

(1) Number of pages

72

(2) Date of repair

27. 2. 39

(3) Initials of the Referencer

G

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

2566

Press
Mis.

179-80

Dated

12-12-1860.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
12th December 1860.*

No. 179. Read the following letter from Lieutenant-Colonel W. H. HORSLEY, Chief Engineer, to J. D. SIM, Esq., Acting Secretary to Government, dated Chepauk, 30th November 1860, No. 7,515:—

SIR,

4 Letters from District Engineer, Salem, Nos. 61, 69, 111 and 140, dated 28th June, 9th August, 3rd September and 13th October 1860.
1 Traffic Return.
1 Abstract Estimate, Rupees 6,545.

* No 5,141, dated 12th June 1860.
† No. 536, dated 30th May 1860.
Vide letter to Government No. 7,345, dated 26th November 1860, for the above correspondence.

‡ No. 61, dated 28th June 1860.

1. I have the honor to forward, for submission to Government, an Estimate of Rupees (6,545) six thousand five hundred and forty-five, for metalling certain portions of the Salem and Trichinopoly road, within the limits of the Salem District.

2. In reply to a requisition* from this Office, based on an inquiry† from the Post Master General as to whether the line of road between Salem and Trichinopoly by Námkaldrug was in a condition to admit of horsed conveyances passing over it at the rate of from 6 to 8 miles the hour in all seasons, the District Engineer of Salem reported‡ that this road, within his District, was generally in good order, but not having been metalled throughout, and two large jungle streams being unbridged "it is not in all parts fit for horse transit in all weathers;" and that he took sections of these streams in view of preparing Estimates for bridging them. Captain Gahagan, at the same time, promised a further report from the Executive Officer in charge of the Attur range.

3. On the 14th July 1860, No. 2,653, Captain Gahagan was requested to expedite the dispatch of the report in question, as well as the Estimate for bridging the two streams; and also to state, why he was not able to metal the Salem and Trichinopoly road throughout, submitting an Estimate for metalling such portions of the road as the maintenance allowance cannot provide for.

4. In compliance with the above request, Captain Gahagan forwarded three Estimates, two amounting to Rupees 2,680 and 3,660 for bridging the jungle streams, and the other for Rupees 350, for the construction of a large stone culvert required for a jungle stream on the same road near Rázipúr.

5. With regard to the inquiry why the road was not metalled throughout, the District Engineer states that the funds placed at his disposal were insufficient to do so.

6. The Estimates for the bridges were returned to Captain Gahagan, as the design was considered faulty. The revised Estimates were forwarded to this Office on the 15th October 1860, No. 140, and returned to the District Engineer for certain alteration in the rates for masonry work which were very high. These Estimates will be submitted to Government if received in proper time for entry in the Government Office in the Budget for the ensuing year, if considered of more importance than projects for which funds have been provided.

7. The District Engineer states that Government, having sanctioned Rupees 4,800 in addition to the present maintenance allowance (Rupees 105 per mile) of 150 Rupees per mile for 48 miles for the road between Attipilli and Malapadi out of the sum allotted in the current year's Budget for roads not provided with special grants in the District of Salem, two-thirds of the maintenance allowance, viz., Rupees 1,925, has been consequently deducted from the accompanying Estimate and that the net amount requiring sanction is Rupees 6,545.

8. The correctness of this deduction is very questionable, since the maintenance allowance alluded to is for the road from Attipilli to Mallapadi, having no connection at all with the Salem and Trichinopoly road, I have accordingly called upon the District Engineer for explanation on this subject, which will on receipt be laid before Government.

9. The work being one of very great importance, I have deemed it advisable not to delay the submission of the Estimate, as provision to the full extent has been made in the Budget for 1861-62 in this Office.

No. 180. ORDER THEREON, 12th December 1860, No. 2,566.

1. The Government sanction, for entry in the Budget of 1861-62, the Estimate of Rupees (6,545) six thousand five hundred and forty-five submitted with this letter, for metalling 19½ miles of the road from Salem to the Trichinopoly frontier.

Proceedings of the Madras Government, Public Works Department,
12th December 1860.

2. In paragraphs 7 and 8 of the Chief Engineer's letter there seems to be some misapprehension of Captain Gahagan's meaning. The Government understand Captain Gahagan, in his report of 3rd September No. 111, to refer to the existing maintenance allowance of the Salem and Trichinopoly road, which is 150 Rupees per mile. Two-thirds of this for 19 1/2 miles is exactly Rupees 1,925, which sum he has deducted from his gross Estimate of Rupees 8,470. The Government cannot trace any reference to the road from Attipilli and Malapadi, which is on the line from Bangalore to Tripatūr. The Chief Engineer's call for further information will clear up this point, and he is requested at the same time to ascertain why only two-thirds of the maintenance is available.

3. The road under consideration is of great importance, and the traffic on it will greatly increase when the Rail is open to Salem as it will be by the end of this month. The Chief Engineer is requested to ensure the early completion of the road for the whole distance. An Estimate of Rupees 22,300 has just been passed for the portion within the Trichinopoly limits.

(Signed) J. D. SIM,
Acting Secretary to Government.

No 7027.

Public

To save 7
Letter / D. J. G. Ch.
117 dated 9th Sept 1860.
1 Report 11/300/61
1 do 8/-
1 do 1/-
1 do 3/-
1 do 2207/-
1 do 3/-

With reference to para 4 of my letter No 7516, dated 30th Nov 1860, and to para 4 of my letter No 7516, dated 28th Oct 1860, I have the honor to forward, for submission to Govt, Plans, Specifications & two Estimates amounting together to Rs 6,370 for the undermentioned works in the District of Salem.

- 1 For constructing a bridge of 3 arches, and 20 feet span, across a jungle stream near Vylapatty, on the Salem & Trichinopoly Road Rs 3,340.
- 2 do a bridge of one arch of 30 feet span across a jungle stream near Namul, do do Rs 30.30.

Total Rupees 6,370

The return taken

sufficient to allow of it, and the traffic

near Kamuel during the quarter
ending 31st July 1907, shows an
average traffic of 357 Cots
and 102 Rock Ballocks per
day.

3. The accompanying Estimates, which have been examined in this Office and the necessary corrections made therein, have been approved by the Collector, and the rates allowed in them are not higher than are absolutely necessary for the construction of the works.

4th The Estimate for the construction of a large stone culvert over a jungle stream on this road near Rozipur, alluded to in my letter above quoted, has been returned to

The St. Engineer for revision,
and it will be submitted
to you in due season as
receipt.

5 As the Govt have re-
cognized the great importance
of this road, and directed
that arrangements be made
for the speedy completion of
the necessary repair and
improvement thereto,
I request therefore that
you will be good enough to
obtain the early sanction
of Govt for the immediate
execution of the works, the
aggregate amount, Rs. 10,370/- being charged from
the Reserve Fund in the
Budget for the current
financial year.

Signal marshes are sufficient to allow of it - and the traffic

Sauthern Circle Drac 7m

District Engineers Office

Saline 9th August 1860

~~I have~~ The District Engineer of Saline

To the Deputy Chief Engineer

Southern Circle Drive

St. George

Sir, In reply to your letter No 2653 of

Enclosures 10

2 Plans

3 Estimation

3 Abstracts

2 Reports...

Apr 14th ult^o (which did not reach me

until the 26th issue). I have the honor to

forward 2 estimates amounting respectively

to RA 2680 and OR 3000 for breeding

jungle streams on the plain and reaching
 the Gulf of Mexico and Valisulky to

After which an estimate amounting to

Rs 350 for a large rough stone Culvert.

required for a jungle stream in the same

road near Rajahmundry.

2. The last named volume can be
found at the following places:

Sanctioned by yourself as a Union Vice

I therefore request your aid

permission to proceed with it.

3. The road between Saline and Treibm.

has not been one talked throughout because

The friends at my disposal have not her

sufficient to allow of it - and the straits

The first 22 Nov/85
 No 11778

to the day for ever.

Oct 29 / 1891
Sept 9

Admission for Lane
from you to the
Hunt, & O'Leary & Bate
Mason, arising by rights.
\$200 \$370 per each front
of his 28 acres on the
Hollow & Washington St,
paid on the 26th of
Octem,

To J. D. C. Salem St. 1652
11th & 1st St. 160.
From D. J. C. 1652
To D. J. C. 1652

Central Office of P.W. *1979 Ross* Lieut. Colonel
Chepauk Chief Engineer P.W.
30 November, 1860.

[illegible]

Central Office of P.W.
 Department
 30th November 1860.

No 7515

From, Lieut. Colonel W. H. Doreley,
 Chief Engineer P.W.

Public

To

J. D. Sim, Esq.,
 Acting Secretary to Government,
 Public Works Department,
 Fort Saint George.

Enclosures:
 1. Estimate for
 6, 8, 11 and 14
 dated 28th June 7th
 signed 3rd Dec 1860
 and 15 October 1860.
 2. Rough Return
 of the same Estimate
 Rs 6345.

I have the honor to forward,
 for submission to Government, an Estimate
 of Rupees 6525/ Six thousand five hundred
 and forty five, for metalling certain
 portions of the Salem and Trichinopoly
 Road, within the limits of the Salem
 District.

In reply to a requisition from
 this Office, based on an enquiry from
 the Post Master General as to where the
 line of road between Salem and
 Trichinopoly by Namculdroog was
 in

Namkuldroog

gravel below; the fall is 20 feet per
 The

Enclosure

Recd 28th 11/60.

Thence

The Chief Engineer
 P.W.

To

The Secretary to Govt
 P.W.

Dated 30th Nov 1860
 No 7515

Abstract Estimate for
 metalling certain portions of
 the Salem and Trichinopoly
 Road within the limits of the
 Salem District.
 Submitting to No 6545.

in a condition to admit of horse conveyances passing over it at the rate of from 6 to 8 miles the hour in all seasons. The District Engineer of the District reported that this road, within his District, was generally in good order, but not having been metalled throughout, and two large jungle streams being unbridged, it is not in all parts fit for horse transit in all weathers; and that he took sections of these streams in view of preparing Estimates for bridging them. Captain Galagan, at the same time, provided a further report from the Executive Officer in charge of the Range.

In the 14th July 1860, Captain Galagan was requested to expedite the despatch of the report in question, as well as the Estimates for bridging the two streams; and also to state why he was not able to metal the Dahan and Pichinohly Road throughout, submitting an Estimate for metalling such

such portions of the road as the maintenance allowance cannot provide for. In compliance with the above request, Captain Galagan forwarded three Estimates, two amounting to Rupees 2080 and 3600 for bridging the jungle streams, and the third for Rupees 350 for the construction of a large stone culvert required for a jungle stream on the same road near Razepon.

With regard to the enquiry why the Road was not metalled throughout, the District Engineer states that the funds placed at his disposal were insufficient to do so.

The Estimates for the 10 bridge were returned to Captain Galagan, as the design was considered faulty. The revised Estimates were forwarded to the Office on the 15th October 1860, and returned to the District Engineer for certain alteration in the rates for masonry work which were very high.

Nazipon

These

Gravel below; the fall is 20 feet per mile

The

These Estimates will be submitted to Government if received in proper time for entry in the Government Office in the Budget for the ensuing year. if considered of more importance than projects for which funds have been provided in 1800. The District Engineer states Rs 1408 d. 200 Cingus

that Government having sanctioned Rs. 4800 in addition to the present Maintenance allowance (Rs. 100 per mile) of 150 Rupees per mile for 48 miles for the road between Attipilli and Mallapadi out of the sum allotted in the current year's Budget for Roads not provided with special grants in the District of Salem, two thirds of the maintenance allowance, vizt. Rupees 1200, has been consequently deducted from the accompanying Estimate and that the net amount requiring sanction is Rupees 6525, -

8 The correctness of this deduction is very questionable, since the maintenance allowance

allowance alluded to is for the Road from Attipilli to Mallapadi having no connection at all with the Salem and Arcotopolis Road. I have accordingly called upon the District Engineer for explanation on this subject, which will on receipt be laid before Government.

The work being one of very great importance, I have deemed it advisable not to delay the submission of the Estimate, as provision to the full extent has been made in the Budget for 1801/02 in this Office.

Respectfully,
30th November 1800

I have the honor to be,
Sir

Your Most Obedient Servant

L. S. P. K.
District Engineer

L. S. P. K.
District Engineer

To
J. D. Sim Esq.
Secretary to Government P. W. D.
Fort St. George

L. S. P. K.

gravel below; the fall is 25 feet per mile
The

Southern India C. P. W.
Salem District

1900

Report to accompany an estimate for constructing a Bridge of three 20 feet spans across a jungle stream near Valayapatty on the Salem & Chikmagalur Road

1 Amount of Estimate & Expenses (3340-)

Three thousand three hundred & forty;

Comprising the following items.

306 6/12 Cubic Yards of Rough Stone in Churam 2-8-11-1
305 3/4 - of Brick in Churam 3-12-11-1
100 1/2 - do. of Arch Work (Rmt.) in Churam. 4-16-491-0-4

46 Squares of Plastering with 2 Coats of L.P. 3-11-11-1

75 - Cubic Yards of Earth Stone in Clay 1-11-11-1

1/11 Running Yards of Corbels Work 1-11-11-1

Centerings 164-0-0

Excavating Foundations

Planning & baling 300-0-0 3182-1-5
19 1/4 Installing the Roadway 11-11-11-1 3182-1-5

Supplies, including Extra Establishment at 5 per cent (newly) 157-11-11

Total Company's Expenses 3340-0-0

2 The bed of the river is of sand to the depth of nearly two yards, with hard gravel below; the fall is 25 feet per mile

The

208 Aug 24/00 - 255-256
12 Dec 11-12

12

90 1/2 8 1/2 1/2
200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

1919

200 of 1/2 1/2 1/2 1/2
12 1/2 1/2 1/2 1/2

200 of 1/2 1/2 1/2 1/2

3 The bridge will provide a waterway of 320 square feet; the sectional area of the highest floods being under 150 square feet.

4 The Abutments and piers will be 2 feet in height, resting on foundations 9 feet in depth of which 6 feet will be rough stone, and 3 feet Bricks in Churnam.

The abutments and piers will be connected by retaining walls, with a flooring under the arches of rough stone in Churnam, and an apron of dry stone, 9 feet wide, below the bridge to prevent scour.

The wing walls will be $14\frac{1}{4}$ feet long, $8\frac{3}{4}$ high, and averaging $2\frac{1}{4}$ feet in thickness; resting on foundations similar to those of the abutments and piers.

The whole of the bridge above the foundations will be of Brickwork in Churnam of the ordinary nature kind, plastered.

The roadway over the bridge will be horizontal. over the arch it will be 18 feet wide; and between the wing walls 22 feet.

District Engineer's Office
Mogunoor

J. C. Gajanan Rao
District Engineer
of Calcutta

5th September 1881.
N. S. S. S. S.

23rd

	Description of work	Per Diem	Amount	Total
100	Cubic Yards of Rough Stone in Chimney	2 8 "	765 11 1	
101	do do do do do do do do do do	3 12 "	1148 13 1	
102	do do do do do do do do do do	4 14 "	491 4 1	
46	Squares of Plastering with 2 Coats of C. Mortar	3 10 "	1118 8 0	
75	Cubic Yards of Rough Stone in Clay	" 72 "	86 4 1	
71	Running Girds of Corn in work	1 "	51 1 1	
	Centerings	" "	164 1 1	
	Excavating for foundation Humming and Boring & Splicing	" "	300 1 1	
197	do do do do do do do do do do	" "	119 1 1	
	Sum of including Extra work at 5 percent			3182 11 1
	Total Company's Expenses			157 11 1

District Engineer's Office
Providence
5th September 1864.

5. September 1861

✓. I have
collected

J. E. Graham Capt.

District Registrar
of Salem

2000

[illegible]

Abstract Estimate for Constructing a Bridge of one Arch of 30 feet span across a jungle stream on the Salem and Trichinopoly Road, near Ramacul

Sum. Bills	Description of work	Rate	Amount	Total
31 ¹⁵	31 ¹⁵ Cubic Yards of Rough Stone in Chumam	2 8	728 2 8	
300 ³⁴	do. of Brick work in Chumam	3 12	1157 13	
66 ¹²	do. of Arch work Brick in Chumam	4 14	324 3	
36	do. of Rough Stone in Clay	1 2	36	
37 ¹⁵	Square of Plastering with 2 Couts of Chumam	3 4	122 3 2	
59 ¹³	Planning Yards of Cornicework	1	59 5 4	
	Centerings		100	
	Excavating foundations Hammering and Cubing in approach		300 10	
10 ¹²	Metalling the Roadway	10	100	2888 12
	Surplus at 5 per cent including Extra Establishment			144 4
	Total Company's Papers			3030 16

District Engineer's Office

Mogunoor

5th September 1861

Collector

T. Elphinstone Capt.

District Engineer of Salem

Handwritten notes in the left margin, including dates and names, are mostly illegible due to fading and bleed-through from the reverse side of the page.

Small handwritten notes at the bottom left of the page.

3 The foundations of the bridge will be 9 feet deep, 6 feet of rubble stone in Chunan, and 3 feet of brick in Chunan, connected by retaining walls of brick in Chunan, $2\frac{3}{4}$ feet thick and 3 feet deep, with a flooring between the retaining walls, $1\frac{1}{2}$ feet deep and of rough stone in Chunan. In rear of the bridge there will be an apron of dry rubble stone, 9 feet wide and 3 feet deep, to prevent scour.

4 The abutments will be 3 feet high up to the springing line of the arch, and 7 feet 6 inches thick.

There will be a buttress to each abutment, $3\frac{1}{2}$ feet deep, 3 feet 9 inches thick, and 4 feet high.

5 The arch will be segmental, with a rise of 7 feet 6 inches (or $\frac{1}{4}$ of its span), and an average thickness of 2 feet.

6 The wing walls will be 20 feet long, and 12 feet high, with a batter of $1\frac{1}{2}$ feet on the inner side, and foundations similar to those of the abutments. * including block in course of 1 foot.

7 The whole of the bridge above the foundations will be of brick in Chunan of the ordinary native kind, plastered with 2 coats of Chunan.

8 The bridge will have a waterway of 240 square feet, the sectional area of the stream during the highest floods being about 90 square feet.

9 The roadway over the bridge will be 10 feet wide, and between the wing walls 22 feet.

10 The design for this bridge has been prepared in the Central Office, in India, and submitted by the District Engineer, but disapproved of by the Chief Engineer.

District Engineer's Office
Mogunoor

5 September 1861.

J. Colahazay
District Engineer of the
Holen

Collector

3 The foundations of the bridge will be 9 feet deep / 6 feet of rubble stone in Chunan, and 3 feet of brick in Chunan, connected by retaining walls of brick in Chunan, $2\frac{3}{4}$ feet thick and 2 feet deep, with a flooring between the retaining walls, $1\frac{1}{2}$ feet deep and of rough stone in Chunan. In rear of the bridge there will be an apron of dry rubble stone, 9 feet wide and 3 feet deep, to prevent scour.

4 The abutments will be 3 feet high up to the springing line of the arch, and 7 feet 6 inches thick.

There will be a buttress to each abutment, $3\frac{1}{2}$ feet deep, 3 feet 9 inches thick, and 14 feet high.

5 The arch will be segmental, with a rise of 7 feet 6 inches (or $\frac{1}{16}$ of its span), and an average thickness of 2 feet.

6 The wing walls will be 20 feet long, and 12 feet high, with a batter of $1\frac{1}{2}$ feet on the inner side, and foundations similar to those of the abutments. * including the blocking course of 1 foot.

7 The whole of the bridge above the foundations will be of brick in Chunan of the ordinary native kind, plastered with 2 coats of Chunan.

8 The Bridge will have a waterway of 240 square feet, the sectional area of the stream during the highest floods being about 90 square feet.

Southam Circle D P Al 39th

28 61

District Engineer's Office

Hoover 28th June 1860

District Engineer of Salem

of Engineer

in Circle D P Al

Saint George

1541 of the

that,

ind

istinct Eng: Office
Magnum

September 1861

Col. J. H. Rogers
District Engineer of Salem

San Jose

1. The first of these is the
 fact that the system is
 not self-sufficient. It
 depends on the
 government for its
 existence.

Captain R. C. Gardner
 Collected & prepared
 at Denver

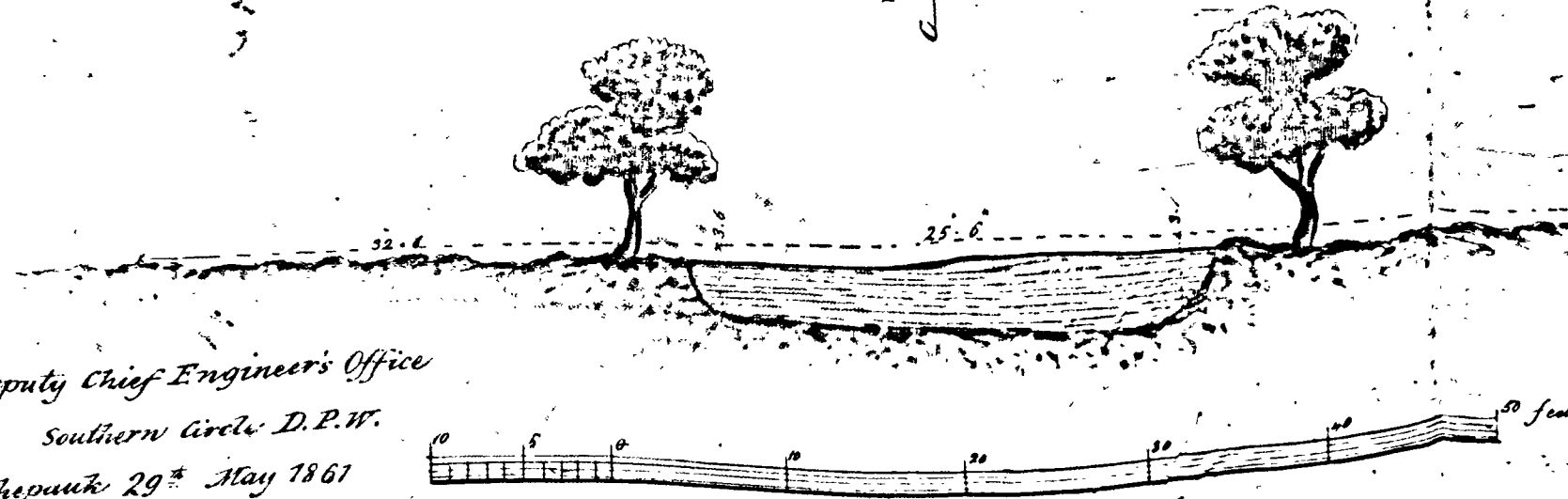
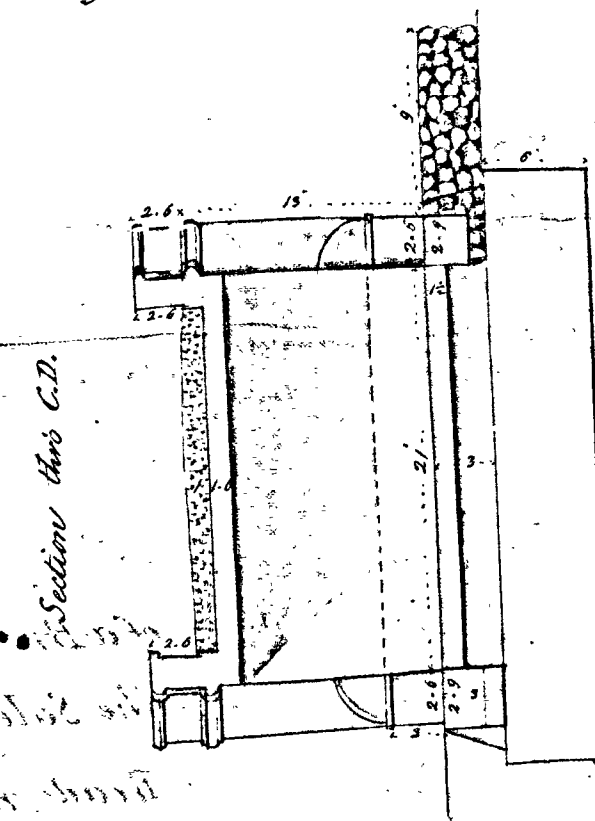
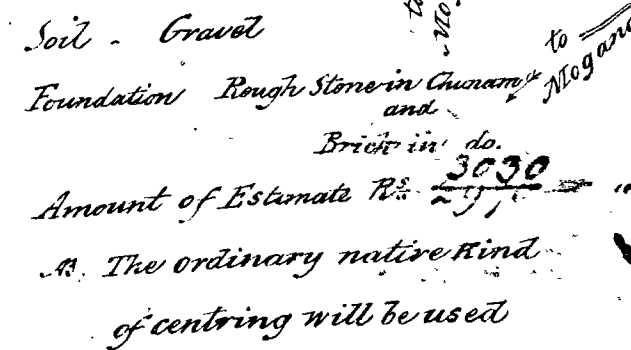
Wm. L. Garrison
285 West Broadway
New York

Ad. 375 5th - 4th level. 1881
 Demand. 1725-4/61.

Refused to accompany
me down for conducting
a series of me out. What
upon acts a laugh from
in the old and new. See.
Then of only few of us
have out.

Ms. A.9.2.10

1852.8/67.
Plan of a Bridge to be constructed
on the Salem and Trichinopoly Road near Namcul



Deputy Chief Engineer's Office
Southern Airc. D. P. W.
Chepauk 29* May 1861

G. L. Turner Lieut. Col.
Dep'ty Ch. Eng. & South. Cir.

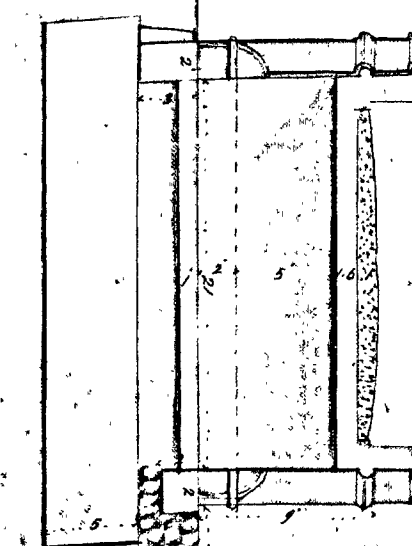
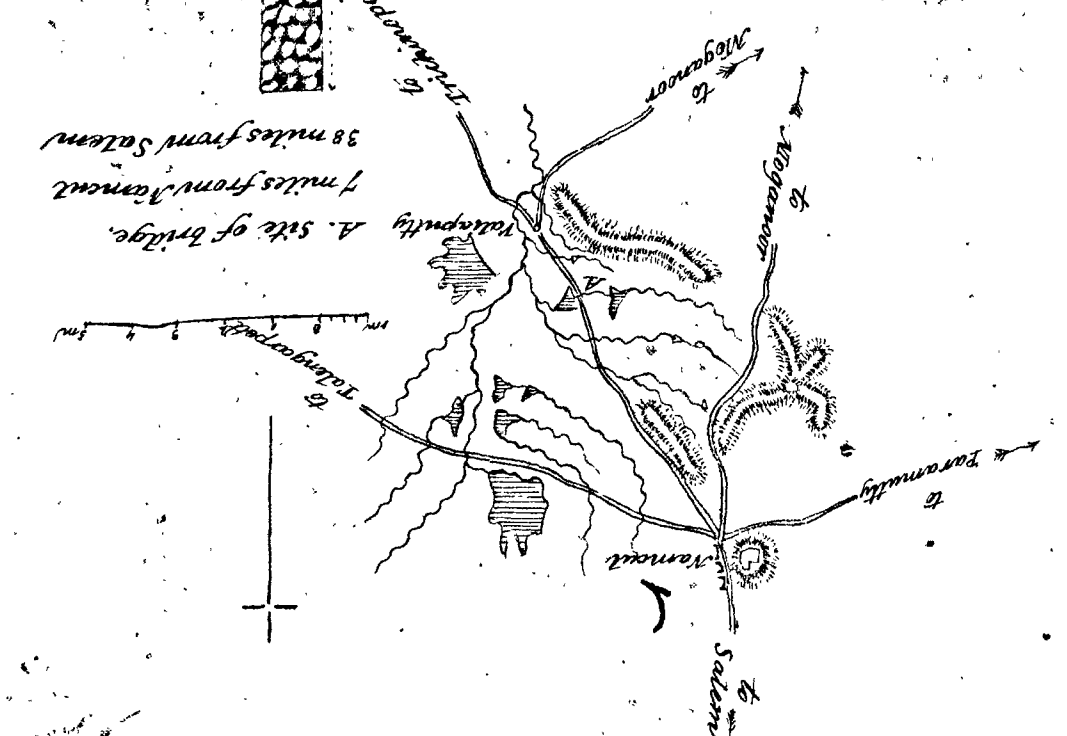
BT 2.571/61

Plan Elevation and Sections of a Bridge
 to be constructed over a jungle stream
 near Talapully on the Salem and Trichunopoly road

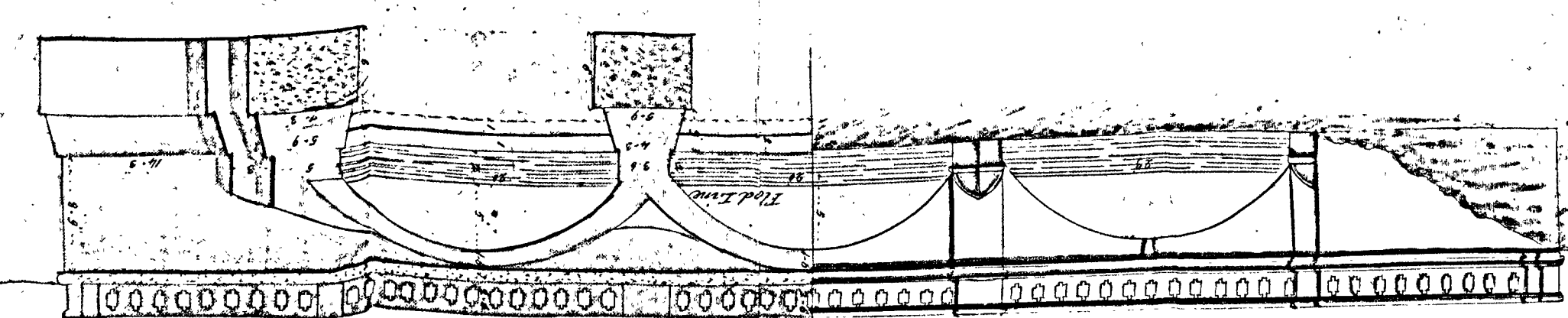
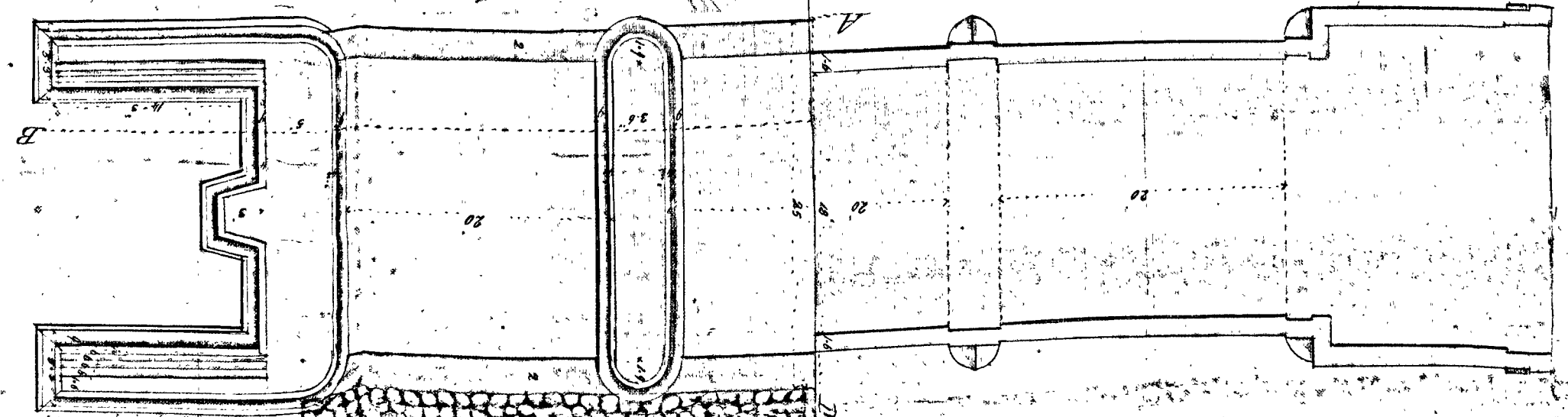
5/8528/61

Soil - Gravel.
 Rough Stone masonry
 Foundation and

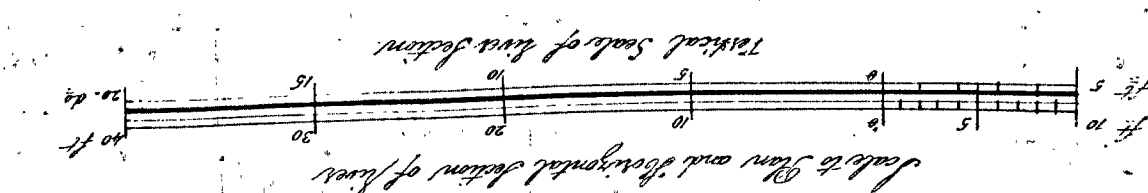
Amount of Estimate Rs 3340-



Section thru C.D.



Section thru A.B.



Deputy Chief Engineer's Office
 Southern Circle, P. W.
 Chennai 29 May 1861

[Handwritten signature]
 Deputy Chief Engineer's Office
 Southern Circle, P. W.
 Chennai 29 May 1861

Southern Circle B Pal 3900

District Engineer's Office

Nov 28th June 1860

22 61

From the District Engineer
of Salem

To The Deputy Chief Engineer
Southern Circle BROS
Fort Saint George

Sir. In reply to your letter No 1541 of the 12th August. I have the honor to state, that, although the road between Salem and Tirichinapali within the limits of this District is generally in fair order, it is not in all parts fit for horse transit in all weathers, as we have not been able to mettle it throughout and 2 considerable streams between Namakkal and Valiapalli are unbridged.

2. I have taken sections of these streams
streams with the view of preparing
estimates for bridging them, and shall
send in the estimates shortly.

3. I have not yet received from the
Prosecuting Agent in charge of the Station
Range the report on the State of the Road
which on receiving your letter above
named. I requested him to furnish one with.

aus

Amount of Estimate Rs: 3340 - "

Heart

on the Salem and Trichinopoly

a Jungle Stream near Valliapatty

of a Bridge to be constructed over

Plan

The Drawing to the Breeds.

From D. G. of Salem
16 December 1861
* 13230

10071
No 7347
The District Engr
Salem

Dated 17th Nov 1861
Sis P. 195

Returns for re-
vision & retracement
Plan of a tunnel
over the ~~Albany~~
Stream.

20173
17430

10949

450
Read the following Memoranda from
the District Engineer of Salem

Where enter No 254 dated 26 Feb 1861/
150 No 292 - " 19 Apr 1861

22
20173/4

Resolved to return the Plans &
Estimates for the undermentioned Bridges
to the District Engineer of Salem, with
a request that he will retransmit
them as soon as possible corrected and
revised in accordance with the re-
marks made opposite each plan,
viz:

Tallahassee Bridge

~~Water surface~~
A depth of 7' 6" is given to the foun-
dation in the plan, but the Specification
shows 8 feet.
The Retaining walls are marked 3 feet
deep in plan, but 4 feet in Specification.
The Apron is ~~marked~~ ^{stated as} 6 feet wide in
Specification, ^{but} the plan shows 10 feet.
The average height of wing walls shown
by 16 feet 6 inches, instead of 16 feet
as in the Specification.
The Specification does not mention

a portion of the retaining wall of rough stone in Chertam at ^{the foot} ~~new~~ end of the abutment.

Shashien's Houtlog Bridge.

Waterway incorrect - it should be
799'- 6" for the bridge, & 360' for the
river, instead of 1570' & 990' respec-
tively as in Specification.

Wing walls 12'-6" in Specification
and 13' in plan.

The saturation of the abutments ought to correspond with that of the piers.

the distance of the
Woodiarputty Bridge

Waterway inclosed. It should be
717' instead of 570' for the bridge.
~~The necessary waterway for the main~~
4th August.

The half waters of the obutments
ought to come pour with ^{those} of the
pains pier.

Valiapatty Bridge

Waterbury, Conn. June 3rd 1881

The Chief Engineer does not expect to receive

of the design, & a fresh one is prepared & sent herewith. 47th

Samuel Briggs

Макарьев.

The rise of Arch is marked 7'-6" in
plan, & 7' ^{assumed} only in the Specification.

Abutments of 4' 6" ^{is needed} ~~not~~ for a bridge
of 30 feet span is insufficient.

A fresh design is prepared in
this office & is herewith sent.

Resolved also to request the District Engineer to mark the distance of the site of the proposed bridge in the small sketch drawn in the accompanying Plans; ~~stating~~

3. Resolved further, to inform the District Engineer that greater care should be bestowed in the preparation of Plans for submission to this Office.

29 May/61

Copy G.E.L.

(Signed) J. W. Randall Capt
Assty Chief Engr. U. S. A.
For Assty Chief Engr. U. S. A.

From ~~Quincy~~ ^{Quincy} Talena
Ind. 14 1885 2878329

17439 30170
to J. G. 449

The Dist. Inquisi
deben

Boat 293
Dep 121 May 1885.

Belarus Belaruto
for Captain B. B. B. B.
I. B. B. B. B. B. B. B.
B. B. B. B. B. B. B. B.
B. B. B. B. B. B. B. B.

as down as possible.

L. R. Salem 29th May/61
Chgo 49

Southern Circle, D. P. W.
(Dist. Engineers Office)
Salem 19th April 1861.
No. 22nd 20th 1st
No. 292.

Memo:

Resubmitting duly
Countersigned by the
Collector the 5 Estimates
for bridges which were
returned with the
Deputy Chief Eng^r's
No. — of the 15th
Instant. —

J. E. Hagerman
District Engineer
To the Deputy Chief Eng^r
Southern Circle
D. P. W.
Fort St. George
Camp of — 22/4/61

Southern Circle, N. P. W.
 Civil Engineer's Office
 Salem 25th July 1851.
 No. 254 Recd 1st March "

To H. E. Salmon Esq. May 1861
 No. 914

Memo:

Resubmitting Estimates
 for bridges, which were re-
 turned with the Chief Engi-
 neer's of 10/155 of the 21st
 Instant, in order that the
 corrections made in them
 might be noted in the Dis-
 trict Engineer's Office.
 J. E. Cahagan
 (District Engineer)

To Lieut. Col. W. J. Birdseye
 (Deputy Chief Engineer)
 Southern Circle
 N. P. W.
 1851

Estimate Dept. - Salem District

Salem Roads

Description of Work	Amount sanctioned by Government	Amount of Re- vised Estimate	Total added after Chief Engineer's revisions	As corrected in the Office
Bridge at Tattuvadal	8,000	1,900 00	17,250	14,100
Do at Kodrapetty	2,400	1,100	3,560	3,440
Do at Sathirud Choultry	1,800	4,250	23,700	23,350
Do at Pannicul	12,200	27,350	25,170	20,990
Do at Valupetty	"	2,680	2,370	2,110
Total	12,200	3,600	3,360	3,100
		33,630	34,240	26,100

~~These are the same as before~~
 The particular items corrected are for plan Cornice work, and centering-
 For the Cornice work, by a clerical error he charged 22,000 instead of 1856-
 and for the Centering. The charges are very great. They have been reduced
 to the usual rate of 1 third the cost of the Arch work. These estimates
 will be a fair return as they are very imperfect, but there is no time,
 and they have already ~~been~~ ^{been} sent back to the District Engineer's Office.
 W. R. Raudner Capt.

Southern Circle, D.P.W.

District Engineer's Office
Salem 25th November 1860.

No: 183

From the
District Engineer
of Salem.

To
The Deputy Chief Engineer
Southern Circle, D.P.W.
Fort St. George.

Enclosures 20.

Sir,

1. In reply to your letter No: 7110 of the 17th Instant, I have the honour to resubmit the 5 Estimates named in the margin with reduced rates for the Masonry work.

2. I am sorry to find that owing to the necessity of introducing a charge for plastering, the reduction is not so great in any case as I anticipated.

3. In the case of the Shashien's Choultry bridge, nearly $\frac{1}{10}$ th of the increase on the original Estimate is due to the cost of an additional arch (Vide Para: 4 of my letter No: 129 of the 2nd Ultimo).
I have the honour to be,

Sir,

Your most obedient Servant

J. E. Gahagan
District Engineer.

Comd^g Fort St. George

10766
In 8421 5/6 1/4

1 Bridge at Talavastur	Rs. 172 50
2 " " at Wadiapally	" 35 60
3 " " at Shashien's Choultry	" 37 00
4 " " near Saneul	" 23 70
5 " " at Chayapally	" 33 60

11385-
9477-
10071-

57m
Read the following letters
from the District Engineer of
Salem

1 Item enter No 129 dated 2nd Oct 1860/
1 Item enter No 140 dated 15th - - -/
1 Item enter No 157 dated 5th Nov 1860/

Ordered that the ~~above~~

Estimates applied for in the
following letter No 157 dated

5th Nov 1860, be forwarded
to the District Engineer

of Salem, with a request
that the same may be
corrected & retransmitted

to the Control Office by the
25th instant, in time for

entry in the outgoing Budget.
Signed W. S. Birdwood at Falls
27th Nov 1860

Receipts 22-
5 Details of accounts
of No 10071 & 9477-
5 Reports do do
5 Estimates do do
5 Plans do do
Total 6-10071/60
do 2-10071/60

17 Jan 61

id b.R. J.C.R.

108. Salem 1066
21st Dec 1861.
25th Dec 1861 No 1135

Eastern Engineer No 10.

From No 0022834/61

District Engineer

of Salem.

To the
Deputy Chief Eng^r
in Charge, D. D. Co.

Smith's Garage

Dated 24th Dec 1861
Recd 30th Dec 1861

Enclosures 20.

Green building contain

Estimates returned with

the Deputy Chief Engineer

letter No 7119 of the 17th

17 Jan 61
id b.R. J.C.R.

No 4653

The District Engineer
of Salem

I have the honor to acknow-
ledge the receipt of your letter
No 89 dated the 9th ultimo.

2 In the Bridge proposed
to be constructed on the road between
Salem and Trichinopoly near Nanchikud
at an estimated cost of Rs 2860,
the Chief Engineer considers it ad-
visable that a Buttress should
be added to the Abutment.

You are therefore requested to
alter the Plan and Estimate
accordingly.

With regard to the
proposed bridge over a jungle
stream

the abutments should be
at least $\frac{1}{2}$ of the span
in thickness with a
Buttress in rear to with-
stand the thrust of a
segmental Arch with a
covered sills of $\frac{1}{4}$ the span
He is of opinion also that
the abutment should be
raised 3 feet above the
foundations so as to
give

Thomson & Co. Engineers
21st Nov 1860 - 1872/2687

9477 11385/10071
1872/1110

The District Engineer

Salem

21st Nov 1860

Collected for revenue

of the

W. J. P. 1860

Stream near Valiapatti on the
Salem and Trichinopoly road, you are
requested to explain why you
proposed 5 Arches of 12 feet span
each, in preference to 2 or 3 of
wider span. I have to point out
that the Plan is not in sufficient
detail for submission to Govt.

A Cross-section as well as a section
of the Wing walls should be given.

You will be good enough also
to state why you have placed the

Wing walls up-stream at nearly
right angles with the Bridge.

Especially as the banks of the
river seem so low, that in case

of a high fresh the water might
force its way round the end of
the Bridge.

The charges for brick

give more waterway
in the event of floods
The road way between
the Parapetts need not
be more than 18 feet
and between the wing
walls 24 feet

It would be far
better to have 3 Arches
of 20 feet span & 5 feet
rise with piers and
abutments 3 feet above
foundations the piers
to be 3 feet thick & the
abutments 5 feet. The
present plan does
not provide sufficient
waterway

11 Sept/60

in Chunnand river Rs 3⁰⁰ per Cubic
Yard and Rs 6-8 for Arch work
are more than the usual rate -
allowed in the District viz 1/2 on
the former and 2 Rs on the latter
kind of work, the Current rates
in the District should not be
exceeded, without sufficient reason
or explanation.

The Plans and Estimates
in question are herewith returned
which you will be good enough
to resubmit, corrected and revised
accordingly, or state why they
cannot be thus altered.

(Signed) W L Burdwood
Dy Chf Engr S.C.

Engineer's Office
October 1860.

P. W.
George.

ply to your
tant, and to
red therewith.

bridge of one

that, in con.

design con

posed by the

ch nearer

while at the

s the require

ity.

may observe,

ial area

h, while

it (or to

no foundation),

on

Southern Circle, D. P. W. 13th
District Engineer's Office
Camp Coosoor 15th October 1860.

No: 140

From the
District Engineer
of Salem.

To The Deputy Chief Engineer
Southern Circle, D. P. W.
Fort St. George.

Sir,

I have the honour to reply to your
letter No: 4653 of the 11th Instant, and to
submit the Estimates returned therewith.
1. With reference to the bridge of one
30 feet span, I have to state, that, on con-
sideration, I prefer my own design
(slightly altered) to that proposed by the
Chief Engineer, as being much neater
in appearance and cheaper, while at the
same time it fully satisfies the require-
ments of waterway and stability.
The waterway provided is, I may observe,
more than double the Sectional area
of the highest — fresh, while
the thickness of the Abutment (or to
speak more correctly, the foundation),
on

From the Deputy Chief Engineer
No: 15 of the 10th Oct 1860.

No: 1653
of the 11th Oct 1860

The District Engineer
of Salem

No: 123
of the 12th Oct 1860

Received
15th Oct 1860

For bridging the channel
the 2nd & 3rd by roads will
be the best & most advisable
that the bridge should be
that a structure should be added to
the abutment of the bridge
to be constructed near the
to the channel to prevent
the flow of water from
the bridge span for the
from a single stream near

on which the Arch rests is $\frac{1}{5}$ th of the Span of the Arch.

In accordance with your instructions I have reduced the width of the Roadway from 24 and 21 to 22 and 18 feet. and added a transverse Section to the plan.

3. With regard to the other bridge, I have to state that my reason for proposing 5 Semicircular Arches of 12 feet Span is that I like the appearance of Semicircular Arches rising from the ground for such a shallow Stream as the one in question, and a greater height than that which I have given is not necessary.

I cannot but think that a District Engineer has a right to claim some discretion in trifling matters of this kind, or he will otherwise lapse into the position of a mere Draftsman. The waterway of this bridge is, you will find ample. I see more than double the sectional area of the highest floods.

In accordance with your instructions I have reduced the width of the Roadway and added a transverse Section to the Plan.

I

4. I have also had fresh detailed Estimates prepared in exact accordance with the forms laid down in the Circular Orders.

5. A Plan for the Tunnel of 5 Tents is also forwarded.

6. With regard to Para: 4. of your letter under reply I have to state that although the current rates for brick work and Arch work of the most common description, - such as would do for a Compound wall or a Traveller's Bungalow, vary from $3\frac{1}{2}$ to $4\frac{1}{2}$ Rs per Cubic yard, I have recently forwarded to the Central Office numerous data, carefully prepared and collected from all parts of the District to show that such Masonry work as should be turned out in the case of a bridge costs at present from $4\frac{1}{2}$ to $5\frac{1}{2}$ Rs per Cubic yard.

I have the honour to be Sir,

Your most obedient Servant

T. Chakranabhu:

(District Engineer)

compd

In: Circle. S. P. W. 10

District Engineer's Office
Mogamur. Sep. 9. 1861

No: 117

From J. E. Gahagan
Captain J. E. Gahagan
District Engineer of Salem
To
Lieut. Colonel W. J. Dillard
Deputy Chief Engineer
Southern Circle D. P. W.
Madras:

Memo:

Enclosures 8.
Estimates 2
(Rs. 2970 & Rs. 3345)
Reports 2
Plans 2

Forwarding for sanction
insertion in the Budget
of 1862-63 Estimates for two
bridges on the Salem &
Trichinopoly road

The designs for these bridges
were prepared in the Central
Office, & sent to the District
Engineer with the Deputy Chief
Engineer's No: 1082 of 29th May 61

Some necessary corrections
have been made in them by
the District Engineer

J. E. Gahagan
District Engineer

J. E. Gahagan
17 Nov 61
Lieut. Col. W. J. Dillard
22.8.61
19 Nov 61

Southern Circle D. P. W.
No: 110
From the 11 Nov 61
District Engineer
of Salem:

To the
Deputy Chief Engineer
in Charge
of the Salem &
Trichinopoly Road

Dated 15th October 1861
Recd 17th Dec 1861
Enclosures 13

Respectfully to the Deputy
Chief Engineer's Office,
No: 1153 of the 11th Nov 61
indicating certain
estimates for bridges
on the Salem and
Trichinopoly Road

1861 17 Nov

P. Works Dy.

8th 2566

17th 2566

69

Proceedings of the Madras Government.
Under date the 13th Dec^r/60

Read the following letter
from the Chief Engineer

Submits for sanction and entry
in the Budget for 1861/62, an
Estimate of Rupees 6,545 for me-
talling certain portions of the
Salem and Trichinopoly Road
in the District of Salem.

Here enter 30th Nov 1860 No 7515

The Government
sanction, for entry in the Bud-
get of 1861/62, the Estimate of
Rupees (6,545) six thousand
five hundred and forty five sub-
mitted with this letter for me-
talling nineteen and a quarter
miles of the road from Salem to
the Trichinopoly frontier.

In paras 4 & 8th the
Chief Engineer's letter there
seems to be some misappre-
hension of Captain Gahajani
meaning.

17th 2566 - 18th Nov 1860

Salem District D. No.

117

From J. C. D. H. S. S. S.

Chief Engineer

Trichinopoly

17th 2566

Chief Engineer

Trichinopoly

17th 2566

Chief Engineer

Trichinopoly

17th 2566

Chief Engineer

Trichinopoly

17th 2566

Chief Engineer

Trichinopoly

17th 2566

Chief Engineer

Trichinopoly

17th 2566

meaning. The Government understand Captain Gabagan, in his report of 3rd Sept. No. 111 to refer to the existing maintenance allowance of the Salem and Trichinopoly road which is 150 Rupees per mile. Two thirds of this for 19 1/4 mile is exactly Rupees 1925 which sum he has deducted from his gross estimate of Rupees 8470. The Government cannot trace any reference to the road from Attipilli and Malapadi, which is on the line from Bangalore to Tripattur. The Ch. Engineer's call for further information will clear up this point and he is requested at the same time to ascertain why only 2/3 of the maintenance is available.

The road under consideration is of great importance and the traffic on it will greatly increase when the rails open to

to Salem as it will be by the end of this month. The Chief Engineer is requested to ensure the early completion of the road for the whole distance. An estimate of Rupees 22300 has just been passed for the portion within the Trichinopoly limits.

J. D. S.

10 Copies
To the Chief Engineer. D. 13.

Estimate of \$6515 for me.
 calling Salem and Trichopolis
 road.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.

From the Charleston
 to the foot for the road
 \$62566.