Public Works (1897) Department.

G.O., No. 2817 W

DATED 19 October 1897

21/10/97

[Despatch Abstract.]

Ootacamund drainage: Supplemental estimate of Rs. 5,720 for diverting the main sewer of the — sanctioned with remarks and the L. & M. dept requested to instruct the Ootacamund municipality to place the necessary funds at the disposal of the P.W.D.

90/4 7
19 w/7

P.W. 36.
1,600—20-11-96.

Indexed. 2/10

BACK PAPERS.

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

FURTHER PAPERS.

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

BUILDINGS AND ROADS.
CIVIL WORKS.

Government {1897} of Madras.
PUBLIC WORKS.

Recd. } 1897. *Enclosures*
Regd. } *Spare copies*

G.O., No. 2917 W., 19th October 1897.

OCTOBER.

Ootacamund Drainage

Supplemental estimate of Rs. 5,720 for diverting the main sewer of the —, sanctioned with remarks, and the Local and Municipal Department requested to instruct the Ootacamund Municipality to place the necessary 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 J. HANNAN, Esq., Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 15th September 1897, No. 504/W.

I have the honour to submit herewith, for sanction of Government, if considered advisable, an estimate amounting to Rs. 5,720 for diverting main sewer from old man-hole No. 37 to new man-hole No. 1 at Ootacamund.

The necessity for the work is explained by Mr. Somers-Eve in the report accompanying the estimate; but I am of opinion that the sanction of this estimate might be deferred until the flushing-sluice is constructed. It can then be demonstrated practically by actual flushing whether this portion of the sewer is so defective as to necessitate its abandonment.

Note by the Chief Engineer, Public Works Department.

The Superintending Engineer, in submitting the estimate, is of opinion that sanction to the estimate might be deferred until the flushing-sluice is constructed. As, however, the efficiency of the flushing-sluice will depend, to a great extent, on the new pipe line—for the existing line through Hobart Park is believed to be inefficient—it is not considered desirable to delay sanction on that account.

29th September 1897. (Signed) D. McNEIL CAMPBELL, Colonel, R.E., Chief Engineer.

Order—No. 2917 W., dated 19th October 1897.

The estimate amounting to Rs. 5,720, for diverting the main sewer of the Ootacamund drainage, is sanctioned as supplemental to the estimates aggregating Rs. 25,960 sanctioned in G.Os., Nos. 378 W., dated 8th February, and 2102 W., dated 2nd August 1897.

2. Through the Agraharam the line marked in red pencil in the accompanying pencil survey should be adopted.

3. The Local and Municipal Department will be requested to instruct the Chairman, Municipal Council, Ootacamund, to place the necessary funds at the disposal of the Public Works Department.

4. Attention is drawn to the Chief Engineer's note recorded above.

(True Extract.)

Under Secretary to Government.

To the Superintending Engineer, IV Circle, with six enclosures.
" Examiner, Public Works Accounts.
" Local and Municipal Department.

Exd. T. K. Narayana Aiyangar.

BUILDINGS AND ROADS.
CIVIL WORKS.

Government (1897) of Madras.

PUBLIC WORKS.

Recd. } 1897. Enclosures
Regd. Spare copies

Was this seen in the L & M. Dept before it was passed?
8/11/97

G.O., No. 2917 W., 19th October 1897.

Note for the Hon Sir Henry Bliss K.C.I.E.

Yes. The draft G.O. was counterinitialled by the Secy L & M. Dept. The original Pros. are submitted for inspection.
10.11.97
W

OCTOBER.

This being an important Municl work, with which I have had much to do, the plans & estimates should have been sent to me before the order issued
11/11/97

Ootacamund Drainage

Supplemental estimate of Rs. 5,720 for diverting the main sewer of the —, sanctioned with remarks, and the Local and Municipal Department requested to instruct the Ootacamund Municipality to place the necessary funds at the disposal of the Public Works Department.

noted
W 13.11.97

Hm. 10-11-97. R 12-11-97.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT

Buildings and Roads.
Civil Works.

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4. Attention is drawn to the Chief Engineer's note recorded above.

(True Extract.)

(Signed) W. B. deWINTON,
Ag. Secretary to Government.

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

Exd. T. K. Narayana Aiyangar.

[40/500]

Public Works DEPARTMENT.

Papers to be read in proceedings :—

Again G.O., dated 189 , No.
Again G.O., dated 189 , No.
Current No. 9313 of 1897, dated 15th Septr 1897, from the Supdg. Engr IV Circle
„ „ „ 1897, „ 29th Septr 1897, „ the Chief Engr. P.W.D.
„ „ „ 189 , „ „

No. 2917 W dated 19.10.97

B & R
Civil Works

E P

ORDER.

The estimate amounting to Rs. 5,720, for diverting the main sewer of the Ootacamund drainage, is sanctioned as supplemental to the estimates aggegating Rs. 25,960 sanctioned in G. Os. Nos: 378 W of 8th February and 2102 W of 2 Augt 1897.

A.G.H.
6.10.97

× Flag B

+ Flag C

To
The Secy to Govt. L & M. Deptt
for favour of counter-initials

~~2~~ 3 The Local and Municipal Department will be requested to instruct the Chairman, Municipal Council, Ootacamund, to place the necessary funds at the disposal of the P. W. D.

2 Through the Agraharam the line marked in red pencil in the accompanying pencil survey should be adopted.

15.10

~~3~~ 4 Attention is drawn to the Chief Engineer's note recorded above.

30/9/97

CW 1811
30.9.97.
4/10/97

To
The S. E. IV Circle with 6 enclos
„ Exr. P. W. Accts &
„ L & M Deptt
2/11/97

T/B

2P

~~PROCEEDINGS OF THE MADRAS GOVERNMENT~~.

READ the following

Note by the Chief Engineer P.W.D.

The Superintending Engineer, in submitting the estimate, is of opinion that sanction to the estimate might be deferred until the flushing-sluice is constructed. As, however, the efficiency of the flushing-sluice will depend, to a great extent, on the new pipe line, for the existing line through Hobart Park is believed, to be insufficient, it is not considered desirable to delay sanction on that account.

30/9/97

R.J.H.
6.10.97

CWBS
28.9.97.

(40—4,000—14-3-95.)

Public Works (1897) Department.

CURRENT No. 9313

Order

From The Supg. Engineer 4th Circle.

No. 504/W

Dated 15th September 1897.

Received 18-9-97

Enclosures ~~4~~. 5 (1 Plan)

Spare copies ✓

SUBJECT.

Diverting the Main Sewer from old man hole No. 37 to new man hole No. 1 at Ootacamund.

Forwards plan & estc. amtg. to Rs. 5,720 for sanctn. of Government with certain suggestions for —

I For engineer scrutiny (Commissioner)

CM 18/9/97

✓

O.L-S. 4498 R 19/10

BACK PAPERS.

G.O.	No.	Department.	Date.
G.O.	2102W	P.W.D	2-8-97
"	378W	"	8-2-97

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No. 504/W

Suptg: Engineers office, 4th Circle
15th September 1897.

From

J. Hannan Esquire
Suptg: Engineer, Fourth Circle
Coimbatore

To,

The Chief Engineer
P. W. D. Madras.

Sir,

Enclo. 4
1. Estimate
1. Report
1. Survey (tracing)
1. Level sheet
4

I have the honor to submit herewith for sanction of Government if considered advisable an Estimate amounting to Rs 5720 for diverting Main Sewer from old man hole No. 37 to new man hole No. 1 at Ootacamund.

The necessity for the work is ~~fully~~ explained by Mr Somers Eve in the report accompanying the estimate; but I am of opinion that the sanction of this estimate might be deferred until the flushing sluice is constructed. It can then be demonstrated practically by actual flushing whether this portion of the Sewer is so defective as to

necessitate

ecessitate its abandonment.

I have the honor to be
Sir,
Your most obedient servant

V. Hannan

Suptg: Engineer, 4th Circle

P.D.S.

[43/500]

P. W. DEPARTMENT.

C. No. 9313 of 1897.

21/17 W

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.

With reference to His Excellency's suggestion, dated 6th Instant, a plan is herewith submitted showing the line of sewer already surveyed, and an alternative line in red pencil. Neither line will pass under houses, but only under compound walls which it is impossible to avoid without crossing the stream. The red line is recommended as keeping the sewer at a suitable distance from the houses.

L Hill
13.10.97
W.

Await H.E.'s return

W

CWM
14-10-97

READ the following:—

His Excellency the Governor.

FOR ORDERS.

~~With reference to His Excellency's suggestion, dated 6th inst., it is submitted that Mr. Somers Lee has to-day stated that the line through the Agraharam will avoid all houses, but pass through one small court-yard.~~

C.H.B.
9.10.97.

9/10/97

A plan is herewith submitted shewing the line of sewer already surveyed, & an alternative line in red pencil. Neither line will pass under houses, but only under compound walls which it is impossible to avoid without crossing the stream. The red line is recommended as keeping the sewer at a suitable distance from the houses.

13.10.97

43—500-22-1-96

FOR ORDERS.

Ootacamund Drainage — Works

P. W. DEPARTMENT.

READ the following: ~~Ch.~~ 9313

His Excellency, the Governor.

Note

~~FOR ORDERS.~~

The Superintending Engineer IV circle submits an estimate, amounting to Rs. 5720, for diverting the main sewer of the Ootacamund drainage works. The necessity for the work is as explained in the accompanying Technical note, the objects being:—

(i) To dispense with the existing insufficient line underneath the cricket ground portion of Hobart Park

(ii) To have the drain in a line where manholes will not be objectionable

(iii) To avoid crossing and re-crossing the stream, as in the case of the existing line,

H.E. 1-10-97 R. 6.10.97

and thus losing "head".

(iv). To shorten the connections from the market, bandy-stand &c.

2. The work, which is considered necessary, may be sanctioned.

30/9/97

C.H.B.B.
30.9.97.

FOR ORDERS.

Yes. The only suggestion I have to make is that the first portion of the drain from A. ~~should~~ ~~through~~ through the Agraharam should run behind the houses rather than under these. If the line is taken under the houses, there will be trouble in laying the drain and there will be no getting at it again afterwards.

A.G.H.
6.10.97

D.W.

Please say what alterations should be made in the draft order in accordance with H.E.'s remarks.

Maj
6/10/97

Dw

For orders.

22.9.97

[P. W. 60
250—28-4-97.]

Public Works Department.

Current No. 9313

Letter No. 504/w

Dated 15th Sept. 1897.

From the Supdg. Engineer IV Circle.

NOTE BY TECHNICAL SECTION.

Name of work. Diverting main sewer of the Ootacamund Drainage works.

Amount of Estimate Rs 5,720.

The S.E. IV Circle submits, for the sanction of Govt. if considered advisable, an estimate amounting to Rs 5,720, for diverting the main sewer from old man hole No. 37 to new man hole No. 1 at Ootacamund.

The necessity for the work is stated to be that the existing main sewer from Charing cross downwards past the old Agraharam & through the A.B.C. ground up to the junction of the Brewery drain consists of a poorly constructed masonry sewer provided with insufficient man holes, particularly where it passes through the A.B.C. ground. This portion of the sewer, it is stated, will have to be reconstructed only after the new flushing arrangements now under construction at Charing cross have been tried, but reconstruction at once between points A & B, on the survey plan, is considered

considered necessary by diverting the sewer along the lower bazaar road & constructing 6 man holes, as shown in red on the survey plan, in order that the sewer will not cross & re-cross the stream at points B & E, and that it could readily be inspected from the proposed man holes, further that the drain connections from the market, cart stands and houses will be much shorter & will not have to cross the stream as at present.

The fall of the sewer at proposed diversion will be 1.7 in 1129 feet or 1 in 664. This with a 12" pipe is expected to give a velocity of nearly 1.8 ft. per second, but by Neville's formula it will be observed that the velocity will be 3.42 feet per sec. thus:-

$V = 140\sqrt{RS} - 11\sqrt[3]{RS}$.

$R = \frac{d}{4}$ where d is diameter of pipe in feet = 12 inch = 1 foot.

S = Sine of slope $= \frac{H}{L} = \frac{1.7}{1129}$.

Then $V = 140\sqrt{\frac{1}{4}\times\frac{1.7}{1129}} - 11\sqrt[3]{\frac{1}{4}\times\frac{1.7}{1129}}$

$= 140\sqrt{.25\times.0015} - 11\sqrt[3]{.25\times.0015}$

$= 140\sqrt{.000375} - 11\sqrt[3]{.000375}$.

$\therefore \log V = (\log 140 + \tfrac{1}{2}\log .000375) - (\log 11 + \tfrac{1}{3}\log .000375)$.

$\log 140$ —— $= 2.1461280$

$\log .000375$ —— $= \bar{4}.5740313$

$\log 11$ —— $= 1.0413927$

Therefore

$\therefore \log V = \log 140$ —— $= 2.146$

$\tfrac{1}{2}\log .000375$ —— $= \bar{2}.287015$

0.433143

deduct

$\log 11$ —— $= 1.0413927$

$\tfrac{1}{3}\log .000375$ —— $= \bar{2}.858010$

$\bar{1}.899403$

$= 0.4331436$

$- \bar{1}.8994031$

0.5337405

$= 3.4178$ ft. per second

The length of the piping will be 1107 feet. It will consist of 12" stoneware pipes from Messrs. Burn & Co., Calcutta & laid on 6" of concrete in surkhi mortar with cement joints at an average depth of 6 feet.

Provision has been made for constructing 6 man holes of the type now built and for Rs 100 as compensation for lands proposed to be taken up at the back of Agraharam.

|| The rates cannot be checked.

The S.E. in submitting the estimate is of opinion that sanction might be deferred pending the construction of the flushing sluice for it is only then can be ascertained whether the portion of the existing sewer now proposed to be diverted is defective or not.

22.9.37

But T's calculations are wrong
CWSY.

If $v = 140\sqrt{.000375} - 11\sqrt[3]{.000375}$
log v does not = log 140 + ½ log .000375 − (log 11 + ⅓ log .000375).
To effect such a result as that v would have to $= \frac{140\sqrt{.000375}}{11\sqrt[3]{.000375}}$

We can not take out such an equation as this by logarithms.

$v = 140\sqrt{.000375} - 11\sqrt[3]{.000375}$

$\therefore v = 140 \times \overset{0.0193}{\cancel{0.07211}} - 11 \times 0.07211$

$= 2.7020 - 0.7932$

$= 1.9088$ feet per second which agrees quite near enough with Mr. Somers Eoc's 1.8 feet per second.

|| The rates are, I believe, the same as those passed before.

How can the flushing sluice be used without the pipe line?
CWSY
25.8.37

The estimate may be sanctioned.
CWSY
25.8.37

Considered necessary by direction of

G.O.