

(1) Number of pages 30(2) Date of repair 23 / 2 / 39(3) Initials of the Referee J

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.*Ex. 2057/860*

G.O. No.	<i>989</i>	Press Mis.
<i>25-26</i> Dated	<i>12-5-1860</i>	

Not to be folded or roughly handled

22

1.

*Proceedings of the Madras Government, Public Works Department,
for the month of May 1860.*

No. 25. Read the following letter from Colonel J. H. BELL, Chief Engineer, to J. D. BOURDILLON, Esq., Secretary to Government, dated Chepauk, 2nd April 1860, No. 11,992 :—

With reference to the Proceedings of Government, No. 2,490, dated 22nd October 1859,

- 1 Letter No. 190, dated 19th December 1859, with 1 enclosure.
- 1 Abstract Estimate, Rupees 80,870.
- 1 Letter from District Engr., Kurnool, 2nd February 1860, No. 1,306, with 1 Estimate
- 1 Do. from Consulting Engineer, Irrigation Company, 9th Feb. 1860, No. 43.
- 1 Do. to do. 23rd Feb. No. 10,565.
- 1 Do. from do. 24th March 1860 with 1 enclosure.
- 1 Do. to District Engineer 20th February 1860, No. 10,501.
- 1 Do. from do. 25th do. " " 1,402, with 1 Sketch.
- * Amounting to Rupees 80,870.

paragraphs 2 and 3, I have the honor to forward a letter received from the District Engineer, Kurnool, submitting the required Estimate* for completing the High Level Channel to Guntoor, and reporting on the state of the road from Guntoor to the Kurnool Frontier.

2. The Acting District Engineer explains in reference to the large amount of the Estimate for the former of the above-mentioned works that more than one-third of the sum is set down to masonry works which on the portion of the line in question are necessarily very heavy.

3. The road adverted to above is represented to be in tolerably good order and passable even by heavy carts for the greater portion of the year. The whole length of the line is sixty-seven miles of which four are metalled; eighteen miles are over black cotton soil and utterly impassable for any but the lightest cart traffic during four months of the year. The remainder of the road is of good hard soil. Over the eighteen miles of road just alluded to, Lieutenant Vertue is of opinion that a Tram-way well laid down would eventually be found much cheaper than a made road and much easier for traffic.

4. It would appear from the foregoing statement that for the greater part of the year or from November to July, there is no obstacle to the transport of heavy machinery along the road from Guntoor to Kurnool up to the limits of the latter District. The only river to be crossed is the Gundlegamah which though a rapid deep stream in the rains offers no difficulty at other seasons, and it is estimated that an outlay of 160 Rupees a mile or altogether Rupees 10,720 would effect very considerable improvement along the whole line. A Traffic Statement is appended to the District Engineer's letter.

5. I beg also to forward a Report on the Mantarala Canama Pass submitted by the District Engineer, Kurnool, in continuation of his previous Reports submitted with my letter of the 6th December 1859, No. 8,000.

6. It appears that no difficulty is experienced in the passage of laden carts in fair weather up to either extremity of the Pass, and the part on which alone any material obstruction exists lies between Siddapur and Mantarala Amma (sixteen miles) the description given of which shows it to be in part quite impracticable for wheeled carriages, although traversed annually by 40,000 Brinjarree Bullocks carrying Salt and Grain, but these cattle suffer greatly from the steep and rocky nature of the ground.

7. With the exception of about four miles of road, which are represented to require considerable improvement, there do not seem to be any great difficulties to be overcome, and Lieutenant Beckley considers that a sum of Rupees 2,000 would suffice to improve the present road, but he strongly recommends that where this would not coincide with a new and improved line, nothing should be done to it at the Government expense.

8. The District Engineer reports that in 1857-8-9, a sum of Rupees 6,907-11-8 was spent on the western or Rolapenta section of the Pass, but that a large proportion of this sum was absorbed in superintendence. Captain Nelson, who had charge of the work, cut a trace varying from 2 to 12 feet wide for two miles, but did little in clearing the road of rocks. Since permission was granted to spend a further sum of Rupees 6,000 on this Pass, the work has been placed in charge of Mr. Leggatt, second Assistant District Engineer. Lieutenant Beckley forwards a Statement showing what can be done for the above sum and reports that to render the whole road passable about Rupees 2,500 more is wanted, with

Rupees 1,616-7-10.

Vide Proceedings of Government,
dated 22nd December 1859, No.
2,973.

which additional grant, the ascent to Rolapenta, two and a half miles long, will be cut 12 feet in width, and wooden platform bridges upon masonry abutments, constructed, the descent to Mantarála Ammá, one and a quarter mile long, will also be widened to 12 feet and the whole will have an average slope of about one in twenty.

9. The District Engineer is of opinion that the amount required for improvements to the present line to make it available for immediate use (Rupees 2,200 in the Estimate annexed to his letter) should be defrayed by the Irrigation Company, as they would confer no permanent benefit on the country.

10. It will be observed from the accompanying letter from the Consulting Engineer for the Canal and Irrigation Company that the said Company are willing to advance the required funds, on condition, that the same will be repaid as soon as the existing restrictions on expenditure are removed. Mr. Agnew, the Agent for the above Company remarks, that the Government have in their Proceedings, No. 2,400, dated 22nd October last, admitted the "moral responsibility" which rests on them to make the road in question available for the Company's immediate use, and that this responsibility cannot, therefore, be removed by the fact that the opening up of the road will cost more than was anticipated.

11. This reasoning is in my opinion, unfair to the Government who can hardly be expected to be at the expense of making two lines of road for the benefit of the Irrigation Company. If Government make the new and improved line, to complete which, it appears that Rupees 2,500 will still be required, it is but fair that the Irrigation Company should contribute something towards the putting of the old line in such condition as will render it immediately available for the transit of their Stores.

12. I would suggest, therefore, that if the old line is to be improved, it should be done at the expense of the Company, and that the 2,500 Rupees still required to complete the new trace, should be sanctioned for expenditure in 1860-1 from the General Funds of the District.

No. 26. ORDER THEREON, 12th May 1860, No. 989.

1. In this letter the Chief Engineer submits the information asked for in the Order of October 22nd 1859, respecting the High Level Canal from the Krishna to Guntoor, and the road from that place to Kurnool, including the Mantarála Pass. The information was called for in connection with the Irrigation Company, who have to transport large quantities of Stores and Machinery to the vicinity of Kurnool.

2. The Estimate for completing the Canal amounts to Rupees 80,870, including about 7,000 Rupees for extra Establishment and sundries. The distance is stated to be about fourteen miles, and the Estimate is higher than ordinary in consequence of the numerous masonry works required in this part of the Canal. The Government regret that it is out of their power to provide the funds for this work at present, and it must necessarily be deferred.

3. The road from Guntoor to the Frontier of the Kurnool District, is represented to be unmade with the exception of four miles, but to be, nevertheless, capable of bearing heavy carts for a large part of the year; but about eighteen miles of the distance is on cotton soil, and is impassable by any but the lightest carts after rain. An Estimate for making this road was

From Chief Engineer, 3rd November 1855, No. 2,385.
Order 7th " " " 777.

* 12th March 1857, No. 461.

made in 1855, and amounted to Rupees 56,150. The Government were obliged to postpone the execution of it by want of funds,* and the same cause, unhappily, still operates. Meanwhile, it is gratifying to find that the existing road is such as to be serviceable in fine weather.

4. The Acting District Engineer of Kurnool reports on the Mantarála Pass. He omits to describe the state of the road in the low country east and west of the Pass, between the Guntoor Frontier and Kurnool; but it seems inferrible that it is capable of being used by carts to the same extent as the road in the Guntoor District spoken of in the preceding paragraph. Of

the sixteen miles between Siddapúr to the west of the Pass, and Mantarála Ammá to the east

of it, about eleven miles is now capable of being traversed by carts, with more or less difficulty* in fine weather; and four miles more may be made so passable by some improvement.†

But the remaining distance, of something more than two miles according to Lieutenant Beckley's Report, being the upper part of the western ascent, is stated to present great difficulties; and Lieutenant Beckley recommends that the present line should

be abandoned and a new one taken.‡ Work is proceeding on the Pass under Mr. Leggatt, on the grant of 6,000 Rupees made by Government on the 22nd December 1859, to complete

the sum originally sanctioned in 1856.

5. Lieutenant Beckley states that about 2,500 Rupees will be necessary in addition to the 6,000 Rupees just referred to, in order to render the whole road passable, by carts is apparently meant; and both ascents, it is stated, will have an average slope of about one in twenty.

Lastly, the District Engineer says that he is preparing an Estimate, Plans, &c., for a road 18 feet wide from Siddapúr to Mantarála Ammá.

6. The Government have read Lieutenant Beckley's letter with much care, but they are unable to gain a clear idea of his meaning. They cannot suppose it to be, as apparently understood by the Chief Engineer, that 2,200 Rupees should be laid out in improving the old line, when only 2,500 Rupees is required to make the improved line which he speaks of, available for traffic. Such an outlay would seem to be mere waste. The Government now grant the 2,500 Rupees stated by Lieutenant Beckley (paragraph 5) to be sufficient to make the whole road passable for carts; this amount will be provided out of the repair fund of the Kurnool District, and the work should be prosecuted as vigorously as possible as already directed in the Order noted in the margin.§ The

Government do not consider it proper that the Irrigation Company should be required to contribute to this work. It was not undertaken for their benefit alone; but was ordered and in progress before the Company was formed.

7. The Government must observe in conclusion that Captain Hemery, after a minute and careful examination of the Ghát in June 1856, marked out a line over the whole Pass with gradients nowhere steeper than one in eighteen, and for the most part not more than one in twenty. It does not appear from Lieutenant Beckley's Report, which contrasts unfavorably with Captain Hemery's in respect to exactness of information, whether Captain Nelson adhered to that line as far as he worked; the most difficult part of the Pass, which, nevertheless, was marked out by Captain Hemery at a gradient of one in eighteen, does not appear to have been touched by Captain Nelson.

8. Lieutenant Beckley does not say what is to be the gradient of the new line he refers to; but it appears to Government that Captain Hemery's line, with such slight improvements as may suggest themselves in execution, will be sufficient as respects gradient for all the purposes of this Pass.

(Signed) J. D. BOURDILLON,
Secretary to Government.

than $\frac{1}{2}$ of the sum is set down to masonry works which on the portion of the line in question are necessarily very heavy.

3. The road adjoined to above is represented to be in tolerably good order and passable even by heavy carts for the greater portion of the year. The whole length of the line is 64 miles of which 4 are metalled. 18 miles are over black cotton soil and utterly impassable for any but the lightest cart traffic during 4 months of the year. The remainder of the road is of good hard soil. One of the 18 miles of road just alluded to Lieutenant Verdu is of opinion that a tram way well laid down would eventually be found much cheaper than a made road and much easier for traffic.

4. It would appear from the foregoing statement that for the greater part of the year or from November

November to July there is no obstacle to the transport of heavy machinery along the road from Guntoor to Turnool up to the limits of the latter District.

The only river to be crossed is the Gundlaga which though a rapid deep stream in the rains offers no difficulty at other seasons, and it is estimated that an outlay of 160 Rupees a mile or altogether Rupees 10,720 would effect very considerable improvement along the whole line. A Traffic Statement is appended to the District Engineer's letter.

112 1306. 2^d Feb. 1860. 5.

It is also to forward a Report on the Mantaral Canam a Paper submitted by the District Engineer Turnool in continuation of his previous Reports submitted with my letter of the 6th December 1859 N. 8000.

6. It appears that no difficulty
is experienced in the passage of laden Carts in
fair weather up to either extremity of the Pass, and
the part on which alone any material obstruction
exists lies between Siddapur and Mantara
~~anna~~
~~Canna~~ (16 miles) the description of which shows it
to be in part quite impracticable for wheeled Carriages,
although traversed annually by 40,000 Banjaras
Bullocks carrying Salt and Grain, but these Cattle
suffer greatly from the steep and rocky nature of
the ground.

7. With the exception of about 4 miles
of road, which are represented to require considerable
improvement, there does not seem to be any great
difficulties to be overcome, and Lieutenant Beckley
considers that a sum of Rupees 2,000 would suffice to
improve the present road, but he strongly recommends that
which

where this would not coincide with a new and improved line, nothing should be done to it at the Government expense.

8. The District Engineer reports that in 1857/58/59 a sum of Rupees 6,904. 11. 8 was spent on the western or Rolapenta section of the Pass, but that a large proportion of this sum was absorbed in superintendence. Captain Nelson, who had charge of the work, cut a trace varying from 2 to 12 feet wide for 2 miles, but did little in clearing the road of rocks. Since permission was granted to spend a further sum of Rupees 6,000 on this Pass, the work has been placed in charge of Mr. Leggett, ^{late} Assistant District Engineer. Lieutenant Beckley forwards a Statement showing what can be done for the above sum and reports that to render the whole road passable about Rupees 2,500 more is wanted, with which additional grant, the ascent to Rolapenta, 2 1/2 miles long, will be cut 12 feet in width, and wooden platformed bridges upon masonry abutments, constructed. The descent to

Mantarat

Rupees 616. 7. 10

See Proceedings of Govt. into 22nd Decr 1859 No 2573.

Govt. of India
11 Decr 59 - 1858-59

30th Decr 1859
Govt. of India
11 Decr 59

Chief Engineer
Chief Engineer

to Government
to Government

12th Decr 1860
11th Decr 1860
11th Decr 1860

11th Decr 1860
11th Decr 1860
11th Decr 1860

11th Decr 1860
11th Decr 1860
11th Decr 1860

230 April

11th Decr 1860

6. Mantara Amma, $1\frac{1}{2}$ mile long, will also be widened to 12 feet and the whole will have an average slope of about 1 in 20. —

9. The District Engineer is of opinion that the amount required for improvements to the present line to make it available for immediate use / Rupees 2,200 in the Estimate annexed to his letter / should be defrayed by the Irrigation Company as they would confer no permanent benefit on the Country.

10. It will be observed from the accompanying letter from the Consulting Engineer for the Canal and Irrigation Company that the said Company are willing to advance the required funds, on condition that the same will be repaid as soon as the existing restrictions on expenditure are removed. Mr. Agnew, the Agent for the above Company, remarks that the Government have in their Proceedings N^o 2490 dated 22nd October last admitted the "moral responsibility" which rests

11. rests on them to make the road in question available for the Company's immediate use, and that this responsibility cannot, therefore, be removed by the fact that the opening up of the road will cost more than was anticipated.

11. This reasoning is in my opinion, unfair to the Government who can hardly be expected to bear the expense of making two lines of road for the benefit of the Irrigation Company. If Government make the new and improved line, to complete which it appears that Rupees 2,500 will still be required, it is but fair that the Irrigation Company should contribute something towards the putting of the old line in such condition as will render it immediately available for the transit of their stores. —

12. I would suggest, therefore that if the old line is to be improved, it should be done at the expense of the Company, and that the 2,500 Rupees still required to

to complete the new tract, should be sanctioned for expenditure
in 1860/61 from the general funds of the
District.

Central Office of P.W.
Chepauk
2nd April 1860
Esq. Mr. Major
Capt. Ch. B. G. G. G.

I have the honor to be,
Sir,
Your most obedient servant
J. M. Bell
Chief Engineer

M. J. J. J.

Revenue Irrigation. (New Work)
Abstract of Estimate No. of 185 /5
District — Stentoor.
Talook — Village —
Work — Completing the District Southern High Level Channel
— from Stentoor at distance of about 12 miles with
necessary drainage works

Quantities	Description of Work	Rate	Amount	Amount of each part
		Rs. A. P.	Rupers.	Rupers.
C. C. C.	High Level Channel			
301767	Cub. Yds. of Earthwork P. 1/2	" " 9	14145.	
188033	" " " " " 11	" " 11	10773.	
118895	" " " " " 1 1	" " 1 1	8050.	
8429	" " " " " 1 3	" " 1 3	659.	
224366	" " " " " 10	" " 10	11886.	145312.
	Constructing a double Culvert			
1192	Cub. Yds. — — — — — 8	" " 8	4172.	
3180	" " " " " 1 4	" " 1 4	3975.	
21	Cast iron Posts — — — — — 10	" " 10	210.	
20	Teakwood Shuttles " " " 3 6	" " 3 6	67.	8424.
	Constructing 1 Channel similar to that proposed to be formed at Anarapilly under Col. H. L. Channel 2110 15 1			10644.
	Constructing 2 Channels similar to that proposed to be formed under Col. H. L. Channel 1077 3 7			2071.
	Carried over			6644.

Quantities.	Description of Work.	Rate.		Amount.	Amount in Rupees.
		Rs.	A. P.	Rupees.	Rupees.
C. Yards.	Brought over.	"	"	"	66,585.
	Constructing 21 Tunnels similar to that proposed to be erected at Annappuram under the Ellore Rd. Channel	170	5	3	7,351.
	Extra Establishment & Rent Tunnels	5	"	"	3,676.
	"	5	"	"	5,678.
	Total Rupees				80,870.

Central Office of P.W.
Chepauk
2 April 1860

[Signature]
Chief Engineer. P.W.D.

N^o 989.

Proceedings of the Madras Government. Under date the 12th May 1860.

Read the following
letter from the Chief
Engineer.

With reference to Pro-
ceedings dated 22nd October 1858,
forwards an Estimate of Rupees
80,870 for completing the High
Level Channel to Guntoor and
a report on the Mantarala
Pass in Purnool and recom-
mending certain grants.

There is in 2nd April 1860
N^o 11992
Mantarala

In this letter

The Chief Engineer submits
the information asked for
in the order of October
22/58, respecting the high
level Canal from the
Risthak to Guntoor, and
the road from that place
to Purnool, including
the Mantarala Pass.
The information was
called for in connection
with the

[Faint handwritten notes and signatures in the left margin of the second page]

with the Irrigation Company, who have to transport large quantities of store & machinery to the vicinity of Tumool.

2. The estimate for completing the Canal amounts to Rupees 80,870, including about 7000 Rs for extra Establishment and sundries. The distance is stated to be about fourteen miles, and the Estimate is higher than ordinary in consequence of the numerous masonry works required in this part of the Canal. The Govt. regret that it is out of their power to provide the funds for this

work at present, and it must necessarily be deferred. The road from Juntoor to the frontier of the Tumool district, is represented to be unmade with the exception of four miles, but nevertheless, to be capable of bearing heavy carts for a large part of the year; but about eighteen miles of the distance is on cotton soil, and is impassable by any but the lightest carts after rain. An estimate for making this road was made in 1852 and amounted to Rupees 56,400. The Government were

sent out to look at the road, and to see if it was possible to make it a better road. The road is now in a very bad state, and it is necessary to make it a better road. The road is now in a very bad state, and it is necessary to make it a better road.

From Chief Engineer 3rd Nov. /55. No 2385.
Order: 7th Nov /55 A. 977.

this work at present, and it must necessarily be deferred. The road from Juntoor to the frontier of the Tumool district, is represented to be unmade with the exception of four miles, but nevertheless, to be capable of bearing heavy carts for a large part of the year; but about eighteen miles of the distance is on cotton soil, and is impassable by any but the lightest carts after rain. An estimate for making this road was made in 1852 and amounted to Rupees 56,400. The Government were

were obliged to postpone
the execution of it by
want of funds; and the 12 March 57 \$461.
same cause, unhappily,
still operates. Meanwhile
it is gratifying to find
that the existing road is
such as to
~~will~~ be serviceable in
fine weather.

4 The Acting Dis-
trict Engineer of Huron
reports on the Mantarala
Pass: He writes to des-
cribe the state of the
road in the low country
east and west of the
Pass, between the Hudson
Frontier and Huron.
but it seems inferable
that it is capable of
being used by carts to
the

Enclosure

In a letter

From

The Chief Engineer
D. C. Co.

To

The Secretary to Government
D. C. Co.

Dated 2nd April 1885
Received

100831/60.

N. 11922

Abstract Estimate
of the expense of completing the
High Level Channel to Guntur
in the District of Guntur
(Amounting to Rs. 8,000/-)

20th May 1885

25

* From With Engr. to Chief Engr.
February 2/80 Para 2.

* Still Para 2.

the same extent as the road
in the Guntur district spoken
of in the preceding paragraph.
Of the sixteen miles between
Siddapur to the west of the
Digs, & mantar's annam
to the east of it, about eleven
miles is now capable of
being traversed by carts, with
more or less difficulty in
fine weather; and four
miles more may be made
so passable by some improve-
ment. But the remain-
ing distance, of something
more than two miles
according to L. D. Baker's Report,
~~apparently~~ being the upper
part of the western
ascend, is stated to present
great difficulties; and
Lieutenant Beckley recom-
mends that the present
line should be abandoned
and a new one taken. Work
is

* Still Para 3.

is proceeding on the Path under
Mr. Leggett, on the grant of
6000 Rupees made by Govern-
ment on the 22^d December
1859, to complete the sum
originally sanctioned in 1856.

Mid Para 4.

5. Lieutenant Beckley
states that about 2500 Rupees
will be necessary in addition
to the 6000 Rupees just referred
to, in order to render the
whole road passable, by carts
is apparently meant; and
both ascents, it is stated,
will have an average slope
of about one in twenty.

Lastly, the District
Engineer says that he is pre-
paring an estimate, Plans,
&c., for a road 18 feet wide
from Siddapur to Mundrab-
amund.

6 The Government have
read Captain Beckley's
letter

25. The
letter with much care, but
they are unable to gain a
clear idea of his meaning.
They cannot suppose it to
be, as apparently understood
by the Chief Engineer, that
2200 Rupees should be
laid out in improving
the old line, when only
2500 Rupees is required
to make the improved
line which he speaks of,
available for traffic.
Such an outlay would
seem to be more waste.
The Government now
grant the 2500 Rupees
stated by Captain Beckley
(Para 5) to be sufficient
to make the whole road
passable for carts; this
amount will be provided
out of the repair fund
of the Shimoga District,
and

and the work should be prosecuted as vigorously as possible, as already directed in the order noted in the margin.

The Government do not consider it proper that the Irrigation Company should be required to contribute to

this work. It was ^{not} undertaken for their benefit

The Government must observe in conclusion

that Captain Henry after a minute and careful examination of the ghat

in June 1861, marked out a line over the whole ghat with gradients nowhere steeper than one in eighteen and for the most part not more than one in

twenty. It does not appear from Lieutenant Beckley's Report, which contrasts unfavorably with Captain

Henry's

March 31st / 66
1865 Percey.

alone; but was ordered & in progress ~~long~~ before the Company was formed.

X ghat

27. 5

Henry's in respect to exactness of information, whether Captain Nelson adhered to that line as far as he worked; the most difficult part of the ^{nevertheless} ghat, which, ~~still~~ was marked out by Captain Henry at a gradient of one in eighteen, does not appear to have been touched by Captain Nelson.

Lieutenant Beckley does not say what is to be the gradient of the new line he refers to; but it appears to Government that Captain Henry's line, with such slight improvements

as

suggest themselves
as many ~~as~~ in execution,
will be sufficient as respects
gradient for all the
purposes of this Dyke.

J.A.

10 Copies

Chief Engineer with 11 Encl.
Dyke 214
4. Consulting Engineer for irrigation
Company
11. Board of Revenue for
information.

35
10

Public Works 1860 Depar^{mt}
Pro: of Govt 20th May

18989.

Pro: of the Madras Govt.
21st May 1860.

From the Chief Secy 7th
Sept/60. Ch: 2108

Observing that the High
Level Canal from Tristna to
Guntoor and the road from that
place to Kurnool must be
deferred, and sanctioning
Rupees 2500 to complete the
works in progress on the
Mantarala Pass.

N^o 25+26.