1 abstract

Read

ocal & Munl. (1898) Department.

MISCELLANEOUS.

G.O., No. 2125 M.

DATED 12-12-98

Tuticorin

DESPATCHED

INDEXED.

[Despatch Abstract.]

Water-supply

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

Regd. *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

Abstract.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
,, Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M.*,	*dated* 14*th February*	1894.
" "	1571 *M.* "	16*th September*	1896.
" "	1031 *M.* "	8*th June*	1898.
" "	1176 *M.* "	4*th July*	"
" "	1349 *M.* "	28*th* "	"

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

H. TREMENHEERE.

Please see file on lapses of Provincial grants.

H. TREMENHEERE.

I think they may raise the whole of the money themselves.

H. W. B[LISS]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Local & Munl. (189) Department.

CURRENT No. 2873 M

Misc

From The Secretary, Sanitary Board

Order. No. 2125 Mun. Dt. 12/12/98

No. 505/S.

Dated 6th September 1898

Received 8 - SEP. 1898

Registered

Enclosures 5

Spare copies

The papers read above will be forwarded to the municipal Council of Tuticorin for consideration and report as to whether it approves the Scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Govt. will contribute from Provincial funds a moiety of the estimated Cost and advance the balance at 4 per Cent interest repayable in 20 years.

(From orders)

V.R. 10/12/98

10 12 98

SUBJECT.

Tuticorin Water Supply

Submitting certain correspondence with the recommendation for an expenditure of a lakh of rupees on the improvement of the as proposed by the President of the Sanitary Board.

To The Chairman, M.C. Tuticorin thro' the Collr. of Tinnevelly

Sanr. Board 14/12/98

BACK PAPERS.

G.O.	No.	Department.	Date.
So	1672	Mis	20-8-98
"	1031	"	8-6-98

FURTHER PAPERS.

G.O.	No.	Department.	Date.

3 Local & Municipal

~~Public Works~~ Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

From the Sanitary Board, No. 263 S, dated 21st November 1896, regarding Tuticorin water supply scheme.

From the Chairman, Municipal Council, Tuticorin, No. 227, dated 10th May 1898.

Tuticorin Water Supply.

I have the honour to bring the following points to your kind attention:-

1st. That His Excellency Sir Arthur Havelock and several of his predecessors have given promise to expedite the water supply scheme of this town and that Government was graciously pleased to promise to contribute a moiety of the outlay.

2nd. That in G.O.No. 1571 M.Mis., dated 16th September 1896, this municipality was given to understand that a cheap gravitation scheme would be prepared by the Sanitary Engineer and submitted to Government.

3rd. That nothing more has been heard since and that the population which has since grown to about 40,000 are left without a single drop of water during this present hot weather.

2. I would therefore urge upon Government the necessity of fixing without further delay, upon some particular scheme suitable to the financial and sanitary position of this town and would point out in conclusion that it is only after some particular scheme has been devised that the --- question of financing same can be taken on hand.

Order

(40—4,000—14-3-95.)

4

Order No.1031 M.Mis., dated 8th June 1898.

As the adoption of any particular scheme of water supply for the town must depend mainly on the amount of contribution or aid which Government can afford to give to the Municipal Council, the Government regrets that nothing can be done until its financial position is clearer. Meanwhile, the Municipal Council should do its best to improve the existing tanks and wells in the town.

2. The Sanitary Engineer is requested to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No.274i dated 4th September 1896.

3. The Chairman's letter should have been submitted through the Collector as required in G.O.1162 M. dated 4th September 1893.

(True Extract)

(s/d) S.G.Roberts.

for Secretary to Government.

SANITARY Cur. 1455
Reg. No.
19 JUL. 98
TO THE GOVERNMENT OF MADRAS

To

The Chairman, Municipal Council, Tuticorin,
through the Collector of Tinnevelly.

The Sanitary Board.

The Sanitary Engineer.

1
S.C.29402 of 98

5

Copy of Note by the President, Sanitary Board, dated 22nd June 1898:-

The accompanying G.O.No.1031 M.Mis. dated 8th June 1898 on the subject of the water supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water supply, and that the proposed schemes have been under discussion for 5 years without making any advance, the Sanitary Board should do something more than record the G.O.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16% of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs.75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary Officers to Government.

SANITARY ENGINEER
Reg. No. 2nd 1145
19 JUL. 98
THE GOVERNMENT OF MADRAS

No. 398/5

Government of Madras,

Sanitary Board Office. **DEPARTMENT.**

Endorsement.

MEMORANDUM.

Dated Madras, 18th July 189 8.

Proceedings of Government, Local and Municipal Department, No. 1031 M.Mis., dated 8th June 1898.

Note by the President, Sanitary Board, dated 22nd June 1898.

Print in full.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order)

Secretary, Sanitary Board.

(1) The Sanitary Engineer, } with copy of note
(2) ,, Sanitary Commissioner } for favour of return.

[P. W. 41. 1,000—28-2-98.]

8

SANITARY ENGINEER
Reg. No. 1455
19 JUL. 98
TO THE GOVERNMENT OF MADRAS

3
S.C. No. 402 of 98

3
2873/M/98

S. E. 500—18-3-98
33.

GOVERNMENT OF MADRAS,

Office of Sanitary Engineer to Govt.,

62 *Fort St. George*, 20th. July 1898.

Despd 21-7-98

OFFICE NOTE

BY

THE SANITARY ENGINEER.

Reference- Note by the President of Sanitary Board dated 22nd. June 1898 on Tuticorin Water Supply.

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, increase the supply to Tuticorin. Although it is true that 84 % of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the Tank, Tuticorin loses that amount of water -it may pay for more water than it gets but it does not get less water than is available & the loss of 84% of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam Tank. It is when the Tank is empty that Tuticorin suffers from want of water & this want can be supplied only by a reserve tank being formed.

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3. The cost of the conduit & the works which it would be necessary to construct at the same time would be

	Rs.
Alteration of existing sluice Valve House &c for outlet to conduit----------	6,605
Cost of conduit--------	44,472
	51,077
Contingencies 5% ----	2,553
Tools & plant 2½%---	1,276
Establishment 7½%-----	3,829
	Rs 58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water tight.

Sanitary Engineer to Government.

To

The Secretary, Sanitary Board,

Thro' the Sanitary Commissioner with Sanitary Board's reference No. 398/S of 18th. July 1898.

1—cont.

No. 1683/S

Forwarded.

2. U/S is of opinion that the propoesd con-duit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrange-ments to secure the purity of the supply both in its course and collection in the town.

H. Thomson
Surgeon Major,
Acg Sanitary Commissioner, Madras.

Fort Saint George,
29th July 1898.

To
The Secretary
Sanitary Board.
Madras.

4/S.Ch.402 of 98.

2/2873/M/98

1/2873/M/98

Sanitary Current No. 4
Regd: 2-8-
Encs: 4

Tuticorin water Supply

Government of Madras.

SANITARY BOARD OFFICE.

PROCEEDINGS OF THE SANITARY BOARD, No. 505/S, DATED 6 September 1898.

LOCAL DEPT. 2873 M

READ the following:—

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(True Extract)

R. Barton S.

Secretary, Sanitary Board.

To The Secretary to Government, Local and Municipal Department — with papers in original

" Sanitary Commissioner.

" — do — Engineer.

30 — 9.0
20 notes

When given for copying
When copied 13/12 189
When examined
When signed 13/12

Read again G.O. No. [illegible] M., dated 18 189

Current No. 2873 M A

Enclosures to C. No. 2873 M A

Government " " " A A A A A A A

Letter of Government.

Statement with ditto.

Papers not filed up, being meant for despatch in original.

abstract of G.O. stating with remarks that Govt. cannot do nothing with regard to the Antigonish water supply scheme until its financial position is clear and requesting the Sanitary Engineer to state what progress has been made in the preparation of the check gratings [illegible]

Q notes

N.B.—
A = Copy in full.
B = Not to be copied.
P = Copy abstract only.
Q = Copy heading only.

19-3-07

8/12/13

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

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Regd. *Spare copies*

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Secretary, Sanitary Board.

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Sanitary Engineer to Government.

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Note by the Acting Sanitary Commissioner, No. 1683-*S.*, *dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S.*, *dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

No. 2125 M., 12TH DECEMBER 1898.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
" Sanitary Board. (through the Collector of Tinnevelly).

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M., dated*	*14th February*	1894.
" "	1571 *M.* "	*16th September*	1896.
" "	1031 *M.* "	*8th June*	1898.
" "	1176 *M.* "	*4th July*	"
" "	1349 *M.* "	*28th* "	"

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc, (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders,

H. TREMENHEERE.

Please see file on lapses of Provincial grants.

H. TREMENHEERE.

I think they may raise the whole of the money themselves.

H. W. B[LISS]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

Regd. *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

Abstract.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S., dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of *supply* would not, the undersigned thinks, as the President supposes, *increase* the supply to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
	2,553
Contingencies, 5 per cent.	1,276
Tools and plant, $2\frac{1}{2}$ per cent.	3,829
Establishment, $7\frac{1}{2}$ per cent.	
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

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(True Extract.)

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Secretary, Sanitary Board.

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" Sanitary Commissioner.
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Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M., dated*	*14th February*	1894.
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3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

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5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

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[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

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(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

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Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

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"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

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Please see file on lapses of Provincial grants.

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I think they may raise the whole of the money themselves.

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Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. *Regd.* } 1898. *Enclosures* *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

Abstract.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets ; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available ; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S.*, *dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S.*, *dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
,, Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
,, Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M.,*	*dated* 14*th February*	1894.
,, ,,	1571 *M.*	,, 16*th September*	1896.
,, ,,	1031 *M.*	,, 8*th June*	1898.
,, ,,	1176 *M.*	,, 4*th July*	,,
,, ,,	1349 *M.*	,, 28*th* ,,	,,

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899-1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

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5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

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[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

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ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

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W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S., dated* 18*th July* 1898.

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(By Order.)

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Secretary, Sanitary Board.

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Sanitary Engineer to Government.

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H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

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(True Extract.)

R. PARSONS,
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To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
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(through the Collector of Tinnevelly).
,, Sanitary Board.

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5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

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H. W. B[LISS.]

For orders.

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Please see file on lapses of Provincial grants.

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A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

Regd. } *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
	2,553
Contingencies, 5 per cent.	1,276
Tools and plant, 2½ per cent.	3,829
Establishment, 7½ per cent.	
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

J. A. JONES,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

No. 2125 M., 12TH DECEMBER 1898.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
" Sanitary Board. (through the Collector of Tinnevelly).

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M.,*	*dated 14th February*	1894.
" "	1571 *M.*	" *16th September*	1896.
" "	1031 *M.*	" *8th June*	1898.
" "	1176 *M.*	" *4th July*	"
" "	1349 *M.*	" *28th* "	"

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

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6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1891, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

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H. W. B[LISS.]

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V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

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READ—the following papers :—

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W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

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present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

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Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

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Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

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(True Extract.)

R. PARSONS,
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To the Secretary to Government, Local and Municipal Department.
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To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

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G.O., No. 159 M., *dated 14th February* 1894.
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" " 1176 M. " *4th July* "
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H. W. B[liss.]

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[G.O., No. 2125 M., dated 12th December 1898.]

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G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

READ—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-S., dated 18th July 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, dated 20th July 1898.

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The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the

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3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
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Establishment, 7½ per cent.	3,829
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4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. JONES,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-S. of 18th July 1898.

Note by the Acting Sanitary Commissioner, No. 1683-S., dated 29th July 1898.

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2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

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The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

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...would last much longer.

(True Extract)

PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
,, Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
,, Sanitary Board.

...O., No. 2125 M., DATED
...R 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No. 159 *M., dated* 14*th February* 1894.
,, ,, 1571 *M.* ,, 16*th September* 1896.
,, ,, 1031 *M.* ,, 8*th June* 1898.
,, ,, 1176 *M.* ,, 4*th July* ,,
,, ,, 1349 *M.* ,, 28*th* ,, ,,.

From the Sanitary Board, No. 505-*S., dated* 6*th September* 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and get ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

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6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

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H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

...RTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

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LOCAL A[illegible]

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Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

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Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. Parsons,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. Tremenheere,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12th DECEMBER 1898.

[Subject.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 M.,	*dated*	*14th February*	1894.
" "	1571 M.	"	*16th September*	1896.
" "	1031 M.	"	*8th June*	1898.
" "	1176 M.	"	*4th July*	"
" "	1349 M.	"	*28th* "	"

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. Tremenheere.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. Tremenheere.

H. W. B[liss.]

For orders.

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Please see file on lapses of Provincial grants.

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I think they may raise the whole of the money themselves.

H. W. B[liss]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[avelock]—4-11-98.

V. Raghava Charlu—8-10-98.

H. Tremenheere—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Read. *Regd.* } 1898. *Enclosures* *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the

present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets ; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available ; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	RS.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. JONES,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S.*, *dated* 29*th July* 1898.

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(True Extract.)

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Secretary, Sanitary Board.

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" Sanitary Commissioner.
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(through the Collector of Tinnevelly).
" Sanitary Board.

Local and Municipal Department.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12th DECEMBER 1898.

[Subject.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M., dated*	14*th February*	1894.
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5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

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[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

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G.O., No. 2125 M., 12th December 1898.

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President, Sanitary Board.

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H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

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(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
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Order—No. 2125 M., dated 12th December 1898.

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H. TREMENHEERE,
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To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

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With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

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Please see file on lapses of Provincial grants.

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I think they may raise the whole of the money themselves.

H. W. B[LISS]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Read. / *Regd.* } 1898. *Enclosures* / *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

J. A. JONES,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
,, Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
,, Sanitary Board.

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No. 159 M., *dated 14th February* 1894.
" " 1571 M. " *16th September* 1896.
" " 1031 M. " *8th June* 1898.
" " 1176 M. " *4th July* "
" " 1349 M. " *28th* " "

From the Sanitary Board, No. 505-S., dated 6th September 1898.

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2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

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[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

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President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

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" Sanitary Commissioner.
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(through the Collector of Tinnevelly).
" Sanitary Board.

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6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

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Please see file on lapses of Provincial grants.

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A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Read. | 1898. | *Enclosures*

Regd. | | *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

Abstract.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-S., dated 18th July 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
,, Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, dated 20th July 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets ; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available ; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-S. of 18th July 1898.

Note by the Acting Sanitary Commissioner, No. 1683-S., dated 29th July 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-S., dated 6th September 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 M.,	*dated 14th February*	1894.
" "	1571 M. "	*16th September*	1896.
" "	1031 M. "	*8th June*	1898.
" "	1176 M. "	*4th July*	"
" "	1349 M. "	*28th* "	"

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

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6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

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H. W. B[LISS.]

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Please see file on lapses of Provincial grants.

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[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

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G.O., No. 2125 M., 12th December 1898.

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Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

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ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

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2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

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4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

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Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

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H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

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No. 2125 M., 12TH DECEMBER 1898.

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(True Extract.)

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Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

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Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
" Sanitary Board.

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

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3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

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H. W. B[LISS.]

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4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

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Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*

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GOVERNMENT OF MADRAS.

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Read—the following papers :—

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G.O., Mis. No. 1031 M., dated 8th June 1898.

Abstract.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the

present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, $2\frac{1}{2}$ per cent.	1,276
Establishment, $7\frac{1}{2}$ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
,, Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
,, Sanitary Board.

LOCAL AND MUNICIPAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—Tuticorin water-supply scheme.]

Previous papers.

G.O., No. 159 M., dated 14th February 1894.
,, ,, 1571 M. ,, 16th September 1896.
,, ,, 1031 M. ,, 8th June 1898.
,, ,, 1176 M. ,, 4th July ,,
,, ,, 1349 M. ,, 28th ,, ,,
,, ,,

From the Sanitary Board, No. 505-S., dated 6th September 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

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Please see file on lapses of Provincial grants.

H. TREMENHEERE.

I think they may raise the whole of the money themselves.

H. W. B[LISS]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

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Recd. } 1898. *Enclosures*

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G.O., No. 2125 M., 12th December 1898.

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GOVERNMENT OF MADRAS.

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2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S., dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested be so good as to favour the Board with their views on the suggestion made by the ident of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

Engineer.
Commissioner.

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Ag. Sanitary Commissioner for Madras.

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Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. Hughes,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. Parsons,
Secretary, Sanitary Board.

To the Sanitary Engineer.
,, Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the

present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets ; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available ; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. Jones,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S.*, *dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. Thomson, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S.*, *dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. Parsons,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
,, Sanitary Commissioner.
,, Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. Tremenheere,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
(through the Collector of Tinnevelly).
,, Sanitary Board.

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No. 2125 M., 12TH DECEMBER 1898.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

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(True Extract.)

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(True Extract.)

R. PARSONS,
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To the Secretary to Government, Local and Municipal Department.
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Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

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4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present; the water runs into wells which are not water-tight.

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Ref. No. 398-*S. of* 18*th July* 1898.

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(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
,, Sanitary Board. (through the Collector of Tinnevelly).

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

MISCELLANEOUS.

Recd. } 1898. *Enclosures*
Regd. } *Spare copies*

G.O., No. 2125 M., 12th December 1898.

Water-supply.

Forwarding to the Municipal Council of Tuticorin certain papers regarding the — of the town and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers :—

I

G.O., Mis. No. 1031 M., dated 8th June 1898.

ABSTRACT.—Stating, with remarks, that Government can do nothing with regard to the Tuticorin water-supply scheme until its financial position is clearer and requesting the Sanitary Engineer to state what progress has been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896.

II

Proceedings of the Sanitary Board, No. 505-S., dated 6th September 1898.

Read—the following papers :—

Note by the President, Sanitary Board, dated 22nd June 1898.

G.O., Mis. No. 1031 M., dated 8th June 1898, on the subject of the water-supply of Tuticorin has just been communicated to the Sanitary Board and I think that in view of the fact that Tuticorin is in urgent need of an improved water-supply, and that the proposed schemes have been under discussion for five years without making any advance, the Sanitary Board should do something more than record the Government Order.

2. I note in the first paper in the file that owing to the nature of the soil through which the present open channel runs, only 16 per cent. of the water which leaves the tank reaches Tuticorin. A masonry conduit from tank to town is a feature of all the schemes proposed, and it seems to me that if this was constructed, we should at once greatly improve the town supply in the important particulars of quality and quantity. The cost is not stated, but it is not likely to be more than Rs. 75,000, so that for a lakh the town could obtain this great improvement, and also some improvements to the distribution system without prejudice to an extension of the scheme whenever funds were available.

I think therefore the Board might propose this solution of the difficulty to Government, after obtaining the views of the Sanitary officers to Government.

W. HUGHES,
President, Sanitary Board.

Endt. No. 398-*S.*, *dated* 18*th July* 1898.

Referred to the Sanitary Engineer and Sanitary Commissioner who are requested to be so good as to favour the Board with their views on the suggestion made by the President of the Sanitary Board in the note read above.

(By Order.)

R. PARSONS,
Secretary, Sanitary Board.

To the Sanitary Engineer.
" Sanitary Commissioner.

Note by the Sanitary Engineer, No. 62, *dated* 20*th July* 1898.

[*Reference.*—Note by the President, Sanitary Board, dated 22nd June 1898, on Tuticorin water-supply.]

The construction of the conduit which is included in all the proposed schemes of supply would not, the undersigned thinks, as the President supposes, *increase* the *supply* to Tuticorin. Although it is true that 84 per cent. of the water entering the present open leaky channel is lost, still that does not mean that so long as there is water in the tank, Tuticorin loses that amount of water — it may pay for more water than it gets ; but it does not get less water than is available and the loss of 84 per cent. of the water supplied to Tuticorin has, of course, no appreciable effect on the level or contents of the Korampallam tank. It is when the tank is empty that Tuticorin suffers from want of water and this want can be supplied only by a reserve tank being formed.

2. The improvement by the construction of the conduit would not therefore *perse* amount to much, but to get any portion of the scheme constructed would be an advance in the matter and one gain would be this, viz., that the proposed conduit leaves the tank at a level two feet lower than the existing channel, so that two feet more water of the tank would be available ; hence the conduit would be of value in slightly extending the time during which water could be supplied to the town.

3. The cost of the conduit and the works which it would be necessary to construct at the same time would be—

	Rs.
Alteration of existing sluice, valve house, etc., for outlet to conduit.	6,605
Cost of conduit	44,472
	51,077
Contingencies, 5 per cent.	2,553
Tools and plant, 2½ per cent.	1,276
Establishment, 7½ per cent.	3,829
	58,735

4. The undersigned considers that it would be difficult to make any improvements in the distribution system at present ; the water runs into wells which are not water-tight.

J. A. JONES,
Sanitary Engineer to Government.

To the Secretary, Sanitary Board (through the Sanitary Commissioner).

Ref. No. 398-*S. of* 18*th July* 1898.

Note by the Acting Sanitary Commissioner, No. 1683-*S., dated* 29*th July* 1898.

Forwarded.

2. Undersigned is of opinion that the proposed conduit together with the provision of a sufficient number of tanks or reservoirs not permitting of leakage within the town for the storage of water will minimize considerably the difficulty experienced by the townsfolk during the hot weather. Care should also be taken by suitable arrangements to secure the purity of the supply both in its course to, and collection in, the town.

H. THOMSON, Surgeon-Major,
Ag. Sanitary Commissioner for Madras.

To the Secretary, Sanitary Board.

Resolution—No. 505-*S., dated* 6*th September* 1898.

The Sanitary Board resolves to submit to Government the correspondence quoted above, with reference to G.O., Mis. No. 1031 M., dated 8th June 1898, and to recommend the expenditure of a lakh of rupees on the improvement of the water-supply of Tuticorin as proposed by the President ; the balance over and above the cost of the conduit being expended on building water-tight reservoirs in different parts of the town, from which water could be drawn without waste or chance of contamination. If each water-tight cistern cost Rs. 300, 100 might be provided, and still leave Rs. 10,000 for connecting them by pipes with the conduit.

No. 2125 M., 12TH DECEMBER 1898.

2. The Sanitary Board observes with reference to the first paragraph of the Sanitary Engineer's note that if 84 per cent. of water is now lost in the open channel, the discharge through a water-tight channel and, therefore, from the tank might be reduced to that extent, and the town still get as much water as it does now, while the supply in the tank would last much longer.

(True Extract.)

R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Order—No. 2125 M., dated 12th December 1898.

The papers read above will be forwarded to the Municipal Council of Tuticorin for consideration and report as to whether it approves the scheme now recommended by the Sanitary Board and how it proposes to finance it, on the understanding that the Government will contribute from Provincial funds a moiety of the estimated cost and advance the balance at 4 per cent. interest repayable in 20 years.

(True Extract.)

H. TREMENHEERE,
Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin
" Sanitary Board. (through the Collector of Tinnevelly).

NOTES CONNECTED WITH G.O., No. 2125 M., DATED 12TH DECEMBER 1898.

[SUBJECT.—*Tuticorin water-supply scheme.*]

Previous papers.

G.O., No.	159 *M.,*	*dated*	14*th February*	1894.
" "	1571 *M.*	"	16*th September*	1896.
" "	1031 *M.*	"	8*th June*	1898.
" "	1176 *M.*	"	4*th July*	"
" "	1349 *M.*	"	28*th* "	"

From the Sanitary Board, No. 505-*S., dated* 6*th September* 1898.

With its resolution No. 263-S., dated 21st November 1896, disposed of in G.O., No. 1031 M., dated 8th June 1898, the Sanitary Board submitted, for the consideration of Government, five schemes for the water-supply of Tuticorin, suggested by the Sanitary Engineer, and recommended the adoption of one of two schemes, which were estimated to involve a capital outlay of Rs. 3,30,000 and Rs. 2,68,000, respectively, and an annual maintenance charge of Rs. 18,310 and Rs. 14,970. As, however, the adoption of any particular scheme depended mainly on the amount of contribution or aid which the Government could afford to give to the Municipal Council, the Government in its order quoted above, expressed its regret that nothing could be done until its financial position was clearer, and also requested the Sanitary Engineer to state what progress had been made in the preparation of the cheap gravitation scheme referred to in his letter No. 2741, dated 4th September 1896, recorded in G.O., No. 1571 M., dated 16th September 1896. His Excellency the Governor, while approving the draft order in this case, observed as follows:—

"I accept with regret the draft Government Order. But I should be glad if "the matter is brought to notice after the lapse of four months, when perhaps our "financial position may have become more assured."

2. The necessity for the provision of a proper system of water-supply to Tuticorin, having been brought to the notice of His Excellency the Governor, when he last visited the town and the Government being of opinion that it would be premature to seek for means for providing funds for a scheme, until it was known what it would cost, the Sanitary Engineer was again requested in G.O., No. 1349 M., dated 28th July 1898, to submit, as soon as possible, the best cheap scheme he could devise for the water-supply of the town.

3. In reply to G.O., No. 1031 M., dated 8th June 1898, the Sanitary Engineer stated that the cheap gravitation scheme therein referred to was submitted by him to the Sanitary Board and by that body to Government with its resolution of November 1896, wherein this scheme was put down as scheme E, and he suggested that as Rs. 1,10,000 and Rs. 1,00,000, respectively, had been entered in the estimates of loans and grants for the current year as the probable amounts of grant and loan which might be required in 1899–1900, on account of the Tuticorin water-supply scheme, it was better that Government came to an early decision as to the particular scheme to be adopted so that the working plans, schedules and estimates might be prepared and got ready in the meantime—*vide* the Sanitary Engineer's letter recorded in G.O., No. 1176 M., dated 4th July 1898.

4. With reference to the enquiry made in G.O., No. 1349 M., dated 28th July 1898, Mr. Jones now states that he is unable to suggest any cheaper scheme than that alluded to in his letter quoted in the preceding paragraph, that it was not recommended by the Sanitary Board and that he does not see any chance of Tuticorin getting a cheap scheme as it must pay proportionately more for its water than other towns more fortunately situated.

5. In its resolution read above, the Sanitary Board recommends the expenditure of a lakh of rupees on the improvement of the water-supply of the town, consisting of the construction of a masonry conduit from the tank to the town (Rs. 50,000), and the provision of water-tight reservoirs, etc. (Rs. 50,000) in different parts of the town from which water could be drawn without waste or chance of contamination. The Sanitary Board points out that as 84 per cent. of the water in the tank is now lost in the open channel, the discharge through a water-tight channel, and therefore from the tank, might be reduced to that extent so that the town will still get as much water as it does now while the supply in the tank will last much longer, and that the improvements now proposed will not be inconsistent with an extension of the scheme whenever funds are available. The proposal of the Sanitary Board may, it is submitted, be approved.

H. TREMENHEERE.

6. The next point to be considered is about the ways and means. In G.O., No. 159 M., dated 14th February 1894, the Municipal Council of Tuticorin was given to understand that the Government would not contribute more than half the total cost of the water-works. If the Government adheres to this decision, the sum of Rs. 50,000 or one-half of the cost of the proposed work which will have to be contributed by Government may be appropriated from the grant of 1·50 lakhs provided under 45. Civil Works in the Provincial estimate of grants for 1898–1899, of which Rs. 97,470 will, as pointed out in a separate note for orders, be available for allotment for other purposes. The Council will have to raise the balance (Rs. 50,000) by a loan in the open market, as there is no provision in the Provincial budget, for loans to Municipalities. If a loan of Rs. 50,000 is taken on condition of repayment in 50 years with interest at 4 per cent., the annual payment required to liquidate the loan will be Rs. 381 and that, on account of interest, Rs. 2,000 or Rs. 2,381 in the aggregate. Apparently the scheme will not involve any additional expenditure for maintenance. The taxes on buildings and lands are now levied at $6\frac{1}{4}$ per cent. of their rent value and the net current demand in 1897–98 was Rs. 13,112. The extra annual expenditure which will be rendered necessary by the execution of the work can be met by the levy of a water and drainage tax of $1\frac{1}{4}$ per cent. on all houses and lands in the town. It is therefore submitted that the scheme proposed by the Sanitary Board may be forwarded to the Municipal Council for consideration and report as to whether it approves the scheme and how it proposes to finance it, with the intimation that Government will contribute a moiety of the estimated cost and that the balance should be raised by a loan in the open market as the Government is unable at present to advance any money from Provincial funds.

H. TREMENHEERE.

H. W. B[LISS.]

For orders.

H. TREMENHEERE.

Please see file on lapses of Provincial grants.

H. TREMENHEERE.

I think they may raise the whole of the money themselves.

H. W. B[LISS]—31-10-98.

Are we not under a promise or understanding to give the Municipal Council, Tuticorin, the half of the cost of their water-supply?

A. E. H[AVELOCK]—4-11-98.

V. RAGHAVA CHARLU—8-10-98.

H. TREMENHEERE—11-10-98.

[G.O., No. 2125 M., dated 12th December 1898.]