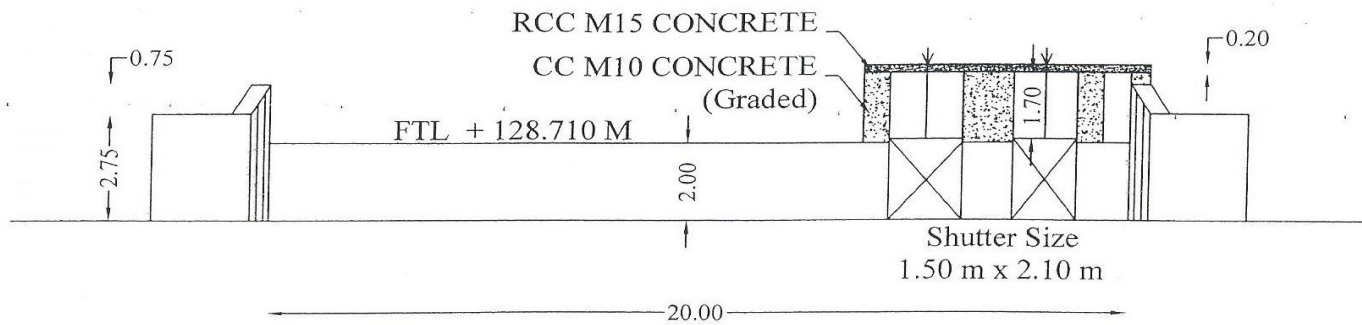


34.05
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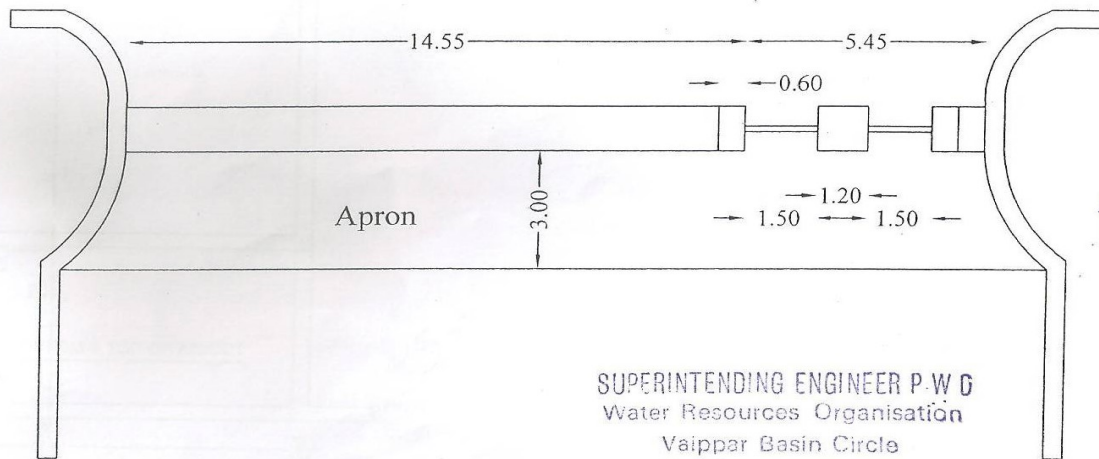
G. Srinivas
21/10/2016
Executive Engineer, P.W.D. WRO.,
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NAME OF WORK :- REHABILITATION OF LEFT OUT WORKS IN TN IAWARM PROJECT IN
ARJUNANADHI SUB BASIN OF VIRUDHUNAGAR DISTRICT

MALLI TANK
IMPROVEMENTS TO RIGHT FLANK WEIR



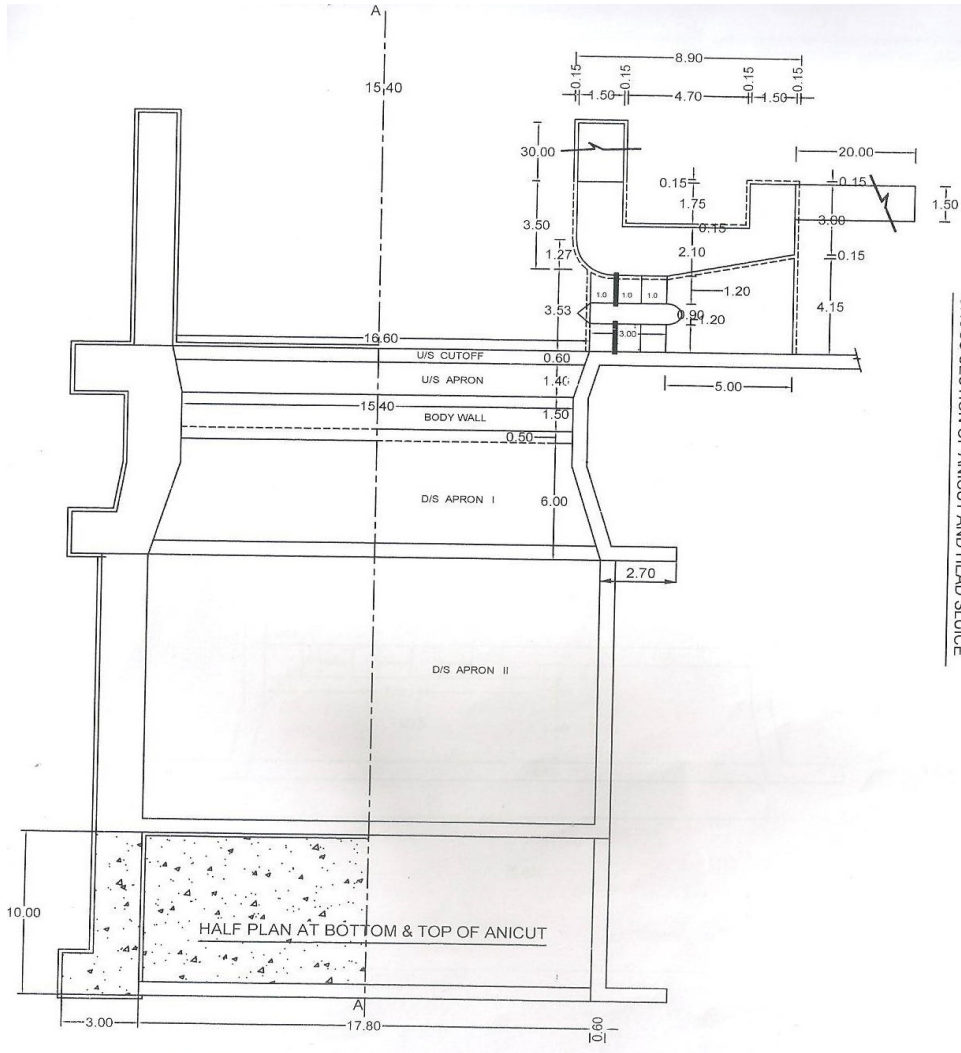
SECTIONAL ELEVATION



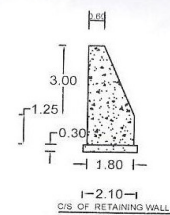
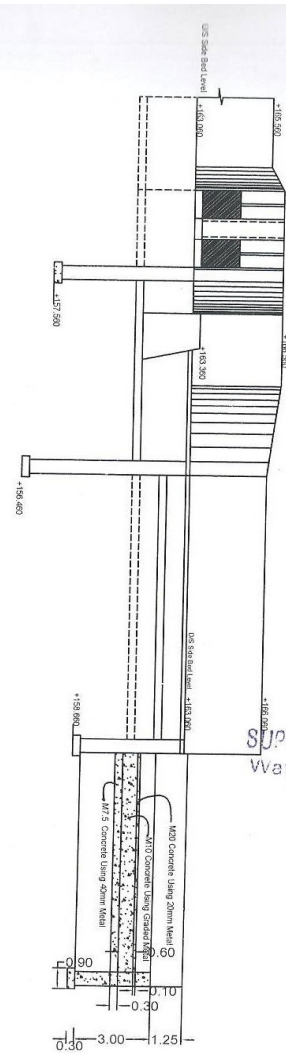
PLAN

SUPERINTENDING ENGINEER P.W.D
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G. Sundar
21/12/2024
Executive Engineer, P.W.D., W.R.O.,
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CROSS SECTION OF ANICUT AND HEAD SLUICE



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SUPERINTENDING ENGINEER P.W.D
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 Vaippar Basin Circle
 Virudhunagar-626004

Particulars :-	
Register Ayacut :-	254.0 acres
Discharge :-	780 cusecs
M.F.L. :-	+165.160
Crest Level :-	+163.360
No. of Head Sluice :-	1 No
Size of Vent :-	1.20 x 1.80M (2 Nos)
Discharge :-	78 Cusecs
Sill Level :-	+163.360
Name of Work :- Rehabilitation of Matur Anicut	
Scale 1cm : 1 m	

