

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	3076	Press
B.P. No.		Mis.
Dated	29-10-1954	

Not to be folded or roughly handled

Read the following papers :—

No. 618. Endorsement of the Chief Engineer for Irrigation, dated Ootacamund, 7th September 1874, No. 683.

From J. W. RUNDALL, Esq., District Engineer, Tinnevely, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Palamcottah, 26th June 1874, No. 52.

I HAVE to-day received G. O., No. 1,590, of the 15th instant, regarding the charge to be made to the Tuticorin Municipality for water from the Korumpullum tank.

2. I anticipate some difficulty in gauging with sufficient accuracy the volume of water delivered by the tank sluice, and therefore request your instructions. The sluice is of the ordinary type, fitted with a screw shutter, so that as long as there is a definite head against it the area opened can be accurately ascertained and the discharge calculated; a few carefully measured discharges of the channel, taken a short distance below the sluice, would check the co-efficient to be used for the sluice discharge.

3. At present as the Korumpullum tank cannot, till the revetment is finished, be filled up, it will very often happen that the sluice is discharging 9 inches to 1 foot of water, the shutter being lifted clear of the water. In this case the discharge of the sluice depends on the draft of channel, and, as the soil is particularly sandy, the channel section may be said to be constantly varying; a little silt or sand in the bed near the sluice would of course check the draught. It would be very difficult to keep the channel of a uniform section.

4. The measurement of the velocity through the sluice by a current meter would necessitate the employment of a trained man, and would involve expense. If practicable, the possibility of discussions with the Municipality regarding the volume supplied should be avoided; it was for this reason I proposed a daily charge instead of one for actual volume.

5. As you have determined that the charge shall be by volume, it would be a simpler matter to measure at Meylur, where the water is discharged over a sill into a cistern from which the conduit is led, or through a notch into a surplus channel.

6. With regard to making the channel water-tight, a masonry conduit from the Korumpullum tank to Meylur would cost not less than Rupees 30,000. Clay for puddling the channel would have to be brought an average distance of $3\frac{1}{2}$ miles, and owing to the probability of the channel not being constantly supplied, a puddle lining would crack and fail to answer its purpose.

7. The quantity of water lost in the sandy tract between the tank and the town is very considerable. I will have gaugings made to ascertain what this amounts to, and if this be once ascertained, it would, I think, be better to have the gaugings made at Meylur where the Municipal authorities themselves could check the heights over the sill from which our discharges would be calculated, and thus we might hope to avoid discussions about the quantity. The charge to the town might, as suggested by you in your Note on my letter printed with the Government Order be increased in proportion to the *proved* wastage.

8. I forward, for inspection, the plan of sluice in Korumpullum tank and of the reservoir and escape weir at Meylur, where, for the reasons above given, I would propose to register the delivery.

MEMORANDUM.

No. 483-B.

IN reply to the letter No. 52, of the 26th ultimo, from the District Engineer, Tinnevely, the undersigned has the honor to observe that as the water-supply of Tuticorin is to be charged for according to the quantity issued to the town-channel at the Korumpullum sluice, it is necessary that the primary measurements should there be taken, though there can be no objection to other measurements being taken at the Meylur reservoir. The District Engineer's proposal, that the primary measurements on which the charge is to be made should be taken at Meylur, and that the quantities should then be increased by the proved wastage, would in no way remove the possibility or probability of discussion.

2. It would appear that the sluice which is to supply the town-channel is capable of affording sufficiently accurate measurements, and that while the quantity carried by the channel will be affected by its condition, the measurements will in no way be vitiated thereby.

3. The sluice will admit of a double measurement :—

A.—1st.—When the orifice is submerged the discharge will be ascertainable from the difference of water level above and below, together with the area of vent open.

2nd.—When the water in the tank stands at less than 2 feet on the sill, the discharge will be ascertainable by the formula for submerged or drowned weir, the water levels above (at the still head) and below, together with the width of the vent which appears to be 2 feet, being the data required.

B.—The discharge, calculated as above, may both be checked by a separate calculation of the discharge over the drowned weir at the lower end of the sluice which has a much longer crest, and this latter may for greater accuracy be made of cast iron or wood brought to an edge. The upper water level would be that of the gauge above the orifice of the sluice which gives the head corresponding to the velocity of approach, and another water level below this lower weir would be required.

4. Without accurate measurements of discharge at Korumpullum the wastage cannot be proved, and with such the measurements at Meylur are chiefly of use to determine that difference which is the wastage.

5. It will be manifestly desirable to check calculations of discharge by gauging the velocity of the water in the upper part of the channel, and multiplying this by the cross section of the water-way.

6. With regard to the diminution of leakage or absorption in transit from Korumpullum to Meylur, is there not material in the Korumpullum tank which would render the channel fairly water-tight? A clay such as that required to prevent leakage with a considerable head of water is not needed; soil containing a moderate proportion of clay would make the channel sufficiently water-tight for all practical purposes, and a lining three inches thick would probably obviate four-fifths of the absorption.

6th July 1874.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 618A. From J. W. RUNDALL, Esq., District Engineer, Tinnevely, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Camp at Sattur, 24th August 1874, No. 84.

I HAVE the honor to forward, herewith, a statement showing the daily quantity of water delivered from the Korumpullum sluice for the supply of the town of Tuticorin.

2. The supply in this official year was commenced in the month of May, when the Korumpullum tank received a supply from the Upar Oday, but no exact register was kept at the sluice from which the daily discharge could be ascertained.

3. With regard to the question asked in paragraph 6 of your memorandum, No. 483-B of the 6th July, I have the honor to state that the nearest place at which clay suitable for puddle could be obtained is from the Upar Oday. The absorption is, I believe, most considerable in the last 11,000 feet of the channel, and I have estimated that to puddle this length 6 inches thick would cost about Rupees 3,000. It is difficult to estimate the exact cost with accuracy, as no puddling work has been done here. The danger would be in the puddle cracking during April or May, when we might not be able to keep water running in the channel.

4. From gaugings taken by Conductor Falvey, I have ascertained that on 5th July only 40 per cent. of the water discharged through the Korumpullum sluice reached Meylur; this renders the charge of 1 Rupee equivalent to a charge of Rupees 2½ per 1,000 cubic yards. This the Municipality without the power of imposing a special water-rate will find it difficult to pay.

5. The co-efficient .54 used for the sluice discharge was adopted after a careful gauging of the channel a few yards below the Korumpullum sluice.

No. 619. Endorsement of the Acting Chief Secretary to Government, Financial Department, dated Ootacamund, 7th September 1874.

From R. K. PUCKLE, Esq., President of the Municipal Commission, Tinnevely, to the Honorable D. F. CARMICHAEL, Acting Chief Secretary to Government, Fort St. George, dated Courtalam, 1st September 1874, No. 225.

IN November last water was delivered from the Streevigoontam Anicut Works to the town of Tuticorin; to reach the Municipal reservoir at Tuticorin, a channel some four miles in length was led from a sluice in one of the anicut tanks at a cost of 4,000 Rupees, and this amount was paid from the anicut project funds. After some correspondence between the District Engineer and the Municipality as to the charge to be made for water delivered, the matter was referred to Government in the Public Works Department, and in Proceedings No. 1,590, dated 15th June 1874, the water was ordered to be charged for from 1st April last at the rate of 1 Rupee for each 1,000 cubic yards delivered at the tank sluice, four miles from Tuticorin. Unfortunately the soil intervening between this tank and Tuticorin consists mostly of sand, and the absorption of the sand is so great that 60 per cent. of the water is lost before it reaches the municipal reservoir, and from imperfect piping and careless drawing at the dipping wells in the town another 20 per cent. may be lost before the water is actually used, so that the Municipality are really charged 1 Rupee for each 250 cubic yards of water used. Now, the income of the Municipality is but Rupees 17,379, and the up-keep of roads and sanitation are most expensive at Tuticorin; the Commissioners are, therefore, really unable to pay at the rate of 4 Rupees for each 1,000 cubic yards of water used, especially now

Proceedings of the Madras Government, Public Works Department,
29th October 1874.

that a considerable expense is being incurred in distributing the water throughout the town by underground piping.

2. The enclosed bill for July, amounting to Rupees 452, is the first received, and this charge of 452 Rupees per mensem is the equivalent of Rupees 5,400 per annum, a sum wholly beyond the means of the Municipality to pay. I therefore as President beg that the terms of Proceedings No. 1,590, dated 15th June 1874, may be reconsidered, and that the delivery may be gauged at the municipal reservoir and not at the sluice four miles away. Should it be urged that the cost of the four miles of channel was borne by the anicut project funds, it might be sufficient to make the Municipality pay the interest on this outlay at the rate of 16 per cent., the rate expected from the anicut works, and this would add Rupees 250 to a charge of some 3,000 Rupees per annum for water.

TRANSFERRED to the Public Works Department for consideration and disposal, with reference to their Order in that department, dated the 24th June 1874, No. 1,057.

(Signed) D. F. CARMICHAEL,
Acting Chief Secretary.

SUBMITTED for the information of Government.

The correspondence as per margin which has taken place since G. O., No. 1,590, of 15th June 1874, was passed, is also forwarded.

From District Engineer, No. 52, 26th June.
To do. „ 433-B, 6th July.

2. The statement transmitted by the District Engineer shows that in July the water issued from the Korumpullum tank to the Tuticorin Municipality was 452,328 cubic yards, and its value Rs. 452-5-3.

3. The loss of water in transit down the channel, from observations taken on the 5th July, is estimated to have been 60 per cent, and it appears to be clear, therefore, that remedial measures in the shape of a clay lining to the more sandy part of the channel, which is reported to be the lower 11,000 feet of its length, should be taken at once. It is very probable that this clay may crack in April and May, but even should it do so on refilling the channel it will with moderate repairs become fairly water-tight again, and, moreover, there is nothing to prevent the clay being mixed with sand in such proportions as will make it suitable to the circumstances. A lining of soil composed of one part clay and one and a half to two parts sandy soil may with advantage be tried, and this lining may be from 6 to 9 inches thick. Supposing the actual supply in July to be about the average for the year, the value of the water lost would be $\frac{2}{3}$ rds $(12 \times 452-5-3) = 3,618-10-0$, and, on the other hand, the interest on an outlay of 5,000 Rupees in making the channel more water-tight would be at 5 per cent. only Rupees 250, so that there need be, it is thought, no hesitation about making the experiment, the result of which can be doubtful only as regards the degree of success which may attend it.

4. A good many more observations of the wastage should be made before any lining is put in, and thereafter as sections of, say, half a mile of the lining are

Proceedings of the Madras Government, Public Works Department,
29th October 1874.

completed, these observations should be renewed so as to see how the work answers.

5. A sum of 2,000 Rupees may be at once placed at the District Engineer's disposal, from the Minor New Works grant at the disposal of Government, for the purpose of getting clay taken to the channel, and for putting in the lining as soon as circumstances will permit; after the cost and efficiency of the first half mile have been ascertained, the District Engineer should submit an estimate for all the work which may then be found to be needed. The work should, it is considered, be deemed a charge against Capital.

6. The District Engineer should, of course, arrange for the maintenance of the channel in good order from the repair grant for the Streeviguntum Anicut Works.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 620. ORDER THEREON, 29th October 1874, No. 3,076.

IRRIGATION, No. 41.

THE Government approve of the lining of such parts of the channel from the Korumpullum tank to Meylur, in

connection with the water-supply of Tuticorin, as may require to be made more water-tight, being at once undertaken, and for this purpose Rupees 2,000 from the Minor New Works grant at the disposal of Government are placed at the District Engineer's disposal.

2. As soon as practicable an estimate for all the work of this kind, which may be found to be necessary, should be submitted for sanction.

3. The outlay will be chargeable to Capital.

4. In modification of the Order of the 15th June 1874, No. 1,590, the Government resolve to direct that the charge to the Municipality shall be 1 Rupee a thousand cubic yards for the quantity delivered at Meylur instead of for that discharged from the Korumpullum tank.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the District Engineer, Tinnevely.
„ Chief Engineer for Irrigation.
„ Officiating Controller of Public Works Accounts.
„ Public Department.

Exd. S. T. Austin.
Spare Copies

MEMORANDUM.

REQUESTED for reference the under-mentioned papers :—

R N. 1195-26 June 11, with 2 En.
@ R. 1183 B 7 6 July 71. —
R N. 1591-26 Aug 71, with 1 En.

Disposed of in SE
P. 3076-29 Oct 71

3 enclosures held by
Srym: Dept: - the
Other two enclos: FOR IRRIGATION,
were sent to the
D. S. by the Srym Office

OFFICE OF THE CHIEF ENGINEER

FOR IRRIGATION,

1871,

16/8/76

To

The Registrar of the

J. M. H. H. H.

Lead Clerk.

P. M. H. H.

No 52

District Engrs Office, Trivelloor,
Palanickottah. 26th June 1871.

From,

J. W. Randall Esquire
District Engineer, Trivelloor.

To,

Lieut: Colonel J. Mullins R.E.
Chief Engineer for Irrigation.

Sir,

Enclosures. 2

I have today received G.O. No 1590 of
the 15th Instant, regarding the charge to be made
to the Tuticorin Municipality for water from
the Kōmimpullam Tank.

2. I anticipate some difficulty in gauging
with sufficient accuracy the volume of water
delivered by the Tank Sluice, and therefore re-
quest your instructions. The Sluice is of the
ordinary type fitted with a screw shutter, so
that, as long as there is a definite head against
it the area opened can be accurately ascertained
and the discharge calculated, a few carefully
measured discharges of the channel taken at
short distance below the Sluice would check
the coefficient to be used for the Sluice discharge.

3. At present as the Kōmimpullam Tank
cannot, till the revetment is finished, be filled
up

up, it will very often happen that the sluice is discharging 0.9 to 1.0 of water the shutter being lifted clear of the water. In this case the discharge of the sluice depends on the draft of channel, and as the soil is particularly sandy, the channel section may be said to be constant by varying, a little silt or sand in the bed near the sluice would of course check the draft. It would be very difficult to keep the channel of a uniform section.

4. The measurement of the velocity through the sluice by a current meter would necessitate the employment of a trained man and would involve expense. If practicable, the possibility of discussions with the Municipality regarding the volume supplied should be avoided; it was for this reason I proposed a daily charge instead of one for actual volume.

5. As you have determined that the charge shall be by volume, it would be a simpler matter to measure at Meyliar where the water is discharged over a sill into a cistern from which the Conduit is led, or through a notch into a surplus channel.

6. With regard to making the channel water tight, a masonry conduit from the Korumallur Tank to Meyliar would cost not less than

less than Rs. 30,000. to lay for puddling the channel would have to be brought an average distance of $3\frac{1}{2}$ miles, and owing to the probability of the channel not being constantly supplied, a puddle lining would crack and fail to answer its purpose.

7. The quantity of water lost in the sandy tract between the Tank and the town is very considerable. I will have gaugings made to ascertain what this amounts to, and if this be once ascertained it would I think be better to have the gaugings made at Meyliar where the Municipal Authorities themselves could check the heights over the sill from which our discharges would be calculated and thus we might hope to avoid discussions about the quantity. The charge to the town might as suggested by you in your note on my letter printed with the G. O. be increased in proportion to the proved wastage.

8. I forward for inspection the Plan of Sluice in Korumallur Tank and of the Reservoir and escape weir at Meyliar, where for the reasons above given I would propose to register the delivery.

J.

I have the honor to be

Sir.

your most Obedt Servt

I W Randall
District Engineer

To D. E. Linnell Esq 483 B
of the July 1874.

C. E. No. 1195

From, Regt

The District Engineer

Plg. of 29 Oct 1874

By B. No. 618.

The Chief Engineer
for the regulation

Dated 21st June 1874.

Dec 1st July

No. 521

Vol. 2

Bring to notice certain
circumstances regarding
the charges to be made to
the various Municipalities
for water from the stream
pulling in the requests
instructions thereon.

M. W. 6473
5/74.

681195

In reply to the letter No. 52 of the 26th ult. from the D.C. Trivendrum, the undersigned has the honor to observe that as the water supply of Tuticorin is to be changed ~~for~~ according to the quantity of water to the town channel at ^{the} Korampallam sluice it is necessary that the primary measurements should be taken, though there can be no objection to other measurements being taken at the Mylees reservoir. The District Engineer's proposal that the primary measurements on which the charge is to be made should be taken at Mylees and that the quantities should ~~be~~ be increased by the proved wastage would in no way remove the possibility or probability of dispute.

2. It would appear that the sluice which is to supply the town channel is capable of affording sufficiently accurate measurements and that while the quantity carried by the channel will ^{be} affected by its condition the measurements will in no way be vitiated thereby.

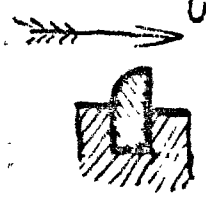
3. The sluice will admit of a double measurement

A. 1st when the orifice is submerged, the discharge will be ascertainable from the difference of water level above and below, together with the area of the orifice.

2nd when the water in the tank stands at high tide and is not in the sill, the discharge can be ascertained by the difference of the water level in the tank and the sill.

drowned weir, the water level above (from at the still head) and below to fit in with the width of the vent which appears to be 2 feet being the data required.

B the discharges, ^{calculated as} above may, both be checked by a separate calculation of the discharge over the drowned weir at the lower end of the sluice which has a much longer crest and this latter may for greater accuracy be made of cast iron or wood brought to an edge



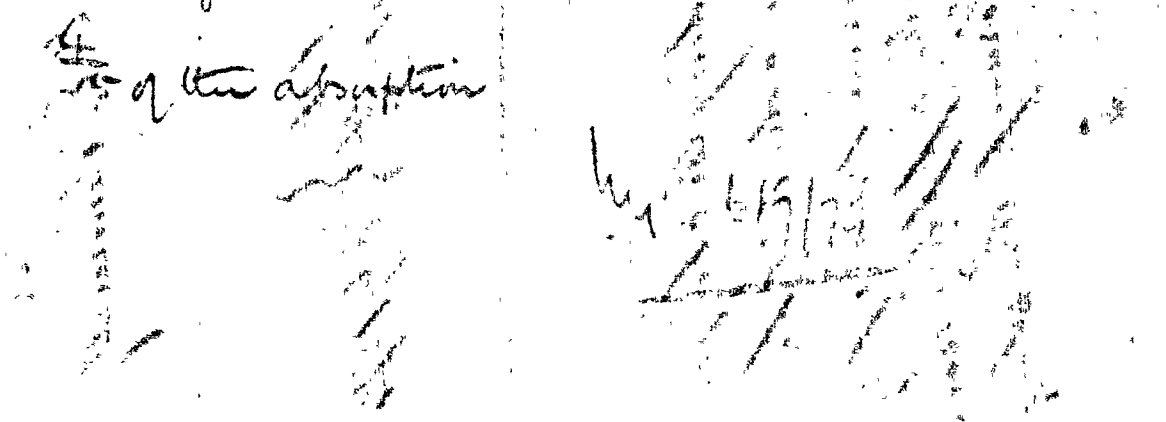
The upper water level would be that of the pump ~~water~~ above the upper of the sluice which gives the head corresponding to the velocity of approach and another water level below this lower weir would be required.

4. Without accurate measurements of discharge at Korumbullunne, the wastage cannot be proved & with such the measurements at May lew are chiefly of use to determine that difference which is the wastage.

5. It will be manifestly desirable to check calculations of discharge by finding the velocity of the water in the upper part of the channel and multiplying this by the cross section of the waterway.

6. With regard to the diminution of leakage or absorption in transit from Korumbullunne to

May lew, is there not material in the Korumbullunne Tank which would render the channel fairly watertight - a clay such as that required to prevent leakage with a considerable head of water is not needed - soil containing a moderate proportion of clay would make the channels sufficiently watertight for all practical purposes and lining with bricks thick would probably prevent $\frac{1}{10}$ of the absorption.



No 225 Sinnerly Courtalam 1st September 1833
 From, Q. R. Puckle Esq
 President Municipal Commission
 To The Honorable D. F. Carmichael
 Chief Secretary to Government
 Fort Saint George
 Sir,

In November last water
 was delivered from the Strivauntam
 ancient works to the town of Tuticorin.
 To reach the Municipal reservoir at
 Tuticorin a channel some 1 mile
 in length was led from a sluice in one
 of the ancient tanks at a cost of 4000
 Rs, and this amount was paid from
 the ancient project funds after
 some correspondence between the
 District Engineer and the munici-
 pality as to the charge to be made
 for water delivered the matter was
 referred to Government in the P.M.R.
 and in proceedings No 1590 dated

1833

S. E. Chinnichy

Letter 1st 4th
 Sept 13th 1834

10th 1835 of 26 June 1834
 19th 1835 of 15 June 1834
 Regarding the charge
 to be made to the
 Municipal Commission
 for water supplied from
 the Strivauntam

think the expectation of the waterway.
 b. With regard to the diminution of leakage or
 absorption in transit from Korumpullam to

15th June 1874, the water was ordered
to be charged for from 1st April last
at the rate of 1 Rupee for each 1000
Cubic yards delivered at the tank
sluice 4 miles from Tuticorin.

Unfortunately, the soil intervening
between this tank and Tuticorin
consists mostly of sand and the
absorption of the sand is so great
that 60 per cent of the water is lost
before it reaches the Municipal
Reservoir, and from imperfect piping
and carelessness drawing at the dipping
wells in the town, another 20 per cent
may be lost before the water is
actually used. So that, the Munici-
pality are really charged 1 Rupee
for each 250 Cubic yards of water used.
Now the income of the Municipality
is but 6 Rs 17,379 and the upkeep of
roads and sanitation are much expen-
sive at Tuticorin. The Commissioners

21
are therefore really unable to pay
at the rate of 4 Rs. for each 1000
Cubic yards of water used, especially
now that a considerable expense
is being incurred in distributing the
water throughout the town by under-
ground piping.

2 The enclosed bill for July amount-
ing to 6 Rs 452 is the first received,
and this charge of 452 Rs. per annum
is the equivalent of 6 Rs. 500 per
annum, a sum wholly beyond the
means of the Municipality to pay.
I therefore, as President, beg that
the terms of proceedings No 1590 dated
15th June 1874, may be reconsidered and
that the delivery may be effected
at the Municipal Reservoir and
not at the sluice 4 miles away.
Should it be urged that the cost

238
of the 4 miles of channel was borne
by the ancient project funds, it
might be sufficient to make the
municipality pay the interest
on this outlay at the rate of 16
per cent, the rate expected from
the ancient works, and this would
add 6 Rs 250 to a charge of some
3000 Rs. per annum for water.

I have the honor to be

Sir
Your most Obedt Servt

A. K. Pichle
President

Compd to be

Register of water supplied from the Koompallam sluice
for the town of Tuticorin for the month of July 1874.

Date.	Time of observation	Height of water in floor in front of sluice	Height of water in floor in rear of sluice	Height of which sluice was raised.	Head	Area	Discharge per hour Coeff: 0.546
		feet	feet	feet	feet	sq. ft.	cubic ft.
1	12 A.M.	3	1	2	6	1' 11"	745
2	— D° —	3	1	2	6	1' 10"	729
3	— D° —	2	1	2	6	1' 9"	713
4	— D° —	2	1	2	6	1' 8"	697
5	— D° —	2	1	2	6	1' 7"	680
6	— D° —	2	1	2	6	1' 6"	664
7	— D° —	2	1	2	6	1' 5"	648
8	— D° —	2	1	2	6	1' 5"	643
9	— D° —	2	1	2	6	1' 4"	621
10	— D° —	2	1	2	6	1' 3"	604
11	— D° —	2	1	2	6	1' 3"	604
12	— D° —	2	1	2	6	1' 4"	621
13	— D° —	2	1	2	6	1' 4"	621
14	— D° —	2	1	2	6	1' 3"	604
15	— D° —	2	1	2	6	1' 3"	604
16	— D° —	2	1	2	6	1' 3"	604
17	— D° —	2	1	1 1/2	6	1' 3"	604
18	— D° —	2	1	1 1/2	6	1' 3"	604
19	— D° —	2	1	1 1/2	6	1' 2"	583
20	— D° —	2	1	1 1/2	6	1' 2"	583
21	— D° —	2	1	1 1/2	6	1' 2"	583
22	— D° —	2	1	1 1/2	6	1' 2"	583
23	— D° —	2	1	1 1/4	6	1' 2"	583
24	— D° —	2	1	1 1/4	6	1' 2"	583
25	— D° —	2	1	1 1/4	6	1' 2"	583
26	— D° —	2	1	1	6	1' 1"	567
27	— D° —	2	1	1	6	1' 0"	540
28	— D° —	2	1	1	6	0' 11"	518
29	— D° —	1	1	1	6	0' 10"	492
30	— D° —	1	1	1	6	0' 10"	492
31	— D° —	1	1 1/2	1	6	0' 10"	492

18847 x 240 = 4523280 cubic feet = Discharge at Re. 1" = per 1000 cys. = 1452.53.

District Engineer's Office Tuticorin
Camp. Letter 240 August 1874

L. W. Russell
District Engineer Tuticorin

Give me a letter from
the Pondicherry Company
to the Chief Secretary
to Govt. of Madras
with reference to
1874 No 225
Pg. 29. 29. Oct 1/74
in 13. 1. 6/18
Mr. 6473/74.
2

Register of water supplied
from the Koompallam
sluice for the town of
Tuticorin for the month of
July 1874.

No. 84. District Engrs. Office. Tanjore
11th 21-5. August 1890

Camp. Satter: 210 August 1896

From

J. W. Kimball Esquire

District Engineer, Trimmerville

Lieut. Colonel J. Mullins R. E.

Chief Engineer for navigation.

Sir, I have the honor to forward herewith a statement showing the daily quantity of water delivered from the Rosemead Pumping Station for the supply of the town of Subic Bay since the 1st of January 1901.

2. The supply in this official year was commenced in the month of May, when the Romipollim Tank received a supply from the Up's Idag, but no exact Register was kept at the Sluice from which the daily discharge could be ascertained.

3. With regard to the question asked in para 6 of your Memo No 1483 B of this 6th July, I have the honor to state that the nearest place at which clay suitable for puddle could be obtained is from the Upper Aday. The absorption is I believe most considerable in the last 11,000' of the 6 channel, and I have estimated that to puddle this length 6 inches thick would cost about Rs 3000. It is difficult to estimate the exact cost with accuracy as no puddling work has been done here. The danger would

Enc: 1.

240,10591/74.
Enclosure in a letter to
you.

Enclosed in a letter to

84 of the 24 August 1944

from the District requires
himself

Anniversary

10

The Chief Squire's

For signature

Register of water

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Stromboli

for the term of twelve

for the month

July 1894

Ms. D. 29. 6. 179

17473

44

would be in the field, remaining during April
or May when we might not be able to keep water
running in the channel.

10. From gaugings taken by conductor
Talvey, I have ascertained that on the 5th July,
only 40 per cent of the water discharged through
the Rominpullam sluice reached Elghur, this
renders the charge of 1 Rupee equivalent to a charge
of Rs. 2 1/2 per 1000 cuds. This the Municipality
without the power of imposing a special water
rate will find it difficult to pay.

5. The coefficient 51. used for the sluice
discharge was adopted after a careful gauging
of the channel a few yards below the Romin-
pullam sluice.

I have the honor to be,
Sir

Yours most obedt. servt.

L. W. Prindall

District Engineer

Altho the above is a statement of the facts of the case, it is not intended to be a final report, but only a preliminary one, and it is hoped that it will be found to be a fair and accurate statement of the facts of the case.

661591

Feb 1888

80-3048-29-12-74

Forwarded a
statement showing
the daily amount
of water used
from the 1st of June
to the 1st of July
for the purpose of the
town of Melbourne

Forwarded a
statement showing
the daily amount
of water used
from the 1st of June
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for the purpose of the
town of Melbourne

661591

Submitted for the information of
Government
The correspondence as per margin which
has taken place since G.O. 1590 of the
15th June 1874 was passed is also for
wasted

The statement transmitted by
the District Engineer shows that in
July the water issued from the Vo-
rumpulham Tank to the Port Phillip
municipality was 4,52,328, and at its
value 452-5-3.

The loss of water in transit
down the channel from observations
taken on the 5th July is estimated
to have been 68 per cent, and it ap-
pears to be clear therefore that re-
medial measures in the shape of
a clay lining to the more sandy
part of the channel, which is re-
ported to be the lower 11,000 feet
of its length, should be taken at
once. It is very probable that this
clay may crack in April and
May but even should it do so on
refilling the channel it will with
moderate repairs become fairly wa-
tertight again, and moreover there is
nothing

nothing to prevent the clay being mixed with sand in such proportions as will make it suitable to the circumstances. A lining of soil composed of 1 part clay and $1\frac{1}{2}$ to 2 parts sandy soil may with advantage be tried, and this lining may be from 6 to 9 inches thick. Supposing the actual supply in July to be about the average for the year, the value of the water lost would be $\frac{2}{3} (12 \times 452.5 \times 3) = 3618 - 10 =$ and on the other hand the interest on an outlay of 5,000 Rupees in making the channel more watertight would be at 5 per cent. only Rupees 250, so that there need be, it is thought, no hesitation about making the experiment, the result of which can be doubtful only as regards the degree of success which may attend it.

A good many more observations of the wastage should be made before any lining is put in, and thereafter, as sections of say $\frac{1}{2}$ a mile of the lining are completed, these observations should be reviewed so as to see how the work answers.

351
at once placed at the District Engineer's disposal, from the minor new works grant at the disposal of Government, for the purpose of getting clay taken to the channel, for putting in the lining as soon as circumstances will permit, after the cost and efficiency of the first half-mile have been ascertained, the District Engineer should submit an estimate for all the work which may then be found to be needed. The work should, it is considered to be deemed a charge against Capital.

6. The District Engineer should of course arrange for the maintenance of the channel in good order from the Repair grant for the *Harinquin* Ancient works.

Obtained
7th September 1874
Chief Engineer for Irrigation

The Secretary to Govt. P.W.D.

P. W. 1874 Sept.
No. 6473

From

The Chief Engr. for
Irrigation

Dated 7th Sept. 1874
Recd. 15th Oct. 1874

No. 683

C. 7

Submitting papers
regarding the charge for
water supplied to the Town
of Tuticorin from the
Striviguntam Aicut Brothers

No. 3076-29-10-74.

No 618

P. W. S. Sept 16
37
Proceedings of the Madras Govt.
Read the following

From the Engineer-in-Chief (H.L. No. 84 of 24 Sept 74)
Note by the Chief Engr. for Engrs (H.L. No. 7 Sept 74)
From the President Municipal
Commissioner of the Town of Tuticorin } (H.L. No. 225 of 1st do -)
3076

The Government
approve of the lining of
such parts of the channel
from the Korumpallam
Tank to Aiyalar in con-
nection with the water sup-
ply of Tuticorin, as may
require to be made more
watertight, being at once
undertaken, and for this
purpose Rs. 2000 from the
Minor new works grant at
the disposal of Government
are

These papers have been
sent to the Engineer-in-Chief
for his consideration.
The charge for water supplied
to the Town of Tuticorin from the
Striviguntam Aicut Brothers
is Rs. 1000 per annum.
The charge for water supplied
to the Town of Tuticorin from the
Striviguntam Aicut Brothers
is Rs. 1000 per annum.
The charge for water supplied
to the Town of Tuticorin from the
Striviguntam Aicut Brothers
is Rs. 1000 per annum.

4. The Government cannot relieve the Municipality of Intérieur of the charge for unavoidable wastage of water between the Korumpullum Tank and the Town, but as the wastage is shown to be at present excessive, the charge will be reduced, until

17/10
I've reduced the rate to
one-half pending this in-
quiry and repairs of
the channel - JB?

I think the culture
will then have to
very much be to
adhere to the
change of 1 P.
Not long it only
we the winter are
truly, delivered at

I approve of the
 para 1.
 For the rest
 I want to adhere to the
 principle of the charge
 I R: but leave it ad-
 in the water actually
 delivered. I think the
 town - than ten in the
 the channel is to
 into the G. L. L.
 I do

until the remedial mea-
sures sanctioned in this
order shall have been
carried out, to that due
to the quantity delivered
at Myapur with one third
added for wastage and this
will virtually reduce the
charge to but little more
than one half of that hi-
therto leviable under the
order of the 15th June 1874
£1590; for at present it
is stated that, out of every
1000 Cubic yards supplied
to the head of the channel
at the tank only 400 reach
Myapur and, adding one
third the quantity to be
charged

charged for will be 533.
his yards.

5. When the charge
shall have been made
as efficient as circum-
stances will allow in
full quantity issued,
the Korumpullum Jan
will be charged for.

Dec 15/9/74

4 - In modification of the
order of the 15 June 1874 no
1590 the Government resolve
to ~~modify the~~ direct that
the charge to the Municipality
shall be 1 shilling a ton and
cubic yards better quantity
delivered at better instead
of better at discharge from
the Korumpullum Jan.

Dec 10/12/74
Dec 12/12/74
Dec 17/9/74
Dec 16/18-

Secy
2072-74
O. R. Connolly
Ch. Insp. for
Contr. Dept.
P. Dept.
C. P. Dept.
6/11/74

30-1-99

8/12/13

6473
Govt. of 1874
PUBLIC WORKS

Rs 307.6

29-10-1874

To the District Engineer
Tumacully

Dated

Recd.

Encl.

G. O. 29 Oct. No. 3076

discharged from the
Horum pullum Tank

No. 118-615 of 620

Anticorin Water Supply

The lining of such parts of
the Channel from the Horum
pullum Tank to Messrs
in connection with the water
supply, approved No. 2000
placed at the D. Engrs disposal
for the purpose, and ~~certains~~
~~instructions issued regarding~~
~~water to be changed and~~
in modification of the Order of the
15 June No. 1590 directs that the
charge to the Municipality shall be
Rs 1 Rupee a thousand cubic
feet for the quantity delivered
regular instead of for that

16/8 108
Cen 11/9/74 16/8