

1. NUMBER OF PAGES 10  
2. Date of receipt 19-7  
3. Initials of Officer

M.R.O. 1-32,400-22-11-30

# MADRAS RECORD OFFICE.

Government of Madras.

*Public Works* DEPARTMENT.  
*Cons. 4.5.57*

G.O. No.

1473

Press  
Mis.

31-32  
Dated

30-7-

1857

Not to be folded or roughly handled

No. 31. Read the following letter from Colonel C. E. FABER, Chief Engineer; to H. FORBES, Esq., Acting Secretary to Government, dated 8th July 1857, No. 1863,

SIR,

I have the honor in obedience to instructions conveyed in Extract Minutes Consultation No. 953, dated 18th May 1857, to submit the accompanying plans and estimates for that portion of the branch Railway to the Salt Cotaurs at Madras, the cost of which is likely to be borne by the Government.

2. I propose to commence the branch line from the main line of Railway at one chain to the east of the viaduct over the road to the Powder Mills, see A in Plan, and that it be carried in the direction marked on the Plan to the point C, a distance of 1602 feet, with a curvature to a radius of 14 chains or 924 feet, and with a gradient of 1 foot in 267 feet, and from the point C to the Salt platform a distance of 32 chains or 2112 feet, it will be constructed without slope and at the same level as the Salt platforms themselves, and so on to the point Z at the southern extremity of the Cotaurs, a further distance of 52 chains equal to 1144 yards or 3432 feet.

3. From A to B a distance on the curve of 8 chains, the line is within the limits of the ground belonging to the Railway Company, and which extends in a direct line 160 feet from the centre of the line of Railway on each side, and this portion of the rail together with switches crossing points and a siding as A . . . Q should be constructed at the expense of the Railway Company as is the custom in England when private accommodative lines are constructed.

4. I have laid down the line in the direction on the Plan, because I am of opinion, see my letter to Board of Revenue No. 8388, dated 26th November 1856, that it will be necessary eventually to store salt as also perhaps other articles of import between it and the canal; hereafter as trade increases it may be necessary to run branch lines over this space, but this does not immediately affect the question.

5. In my former communication I proposed that rails of a lighter description than those on the Railway which are 64 lbs. to the yard should be used, the heavier rail being used only as far as the Cotaurs, and I intended that the Railway waggons should be moved about on these lighter rails by coolies or bullocks and that they should be placed on a siding S S to remain there until a sufficient load was collected for a locomotive to be run down to carry it away, but it has occurred to me, that a merchant wishing to send only 4 or 5 tons may not choose to wait till a full load has been got ready, and then so heavy a rail would not be necessary, because it would not pay to run a locomotive down for so small a quantity.

6. I have for the above reasons prepared two or I might rather say three estimates, the first for the whole line, with the heaviest rail Rupees (54,400) fifty-four thousand and four hundred, the second with the whole line with the lighter rail Rupees (43,760) forty-three thousand, seven hundred and sixty, and the third with the line to the Cotaurs of the heavy rail, and the continuation to Z of a lighter rail Rupees (49,300) forty-nine thousand and three hundred, I have omitted an estimate for a siding at S S, because, if it be determined that the siding is to be at A . . . Q it should be borne by the Railway Company and if at S S it I think ought to be so also.

7. In order that I may not be misunderstood with reference to the estimate I originally sent in, I may here mention that that estimate was merely an estimate for a line as far as the Cotaurs. No estimate whatever having been made for the rail in the Cotaurs themselves and it will be understood that I have in this estimate only calculated the embankments for a single rail the ballasting however has been increased from one foot to two feet in depth and the former inadequate rate of 12 annas raised to 1 Rupee 8 annas.

8. I consider it necessary to draw up for the information of Government a comparison of the cost of working the traffic by means of heavy rails and a locomotive and by means of a light rail, the waggon being pushed to the siding A. Q. by manual labour.

9. The gradient at its steepest is 1' in 267 and a man can push up such a slope a gross weight of 1900 lbs. the average journey is 1980 yards there, and the same back equivalent to 2

Fort Saint George, Public Works Consultation of 4th August 1857.

miles, 2 furlongs and 100 yards, he may be able to make 4 such journeys a day, so that at the rate of hire of 2 annas 6 pice a day, each trip will cost 7-5 pice and as the waggon on this line are to their load as 2 to 1, the net weight pushed is 660 lbs. equal to 2-5 pice per mile equal 8-8 pice per ton per mile gross of actual cost, against 5-6 pice the cost by locomotive a difference in favour of the latter of 3-2 pice, this divided over the miles of the whole journey of from 60 to 80 miles, is perhaps hardly worth taking into account still it is appreciable and should be deducted from the tariff fixed per ton per mile to be paid by the person sending the goods.

10. I have said that it is appreciable because the sum of 3-2 pice per ton per mile would on a traffic of 30 tons a day for 300 days represent an outlay of 150 Rupees a mile and would at 5 per cent. represent a capital of 5,000 Rupees a mile, a sum which I should be justified in recommending to be expended above the cost of the light rail could a constant load be ensured which however I believe cannot be trusted to, or be considered to be likely to be often the case.

11. Taking all the circumstances of the case into consideration however, I am still inclined to recommend the adoption of the heavier rail as upon the whole the most convenient, and as not entailing any particular loss even suppose a locomotive has to be run down for a portion only of a road, and would strongly advise the Government to request the Railway authorities to execute the work themselves they have plant and Executive Officers skilled in the work ready at hand and could do the work in much less time and more efficiently than the D. P. W. could hope to do. I have no doubt that the Railway authorities would promptly undertake the work on my estimate and would in all probability complete it in 3 months from this date.

No. 32. ORDER THEREON, No. 1179; dated 30th July 1857.

The Chief Engineer submits three estimates of the probable cost of constructing a branch line of Railway from the limits of the ground belonging to the Railway Company to the Madras Salt Cotours, and extending it afterwards through the Cotours to a point on the main road, leading from the Elephant Gateway. The estimates are—

|                                                                                                               |            |
|---------------------------------------------------------------------------------------------------------------|------------|
| 1st. For a branch line with heavy rails throughout.....                                                       | Rs. 54,400 |
| 2nd. For a do. light do. ....                                                                                 | „ 43,760   |
| 3rd. For a do. with heavy rails to the commencement of the Cotours,<br>and thence after with light rails..... | „ 49,300   |

2. In paras. 8 to 11, the Chief Engineer, after discussing the cost of working the traffic by means of heavy rails and a locomotive, compared with that by means of a light rail and propelling the waggon by manual labor, is disposed to prefer the heavier rail, as being the most convenient and best suited upon a consideration of all circumstances; he recommends accordingly that it may be adopted, and that the execution of the work be left to the Railway authorities, who, having plant and a staff of skilled executives, are most likely to do it efficiently and expeditiously.

3. As however the question put by the Chief Engineer, regarding the weight of rails, depends on the view taken by the Railway Company regarding the use of Locomotive Engines, the Government resolve, before passing orders on the present application, to forward the Chief Engineer's letter and its enclosures to Colonel Pears, and to request that he will, in communication with the Railway authorities, advise Government on the whole matter at an early date, reporting at the same time, with reference to para. 11 of Extract Minutes of Consultation 18th May 1857, No. 953, on the share of the cost of constructing the branch rail, that should be borne by the Railway Company.

(Signed) H. FORBES.

Acting Secretary to Government.

Central Office of P. Works.

N. 1863.

Fort Saint George,

8<sup>th</sup> July 1857.

From The Chief Engineer.

Branch line of rail  
from the main line  
to the salt cotours  
at Madras.

To The Secretary to Government G. W. D.  
Sir.

Enclosures 5.

3 Estimates.

2 Plans.

I have the honor in obedience to instructions conveyed in Extract Minutes of Council No. 953 dated 18<sup>th</sup> May 1857. to submit the accompanying Plans and Estimates for that portion of the branch Railway to the Salt Cotours at Madras, the cost of which is likely to be borne by the Government.

2 I propose to commence the branch line from the main line of railway at one chain to the east of the viaduct over the road to the Powder Mills, see A in Plan, and that it be carried in the direction marked on the Plan to the point C, a distance of 2602 feet, with a curve to a radius of 164 chains or 924 feet, and with a gradient of 1 foot in 267 feet, and from the point

point C to the Salt platform a distance of 32 Chains  
or 2112 feet, it will be constructed without slope and  
at the same level as the Salt platforms themselves, and so  
on to the point L at the Southern extremity of the Cotours,  
a further distance of 52 Chains equals to 1144 Yards  
or 3432 feet.

3 From A to B a distance on the curve of  
8 Chains, the line is within the limits of the ground  
belonging to the Railway Company, and which extends in  
a direct line 160 feet from the Centre of the line of  
Railway on each side, and this portion of the rail-  
road together with switches passing points and a siding at  
A . . . D, should be constructed at the expense  
of the Railway Company, as is the custom in England,  
when private Accommodation lines are constructed.

4 I have laid down the line in the direction on  
the plan, because I am of opinion, see my letter to  
Board of Revenue N<sup>o</sup> 8388, dated 26<sup>th</sup> November 1856,  
that it will be necessary eventually to store Salt at  
also

also perhaps other Articles of import between it and the  
Canal; hereafter as trade increased it may be necessary to  
run branch lines over this space, but this does not  
immediately affect the question.—

5 In my former communication I proposed that rails  
of a lighter description than those in the Railway which  
are in use to the Yard should be used, the heavier  
rail being used only as far as the Cotours, and I  
intended that the Railway Wagons should be moved  
about on these lighter rails by Coolies or bullocks and  
that they should be placed on a siding S S to remain  
there until a sufficient load was collected for a  
locomotive to be run down to carry it away, but it has  
occurred to me, that a merchant wishing to send only  
4 or 5 tons may not choose to wait till a full load  
has been got ready, and then so heavy a rail would  
not be necessary, because it would not pay to run a  
locomotive down for so small a quantity.

6 I have for the above reasons prepared two or  
might rather say three Estimates. The first for the whole line,  
with the heaviest rail Dupes (54,000) Fifty four thousand  
and four hundred - The second with the whole line  
with the lighter rail Dupes (43,760) Forty three thousand,  
seven hundred and sixty, and the third with the line  
to the Cotons of the heavy rail, and the continuation to L  
of a lighter rail Dupes (49,300) Forty nine thousand, and  
three hundred. I have omitted an Estimate for a siding  
at P. S. because, if it be determined that the siding is to  
be at A . . . Q it should be borne by the railway  
Company and if at P. S. it I think ought to be so also.

7 In order <sup>that</sup> I may not be misunderstood with reference  
to the Estimate I originally sent in, I may here mention that  
that Estimate was merely an Estimate for a line as far as  
the Cotons. No Estimate whatever having been made for the  
rail in the Cotons themselves and it will be understood  
that I have in this Estimate only calculated the embankments  
for a single rail the ballasting however has been increased  
from one foot to two feet in depth. and the former inadequate  
rate of 12 Annas raised to 1 - 8.

8 I consider it necessary to draw up for the information  
of Government a comparison of the cost of working the traffic  
by means of heavy rails and a locomotive and by means  
of a light rail, the Wagon being pushed to the siding. A. Q  
by manual labour.

9 The gradient at its steepest is 1 in 267 and a  
man can push up such a slope a gross weight of 1900 lbs.  
the average journey is 1980 Yards there, and the same back  
equivalent to 2 Miles 2 furlongs and 100 Yards, he may be  
able to make 4 such journeys a day, so that at the rate  
of hire of 2 - 6 a day, each trip will cost 7 - 5 <sup>gross</sup> pice, and as  
the Wagons on this line are to their load as 2 to 1, the net  
weight pushed is 600 lbs. equal to 2 - 5 pice per mile. 8 - 8  
pice per ton per mile <sup>gross</sup> of actual cost, against 5 - 6 pice the cost  
by locomotive a difference in favor of the latter of 3 - 2 <sup>Pice</sup>.  
This divided over the miles of the whole journey of from 60  
to 80 miles, is perhaps hardly worth taking into account  
still it is appreciable and should be deducted from the tariff  
fixed per ton per mile to be paid by the person sending the  
goods.

10 I have said that it is appreciable because the sum  
at 3 - 2 pice per ton per mile would on a traffic of 30 tons  
a

a day for 300 days represent an outlay of 150 Rupees a mile  
and would at 5 per cent represent a Capital of 5,000 Rupees  
a mile, a sum which I should be justified in recommending  
to be expended above the cost of the light rail road, a constant  
load be endured. Which however I believe cannot be trusted  
to, or be considered to be likely to be often the case. —

11 Taking all the circumstances of the case into  
consideration however, I am still inclined to recommend the  
adoption of the heavier rail as upon the whole the most  
convenient, and as not entailing any particular loss even  
suppose a locomotive has to be run down for a portion only  
of a road, and would strongly advise the Government to  
request the Railway Authorities to execute the work themselves  
they have plant and Executive Officers skilled in the work  
ready at hand and could do the work in much less time &  
more efficiently than the D. O. W. could hope to do. I have  
no doubt that the Railway Authorities would promptly undertake  
the work on my Estimate and would in all probability complete  
it in 3 months from this date. —

Central Office of P. W.  
Fort Saint George,  
8<sup>th</sup> July 1857

I have the honor to be,  
Sir,  
Your most Obedt. Servt.,  
Wm. Esler Colonel.  
Chief-Engineer.

1863. July 12. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

Encl. 11<sup>th</sup> 1863. 1863.

223. July 125<sup>th</sup>.

Public Works 1857 Dept.  
Cons. 4<sup>th</sup> August

N<sup>o</sup> 1402.

From the Chief Engineer  
D/ 8<sup>th</sup> July 1857.

E. M. C. 3<sup>rd</sup> Dec 57.  
No. 2028.

From the Chief Engineer 24 Dec 57.  
N<sup>o</sup> 2533 in Cons.

N<sup>o</sup> 31432.

Forward's Estimates  
for the branch line from  
the Railway to the Salt Colony  
at Madras, offers some ob-  
servations on the cost of  
working the line and sug-  
gests that a heavy line  
be used, that the Railway  
Company be requested  
to be the Executive the  
Government paying them  
for the work.

With an order  
D/ 30<sup>th</sup> July 1857 N<sup>o</sup> 1479.

P. 11.2.

N<sup>o</sup> 1479  
Extract from the Minutes of Consultation  
Under date the 30<sup>th</sup> July, 1857.

Read the following  
letter from the Chief Eng<sup>r</sup>.

/ Here enter 8<sup>th</sup> July 1857 N<sup>o</sup> 1863/

The Chief Engineer  
submits three Estimates of  
the probable cost of construct-  
ing a branch line of railway  
from the limits of the ground  
belonging to the Railway Company  
to the Madras Salt Cotours,  
and extending it afterwards  
through the Cotours to a point  
on the main road, leading  
from the Elephant Gateway.

The Estimates are.

- 1<sup>st</sup> For a branch line with heavy rails throughout Rs. 57,400.
- 2<sup>nd</sup> For a - - - - - light - - - - - do " 43,760.
- 3<sup>rd</sup> For a - - - - - do - - - - - with heavy rails to the  
commencement of the Cotours, and  
thence after with light rails - - - - - 49,300.

In

2. In paras 8 & 11, the Chief Engineer, after discussing the cost of working the traffic by means of heavy rails and a locomotive, compared with that by means of a light rail and propelling the wagon by manual labor, is disposed to prefer the heavier rail, as being the most convenient and best suited upon a consideration of all circumstances, he recommends accordingly that it may be adopted, and that the execution of the work be left to the railway authorities, who, having a plant and staff of skilled executives, are most likely to do it efficiently and expeditiously.

As however the question put to the Chief Engineer, regarding the light of rails, depends on the view taken by the Railway Company, regarding

<sup>regarding</sup> ~~with reference~~ to the use of locomotive engines, ~~and~~ the Government resolve, before passing orders on the present application, to forward the Chief Engineer's letter and its enclosures to Col<sup>r</sup> Pears, and to request that he will, in communication with the Railway authorities, advise Government on the whole matter at an early date, reporting at the same time, with reference to para 11 of Extract Minutes of Consultation 18<sup>th</sup> May 1857, N<sup>o</sup> 953, <sup>on</sup> the share of the cost of constructing the branch rail, <sup>that should</sup> be borne by the Railway Company.

ER

9 Copies to the Chief Eng. Diff<sup>r</sup> 27<sup>th</sup>  
3 - in Consulting Engr. for Railway <sup>with Copy of the Chief Eng's letter to Chief Engrs</sup>  
3 - in Civil Railway Dep<sup>n</sup>

50  
Candle Works 1867 Sept 11  
Davis Cove: 4<sup>th</sup> Aug 5

1479.

Richard Collins of Can.

2130E Lake 1/37

Regarding the effect on Congress in communication with the Executive authorities to reduce part of the expenditures out of construction is much less of a barrier from the limits of the account belonging to the Publican Commission to the President's statement concerning it afterwards through the Congress to a point on the main branch leading from the Congress and the President's statement.

Ms. A. 9. 2. 1. 8. 32.

c 23 July 1725