

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 25.8.57

G.O. No. 1606

Press
~~Mis.~~

1-3

Dated 19 — 8 — 18 57

Not to be folded or roughly handled

29.7.57

Fort Saint George, Public Works Consultation of 25th August 1857.

No. 1. Read the following Reports from Colonel C. E. FABER, Chief Engineer; to H. FORBES Esq., Acting Secretary to Government, dated 6th December 1856, No. 8662.

Communications bridges across the Katamunnairoo and Pullavole Vaugoo rivers.

Report XX, upon two bridges proposed to be built over the Katamunnairoo and Pullavole Vaugoo rivers, which are upon the road from Nellore to Cuddapah, via the Dorenal pass.

The estimates after revision, are for the bridge over the Katamunnairoo Rupees (9,860) nine thousand eight hundred and sixty, and for that over the Pullavole Vaugoo Rupees (8,120) eight thousand one hundred and twenty.

These projects were originally forwarded by the District Engineer for the Budget of 1856-57, but were returned for revision. They have been now prepared and submitted, designed as to the size and shape of arches (which have been altered to Ellipses from segments of circles,) in accordance with instructions from this Office.

2. The bridge over the Katamunnairoo consists of 5 Elliptic Arches of 36 feet span, with a rise of $\frac{1}{4}$ width of road-way 18 feet.

3. The piers are 6 feet high, the highest rise of water is given as 13 feet, the area of the Section of the river is, 2,031, and the water-way of the bridge 2,770. The soil upon which this bridge is to be built is hard, firm soil, and the rates upon which the expenditure is calculated, are moderate; with the exception of that for Arch work which I have reduced from 3 Annas a cubic foot to anna 1 and pie 9, the rate used, and found sufficient in the road Department in that District.

4. The bridge over the Pullavole Vaugoo, consists of 4 Elliptic Arches of 36 feet span, each, with a rise of $\frac{1}{4}$ the piers are 9 feet high, the rise of the river is given on the bridge plan as 12 feet, area of Section of river 1,449, and area of water-way of bridge 2,312, the foundations are in hard gravelly soil, the width of road-way between the parapets is 18 feet. The same observation as to rates, applies to this bridge as to that over the Katamunnairoo.

5. These two bridges are the only masonry works of large size required to complete this important line of road, connecting the District of Cuddapah with Nellore, and I recommend that they be sanctioned, and placed in the Budget of 1857-58.

No. 2. Report KKKKK, on an estimate for completing the road from Nellore to Kadannilypaud on the limits of the Cuddapah District, being a portion of the Central road from Nellore to Cuddapah via the Dorenal pass Budwail and Cheenoor.

Amount of estimate 81,800.

M. F. Yards.

Distance..... 52 5 207

This estimate is revised from that forwarded last year by the then Civil Engineer and which amounted to Rupees 1,32,300.

2. The reduction has been effected by reducing the rates to the average cost at which works have been executed in the Nellore District, by reducing the width of the bridges which are small to a width of 18 feet between parapets and by reducing the width of metalling; and apportioning the thickness of it to the nature of the soil.

3. There have already been two grants of 1,000 Rupees each per mile upon this road made on the 27th January 1854 and the 10th February 1855 which together with the present estimate would make the total per mile 3,550 the first expenditure has not it appears been laid out so judiciously as it might have been but the fact is that it was done hurriedly for the employment of

Fort Saint George, Public Works Consultation of 25th August 1857.

the starving population and although every exertion was made by Lieutenant Palmer and by the Overseers under him still their newness to work, of course caused some excess of expenditure from want of that method which habitude alone gives.

4. The work on the road for which this estimate provides needs no particular professional detail, it consists in completing the earth work, metalling where absolutely necessary, and in completing the bridging of the road. The bridges, tunnels &c. are all small and of no interest as Engineering works.

Of the estimate itself.

The earth-work is Rupees.....	4,602
Metalling.....	28,152
Removing Rock.....	1,309
Turfing and plantation.....	1,092
Superintendence.....	4,068
Sundries.....	3,970
Bridges, tunnels, road Dams &c.	38,607
Total Rupees.....	81,800

eighty-one thousand and eight hundred.

5. The top surface of the road is 8 yards broad of which 5 yards are to be metalled to thicknesses determined by the nature of the subsoil, and I believe that Lieutenant Mullins has personally made the estimate revising it carefully and leisurely and has calculated the cost with every regard to economy without sacrificing efficiency as indeed a reduction of $\frac{1}{3}$ in the amount of the estimate very clearly shews.

6. The commercial value of this road connecting Cuddapah with Nellore has already been laid before Government and a traffic statement accompanies this report shewing a trade of 500 bandies a month from Cuddapah to Nellore, with its corresponding return traffic independant of Bullocks and Coolies which also are very numerous.

7. The complete estimate is recommended strongly for sanction and entrance into the budget of 1857-58.

No. 3. ORDER THEREON, No. 1606 ; dated 19th August 1857.

Para. 1. The road from Nellore to Kadanellypau at the foot of the Dorenal pass, being part of the line from Nellore to Cuddapah, crosses four large streams; viz. the Beerapairoo, the Booggairoo, Pullavole Vaugoo and Katamunnairoo. A bridge over the first mentioned river sanctioned on the dates noted in the margin* is reported to have been completed, and that over the Booggairoo sanctioned by the Government of India on the 11th July† 1856, would appear from the entries in the Budget for 1857-58 to have been commenced. The Chief Engineer now submits with the first of the reports above recorded, two estimates, amounting respectively to Rupees 8,120 and 9,860, for bridges across the two remaining streams, the Pullavole Vaugoo and Katamunnairoo.

2. The estimate forwarded with the second report and amounting to Rupees 81,800, is for completing the road itself, and constructing minor masonry works. Including the cost of the bridges over the Pullavole Vaugoo and Katamunnairoo above referred to, this estimate would amount to Rupees 99,780 as shewn below:

	Rs.	Rs.
For earth-work.....	4,602	
Metalling.....	28,152	
Turfing.....	753	
Cutting rock.....	1,309	
Planting.....	339	
Establishment.....	4,068	
Sundry charges.....	3,970	
		43,193

Fort Saint George, Public Works Consultation of 25th August 1857.

Smaller Masonry Works.

100 Tunnels	13,205	Rs.	Rs.
22 Small bridges.....	24,670		
58 Dams.....	732		
		38,607	
Bridge over Pullavole Vaugoo	8,120		81,800
Do. Katamunnairoo	9,860		
			17,980
		Total.....	99,780

† Returned to the Chief Engineer with several others with Ex. Mins. Cons., dated 10th March 1856, No. 362.

3. With his report KK, dated 26th January 1856, the Cheif Engineer submitted an estimate† to the amount of Rupees 96,570 as shewn below for this road inclusive of the two large bridges.

	Rs.
For road.....	42,802
Smaller masonry works.....	33,698
Katamunnairoo bridge.....	11,050
Pullavole Vaugoo.....	8,050
Total.....	96,570

The estimate forwarded by the District Engineer and which it was said amounted to Rupees 1,51,000 was, on revision in the Central Office, reduced to the above sum of Rupees 96,570, as will be seen from the Report KK, above adverted to. The width of metalling was altered from eight to four yards, and the depth from nine to six inches; but the estimates for the larger bridges were increased, the Chief Engineer observing as follows, "I have revised the bridge "over the Katamunnairoo which had an insufficient waterway, so increasing the estimate from "Rupees 10,720 to Rupees 11,020 and the bridge over the Pullavole Vaugoo has also for the "same cause been revised, the estimate being Rupees 9,050 instead of Rupees 7,920." The cost of the smaller masonry works was also augmented from Rupees 33,576 to Rupees 33,698. These circumstances are not referred to in the Chief Engineer's Reports now under reference, and the omission leads to the inference that the Report KK, was wholly lost sight of on the present occasion.

4. The estimates now submitted for the Pullavole Vaugoo and Katamunnairoo bridges amount to only Rupees 8,120 and 9,860 respectively. The Government therefore request the Chief Engineer will, with reference to his opinion above quoted, be good enough to state whether

Present estimate.....	Rupees 38,607
Former do.	33,698
Excess.....	4,909

the sums will suffice for rendering the structures substantial and secure. Explanation should also be furnished in respect to the discrepancy¶ observable in the provision made in the two estimates for minor masonry works. The present estimate for the road, as stated by the Chief Engineer in para. 5 of his Report KKKKK, provides for a metalling over five yards, whereas that Officer on a former occasion, as remarked above, considered four yards sufficient. This point also needs explanation.

5. According to the statement given in Extract Minutes Consultation of the 10th October last No. 1843, the sums sanctioned for this road, with the extension to Kistnapatam on the Coast, amounted to Rupees 1,42,000||, but it would seem from the District Engineer's letter§ that, with the exception of the portion just referred to, the road had not benefitted much from this large outlay. Indeed that Officer acknowledges that some waste of money had occurred in consequence of many of the

¶ Dated 25th Nov. 1856, KKKKK 1.

ing been inefficient. The Government observe from para. 67 of the Report on the Budget for 1854-55 that similar reasons were advanced in partial support of the second grant of Rupees

Fort Saint George, Public Works Consultation of 25th August 1857.

71,000 for the road which was entered in that Budget and sanctioned on the 10th February 1855. This amount as remarked in Major (then Captain) Boileau's letter of the 18th August 1854 was to be expended "in completing the earth-work, in metalling and gravelling, and in masonry drains of the minor sort," and it is very unsatisfactory that a third application should now be submitted for no less a sum than Rupees 81,800 for completing the road. The Government request the Chief Engineer will report whether the entire sum of Rupees 1,42,000 has been expended, and he will also furnish information as to the extent of the line already made, the nature of the work performed, and the present condition of the road.

6. As no reason appears for treating the estimates for the larger bridges apart from that for the road, smaller bridges, and Tunnels, the Government resolve to return these documents to the Chief Engineer, in view to one estimate being prepared and submitted for the works in question with explanation on the several points now called for.

(Signed) H. FORBES,
Acting Secretary to Government.

Nellore

Communications

N^o 8662

53

*Report upon an Estimate
for completing the road from Nellore
to Kadamilly ⁱⁿ the limits
of the Cuddapah district, being a
portion of the Central road from
Nellore to Cuddapah via the
Dorenal pass Budwail and Chennur.*

Amount of Estimate 81,800

Distance ⁱⁿ ^{to} ^{from} 52 5 207

*This Estimate is revised from that forward-
ed last year by the then Civil Engineer and which
amounted to Rupees 1,32,300.-*

*2 The reduction has been effected by reducing
the rates to the average cost at which works have been
executed in the Nellore district, by reducing the width
of the bridges which are small to a width of 18 feet
between parapets and by reducing the width of metalling,
and apportioning the thickness of it to the nature of the
soil.-*

*3 There have already been two grants of
1000 Rupees each per mile upon this road, made on the
27th January 1854 and the 10th February 1855 which
together*

together with the present Estimate would make the total per mile 3,550. The first expenditure has not it appears been laid out so judiciously as it might have been but the fact is that it was done hurriedly for the employment of the starving population and although every exertion was made by Lieutenant Palmer and by the Overseers under him still their newness to work, of course caused some excess of expenditure from want of that method which habit alone gives.

The works on the roads for which this Estimate provides needs no particular professional detail, it consists in completing the earth works, metalling where absolutely necessary, and completing the bridging of the roads. — The Bridges, tunnels &c. are all small and of no interest as Engineering work.

Of the Estimate itself.

The earth works is rupees — 4,602

Metalling ————— 28,152

Removing Rock ————— 1,304

Turfing and plantation ————— 1,092

Superintendence ————— 406 8

Sundries ————— 3,970

Bridges, tunnels, roads, Dams &c. — 38,607

Total Rupees — 81,800

Eighty one thousand & eight hundred

75
5 The top surface of the roads is 8 yards broad of which 5 yards are to be metalled to thickness determined by the nature of the subsoil, and I believe that Lieutenant Mullins has personally made the Estimate revising it carefully and leisurely and has calculated the cost with every regard to economy without sacrificing efficiency as indeed a reduction of 5/13 in the amount of the Estimate very clearly shows.

6 The commercial value of this road connecting Buddapah with Kellore has already been laid before Government and a traffic statement accompanies this report showing a trade of 500 bandies a month from Buddapah to Kellore, with its corresponding return traffic independent of bullocks & carts which also are very numerous.

7 The complete Estimate is recommended strongly for sanction and entrance into the budget of 1857/58.

Central Office of Public Works,
Fort St. George, 6th December 1856.

Wd. Bates Colonel of Engineers
Chief Engineer D. P. W.

Confidential

Documents

Documents Accompanying

- 1 Letter N. 1327 dated 25th November 1856. KKKKK 1
1 ~~Letter~~ N. 338 dated 21st November 1856. KKKKK 2
1 Abstract Estimate - - - KKKKK 3
1 Report on Doremal pass KKKKK 4
1 Sketch Map - - - KKKKK 5
1 Traffic return - - - KKKKK 6
5 Bridge Plans. - - KKKKK 7, 8, 9, 10 & 11.

To

The Secretary to Government P. W. D.

By to Comd^t March 15/56/1859-

KKKKK

Public Works Department
D^o to Comd 25th August/57.
No. 2875

From

The Chief Engineer

To

The Secretary to Government B.N.D.

Date 6th

Received 9th

December 1856

No. 8662

11. Enclosures Return

S.E. No. 1606. 19th August

Forwards with this recommendation for sanction

and entry in the Budget of 1857/58 an estimate for

completing the line from Nellore to the Dorenal pass

in Cuddapah. Amounting to Rupees 81800-

in the District of Nellore.

No. 2.

29th May 1857
C. V. Day "R14"

Nellore.

Communications
Bridges across the
Katamunnairos
and Pullavole vaugos
rivers.

No. 8662

11B

Report upon two Bridges pro-
posed to be built over the Kata-
munnairos and Pullavole vaugos
rivers, which are upon the road
from Nellore to Cuddapah, via
the Dorenal pass.

The Estimates after revision,
are for ^{the} Bridge over the Katamun-
nairos Rupees (9,860) nine thou-
sand eight hundred and sixty, and
for that over the Pullavole vaugos
Rupees (8,120) Eight thousand
one hundred and twenty.

These projects were originally for-
warded by the District Engineer for the Budget
of 1856/57, but were returned for revision. They
have been now prepared and submitted, de-
signed as to the size and shape of Arches, (which
have been altered to Ellipses from segments of
Circles) in accordance with instructions from
this Office.

2. The Bridge over the Katamunnairos
consists of 5 Elliptic Arches of 36 feet span, with

9

3

4.

5

1313

Mr. Foster Colonel
 Chief Engineer

J

The Secretary to Government
Public Works Department.

Documents accompanying.

XX. Letter No. 1158 dated 29th October 1856.

XX₂ 1 Traffic return

XX. / Abstract Estimate for Katmandoo Bridge

XX₄₈₅ 2 Specifications of Bridges

XX6. / Abstract Estimate of Pullarole Naugoo Bridge.

XX, 88. 2 Plans

Comp. Ref. 100

that over the 100 grains -
the same time.

MC 25th Sept 1558/67.

XX

Order No 1856. Deptt
D to Cons 25th Sept 157.
N^o 2810.

From
The Chief Engineer
To
The Secretary to Government
Public Works Deptt

Dated 6th } Decr/66.
Recd 9th }

8 Incs Returned

S.E. No 1634th 19th August
No 8662

Forwards with his recommendation
for entry in the Budget of 1857/58
estimates for two bridges one over
the Katamunnair at a cost of
Rupees 9860 and another over the
Pullavole range at a cost of
Rupees 5120 both being situated
upon the road from Nellore via
Dorenal to Gudalapah in the District
of Nellore.

16/1.

29th May 1858

1858

J.W.D.
156

N^o 1606.

Extract from the Minutes of Consultation
Under date the 19th August 1857.

Read the following
Reports from the Chief Engineer

(Here enters 6th December 1866
XX and XXXXX)

16

16

31st March 1857 No 122
26th Sept 1858 " 362
16th Nov 1857 " 491

The road from Nellore to Gudalapah at the foot of the Dorenal Range being part of the line from Nellore to Gudalapah crosses four large streams, viz the Beera, Minoo, the Proganioor, Pullavole, Vengas and Katamunnair. Bridge over the first mentioned river sanctioned on the dates noted in the margin is reported to have been completed and that over the Proganioor is now under construction.

by the District Engineer and
which it was said ^{in the Estimate} amounted
to Rupees 15,1000 was, on

revision in the Central
Office, reduced to the above
sum of Rupees 7,670, ^{as will be seen from the Report KK some}

^{referred to.}

The width of metalling
was altered from eight to
four yards, and the depth
from nine to six inches;
but the Estimates for these
larger bridges were increased,
the Chief Engineer observing
as follows: "I have revised
"the bridge over the ^{1st} ~~main~~ ^{main}
"main which had an in-
"sufficient waterway, so
"increasing the Estimate from
"Rupees 10,720 to Rupees 11,020
"and the Bridge over the Pillavole
"Vango has also for the same
"cause been revised, the esti-
"mate being Rupees 9,050
"instead of Rupees 7,720."

The cost of the smaller
masonry works was also
^{augmented}

176
augmented from Rupees 30,576 to Rupees 33,698. These
circumstances are not, refer-
to in the Chief Engineer's Re-
ports, ^{even under reference,} and the omission leads
to the inference that the
Report KK ~~conclusion~~ was
wholly lost sight of on the
present occasion.

The Estimates now
submitted for the Pillavole,
Vango and Italammanair
bridges amount to only Ru-
pees 3,120 and 9,860 respec-
tively. The Government therefore
request the Chief Engineer
will, with reference to his
opinion above quoted, be good
enough to state whether the
sums will suffice for re-
-dering the structures sub-
-stantial and secure. Ex-
planation should also be
furnished in respect to the
discrepancy observable in
the provision made in the
two

* Present Estimate No 38607
Former do 33698
Exp. 4909

two Estimates for minor masonry Works. The present Estimate for the road, as stated by the Chief Engineer in para 5 of his Report KKKKK, provides for a metalling over five yards, whereas that Officer on a former occasion, as remarked above, considered four yards sufficient. This point also needs explanation.

5 According to the Statement given in Bulletin: Para: of the 10th October last, No. 1843, the sum sanctioned for this road, with the exception to Vishnupatnam on the Coast, amounted to Rupees 14,200, but it would seem from the District Engineer's letter that with the exception of the portion just referred to, the road had not benefitted much from this large

* Est. 27 July 1854 } Rs. 7,100
No. 48
do. 10 Feb 1855 } " 7,100
No. 64 }
142000
* dated 25 Nov. 1856.
KKKKK

large outlay. Indeed that Officer acknowledges that some waste of money had occurred in consequence of many of the famine Coolies who were employed on the road having been unaccustomed to the work, as also from the superintendence having been inefficient. The Government observe from para 6 of the Report on the Budget for 1854/55 that similar reasons were advanced in partial support of the second grant of Rupees 7,100 for the road which was entered in that Budget and sanctioned on the 10th February 1855. This amount was advanced as remarked in Major (then Captain) Poilew's letter of 18th August 1854 was to be expended "in completing the earthwork, in metalling and

"and gravelling, and in-"
 "masonry drains of the"
 "minor sort," and it is very
 unsatisfactory that a
 third application should
 now be submitted for no
 less a sum than Rupees
 8,800 for completing the road.

The Government request
 the Chief Engineer will
 report whether the entire
 sum of Rupees 142,000 has
 been expended, and he will
 also furnish information
 as to the extent of the line
 already made, the nature
 of the work performed, and
 the present condition of
 the road.

6. As no reason
 appears for treating the
 Estimates for the larger
 Bridges apart from that
 for the road, smaller Bridges,
 and Tunnels, the Government
 resolved.

resolved to return these
 documents to the Chief
 Engineer, in view to one
 Estimate being prepared,
 and submitted for the work
 in question, with explanation
 in the several points now
 called for.

BT

4 Copies to the Chief Eng. 24/3/21
 with 19 Encls.

Cover 11. March 56 to 57
25th Sept 56 to 57

(2)
Public Works 1857 Dep't to
Dep't to Cons 25th Aug.
1856.

(3)
Contract Admin. of Cons.

Of 19th August 1857.

From Chief Eng'r 29th Oct 57 to 21st
in 6 24 Nov.

Returning to the Chief
Engineer certain documents,
in view to our Estimate being
prepared and submitted for
works from the Kallone road
to Kadamelly and at the
port of the Borena Pass, being
part of the line from Kallone
to Goudalapa.

No 1 at 3.

on 11 Aug 57 14th