

1. Number of pages / 2
2. Date of receipt / 2. 11
3. Initials of Reference

M.R.O. 1-22,400-22-11-30

MADRAS RECORD OFFICE.

Government of Madras.

Police DEPARTMENT.

G.O. No.	362	Press ~~Mis.~~
Dated	6-4-	1867

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Department,

6th April 1867.

No. 23. Read the following Proceedings of Government in the Public Works Department, dated 29th March 1867, No. 985.

Deputing Captain Tulloch to Europe to study the modes of drainage adopted there, in view to their adoption in this City. } (Vide Proceedings, Public Works Department, dated 29th March 1867, Nos. 721—724).

No. 24. ORDER THEREON, 6th April 1867, No. 362.

Communicated to the Sanitary Commissioner, and also to the Madras Municipal Board.

(Signed) A. J. ARBUTHNOT,
Chief Secretary.

To the Sanitary Commissioner.
,, Madras Municipal Commissioners.

Exd. J. Tulloch.

*Proceedings of the Madras Government, Public Works Department,
5th July 1867.*

No. 131. Read the following Despatch from the Right Honourable the Secretary of State for India, (Public Works,) to His Excellency the Right Honourable the Governor in Council, Fort Saint George, dated India Office, London, 31st May 1867, No. 18:—

1. I have had before me in Council your Despatch, No. 16 of 29th March last, advising Captain Tulloch's deputation to Europe on full pay and allowances for eight months, with a view to his inquiring into the various modes of removing sewage in operation in this and other countries.

2. Without questioning the importance of your object in making this arrangement, I think it necessary to point out that the arrangement itself is of an unusual character, and might, if passed over without comment, create an inconvenient precedent. The proper course would have been that followed in the somewhat analogous case of Captain Haig in 1857, viz., to apply for the previous sanction of the Home Government. I request that this essential preliminary may not be omitted in future.

3. In the present instance I confirm your proceeding. All due assistance shall, as you request, be afforded to Captain Tulloch in the prosecution of the object of his mission.

No. 132. ORDER THEREON, 5th July 1867, No. 2,002.

ESTABLISHMENT, No. 8.

Ordered to be recorded.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Exd. S. T. Augustin.

MINUTE BY HIS EXCELLENCY THE PRESIDENT.

1. A supply of pure water for Madras has now been secured. Either by means of annual appropriations from the public revenue or by means of a loan, a competent quantity of water will be delivered by Government on the outskirts of the city. It remains with the Municipal authorities to make the proper provisions, in connection with Government, for the distributive part of the project.

2. Under these circumstances, it appears desirable that the greater and more arduous scheme of removing the sewage of the town should engage our early attention, and that certain preliminary measures should be sanctioned with a view to the accomplishment of that capital object.

3. The liquid and semi-liquid sewage of Madras at present in part evaporates in open, almost level, drains or gutters, in part it percolates into the sub-soil, in part it is conveyed slowly into the Cooum, Cochrane's canal, and the sea. In every case it poisons the water and the air. If Madras is still habitable, it is owing to the admirable conjunction of a dry, wholesome, sandy soil, with a regular sea breeze, and an abundant subterranean water supply. But the benefits of nature are combated by the neglects and abuses of man, and should the present condition of the city remain long uncorrected, there can be little doubt that the evil influences will get the upper hand. Happily the mischief already perpetrated, and the danger to be apprehended in the future, are thoroughly recognized and understood, while the most appropriate and effective remedy has been submitted, in the able project for the drainage of Madras, by Captain Tulloch, which is now under the consideration of Government.

4. It is not my purpose to go into the details of Captain Tulloch's scheme, or to ask the Government to pledge themselves to it by adoption in every particular. I submit to Council the expediency of simply affirming the following leading principles, which form the basis of the plan, and of affording Captain Tulloch the means of improving his professional knowledge for our benefit, and for the more effectual execution of the work when the financial means shall be secured for that purpose.

5. The principles which I think the Government may safely assert are the following:—

(1.) That the sewage of Madras ought to be moved by water and by a system of covered drains, not by carts or other mechanical means in connection with the dry earth system.

(2.) That the sewage ought to be conveyed to some spot to the north of the city, at a sufficient distance, and that it should be there appropriated to the purposes of fertilizing the soil, not discharged into the sea.

6. To these principles I would add the following affirmation of our general views as to the financial means by which the project may be carried out:—

(1.) The Government are of opinion, having in view the imperial interests at stake in the capital of the Presidency and the poverty of the Native community, that one-half of the expenditure incurred on this work should be defrayed directly by the State, either in the form of annual appropriations of revenue, or by means of a loan to be raised for this purpose, the interest of which shall be defrayed by Government.

(2.) That the other half of the expenditure incurred should be borne by the Municipality of Madras, which should be empowered to raise a Municipal loan for that purpose, guaranteed by Government.

7. For the purpose of enabling Captain Tulloch to mature his knowledge and his views, I submit that he be authorized to proceed to England for eight months on full pay, with the allowance which may be thought necessary not only to defray his travelling expenses there and back, but to enable him to repair to various places in England where drainage works and sewage irrigation works are now in progress.

8. Before going to England I think it desirable that Captain Tulloch should visit Ootacamund, with the view of conferring with the Executive Engineer at that place on the means of conveying the sewage of the Native town beyond the basin of the lake. Ootacamund, destined to be the Sanitarium at least of Southern India, is already in a state of deterioration, in consequence of the accumulation of filth in the centre of the station. There would, it is believed, be no difficulty in carrying off the sewage of the town through an iron pipe, to be laid either under the water of the lake or along its margin, and the attention of Captain Tulloch might be advantageously directed to the question of levels, and to that of the diameter and character of the conduit which would be most available for the object indicated.

9. The Council will, perhaps, also concur with me in thinking that Captain Tulloch should remain a few days in Malta, for the purpose of inspecting the system of subterranean reservoirs for rain-water in the Island, a system which it may become necessary to introduce at Bangalore, Bellary, and elsewhere, for the better supply of drinking water to our Military establishments.

16th February 1867.

(Signed) NAPIER.

MINUTE BY THE HONOURABLE SIR T. PYCROFT, K. C. S. I.

1. Captain Tulloch's project for the drainage of the town of Madras and its environs is incomplete. It provides only for the main and street drains, but not for the house drains. What the expense of these last will be, although doubtless very considerable, has not been ascertained, nor, of course, what part of such expense can be defrayed by the householders themselves, and what proportion will have to be met by the Municipality, or by Government, or by both.

2. The scheme is further imperfect, inasmuch as it appears from a passage in Chapter V. of the Report, at page 106, that it disposes only of the liquid sewage of Madras, and not of the solid sewage, which will have to be removed by the Municipal Commissioners in carts in much the same manner as at present.

3. Without committing myself to an entire concurrence in the views propounded in His Lordship's Minute, I quite agree with him that the thorough drainage of Madras is a very great desideratum. Looking also to the position of Madras as the seat of Government of this Presidency, and the site of numerous public establishments, and to its commercial and general importance, and remembering that the cost of effective drainage must, at the lowest estimate, be more than can be borne by the resources of the place, within any conceivable time, I think that the Government may fairly be expected to bear a part of the burden. In what shape, and to what extent such assistance should be afforded, I am not, at present, prepared to say, nor indeed until we have the whole measure before us in all its bearings, and its total ultimate cost, can any definite opinion be arrived at on the subject.

4. Meanwhile, I concur in His Lordship's proposal that Captain Tulloch be sent to England, that he may acquaint himself with the most approved systems of town drainage there followed, in view to his maturing and perfecting a scheme for Madras on his return to India.

23rd March 1867.

(Signed) T. PYCROFT.

MINUTE BY THE HONOURABLE H. D. PHILLIPS.

1. I have perused with interest what Captain Hector Tulloch has written about his drainage scheme, but must confess myself very doubtful of the possibility of ever having it completed by any means within the competency of the Madras Municipality.

2. The result may be otherwise, if extraordinarily liberal pecuniary assistance be given to the work by Government; but what the extent of that assistance should be, will depend on the probable cost of the work when Captain Tulloch has supplied estimates for the deficiencies to which Sir Thomas Pycroft draws attention, and which, I observe, have been subject of comment in the public prints.

3. As it is clearly desirable that Captain Tulloch should have the best possible opportunity of inspecting and studying the most recent improvements in drainage science and the great sewerage operations now in progress in London and on the Continent of Europe, to enable him to supply the deficiencies adverted to above, I concur in the advisability of directing that Officer to proceed to England as proposed by His Lordship the President.

25th March 1867.

(Signed) H. D. PHILLIPS.

Proceedings of the Madras Government, Public Works Department
29th March 1867.

Read the following papers:—

- No. 721. Minute by the Right Honourable the President.
(Here enter 16th February 1867.)
No. 722. Minute by Honourable Sir T. PYCROFT, K. C. S. I.
(Here enter 23rd March 1867.)
No. 723. Minute by the Honourable H. D. PHILLIPS.
(Here enter 25th March 1867.)

No. 724. ORDER THEREON, 29th March 1867, No. 985.

CIVIL WORKS, No. 76.

1. As the sanitary condition of Madras requires that early consideration should be given to the adoption of measures for carrying out a thorough system of sewage, the Government are of opinion that it is desirable that Captain Tulloch, whose attention has for a long time been engaged in preparing a scheme for the drainage of the city, should be deputed to Europe, in order that he may have an opportunity of inspecting and studying the various modes of removing sewage in successful operation throughout the larger towns of England or other countries, and of perfecting his acquaintance with the most recent and improved systems not only of main but of house sewage. Captain Tulloch will also be able to give his attention to the utilization of sewage by its application to the fertilization of land. With the full practical knowledge he has acquired, how far the methods of town drainage practised in Europe are applicable to this city, and will be in a position to prepare such a complete scheme as will be likely to commend itself to the approval of the public and meet with the support of Government.

2. Captain Tulloch will accordingly be permitted to proceed to Europe at the public expense, and to be absent for a period of eight months, retaining his appointment, and drawing during such absence his full pay and allowances.

3. A copy of these Proceedings, with the Minutes recorded above, will be communicated to the Secretary of State for India.

(True Extract.)



Colonel, R. E.,

Secretary to Government.

To Captain Tulloch, R. E.
To the Superintending Engineers, 4th and 5th Divisions.
" Controller of Public Works Accounts.
" Public Department.
" Military Department.

Exd. S. T. Augustin.

Aut of 16 April.

Pro 8 June 1867

Pro 10 June 1867

2/29 June 1867

Pro 11 June

Pro 12 June 1867
Pro 13 June 1867
Pro 14 June 1867
Pro 15 June 1867
Pro 16 June 1867
Pro 17 June 1867
Pro 18 June 1867
Pro 19 June 1867
Pro 20 June 1867
Pro 21 June 1867
Pro 22 June 1867
Pro 23 June 1867
Pro 24 June 1867
Pro 25 June 1867
Pro 26 June 1867
Pro 27 June 1867
Pro 28 June 1867
Pro 29 June 1867
Pro 30 June 1867

23. 24.

Pro 1 June 1867

The Secretary (Comm.)
The Secretary (Comm.)
The Secretary (Comm.)

Pro 1 June 1867

Pro 2 June 1867
Pro 3 June 1867
Pro 4 June 1867
Pro 5 June 1867
Pro 6 June 1867
Pro 7 June 1867
Pro 8 June 1867
Pro 9 June 1867
Pro 10 June 1867
Pro 11 June 1867
Pro 12 June 1867
Pro 13 June 1867
Pro 14 June 1867
Pro 15 June 1867
Pro 16 June 1867
Pro 17 June 1867
Pro 18 June 1867
Pro 19 June 1867
Pro 20 June 1867
Pro 21 June 1867
Pro 22 June 1867
Pro 23 June 1867
Pro 24 June 1867
Pro 25 June 1867
Pro 26 June 1867
Pro 27 June 1867
Pro 28 June 1867
Pro 29 June 1867
Pro 30 June 1867