1. Number of pages 22
2. Date of receipt 4-11-37
3. Initials of R.A. concerned

M.R.O. 1—58-4-8—29-11-29

MADRAS RECORD OFFICE.

Government of Madras.

Political (Annuity) DEPARTMENT.

G.O. No.	1538	Press Mis.
Dated	5	18

Not to be folded or roughly handled

No. 23. Read the following letter from Major E. LAWFORD, Superintending Engineer, in charge of the Central Office of Public Works; to W. H. BAYLEY, Esq., Acting Secretary to Government, dated 15th June 1858, No. 1174.

SIR,

With reference to Extract Minutes Consultation No. 697 dated 16th April 1858, I have the honor to submit the following remarks on the subject therein referred for the report of the Chief Engineer, and trust that the acknowledged difficulty attending the entire question of the Madras Town drainage and the outfall of the main sewer in particular will plead my excuse for a delay incurred not merely to form and mature my own opinions on the subject; but to obtain the aid and advice of others on whose judgment I believed the Government would place reliance.

1 Original letter No. 11, dated 27th May 1858, from Mr. Kennedy.
1 Do. No. 15, of 9th June 1858, from do.
1 Memo. from Captain O'Connell, dated 10th June 1858.

2. The subject indeed is one that cannot be lightly treated, nor will it be safe to adopt a mere suggestion, however plausible without following up all its consequences, and providing for all its possible results.

3. I need hardly perhaps for the information of Government state the circumstances of the case, but as the question may probably be referred for the consideration of the Government of India, it is necessary that I should clearly explain the difficulties to be overcome, and I shall therefore relate facts perfectly familiar to residents at Madras.

4. The main sewer of Black Town which is 1,860 yards in length, and conveys the sewage and surface drainage of a densely populated Town, discharges itself into the Sea close to the North-East face of Fort Saint George, and about 584 yards South of the Town. The fall of this drain is so small that the sewage during the dry season cannot pass onward with sufficient velocity, but flows slowly along the entire length of the tunnel, and generates every where but increasingly towards its lower extremity the gas which is emitted at every opening in foul and noxious effluvia.

5. The end of the tunnel is kept closed except at certain hours during low tide when the shutters are raised to allow the sewage to be discharged, but both at this period and other times, the stench proceeding from the outfall is intensely offensive, and is wafted either into the Fort or towards the Town according to the prevailing wind, producing nausea and excessive disgust.

6. The outfall however is not the only source of the nuisance, which is felt wherever an aperture, for the influx of surface drainage to the sewer exists, and thus more or less pervades the Town.

7. It is clear therefore that the mere palliation of the evil at one point, and that the extremity of the sewer cannot, and will not affect the producing cause, and that the Town will remain liable to the noxious influence of the gas from the sewer, unless its discharge could be accelerated, so as to cause the vapour to flow more rapidly along the sewer and give place to a purer atmosphere, and thus the merits of the plan now proposed by Conductor Patterson must be considered simply as tending to remove or alleviate a partial and local evil, and not as compassing the thorough improvement of the drain.

8. I understand the plan to be the construction of a well or reservoir near the outfall of the drain so deep as to hold a large body of water into which the sewage is to discharge continually, and the matter thus rendered quite fluid, is to be pumped up twice in 24 hours by a Steam Engine to a pipe, which must be on a high level to allow its contents to flow into the Sea, where a curve or bend is to force the discharge in a vertical direction.

9. The sketch accompanying the order above quoted is so imperfect as to mislead rather than otherwise, for I see no necessary connection with the present chimney (admitted on all hands to be useless) and the new mode of discharge. Nor do I think the position of the Engine would answer the purpose of pumping up the contents of the cess-pool without the escape of effluvia, but these are minor objections not demanding discussion.

10. The level on which the discharge pipe is to run, and the means of securing it from the action of the surf are however points less easily disposed of, and on which Conductor Patterson has not entered.

11. The objections which I entertain to this plan are first; that its effect can be only partial, and that its expense will certainly be such as if otherwise incurred, might effect more general good; secondly, I do not see any provision made against the overflow of the cess-pool, when during moderately heavy rain, it must be filled partly by the sewage washed down and partly by increase of springs. The effect of such surcharge of a cess-pool would for the time be as bad as anything now felt.

12. Thirdly. I see no remedy provided for occasional stoppage of the Engine from neglect or accident, when also the cess-pool would be in danger of over-flow.

13. Fourthly. I doubt the means of preventing the escape of effluvia from the works for the discharge of sewage.

14. The Government will see that Captain O'Connell is of opinion that the stoppage of the free discharge of effluvia from the Mouth of the drain will tend to increase its noxious effects in the Town, and that Mr. Kennedy considers it will be very difficult to prevent the escape of stench from the cess-pool.

15. In forwarding the plan to the Military Secretary, Dr. Sanderson has adduced the opinions of Captain Johnston and Mr. Wright, Civil Engineer in its favor, but the former Officer's view is so brief, and so evidently a mere private communication, that I can hardly think Government would attach to it any responsibility.

16. Mr. Wright's opinion is more decidedly expressed, but he clearly does not ascribe much efficacy to Mr. Patterson's plan *alone*, for he says, another Engine should "be erected *West* " of the Town for the purpose of pumping water and wash out drains, and carry the filth down " to the cess-pool," and thus he opens an entirely different proposition, altogether omitted in the plan now discussed.

17. I am therefore justified in the assertion that Mr. Patterson's plan has not received the deliberate and well considered support of any Engineer, and it seems to me that its difficulties have been altogether overlooked.

18. It is true that the opinion of the Committee of 1852, as quoted in para. 17 of Dr. Sanderson's letter appears favorable to the *principle* of this plan, but it is clear that the Committee supposed the drain to have fall enough to carry the sewage down to the point where it is to be pumped up, without such stagnation as to generate the gas which under existing circumstances causes the effluvia, and therefore the conditions are not identical.

19. I believe that if the drain had adequate slope, its prolongation into the Sea would effectually remove all ground of complaint of the state of its outfall, but in its present state it seems, as Captain O'Connell has suggested, that any measure tending to obstruct the escape of gas from the Mouth will certainly increase its intensity at other outlets.

20. In conclusion I beg to state as my deliberate opinion that the adoption of any general and effectual remedy for the nuisance arising from the Black Town sewer, involves either the reform of the drain, or the provision of such a reservoir of water as to secure its thorough flushing under all its present disadvantages.

21. I am unable as yet to submit a report on the sewerage of the Fort and the construction of Public Privies, as the Acting Garrison Engineer has delayed to furnish the necessary information.

Letter from Mr. R. KENNEDY, Executive Engineer, 3rd Class; to Major E. LAWFORD, in charge of Central Circle, dated Adyaur, 27th May 1858, No. 11.

Sir,

1. I have the honor to acknowledge receipt of your Resolution No. 599 of yesterday's date, calling upon me to hasten the completion of the estimates, for the discharge of sewage at the North Tunnel referred to me, as per Extract from Proceedings of the Chief Engineer, No. 9177, under date 21st April, in which I was required to place myself in communication with Doctor Sanderson and the Garrison Engineer.

2. Before doing more to the estimates, I avail myself of the opportunity, your Resolution of yesterday's date gives me to report, that in accordance with instructions, I immediately placed myself in communication with the above named Officers, who in reply stated they had no official information on the subject and Doctor Sanderson stated he would communicate with me as soon as he received the official intimation.

3. Consequently I did not feel myself at liberty to proceed in the matter till aided by their co-operation.

4. Your Resolution of yesterday's however leaves me apparently at liberty to proceed with the estimates which as in duty bound I must now do, protesting at the same time against thus being called upon to assist in carrying out a scheme, planned by others without in my humble opinion basing their statements on sufficient data.

5. The practicability of carrying out the scheme is not the question, but I would most respectfully submit the advisability of calling upon Conductor Patterson for the calculations by which he has reached the conclusion, that a six Horse Engine working twice a day morning and evening, would prove equal to pumping up the accumulated drainage of such a sewer, with the size of well required to hold the said sewage, and the means to be employed to make it air tight.

6. It is impossible to get depth at that locality, as the Sea level is about the same level as the bottom of the drain, consequently it appears to me that a reservoir to hold the accumulated drainage would have to be of considerable area, and unless made air tight the commotion caused by pumping would render the effluvia a thousand times worse than before.

7. Perhaps Conductor Patterson could also with very little trouble give us the cost price of the Engine, Pump and Pipes, as he seems to be quite familiar with them, I take it for granted that what he calls a knee-joint is simply a pipe with a bend in it, as a joint could be of no use where it is proposed to use it.

8. Having examined the drain and the ground near it since receipt of Resolution of 21st April, I beg you will allow me to lay before you what I consider a much simpler and surer and cheaper plan, and one which does not seem to have yet been proposed.

9. I would hermetically seal up the end of the drain and cover it well up with some of the groin boulders to protect it from the action of the surf.

10. Going back 50 yards or some more convenient distance out of reach of the surf, I would break in at the bottom of the drain, and their attach firmly and air tight a good sized cast-Iron Pipe of about a couple of feet diameter, and upon piles strengthened by a small Groin, I would carry it out into a sufficient depth of water and at the end dip it down by a bend considerably under low tide, it may be said, there is not sufficient fall, but it would run out at the pipe just as well as it does now, and if the water at high tide rushed back into the drain occasionally, it could do no harm but would rather be beneficial in clearing out the pipe.

11. By adopting this plan, there could be no possibility of the effluvia coming in contact with the air, consequently its disagreeable and noxious influences would be unknown.

12. This would save the original cost of Engine and Reservoir, and the permanent expence of working the Machinery and if found successful, which I cannot doubt, would very soon be adopted at all the other drain out-lets. There seems always to have been an idea in connection with the sewage, that it is necessary to raise it to allow it to run into the Sea. I cannot see why if it runs out from an open drain it would not run out equally well at the same level through a pipe carried out to Sea.

13. If it was advisable not to allow the surf to dash back into the drain, it could be rendered impossible by a self acting valve which would open outwards, but would become perfectly tight on outward pressure being applied to it. This valve is so well known that it is unnecessary to explain it. However, I believe the rushing back of the water would be advantageous in every way.

14. This simple plan would also be found to work infinitely better in connection with the flushing of the drains than the other. I believe a six Horse Engine would be found utterly inadequate to pump out both the sewage and flushing, while with the pipe I propose it would run out as fast as it could be let in.

15. Another evil consequent upon making the drainage dependent upon the working of an Engine is its liability to get out of order. It is different with flushing. The latter could be delayed a few days without harm, but not the former, as the drains would very soon choke up.

16. I will now proceed to the execution of your orders, and beg if you think the above plan worth notice, you will do me the honor of taking it up as may seem most advisable.

Letter from Mr. R. KENNEDY, Executive Engineer, 3rd Class; to Major E. LAWFORD, in charge of Central Office, dated Adyar, 9th June 1858, No. 15.

SIR,

1. I have the honor to forward abstract of estimate for raising the sewage and emptying it in the surf as per plan proposed by Mr. Conductor Patterson.

2. The invoices of Engines in the Arsenal do not contain the prices and in consequence I have estimated the Engine and Pump from my knowledge of their probable cost in England.

3. The Engine house estimated for is a single room 30 feet by 20 feet with flat roof and Teak beams and joists. From its being in a conspicuous locality, the estimate allows for a neat building and the present chimney may be used for the boiler if found necessary. The estimate will also allow for wells for the foundation, as the ground seems to have been made up, or otherwise for tolerably deep solid foundations.

4. From the additional consideration, I have necessarily paid to the subject my opinion regarding the inapplicability of this plan as expressed in my letter to you No. 11, dated 27th May 1858, is not altered, but confirmed, and when that plan was submitted I do not think the question could have been comprehensively considered by its proposer.

5. There seems to be no provision made for getting rid of the monsoon floods which would necessitate the keeping open the mouth of the drain during their action as at present and the periodical flushing would have to be got rid of in the same way.

6. Nor is it shown how the formation of noxious exhalations within the sewer would be less than at present, hence it seems to me that a pipe fixed to the bottom of the drain as I proposed in the letter alluded to would do equally well and be free from the disadvantages of using Machinery.

7. I beg to explain that my meaning in proposing to seal the end of the sewer hermetically was merely to cover it up with sand and stones so as to exclude contact with the atmosphere, but so that it could be opened by coolies in a few minutes whenever the freshes rendered it necessary. A Pipe of 2 feet would be quite sufficient to give vent to the flushing.

8. Having been consulted some time ago by an enterprising native Zemindar regarding the applicability of Wind-Mills to purposes of irrigation and not having seen in this country any really simple and efficient plan of one. I took up the subject and placed myself in communication with a Home Firm, by whose assistance I was placed in possession by the Steamer that arrived the day before yesterday, of plan and specification that leaves nothing to be desired.

9. The entire arrangement is so simple, that any common native Carpenter and Blacksmith could erect and manage the whole.

10. The whole Tower and Machinery is complete, the former entirely of wood. Although this portion of it could be easily made in this country I deemed it advisable to get one at least complete from the makers as a pattern.

11. I believe its power is from 6 to 8 horses. There are, merely a wind shaft driving the vertical shaft which drives the horizontal one on which the face plates are fixed, to which the pump-rods are directly attached.

12. There can scarcely be any country better adapted naturally for Wind-Mills than this one, from the regularity of the winds and their introduction would probably inaugurate a new era in the application of mechanical power.

13. It is in connection with the sewage question that I have ventured to bring the Wind-Mill to your attention, and in particular to the flushing portion of it.

14. An evil connected with Steam Engines is that they require skilled labour to manage them, and in addition they require a constant outlay for fuel, neither of which conditions attach to a Wind-Mill.

15. For filling reservoirs for flushing drains, or for irrigating land, regularity of time of working is of no importance and the Wind-Mill can thus have the advantage of every breeze by day or night while an intelligent Lascar, is all the attendance required.

16. I shall be happy to supply the plan and specification if at any time you require them and would have enclosed them now but that I require them for the Zemindar above mentioned, and have had no time to take a copy.

Abstract of estimate for works required for clearing the sewage at the North East angle of Fort Saint George as per Plan proposed by Mr. Conductor Patterson.

	Rs.
1. 6-Horse power Engine and Pump.....	4,500
300 feet of 6 inch Pipe weighing 6 tons at Rupees 90.....	540
Making and sinking Cess-pool 12 feet diameter and connecting ditto with main sewer (depth 15 feet.).....	310
Engine and Boiler house including erection of Machinery.....	1,500
24 Screw piles at 60 Rupees	1,440
Sinking do.	240
Scaffolding Superintendence and sundries.....	470
Total.....	9,000

Office Adyar, 9th June 1858.

(Signed) R. KENNEDY,
Executive Engineer 3rd Class.

Memorandum on a Plan for altering the termination of the main drain at the North-East angle of Fort Saint George, brought forward by Surgeon J. Sanderson, with the view of preventing the nuisance caused by the very offensive smells, which find there way from time to time into the Fort and Black Town.

Having been requested by the Superintending Engineer Southern Circle, to give in writing my opinion of the above Plan, I have the honor to state that if carried out completely, I am of opinion that it will palliate very considerably the evil as now felt by the Residents in the Fort, and in some parts of Black Town, but that it will at the same time very greatly increase it, in the parts of the Town near Popham's Broadway.

The main drain is a long and broad sewer, having but little fall, the sewage from Black Town flows along it very slowly in the dry season, and foul gases are generated from all parts of it, these gases, being lighter than the atmosphere rise in it, so that they will not be pumped out into a well placed at one extremity of a drain which has several openings in Black Town, whereby the secondary drains now enter.

The plan proposed is to sink a well near the mouth of the Tunnel, lead the sewage from the Tunnel, through a pipe into the well, and then pump it to a higher level, whence it is to be allowed to flow along another pipe into the Sea.

The good effects of this will be 1st, that the total quantity of gas generated in the main drain will be diminished in consequence of the more rapid passage of the sewage into the Sea than at present.

The evil which I anticipated is that, the gas there generated, instead of passing out at the extremity of the drain into the air near the Sea, and then being scattered and carried off by the land and Sea-breezes will find its way in increased quantities into the confined streets of Black Town, in which the nuisance is now very great.

Its effects will be to diminish the quantity of gas generated in the main drain, but at the same time, to return to Black Town all that is generated. I do not here make any allowance for the quantity of gas which may pass up Doctor Kelly's Chimney, as I believe the success of that work is very doubtful so that it may perhaps be closed, with the view of preventing any gas finding its way into the Fort.

Central Office of P. W.
Fort Saint George,
10th June 1858.

(Signed) P. O'CONNELL, Captain,
Assistant to the Chief Engineer.

No. 24. ORDER THEREON, No. 1538; dated 5th August 1858.

1. With reference to Extract from the Minutes of Consultation of the 16th April 1858, No. 697, the Officer in charge of the Central office submits, with his opinion, copies of two letters from Mr. Kennedy, Executive Engineer 3rd Class, and of a Memorandum by Captain O'Connell, stating their opinion on the Plan projected by Conductor Patterson, for obviating the offensive effluvia proceeding from the out-fall of the main sewer at the North-East angle of the Fort.

2. The opinions expressed by Major Lawford, and the Officers whom he has consulted, are unfavorable to Mr. Patterson's Plan, Captain O'Connell considers that its adoption will very considerably diminish the effluvium in the Fort, and in some parts of Black Town, but that it will at the same time very greatly increase it in the parts of the Town near Popham's Broadway. Mr. Kennedy objects to it chiefly on the ground that it will be very difficult to prevent the escape of effluvia from the well, which is to receive the sewage; and Major Lawford, after stating in paras. 11 to 13, the objections which he entertains to the project, expresses his deliberate opinion (para. 20) that the evil cannot be effectually removed except by a re-construction of the Black Town drain, or by the provision of such a reservoir of water as will secure its thorough flushing under all its present disadvantages.

3. Under the opinions expressed by Major Lawford, Captain O'Connell and Mr. Kennedy, the Right Honorable the Governor in Council is led to conclude that Mr. Patterson's Plan will merely have a partial and local effect in removing the evil complained of, and that it is not expedient therefore to adopt measures for carrying it into effect.

4. With regard to the remedy advocated by Major Lawford, the Governor in Council observes that this part of the question appears to be a matter for the consideration of the Municipal Commissioners; and the Governor in Council resolves to forward the foregoing letter and its enclosures to the Public Department, in view to such orders being passed on the subject as may there be deemed expedient.

(Signed) T. PYCROFT,
Chief Secretary.

Central Office of P.W.
Fort Saint George
15th June 1858.

No. 1174

1

From
The Superintending Engineer
In charge of the Central Office of P.W.

To
The Secretary to Government
Public Works Department.

Sir

With reference to Extract Minutes of Public Consultation No. 699 dated 16th April 1858 I have the honor to submit the following remarks on the subject therein referred for the report of the Chief Engineer, and trust that the acknowledged difficulty attending the entire question of the Madras Town Drainage and the outfall of the main sewer in particular will plead my excuse for a delay incurred not merely to form and mature my own opinions on the subject, but to obtain the aid and advice of others on whose judgment I believed the Government would place reliance.

2 The subject indeed is one that cannot be lightly treated, nor will it be safe to adopt a mere suggestion, however plausible without following

List of Enclosures. 3.
1 Letter No. 1107/27th May/58. from Mr. Kennedy
1-2d No. 15 of 9th June/58 from Do.
1 Memo. from Captain O'Connell 9/10th June/58.

8 I understand the plan to be the construction of a well or preservoir near the outfall of the drain so deep as to hold a large body of water into which the sewage is to discharge continually, and the matter thus rendered quite fluid, is to be pumped up twice in 24 hours by a steam Engine to a pipe, which must be on a high level to allow its contents to flow into the Sea, where a curve or bend is to force the discharge in a vertical direction..

9 The sketch accompanying the order above quoted is so imperfect as to mislead rather than otherwise, for I see no necessary connection with the present Chimney (admitted on all hands to be useless) and the new mode of discharge. Nor do I think the position of the engine would answer the purpose of pumping up the contents of the Cesspool without the escape of effluvia. But these are minor objections not demanding discussion..

10 The level on which the discharge pipe is to run, and the means of securing it from the action of the surf are however points less easily disposed of, and on which Conductor Patterson has not entered..

The

11 The objections which I entertain to the plan are first; that its effect can be only partial, and that its expense will certainly be such as if otherwise incurred, might effect more general good. Secondly, I do not see any provision made against the overflow of the Cesspool, when during moderately heavy rain it must be filled partly by the sewage washed down and partly by increase of springs. The effect of such surcharge of a Cesspool would for the time be as bad as anything now felt..

12 Thirdly I see no remedy provided for occasional stoppage of the engine from neglect or accident, when also the Cesspool would be in danger of overflow..

13 Fourthly I doubt the means of preventing the escape of effluvia from the works for the discharge of sewage..

14 The Government will see that Captain O'Connell is of opinion that the stoppage of the free discharge of effluvia from the Mouth of the drain will tend to increase its noxious effects in the Town, and that Mr Kennedy considers it will be very difficult to prevent the escape of stench from the Cesspool..

In

15 In forwarding the plan to the Military Secretary, Dr Sanderson has adduced the opinions of Captain Johnston and Mr Wright Civil Engineer in its favor, but the former Officer's view is so brief, and so evidently a mere private communication that I can hardly think Government would attach to it any responsibility..

16 Mr Wright's opinion is more decidedly expressed, but he clearly does not ascribe much efficacy to Mr Pattersons plan alone, for he says another Engine should be erected West of the Town for the purpose of pumping Water and wash out drains, and carry the filth down to the Cesspool," and thus he opens an entirely different proposition, altogether omitted in the plan now discussed..

17 I am therefore justified in the assertion that Mr Patterson's plan has not received the deliberate and well considered support of any Engineer, and it seems to me that its difficulties have been altogether overlooked..

18 It is true that the opinion of the Committee of 1852, as quoted in Para 17 of Dr Sanderson's letter appears favorable to the principle of this plan, but it is clear that the Committee supposed the drain to have fall enough to carry

the

the sewage down to the point where it is to be pumped up, without such stagnation as to generate the gas which under existing circumstances causes the effluvia, and therefore the conditions are not identical..

19 I believe that if the drain had adequate slope its prolongation into the Sea would effectually remove all ground of complaint of the state of its outfall, but in its present state it seems, as Captain O'Connell has suggested, that any measure tending to obstruct the escape of gas from the Mouth will certainly increase its intensity at other outlets..

20 In conclusion I beg to state as my deliberate opinion that the adoption of any general and effectual remedy for the nuisance arising from the Black Town sewer, involves either the reform of the drain, or the provision of such a reservoir of water as to secure its thorough flushing under all its present disadvantages..

21 I am unable as yet to submit a report on the sewerage of the Fort and

the

remaining

the construction of public privies as the
Acting Garrison Engineer has delayed to fur-
nish the necessary information.-

Central Office of P.W.
Fort St. George
15th June 1858.

I have the honor to be
Sir
Your Most Obedient Servant
L. Crawford Major
Supdg. Engr in charge of the
Central Office of P.W.

To
The Secretary to Government
P.W.D.

Remarks

the work which is therein
the Surveyor and Major Kan-
dy, after standing on Sam
11 & 13 the objections which
he entertains to the Project
supplies his deliberate Opi-
nion (Para 20) that the
said Channel be effectually
removed by cutting by a re-
Construction of the Bleak
Town channel or by the Pur-
rasm of such a reservoir
of water as will secure
to thoroughly flushing and
ter all the Purposes of
Drainage -

3. Under the Minutes
approved by Captain Sam
for Captain Hammond
and Mr Kennedy, the
Report Memorials the
Comment on (Communi
tee to consult them
with Authorities likewise with
Parnell; Rivers & Rankine
and Consult effectually
Remaining

Pd Work 1858 Department
& to Govt. 10th August
No. 1316.

From

The Supdg. Engineer
in charge of the Central Office
of P.W.

To The Secretary to Government
F.W.D.

Dated 15th
Recd 15 } June 1858.

Encls:- 3 Rets to Vs 5-9-58
No 1538 5th August 1858

Submitting remarks
agreeably to Extract Minutes
Consultation No 699 Dated
16th April 1858 on the question
of the Madras Town Drainage
and the outfall of the main
sewer.-

No. 23.

2 to Govt 20th April 58
57

Recd July 10th

remaining the evil complained of, and that it is not expedient therefore to adopt measures for carrying it into effect.

4. With regard to the remedy advocated by Major Sandford, the Governor in Council observes that this part of the question appears to be a matter for the consideration of the Municipal Commissioners, and the Governor in Council resolves to forward the foregoing letter and its enclosures to the Public Department, in view to such orders being taped on the subject as may there be deemed expedient.

WWB

10 Copies to Wm. Lee Esq. Asst. Q.M.G.
" " Lt. Col. Dallas R.A.

P.W.D.

No. 1538.

17

Extract from the Minutes of Consultation
Under date the 5th ~~June~~ Augt. 1858.

Read the following letter from the Superintending Engr. in charge of the Central Office of Public Works.

(Here enter 15th June 1858 No. 1174)

4

1. With reference to Extract from the Minutes of Consultation of the 16th April 1858. No. 697, the Officer in charge of the Central Office submits, with his opinion, Copies of two letters from Mr. Kennedy, Executive Engineer 3rd Class, and of a Memorandum by Captain O'Connell, stating their opinion on the plans projected by Conductor Patterson,

Patterson, for obviating the offensive effluvia proceeding from the outfall of the main sewer at the North East angle of the Fort.

2. The opinions expressed by Major Lawford and the officers whom he has consulted, are unfavorable to Mr. Patterson's plan. Captain O'Connell considers that its adoption will very considerably diminish the effluvium in the Fort, and in some parts of Black Town, but that it will at the same time very greatly increase it in the parts of the Town near Popham's Broadway. Mr. Kennedy objects to it chiefly on the ground that it will be very difficult to prevent the escape of effluvia from the

Cons 20 April/58 Nos 56–57.

Public Works 1858 Dept.ts
Dy. to Cons: Ditchy.s

No. 1538

Extract Minc: of Cons:
Dy 5th August/58.

From the Offg Chief Engineer Dy 13th Augt/58
& Dy 1836 in Cons: 24

After a deliberate consideration
of the various Reports submitted on the
Project for obviating the offensive effluvia
via in the main Sewer at the North
East Angle of the Fort are of opinion
that the plan will have but a partial
effect in removing the evil complained
of. Do not therefore consider it expedient
to adopt measures for carrying the Plan
into effect. The matter referred to the
Municipal Commissioners in view to
orders being passed to effect a remedy.

No. 23024

Dy Secy Revt