

Public Works (1898) Department.

G.O., No. 2081 W

DATED 13<sup>th</sup> August 98

[Despatch Abstract.]  
Drainage goole canal : Estimate of Rs 14680  
for constructing a 12" Stoneware pipe sewer from  
old manhole No 7, to new pipe sewer at  
Agharam, potacumund, sanctioned ~~Rs 14680~~  
~~Rs 14680~~ as Supplemental to previous Estimate  
aggregating Rs 4,1680; and the Ld. Deptt requested  
corroborate with remarks, to assist the  
Chairman, Municipal Council, potacumund,  
to place the requisite funds at the disposal of  
the Govt.



## BACK PAPERS.

FURTHER PAPERS.

BUILDINGS AND ROADS.  
CIVIL WORKS.

Government {1898} of Madras.  
PUBLIC WORKS.

*Recd.*

*Regd.*

{ 1898.

*Enclosures*

*Spare copies*

G.O., No. 2081 W., 13th August 1898.

## AUGUST.

### Drainage of Ootacamund

Estimate of Rs. 14,650 for constructing a 12" stoneware pipe sewer from old manhole, No. 7, to new pipe sewer at Agraharam, Ootacamund, sanctioned as supplemental to previous estimates aggregating Rs. 41,680; and the Local and Municipal Department requested, with remarks, to instruct the Chairman, Municipal Council, Ootacamund, to place the requisite funds at the disposal of the Public Works Department.



## GOVERNMENT OF MADRAS.

## PUBLIC WORKS DEPARTMENT.

Buildings and Roads.  
Civil Works.

READ—the following papers :—

From A. H. GARRETT, Esq., Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 6th June 1898, No. 296/W.

With reference to G.O., No. 780 W., dated 22nd March 1898, I have the honour to submit herewith, for sanction of Government, plans and estimate amounting to Rs. 14,650 for constructing a 12" stoneware pipe sewer from old manhole, No. 7, to new pipe sewer at Agraharam.

The Executive Engineer on special duty has been ordered to put the work in hand in anticipation of sanction.

From A. H. GARRETT, Esq., Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 10th July 1898, No. 367/W.

With reference to your telegram, dated 9th current, I have the honour to return herewith plan and estimate, amounting to Rs. 14,560, for constructing stoneware pipe sewer at Agraharam, Ootacamund, received with your memo., No. 3052 C., dated 4th July 1898.

From J. F. SOMERS-EVE, Esq., Executive Engineer on special duty, to the Chief Engineer, Public Works Department, dated Ootacamund, 14th July 1898, No. 198.

In compliance with your orders I have the honour to forward, for favour of early instructions, a land survey showing the land required for the new alignment of the Ootacamund main sewer from Hubbard Road to Charing Cross, and I offer the following remarks.

2. The red line on plan shows the position of the old sewer which requires renewal. This is in low ground and the new alignment was put higher up as shown by the blue line, so that the pipe sewer should be well below the surface of the soil.

3. It was thought that the land owners would have no objection to this, as they had previously allowed the old sewer to be put on their land. This, however, is not the case, and they state that, as they will not be allowed to build on the new sewer, they require compensation for the whole plot of land between the proposed sewer and the stream or old line of sewer.

4. In my opinion this land is too low and water-logged to build on, and this should not be allowed; and as the municipality have no powers to prevent it, it would be advantageous, even for this purpose alone, to acquire the land.

5. The stream here requires deepening and widening, and the earth from this could be utilized for levelling off and raising this piece of ground and then cultivated with rye grass or planted with blue gums which would improve the ground and which should be cut, before attaining any large size, for firewood for the municipality.

6. The matter will probably have to be dealt with some time or other, as I believe the land on which the old sewer stands has never been properly acquired. The stream requires widening and an inspection path is necessary and room for this is very scanty.

7. The alternative is to build the new sewer parallel and close to the old sewer, which I do not recommend as the land is low and too near the stream. Even if placed here, it will be necessary to acquire a strip of land.

8. One owner of the land talks about the value of the land at Rs. 5,000 per acre. This I consider exorbitant, and I should say Rs. 500 to Rs. 1,000 would be its value.

9. The extent required is 1.22 acre, of which 18 cents are already occupied by the old line of sewer.

10. Very early orders are requested, as all materials for the sewer are ready at the site.

ORDER—No. 2081 W., dated 13th August 1898.

The estimate, amounting to Rs. 14,650, for constructing a 12" stoneware pipe sewer from old manhole, No. 7, to new pipe sewer at Agraharam, Ootacamund, is sanctioned as supplemental to the estimates aggregating Rs. 41,680 sanctioned in the following Government Orders :—

|                                  |                                    |
|----------------------------------|------------------------------------|
| No. 378 W., dated 8th Feb. 1897. | No. 2917 W., dated 19th Oct. 1897. |
| „ 2102 W., „ 2nd Aug. „          | „ 1215 W., „ 13th May 1898.        |

2. The Local and Municipal Department will, with reference to paragraph 2 of G.O., No. 780 W., dated 22nd March 1898, be requested to instruct the Chairman, Municipal Council, Ootacamund, to place the requisite funds at the disposal of the Public Works Department.

3. As, under section 210 (1) of Madras Act IV of 1884, all drainage works in municipalities must be constructed under the direction of the Municipal Council, the abstract of the estimate now sanctioned, with a survey showing the proposed line of sewer, will be sent to the Ootacamund Municipal Council through the Local and Municipal Department, for formal approval, and that body will be requested to give the notice required by section 210 (3) of the Act to all owners and occupiers of property through which the new sewer will pass, pay the reasonable compensation for any injury done therein prescribed, and empower the Executive Engineer on special duty to enter upon the land for the purpose of constructing the sewer.

4. His Excellency the Governor in Council considers that it is unnecessary to acquire the whole plot of ground between the proposed sewer and the stream as recommended by Mr. Somers-Eve. It will suffice if the Municipal Council assesses and pays for, as above instructed, any injury done to the property traversed by the sewer.

(True Extract.)

Under Secretary to Government.

To the Superintending Engineer, IV Circle, with six enclosures including three plans.  
„ Examiner, Public Works Accounts.  
„ Local and Municipal Department.

Exd. T. K. Narayana Aiyangar.



Papers to be read in Proceedings:—

Again G.O., dated

189 , No.

Again G.O., dated

189 , No.

Current No. 4879 of 1898, dated 6<sup>th</sup> June, from the S. E. IV Circle

" " 5843 " 1898, " 10<sup>th</sup> July, " do

" " 6004 " 1898, " 14<sup>th</sup> July, " E.L. on special duty, Portacammund, N<sup>o</sup> 198

No 2081 W 8/13.8.98

ORDER.

Not date to be Comm. by the L & M. Dept. 13.8.98

The estimate, amounting to Rs 14,650, for constructing a 12" stoneware pipe sewer from old manhole, N<sup>o</sup> 7, to new pipe sewer at Agraharam, Portacammund, is sanctioned as supplemental to the estimates aggregating Rs 41,680 sanctioned in the following G.Os:—

- N<sup>o</sup> 378 W dated 8<sup>th</sup> February 1897
- " 2102 W dated 2<sup>nd</sup> August 1897
- " 2917 W dated 19<sup>th</sup> October 1897
- " 1215 W dated 13<sup>th</sup> May 1898.

2. The Local and Municipal Department with, with reference to para 2 of G.O. N<sup>o</sup> 780 W, dated 22<sup>nd</sup> March 1898, be requested to instruct the Chairman, Municipal Council, Portacammund,

The L & M. Dept. for favour of counter initials

Done  
Rm  
13.8.98

L & M for C. W. 8.98  
L & M Dept. 20.9.98



to place the requisite funds at the disposal of the Public Works Department.

3. As, under Section 210(1) of Madras Act IV of 1884, all drainage works in Municipalities must be constructed under the direction of the Municipal Council, the abstract of the estimate now sanctioned, with a survey showing the proposed line of sewer will be sent to the Botacamund Municipal Council through the Local and Municipal Department, for formal approval, and that body will be requested to give the notice required by Section 210(3) of the Act to all owners and occupiers of property through which the new sewer will pass, pay the reasonable compensation for any injury done therein prescribed, and empower the Executive Engineers on special duty to enter upon the land for the purpose of constructing the sewer.

4. His Excellency the Governor in

X Sent direct to the Chairman  
Orme with a d/o from W

in Council considers that it is unnecessary to acquire the whole plot of ground between the proposed sewer and the stream as recommended by Mr Somers Eve. It will suffice if the Municipal Council assesses and pays for, as above instructed, any injury done to the property traversed by the sewer.

W. B. S. 10-8-98

May

HT 10-8-98

T. B. S.

2/8/98  
The Suptg. Engineer, TC Circle,  
with Enclosures (6) 3/11/98  
" Examiner, P. W. Accounts  
" Local and Municipal Department.



C. No. 4879 & 5843.

- (2) HIS EXCELLENCY THE GOVERNOR.  
 (1) THE HON'BLE SIR HENRY BLISS, K.C.I.E.  
 THE HON'BLE MR. GROSE, C.I.E.

SUBJECT.

New pipe sewer at  
 Botacamund.

FOR ORDERS.

It is proposed to add the  
 following paras to the  
 draft order dated 22.7.80.

3. As, under Sec 210 (1) of Madras  
 Act IV of 1884 all drainage  
 works in Municipalities must  
 be constructed under the  
 directions of the Municipal  
 Council, the abstract of the  
 estimate now sanctioned, with  
 a survey showing the proposed  
 line of sewer will be sent to  
 the Botacamund Municipal Council  
 through the S.M. Dept. for formal  
 approval, and that body will  
 be requested to give the notice  
 required by Sec 210 (3) of the  
 Act to all owners & occupiers  
 of property through which the

Approved -

The Sec. might send a d.o.  
 to the Commr to ask him to convene  
 a special meeting of the M.C. (if  
 necessary) so that the matter may  
 be disposed of as speedily as possible.  
 I might be added that, if he has  
 any doubt as to the procedure on  
 anything else, I shall be glad to see  
 him & explain the position -

As d.o. sent  
 578798  
 10.8.98  
 A.H.  
 9.8.98

Flay S



new sewer into pass, pay  
the reasonable compensation  
for any injury done therein  
prescribed, and empower the  
Council: no special duty  
to enter upon the land  
for the purpose of constructing  
the sewer.

L.H.S. The Foreman in Council  
considers that it is unneces-  
sary to acquire the whole  
plot of ground between the  
proposed sewer and the  
stream as recommended  
by Mr Somers Esq. It will  
suffice if the Municipal  
Council assents & says so,  
as above instructed, any  
injury done to the property  
traversed by the sewer

*L.H.S.*  
*W.D.G.*

C. No 4879 x 5843

- (2) HIS EXCELLENCY THE GOVERNOR.  
(1) THE HON'BLE SIR HENRY BLISS, K.C.I.E.  
THE HON'BLE MR. GROSE, C.I.E.

SUBJECT.

New pipe sewer at  
Botacamund.

FOR ORDERS.

This is all  
right, then  
W.D.

I should imagine from the map  
that there will be no need for these  
provisions to be infringed in any  
case - Anyway, Govt will have  
nothing to do with the matter. The M.C.  
must find whatever means are required  
for connecting drains beyond which House  
owners could be compelled to pay  
W.D.

With reference to the Hon. Member's  
first question, either manholes  
or T pipes are provided in  
such positions that the drainage  
of the houses along Commercial  
road can be passed into  
the sewer by drains of vary-  
ing lengths, <sup>the execution of the</sup> which the Mun-  
icipal Council can compel under Sec.  
213 & of Act IV of 1884, provided  
that provisions <sup>of that section</sup> are not infringed. It would  
be impossible, except at  
prohibitive cost, to bring  
the sewer such as to these  
houses as to avoid expenditure  
by Govt under these two  
provisions, because the ground  
is so <sup>very</sup> <sup>valuable</sup>, & the cutting  
would be very heavy.



The estimate will be sent to the one directed - that course appears to be legally necessary. It will unfortunately take an unreasonable time, & the Co. has already entered in some of the land under written agreement from the owners. Has also his materials ready & is very anxious to proceed - ~~But the Government~~ until it will suffice if he sends a survey of the land to the Chairman O.M.C. with a report that the necessary steps may be taken to give him right of entry?

*L. H. S.*  
27.7.98

This agreement that the Co. has been entered into - I should not wonder if you with the written agreement, kept into trouble  
A.S.H.

As - if contract of site is also sent for formal approval. This course is involved in legal difficulties, but it is easy to avoid them. The position will have to be fully explained to the Council.  
A.S.H.  
30.7.98

Very Urgent  
The Hon. Sir Henry Blair, K.C.S.E.  
12. The Secretary to Government.  
Papers to be read in Proceedings

DEPARTMENT.

8

|                   |                                                    |
|-------------------|----------------------------------------------------|
| Again G.O., dated | 189 , No.                                          |
| Again G.O., dated | 189 , No.                                          |
| Current No. 4879  | of 1898, dated 6th June , from the S.E. IV Circle. |
| " " 5843          | " 1898, " 10th July , " -DO-                       |
| " "               | " 189 , " , "                                      |

ORDER.

The estimate, amounting to Rs. 14,650 for constructing a 12" stone-ware pipe sewer from old manhole, No. 7, to new pipe sewer at Agraharam, Ootacamund, is sanctioned as supplemental to the estimates aggregating Rs. 41,680 sanctioned in the following G.Os:-

- No. 378 W dated 8th February 1897.
- " 2102 W dated 2nd August 1897
- " 2917 W dated 19th October 1897
- " 1215 W dated 13th May 1898.

2. The Local and Municipal Department will, with reference to para 2 of G.O. No. 780 W, dated 22nd March 1898, be requested to instruct the Chairman, Municipal Council, Ootacamund, to place the requisite funds at the disposal of the Public Works Department.

The Secretary to Govt.  
L & M Department  
(for favours of Comm. terminals)

I understand from the papers that the manholes in the new sewer are to be constructed, and are to be together, as to allow of the draining of the houses along Council Rd. to be passed into the sewer. I have the sanction of which the Council can compel under S. 213 A of the Act (IV of 1884) - on this understanding I pass the draft of Sanction. The design estimate must be revised.

As taking up the land, see note below.  
23/7/98 A.S.H. 267.98  
Flag H

The Suptg. Engr. IV Circle, with enclos.  
,, Examiner, P.W. Accounts.  
,, Local & Municipal Dept.

*L. H. S.*  
22.7.98  
H.T.  
23.7.98  
Note.



Note.

The estimate was dealt with in the accompanying technical note, flagged K. The work is that entered as item 4 in para 7 of the Chief Engineer's note printed with G.O. No. 780 W dated 22nd March 1898. The approximate estimate there given by the undersigned was Rs. 17,000. The detailed estimate now received amounts to Rs. 14,650. The reduction is due to the fact that, for the reasons given in Para 6 of the report attached to the estimate, it is proposed to retain the first 400 feet of the old sewer.

2. This estimate was forwarded for sanction by the Superintending Engineer IV Circle with his No. 296/W dated 6th June 1898, and in doing so he stated that the Executive Engineer on special duty had been ordered to put the work in hand in anticipation of sanction.

This fact was not brought to my notice until the estimate was sent up to me after scrutiny in the technical branch, i.e. until 24th June, or 3 weeks after the orders to commence had been given. I have issued instructions which will prevent this occurring again. As soon as I was aware of the fact, I wrote to the Superintending Engineer and Executive Engineer in charge to stop

Flag H

Flag H.

3

stop work at once, partly because it was entirely irregular to commence so expensive a work without sanction, and partly because I wished to revise the estimate in various particulars, please see technical note flagged K.

3. The Executive Engineer replied that he had already incurred liabilities for materials, earthenware pipes, cement, etc., to the extent of Rs. 8,000, and that most of the former had already arrived, and the Superintending Engineer expressed his regret at having ordered the work to proceed in anticipation of sanction, and explained that he did so because he gathered from my note printed -- with G.O. No. 780 W dated 22nd March 1898, that the work was absolutely -- necessary, and he thought that Government wished the work pushed on as fast as possible.

4. As a matter of fact I did not intend to recommend the estimate -- for sanction until I had tried a flush with the old sewer, vide para 6 of my note-Flag H. But I went over the ground with Mr. Somers Eve on 9th July and found

(1) That an attempt had been made to properly flush the new pipe -- sewer because the flushing -- water escaped at every manhole



and other hole in the old sewer.

(2) That the holes in the old sewer were numerous, and its construction very weak, making a proper flush impossible.

(3) That great difficulty had, consequently, been experienced already in keeping the new pipe sewer clean.

(4) That the earthenware pipes were already on the spot.

(5) That the new manholes had been commenced, and that it was necessary to build them in cement to prevent their destruction by the mischievous idlers of Ootacamund.

(6) That great inconvenience was and would be caused by delay, owing to the necessity for diverting the sewage in places.

I therefore came to the conclusion that the work was unavoidable and that the best course was to submit the estimate for sanction as it stood, and to permit the work to proceed, and this I now do and have done.

5. It will be seen from technical note flagged & that the points I objected to in the estimate were

(1) that at the rates given (which

I have scrutinised but cannot, with any confidence, reduce) it would have been just as cheap to use iron pipes

(2) that portland cement concrete.

was unnecessary for the manholes in this high and dry situation.

With regard to point (1) the advantage of using iron pipes is that the joints are much fewer; there is therefore less trouble in laying and less likelihood of leakage thereafter. On the other hand the disadvantage of using iron pipes is that sewage corrodes them, and they may not have so long a life as earthenware pipes. I now think therefore that it is on the whole best to use the latter, and as stated above my inspection convinced me of the necessity for using Portland cement <sup>concrete</sup> for the manholes.

I therefore recommend the estimate for sanction with confidence that it is an absolutely necessary work, and provides nothing more than is necessary, either in materials or rates, for a sound and lasting job.

6. There is another point in connection with it, which has, however, to be settled speedily (please see linked file). On my inspection on 9th instant, Mr. Somers Eve represented that it was necessary to -- align the new sewer a little above the old, to bring it within soil, and so save it from mischievous damage, and increase its capacity to withstand the pressure of the flush. The

In regard to this, there are considerations which I did not notice when I prepared my note above & which will necessitate a change in the form of the order to be issued. Under S. 210(1) of the Municipal Act, the M.C. alone can construct these works. The M.C. must therefore sanction the estimate & employ the P.W.D. to carry it out & for this purpose the estimate of prices must now be sent to the M.C. -- To do otherwise would lead to difficulties about the land. The landowners naturally desire to be as much as they can out of their land & if the P.W.D. enters on it contrary to law they will have a very strong position. The P.W.D. will be unable to proceed & the Council can still deal with them accordingly. -- In fact, any one of these landholders can at once stop the work & obtain damages for the entry, even if he cannot prosecute the M.C. in the criminal Court. But, if action is taken in a proper



Papers to be read in Proceedings:—

Again G.O., dated

189 , No.

Again G.O., dated

189 , No.

Current No. 4879

of 1898 , dated 6th June

, from the S.E. IV Circle.

" " 5843

" 1898 , " 11th July

-DO-

" "

" 1898 , " 14th July

, the E.E. on special duty,  
Ootacamund.

ORDER.

With his letters read above the Superintending Engineer IV Circle submits for the sanction of -- Government an estimate of Rs.14,650 for constructing a 12" stoneware -- pipe sewer from old manhole No.7 to new pipe sewer at Agraharam, Ootacamund, and the Executive Engineer on special duty, in his letter No.198 dated 14th July 1898 proposes the acquisition of the land required for the new alignment of the sewer from Charing Cross to Hubbard road.

2. Under <sup>Section</sup> 21(1) of the Madras -- District Municipalities Act of 1884, the Municipal Council alone can construct drainage works. The Municipal Council must therefore approve of the present estimate and employ the P.W.D. to carry it out. The estimate will accordingly be sent to the Municipal Council for approval and submission

The Local & Municipal Department for favours of counter initials)

Substitute what I have written

old and proposed new line are shown on the plan in linked file. The owners of the swamp land through which both old and new sewer run, objected, however, to this proceeding, and said that the lands were building sites, and that as they would not be allowed to build over the sewer, the whole plot must be taken up and paid for, and one of them estimated its value as Rs.5,000 per acre! As a matter of fact the land would form a most insanitary building site, and building thereon should certainly be prohibited; and if this is impossible, it would be well to purchase it under the act, and level it and plant it up as suggested by the Executive Engineer. I presume it could be bought for Rs.2,000 per acre; and as 1.22 acres are required this would add Rs.2,440 to the estimate. The land occupied by the old sewer has never been taken up and paid for, and this should, it is thought, be now done, even if no new land is acquired, but I strongly recommend the purchase of the whole 1.22 acres. I beg for early orders on this subject; the cost of purchase can be sanctioned in a supplementary estimate.

The land holding will not be able to ~~compel~~ insist on the land being taken up under the Land Acquisition Act. all they are entitled to under S. 210(3) of the Land Act is "reasonable compensation for any injury done" which is in most cases but a trifle; and this "reasonable compensation" it will be for the W.C. owners and offrs. If the landholders don't accept it, they must sue to recover more - N.B. this the W.C. which must give notice before entry on the land.

23/7/98

A.9H 26.7.98

The alteration seems to start from Daljis land at Charing Cross, which is worth abt. Rs.5000 p.a. H.T.

From that to Rs.7500 9 fancy H.T.

I cannot see why - I don't know when the old sewer was cut - The Col. will have to check this statement - If more than 12 years ago, all claims are barred; and if since 1884 the law has been as above stated. Perhaps it was so before 1884, under act V of 1871 - Have a copy of that Act to refer to.

Please See notes H.T. above. 23.7.98.



submission to Government for formal sanction.

3. In regard to the proposed acquisition of land, it is not considered advisable to proceed under the Land Acquisition Act, as this procedure will lead to difficulties and as the land owners will naturally desire to get as much as they can. The best course appears to be that the Municipal Council should take the requisite steps for the acquisition of land. Section 210(2) of the Municipal Act empowers the Municipal Council to carry any sewer or drainage work through any street, garden, building or other place and the land owners cannot then insist on the land being taken up under the Land Acquisition Act. All that they are entitled to under ~~Section 210(3)~~ <sup>Section 210(3)</sup> of the Act is a reasonable compensation for any damage done, which would be but a trifle, and this reasonable compensation it will be for the Municipal Council to assess and offer. If the land owners do not accept it, they must sue to recover more. The survey plan of the land will ~~then~~ <sup>therefore</sup> be sent to the Municipal Council in view to the necessary notice being served on the land owners concerned, and the right of entry being obtained.

The Chairman, Municipal Council,  
Ootacamund with abstract  
estimate & survey plan.

The S.E. IV Circle with other  
enclosures.

,, Executive Engineer on special  
duty Ootacamund.

,, Local & Municipal Department.

*This is necessary as the Municipality  
cannot sanction estimates of over 1,000 Rs*

(1) The Hon. Secy. in K.C. & B.  
(2) His Excellency the Governor.

Papers to be read in Proceedings:—

Again G.O., dated

189 , No.

Again G.O., dated

189 , No.

Current No. 4879 of 1898, dated 6<sup>th</sup> June 1898 from

The S. E. IV Circle

,, " 5843 ,, 1898, ,, 10<sup>th</sup> July 1898, ,,

Rs.

,, " ,, 189 , ,, , ,

ORDER.

*The Secretary to Govt. L. & M. Dept.  
for favour of counterinitiate.*

The estimate, amounting to Rs 14,650 for constructing a 12" stone ware pipe sewer from old manhole, No. 7, to new pipe sewer at Agraharam, Ootacamund, is sanctioned as supplemental to the estimates aggregating Rupees 41,680 sanctioned in the following G. Os:—

No. 378 W, dated 8<sup>th</sup> February 1897

" 2102 W, dated 2<sup>nd</sup> August 1897

" 2917 W, dated 19<sup>th</sup> October 1897

" 1215 W, dated 13<sup>th</sup> May 1898.

2. The Local and Municipal Department will, with reference to para 2 of G.O. No. 780 W, dated 22<sup>nd</sup> March 1898, be requested to instruct the Chairman, Municipal Council, Ootacamund, to place the requisite funds at (the



the disposal of the Public Works Department.

APK  
15.7.98.

Cy

To,

The S.E. IV Circle, with encls.  
" Enr. P. W. Accounts.  
" L. and M. Department.

Note - The estimate was dealt with in the accompanying technical note, flagged R. The work is that entered, as item 4 in para 7 of the Chief Engineer's note printed with G.O. No. 780 W, dated 22 March 1898. The approximate estimate there given by the undersigned was Rs 14,000. The detailed estimate now received, amounts to Rs 14,650. In Memo No. 3052 C, dated 4 July 1898, the undersigned called for certain information with a view to further reducing the estimate, but after personal inspection, it was found that the work had proceeded too far to admit of any revision. The plans and estimates were therefore recalled, and are now submitted for sanction. The Suptg. Engineer's action in ordering the work to be put in hand in anticipation of sanction was entirely unauthorised, and he was told <sup>so</sup> in memo. No. 3052 C, dated 4 July 1898 above quoted.

Cy  
APK  
15.7.98

(continued in next sheet)

+ Flagged H.

The reduction is due to the fact that in the revised estimate it is proposed to retain the first 400 feet of the rail sewer

DEPARTMENT.

43  
509

C. No.

HIS EXCELLENCY THE GOVERNOR.  
THE HON'BLE SIR HENRY BLISS, K.C.I.E.  
THE HON'BLE MR. GROSE, C.I.E.

SUBJECT.

FOR ORDERS.

2. This estimate was forwarded for sanction by the L.R. IV Circle with No. 296 of 6th June 1898, & in doing so he stated that the Engr in special dnf had been ordered to put the work in hand in anticipation of sanction. This fact has not brought to my notice until the estimate was sent up to me after scrutiny in the technical hands, & until 24 June, or 2 weeks after the order to commence had been given. I have issued instructions which will prevent this occurring again. As soon as I



was aware of the fact.  
I went to the S.S. also  
Syr in chgo to stop work  
at once, partly because it  
was eating irregular to  
commence to commence  
a work without sanction  
I partly wanted to  
revise the estimate in  
hans' particular, please  
see Technical Note played R.

3. The S.S. replied that  
he had already incurred  
liabilities for material  
carbonaceous pipes, cement etc,  
to the extent of \$5000.  
that most of the former  
had already arrived, &  
that he expected his report  
at hand, where the work  
to proceed in anticipation  
of sanction, & explained  
that he did so because  
he feared, from my note  
printed with R.O. No 760 he  
dated 22 March 1888, that the  
work was absolutely necessary.  
He thought that for that  
reason the work should  
in aspect as possible.

Play H

4. In a matter of fact I did not  
intend to circumvent the estimate  
in sanction until I had tried a  
flush with the old sewer, while  
para 4 of my Note - Play H) -  
but I went over the ground into  
the sewer line on 9th May.

a found  
(1) that no attempt had been made at  
the prospect flush the new life  
sewer because the flushing water  
escaped through a man hole & the  
hole in the old sewer.

(2) that the holes in the old sewer  
were numerous, & its construction  
very weak, making a proper  
flush impossible.

(3) that great difficulty had been  
experienced in keeping the new  
life sewer clean.

(4) that the carbonaceous pipes  
had been  
holes had been  
that it was  
should them in



element to prevent their destruction  
by the mischievous editors of the  
(6) That great inconvenience was a whole  
caused by delay, owing to the necessity  
of directing the sewage in places.  
I have therefore come to the conclusion that the work  
that the best course was to submit  
the estimate for sanction as it  
stood, & to permit the work to  
proceed, and this I now do  
I have done  
5. It will be seen from Section II  
that the Flayed R that the limits  
I expected to in the estimate were  
(11) that at the water press (which I  
have scrutinized but cannot, with  
any confidence reduce) it would have  
been but as cheap to use  
as the pipes  
(14) that putting cement concrete was  
unnecessary for the manholes  
in this high dry situation.  
With the regard to limit (11) the advantage  
of using iron pipes is that the  
joints are much lower. There is  
no doubt that the  
respective disadvantages

the disadvantage of using these  
on the other hand. the disadvantage  
of using iron pipes is that sewage  
corrodes them, they may not last  
in my life as cast iron  
pipes. I now think this. But  
it is in the whole, best to use  
the latter, as stated above. I may  
mention in connection with the  
necessity for using  
the manholes -  
I therefore recommend the estimate  
for sanction with confidence that  
it is an absolutely necessary work,  
& provides nothing more than is  
necessary, either in material or  
cost, for a sound & lasting job.  
6. There is another limit in connection  
with it, which has however to  
be settled speedily - please see  
linked file - in my inspection  
on 5th inst. I have been able to  
ascertain that it was necessary to  
allow the new sewer a little  
to bring it within



soil, & to save it from unschismatic  
 damage, a measure its capacity to  
 withstand the pressure of the shock.  
 The old & proposed new line are  
 shown in the plan in linked  
 file - The owners of the swamp  
 land through which both old &  
 new lines run. Affected, however,  
 within boundary, a land, but the  
 lands were building sites, which as  
 they had not been shown to build  
 near the sewer. The whole plot  
 would be taken up a land for, & one of them  
 they estimated its value as  
 the 500000 are! As a matter of  
 fact the land would form a most  
 valuable building site, & building thereon  
 should certainly be prohibited; and if  
 this is impossible, it will be well  
 to purchase it under the Act, &  
 level it & plant it up in tropical  
 by the colony. I presume it  
 could be bought for 200000 are.  
 as 1.22 acres are up this  
 would add 1000000 are to estimate.  
 The land occupied in bushed  
 in or for a house.

can be  
 in effect, the cost of purchase  
 included in a supplementary estimate

in the interest  
 of the sanitation  
 of the town  
 1.22 are.

Dates  
 Despatch  
 Received  
 Survey  
 with the  
 main  
 to be

P.W.D.

2081W

GOVERNMENT OF MADRAS,  
Public Works Department,  
Ootacamund.  
August 1898.

Dear Mr. Hammett,

You will see from the accompanying G.O. that the Government wishes that the necessary steps for entering on the land required for the new alignment of the sewer from Charing Cross to Hubbard road should be taken by the Municipal Council. Please convene a special meeting of the Council if necessary so that the matter may be disposed of as speedily as possible. If you have any doubts as to the procedure or anything else, the Honourable Sir Henry Bliss will be glad to see you and expound the positions.

Yours faithfully,  
W. B. de Winton.

To George Hammett Esq. C.E.  
with a copy of the G.O. and the survey plan received with CR. 6004/98 and the sanctioned abstract estimate.

10/8/98

W. B. de Winton



Cus 6004

Submitted for  
approval.  
The estimate for  
the new pipe sewer  
as per statement  
was sent to you  
but will write  
a draft of 50.

W  
19/7/98

Estimate is  
now with you.  
AOK  
19-7-98.

Where is the  
[Signature]  
[Signature]

P.W.D.  
Ch. 60.

J. J. Somers Esq, Esq.  
Executive Engineer  
on Special Duty

Dated 14<sup>th</sup> } July 1898.  
Despd 14<sup>th</sup> }  
Recd 15<sup>th</sup> July 1898  
Recd 18<sup>th</sup> July 1898  
No. 198.

Enclosure 1/11a

Survey of lands required in connection  
with the new alignment of the City  
main sewer from Hubbard Road  
to Charing Cross.  
Forwards - for orders.

24

10/10/98

GOVERNMENT OF MADRAS.  
Public Works Department,  
Chennai.  
Received 1898.

Dear Mr. Somers,

You will see from the accompanying GO  
that the Government wishes that the necessary steps for  
entering on the land required for the new alignment  
of the sewer from Charing Cross to Hubbard Road  
should be taken by the Municipal Council. Please  
convene a special meeting of the Council if  
necessary so that the matter may be disposed of as  
speedily as possible. If you have any doubts as to  
the procedure or anything else, the undersigned  
deputy also will be glad to see you and explain the  
positions.

Yours faithfully,  
[Signature]  
[Signature]

to J. J. Somers Esq, Esq.  
with a copy of the GO. and  
the necessary plan received with  
C.O. 6004/158 dated the 24th  
of July 1898.



on which the old sewer <sup>stands</sup> has never been properly acquired. The stream requires widening and an inspection path is necessary and room for this is very scanty.

7. The alternative is to build the new sewer parallel & close to the old sewer, which I do not recommend as the land is low and too near the stream. Even if placed here it will be necessary to acquire a strip of land.

8. One owner of the land talks about the value of the land at Rs 5000 per acre. This I consider exorbitant, and I should say Rs 500 to Rs 1000 would be its value.

9. The extent required is 1.22 acres of which 18 cents are already occupied by the old line of sewer.

10. Very early orders are requested as all materials for the sewer are ready at the site.

I have the honor to be,

Sir,

Your most obed<sup>t</sup> servant,

J. L. Smeeth.

Executive Engineer  
on special duty.

and have no objection to this as they had previously allowed the old sewer to be put <sup>on the line</sup> there. This however is not the case, and they state that as they will not be allowed to build on the new sewer they require compensation for the whole plot of land between the proposed sewer and the stream or old line of sewer.

4. In my opinion this land is too low and water-logged to build on, and <sup>this</sup> should not be allowed and as the municipality have no power to prevent it, it would be advantageous, even for this purpose alone, to acquire the land.

5. The stream here requires deepening and widening, and the earth from this could be utilized for levelling off and raising this piece of ground and then cultivated with rice grass or planted with blue gums which would improve the ground and which should be put, before attaining any <sup>large</sup> size, for firewood for the municipality.

6. The matter will probably have to be dealt with some time or other as I believe the land

on



# Public Works (1898) Department.

CURRENT No. 5843

From

The Superintending Engineer  
Fourth Circle

No. 3676

Dated 10<sup>th</sup> July 1898

Received 11-7-98

Registered

Enclosures (7) Seven (3 plans)

Spare copies

SUBJECT.

Stone pipe sewer  
at Agraham Ottaca.  
mound. Returns plans  
and estimate amounting to  
Rs. 14500 for constructing.

Order

Office of the Executive Engineer  
on special duty.

Cotacamund, 14<sup>th</sup> July 1898.

No. 198.

From,

J. J. Somers Esq.,

Executive Engineer,

on special duty.

To,

The Chief Engineer,

Public Works Department.

Sir,

In compliance with your orders I have  
the honor to forward for favour of early  
instructions a land survey showing the land  
required for the new alignment of the City  
main sewer from Hubbard Road to Charing  
Cross, and I offer the following remarks:

2. The red line on plan shows the position of  
the old sewer which requires renewal. This  
is in low ground and the new alignment  
was put higher up as shown by the blue  
line, so that the pipe sewer should be  
well below the surface of the soil.

3. It was thought that the land owners  
would

of 66 0  
15/7/98



FURTHER PAPERS.

No. 3674

SUPERINTENDING ENGINEER'S OFFICE,

4th Circle.

4th Circle.  
Coinitative ~~Camp~~ 10<sup>th</sup> July 1898

From,

A. H. Garrett Esq  
~~THE~~ SUPERINTENDING ENGINEER,

4th Circle.

To

The Chief Engineer  
P. W. Department

Sir,

ENCLOSURES

3 Plans

1 Report

1 Data sheet

1 Detailed estimate

i Abstract

6/48  
9-7-98  
tel

With reference to your telegram dated 9<sup>th</sup> current, I have the honor to return herewith plan and estimate amounting to Rs 14,560 for constructing stoneware pipe sewer at Agraharam, Ootacamund received with your Memo No 3052 C dated 4<sup>th</sup> July 1898.

I have the honor to be  
Sir

Your most obed<sup>t</sup>. servant

Answered.

Supg Engineer H. L. Cole

10/7/98



N<sup>o</sup> 3052C-d/4-7-98

P.H.D.  
Memo:

In returning the plan and estimate amounting to Rs. 14,650, for constructing a 12" stoneware pipe sewer from old to new pipe sewer at Agraharam, Ootacamund, submitted by the Suptg. Engineer, IV Circle, with his letter No 296 dated 6<sup>th</sup> June 1898, the undersigned has the honour to request that the estimate may be revised with reference to the following remarks and resubmitted as early as possible:

(1) It is quite unnecessary to build the manholes of such expensive material. Brick in surki mortar or Concrete in surki mortar is ample, the whole <sup>being</sup> plastered with Portland Cement.

(2) The

3<sup>th</sup>  
B.P.S.

6/7/98

24



(2) The rate for pipes is very high. It is thought that at current prices a 12" iron pipe could be laid for little if any more, and be more durable and far less trouble to joint. This should be reported on.

(3) It is presumed that in using the terms right and left in his report, the Executive Engineer means right and left looking down stream. This should be made clear.

2. The Superintending Engineer had no authority to commence work in anticipation of sanction. The order should be cancelled at once.

*W. H. R.*  
*W. H. R.*  
 E. W.

To The S. E. IV Circle with encls.

seen by SW

401215W d/13.5.98  
 780W d/22.3.98  
 5337C d/9.12.97  
 840W d/29.3.98  
 1204C d/1.3.98  
 669C d/5.2.98  
 182W d/21.1.98  
 488C d/26.1.98  
 47W d/10.1.98  
 4840C d/19.11.97  
 5338C d/9.12.97  
 5337C d/9.12.97  
 3409W d/4.12.97  
 29389W d/20.10.97  
 2917W d/19.10.97

Public Works Department.

Current No. 4879  
 Letter No. 296 W  
 Dated 6<sup>th</sup> June 1898  
 From the Supt. Engr. II Circle

NOTE BY TECHNICAL SECTION.

Name of work. Constructing a 12" stone wall pipe sewer from old to new pipe sewer at Agraharam, Ootacamund.

Est. R. 14,650.

W  
 As the details of the scheme have to trans be called, & as the work has been actually started, it is submitted for sanction.

As had no power to order the work to that in anticipation. I have written to him to be D.O. to cancel the order. The estimate shall be returned with the following remarks.

It is quite unnecessary to build the manhole of such expensive material. Brick in such material is quite unnecessary in such material is

This Estimate was called for in G.O. No 780 dated 22<sup>nd</sup> March 1898.

The reasons for it are fully detailed in Chief Engineer's note dated 10<sup>th</sup> July pages 2 & 3 of the above G.O. The Executive Engineer in his report forwarding the Estimate states that the flush obtainable can not in practice be used fully as the water surplus out of the defective manholes, and use a higher pressure used the old sewer with 1/2 brick thick arch would undoubtedly not stand it for any length of time. Moreover the existing section with its flat bottom of 2 1/2" is not suitable for cleansing purposes and the sewer generally is seriously and badly



Alignment - In para 9 of the above mentioned note by the Chief Engineer a reference to para 6 of G. O. No. 107-M of 27<sup>th</sup> Jan 1897 (G. O. No. 378-M of 8.2.97) is made in which it is suggested that "a better line for the main sewer will be along Commercial Road &c". With this the Executive Engineer does not agree & says - "It is not clear whether the proposed main sewer was to be connected with the flushing sluice. It certainly should be, in which case the cutting would have been excessively heavy (in some cases 30 feet deep). The houses and land on the left of this line are very much lower (vide cross sections) and the branch drains & house connections would be very deep and expensive. The houses on the left side are at 100 ft. 101 ft. 102 ft. 103 ft. 104 ft. 105 ft. 106 ft. 107 ft. 108 ft. 109 ft. 110 ft. 111 ft. 112 ft. 113 ft. 114 ft. 115 ft. 116 ft. 117 ft. 118 ft. 119 ft. 120 ft. 121 ft. 122 ft. 123 ft. 124 ft. 125 ft. 126 ft. 127 ft. 128 ft. 129 ft. 130 ft. 131 ft. 132 ft. 133 ft. 134 ft. 135 ft. 136 ft. 137 ft. 138 ft. 139 ft. 140 ft. 141 ft. 142 ft. 143 ft. 144 ft. 145 ft. 146 ft. 147 ft. 148 ft. 149 ft. 150 ft. 151 ft. 152 ft. 153 ft. 154 ft. 155 ft. 156 ft. 157 ft. 158 ft. 159 ft. 160 ft. 161 ft. 162 ft. 163 ft. 164 ft. 165 ft. 166 ft. 167 ft. 168 ft. 169 ft. 170 ft. 171 ft. 172 ft. 173 ft. 174 ft. 175 ft. 176 ft. 177 ft. 178 ft. 179 ft. 180 ft. 181 ft. 182 ft. 183 ft. 184 ft. 185 ft. 186 ft. 187 ft. 188 ft. 189 ft. 190 ft. 191 ft. 192 ft. 193 ft. 194 ft. 195 ft. 196 ft. 197 ft. 198 ft. 199 ft. 200 ft. 201 ft. 202 ft. 203 ft. 204 ft. 205 ft. 206 ft. 207 ft. 208 ft. 209 ft. 210 ft. 211 ft. 212 ft. 213 ft. 214 ft. 215 ft. 216 ft. 217 ft. 218 ft. 219 ft. 220 ft. 221 ft. 222 ft. 223 ft. 224 ft. 225 ft. 226 ft. 227 ft. 228 ft. 229 ft. 230 ft. 231 ft. 232 ft. 233 ft. 234 ft. 235 ft. 236 ft. 237 ft. 238 ft. 239 ft. 240 ft. 241 ft. 242 ft. 243 ft. 244 ft. 245 ft. 246 ft. 247 ft. 248 ft. 249 ft. 250 ft. 251 ft. 252 ft. 253 ft. 254 ft. 255 ft. 256 ft. 257 ft. 258 ft. 259 ft. 260 ft. 261 ft. 262 ft. 263 ft. 264 ft. 265 ft. 266 ft. 267 ft. 268 ft. 269 ft. 270 ft. 271 ft. 272 ft. 273 ft. 274 ft. 275 ft. 276 ft. 277 ft. 278 ft. 279 ft. 280 ft. 281 ft. 282 ft. 283 ft. 284 ft. 285 ft. 286 ft. 287 ft. 288 ft. 289 ft. 290 ft. 291 ft. 292 ft. 293 ft. 294 ft. 295 ft. 296 ft. 297 ft. 298 ft. 299 ft. 300 ft. 301 ft. 302 ft. 303 ft. 304 ft. 305 ft. 306 ft. 307 ft. 308 ft. 309 ft. 310 ft. 311 ft. 312 ft. 313 ft. 314 ft. 315 ft. 316 ft. 317 ft. 318 ft. 319 ft. 320 ft. 321 ft. 322 ft. 323 ft. 324 ft. 325 ft. 326 ft. 327 ft. 328 ft. 329 ft. 330 ft. 331 ft. 332 ft. 333 ft. 334 ft. 335 ft. 336 ft. 337 ft. 338 ft. 339 ft. 340 ft. 341 ft. 342 ft. 343 ft. 344 ft. 345 ft. 346 ft. 347 ft. 348 ft. 349 ft. 350 ft. 351 ft. 352 ft. 353 ft. 354 ft. 355 ft. 356 ft. 357 ft. 358 ft. 359 ft. 360 ft. 361 ft. 362 ft. 363 ft. 364 ft. 365 ft. 366 ft. 367 ft. 368 ft. 369 ft. 370 ft. 371 ft. 372 ft. 373 ft. 374 ft. 375 ft. 376 ft. 377 ft. 378 ft. 379 ft. 380 ft. 381 ft. 382 ft. 383 ft. 384 ft. 385 ft. 386 ft. 387 ft. 388 ft. 389 ft. 390 ft. 391 ft. 392 ft. 393 ft. 394 ft. 395 ft. 396 ft. 397 ft. 398 ft. 399 ft. 400 ft. 401 ft. 402 ft. 403 ft. 404 ft. 405 ft. 406 ft. 407 ft. 408 ft. 409 ft. 410 ft. 411 ft. 412 ft. 413 ft. 414 ft. 415 ft. 416 ft. 417 ft. 418 ft. 419 ft. 420 ft. 421 ft. 422 ft. 423 ft. 424 ft. 425 ft. 426 ft. 427 ft. 428 ft. 429 ft. 430 ft. 431 ft. 432 ft. 433 ft. 434 ft. 435 ft. 436 ft. 437 ft. 438 ft. 439 ft. 440 ft. 441 ft. 442 ft. 443 ft. 444 ft. 445 ft. 446 ft. 447 ft. 448 ft. 449 ft. 450 ft. 451 ft. 452 ft. 453 ft. 454 ft. 455 ft. 456 ft. 457 ft. 458 ft. 459 ft. 460 ft. 461 ft. 462 ft. 463 ft. 464 ft. 465 ft. 466 ft. 467 ft. 468 ft. 469 ft. 470 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ft. 596 ft. 597 ft. 598 ft. 599 ft. 600 ft. 601 ft. 602 ft. 603 ft. 604 ft. 605 ft. 606 ft. 607 ft. 608 ft. 609 ft. 610 ft. 611 ft. 612 ft. 613 ft. 614 ft. 615 ft. 616 ft. 617 ft. 618 ft. 619 ft. 620 ft. 621 ft. 622 ft. 623 ft. 624 ft. 625 ft. 626 ft. 627 ft. 628 ft. 629 ft. 630 ft. 631 ft. 632 ft. 633 ft. 634 ft. 635 ft. 636 ft. 637 ft. 638 ft. 639 ft. 640 ft. 641 ft. 642 ft. 643 ft. 644 ft. 645 ft. 646 ft. 647 ft. 648 ft. 649 ft. 650 ft. 651 ft. 652 ft. 653 ft. 654 ft. 655 ft. 656 ft. 657 ft. 658 ft. 659 ft. 660 ft. 661 ft. 662 ft. 663 ft. 664 ft. 665 ft. 666 ft. 667 ft. 668 ft. 669 ft. 670 ft. 671 ft. 672 ft. 673 ft. 674 ft. 675 ft. 676 ft. 677 ft. 678 ft. 679 ft. 680 ft. 681 ft. 682 ft. 683 ft. 684 ft. 685 ft. 686 ft. 687 ft. 688 ft. 689 ft. 690 ft. 691 ft. 692 ft. 693 ft. 694 ft. 695 ft. 696 ft. 697 ft. 698 ft. 699 ft. 700 ft. 701 ft. 702 ft. 703 ft. 704 ft. 705 ft. 706 ft. 707 ft. 708 ft. 709 ft. 710 ft. 711 ft. 712 ft. 713 ft. 714 ft. 715 ft. 716 ft. 717 ft. 718 ft. 719 ft. 720 ft. 721 ft. 722 ft. 723 ft. 724 ft. 725 ft. 726 ft. 727 ft. 728 ft. 729 ft. 730 ft. 731 ft. 732 ft. 733 ft. 734 ft. 735 ft. 736 ft. 737 ft. 738 ft. 739 ft. 740 ft. 741 ft. 742 ft. 743 ft. 744 ft. 745 ft. 746 ft. 747 ft. 748

(4) The rate in 1911  
is very high. This  
thought that at current  
prices a 12" line  
could be laid for  
little if any more,  
a half more double  
or less than the  
cost. This should  
be reported to.

(2) This heernumet that  
in using the heernumet  
right & left in the  
right the baby  
means right & left looking  
down stream - this  
should be made clear.

The S.S. had no authority  
to commence work in  
antislavery of sanctification  
the order should be cancelled  
at once H. A. S.

and certainly should not be drained into the old main sewer if left in its present condition. If the proposed line was not suggested to be connected with the flushing pipe, which would be wrong, I consider it could be laid at a somewhat higher level, though still with heavy cutting, but could not serve the houses to the left of it, & the houses on the right are few in number". For the above reasons he abandons this proposal. Long and 2 cross sections of the road are attached.

Parent Proposal. The accompanying survey shows (in blue) the newly laid 9" iron pipe H.C. from the recently built flushing sluice. The old sewer running parallel to the body stream is shown in red from C to F where it joins the lately constructed 12" stone ware pipe.

The proposed sewer is shown in blue from E to F. It has been kept a little higher than the old line to allow the sewer to be well within soil - When this is impossible allowance has been made to cover it with an earth bank, cross drainage being provided for.

From C to A it is proposed to retain the old sewer, reconstructing or repairing the manholes



In the following reasons:-

- a. Economy
- b. Because there is little sewage entering this portion.
- c. It is so close to the flushing sluice, with a good fall, that it is kept thoroughly clean.
- d. Because it is in fair order & well covered with earth, and it is thought that this part will stand the pressure of the flush.

The Longitudinal section & survey show the position of the new manholes, which have been carefully selected so that the branch drains may also enter them. No two manholes are more than 200 feet apart, and most of them considerably less.

Manholes. These are of the same pattern as those recently constructed along the main sewer, and which have proved very satisfactory; the manholes will be above ground level. Anything less substantial than that now allowed for is not recommended.

Pipes. These will be obtained from Messrs Burn & Co. They are of excellent quality, cheaper than English ones from Bombay and, it is thought, better.

When the soil is bad they will be laid on concrete 6" of larki mortar. This was found absolutely necessary in parts of the sewer recently laid.

It is suggested that when these

I don't think this is necessary. Why should there be allowance on "hard soil"?

\* Yes, a min. of 4 ft, as allowed by S.E. Eng<sup>l</sup>, is sufficient.

pipes are laid on hard soil they should be laid with a stone or brick below the joint thus:-



to prevent settlement and possible displacement of joint.

Earth bank. This is allowed to cover the pipe where it is too near the surface of the ground. It is considered to be distinctly necessary as a precaution against injury. Shown in brown on the Longitudinal section.

Cleaning rods. But have been provided, to keep the sewer clean.

Rates. Data is attached for the chief items. The rate of 0.10-6 for carrying & laying pipes is allowed, but will not be necessary if the work is executed in fair weather.

Compensation. Rs 400 is allowed for compensation in land.

From the Sup<sup>r</sup> Engr's letter no 2964 the Executive Engineer has been ordered to put the work in hand in anticipation of sanction.

14-7-98.  
17-6-98.  
The S.E. Engr's para 9 of Report does not mention what test Burn & Co guarantees with their stoneware pipes. Such



in pipes are generally tested to  
a head of 20' but cannot be  
depended on to continue to  
stand that pressure.  
A-11  
18-6-98.

# Public Works (1898) Department.

CURRENT No. 4879

From The Supg. Engineer  
4th Circle.

Order

No. 296  
W.

Dated 6th June 1898.

Received 38th June 1898

Registered

Enclosures 6. 7 (3 plans)

Spare copies

## SUBJECT.

12" Stoneware pipe sewer  
from old man hole to  
new pipe sewer at Agrahara.

Submits for sanction of  
Govt plans & est. amtg. to  
Rs 14,650 for constg. a

For Secretary  
This should be later in hold  
over.  
A-11  
18-6-98  
D-11

0-25 1898



BACK PAPERS.

FURTHER PAPERS.

| No.     | Date.    |
|---------|----------|
| 1215W   | 13-5-98  |
| 790W    | 22-3-98  |
| 5337C   | 9-12-97  |
| 840W    | 29-3-98  |
| 1204C   | 1-3-98   |
| 669C    | 5-2-98   |
| 182W    | 21-1-98  |
| 488C    | 26-1-98  |
| 182W    | 21-1-98  |
| 47W     | 10-1-98  |
| 4840C   | 19-11-97 |
| 5338C   | 9-12-97  |
| 5337C   | 9-12-97  |
| 3409W   | 6-12-97  |
| 4306W   | 23-10-97 |
| 2938-9W | 20-10-97 |
| 2917W   | 19-10-97 |
| 14578   | 23-9-97  |
| 2102W   | 2-8-97   |
| 3538    | 27-5-97  |
| 1700C   | 24-3-97  |
| 662W    | 6-3-97   |
| 1223C   | 3-3-97   |
| 378W    | 8-2-97   |
| 3214W   | 11-11-96 |
| 3977C   | 9-11-96  |
| 1738    | 24-10-96 |
|         | 8 file   |

No.  $\frac{296}{W}$

Supg<sup>n</sup> Engineer's office 4<sup>th</sup> Circle  
Bombay 6<sup>th</sup> June 1898.

From,

A. H. Garrett Esq<sup>r</sup>  
superintending Engineer 4<sup>th</sup> Circ.

7

The Chief Engineer  
P. W. department.

Sir

Enclosures 6

- 1. Estimate
- 1. Report
- 1. data sheet
- 3. Plans.

With reference to G. O. No. 7805 dated  
22<sup>d</sup> March 1898, I have the honor to submit  
herewith for sanction of Government plans  
and estimate amounting to Rs 14650 for constructing  
a 12" stoneware pipe sewer from old man hole  
No 7 to new pipe sewer at Agraharam.

The Executive Engineer on special duty has been ordered to put the work in hand in anticipation of sanction.

I have the honor to be,

Sir,  
Your most obed<sup>t</sup>. servant

Continued

Sup<sup>g</sup> Engineer & Circle.

3698



Sup. Engineer's Office, Jan.  
1852

1. The vessel  
2. The vessel  
3. The vessel

1. The vessel  
2. The vessel  
3. The vessel  
4. The vessel  
5. The vessel  
6. The vessel  
7. The vessel  
8. The vessel  
9. The vessel  
10. The vessel

Abstract Volume 1

2  
1

2