M.R.O. 1—77,000—3-9-37.

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MADRAS RECORD OFFICE.

Government of Madras.

Public (Ors) DEPARTMENT.

G.O. No. 3284-35 Press Mis.

Dated 7-10 1869.

Not to be folded or roughly handled

No. 121. Read the following letter from the Consulting Engineer for Railways, to the Secretary to Government, Public Works Department, dated Madras, 3rd September 1869, No. 279 :—

In the 3rd para. of my Report, dated the 20th ultimo, No. 233, I stated that the portion of the South-West Line of the Madras Railway, between the Cauvery river and Avenashy, was being renewed with iron sleepers, and that as no work of that nature had been sanctioned to the west of Salem, and as a large part of the cost would necessarily fall upon Capital, I had asked the Agent to suspend operations, pending the submission of an application to Government.

2. I have the honour now to submit a letter* from the Agent, in which he explains that a letter received from Colonel O'Connell on the 9th February 1865 was supposed to convey authority to renew the whole of the South-West Line with iron sleepers. I find, however, that that letter only communicated to the Agent the order of Government dated the 2nd February 1865, No. 83, which conveys no authority for converting any portion of the wooden road into an iron one, but merely lays down the mode in which the cost of such conversion, when incurred, is to be adjusted.

* No. 56, 26th August 1869.

3. Mr. Elwin encloses an extract from the Railway Board's letter† dated the 4th June last, and with reference thereto, requests the sanction of Government—

(1)—for the extension of the iron road from the Cauvery river to Palghaut; and,

(2)—for the laying down of an experimental mile of iron road near the Kuddlehoondy river on the West Coast.

† No. 132, paragraphs 14 and 15.

Mr. Elwin also requests that the portion of the work already in progress, between the Cauvery river and Avenashy, may be allowed to proceed in anticipation of sanction, as the disbanding of the men now employed upon it would cause serious inconvenience.

4. The Government are aware that the question as to the advisability of substituting iron for wooden sleepers has formed the subject of a prolonged correspondence, and all that can even now be said to be agreed on is that, under certain conditions, and when suitable ballast can be easily procured, the substitution has proved eminently successful in keeping down the cost of maintaining the line. The mode in which the cost of renewing a wooden road with iron sleepers should be distributed between Capital and Revenue, was finally settled in the order of Government,‡ to which allusion was made above.

‡ No. 83, 2nd February 1865.

5. Upon the 29th May 1861, in their order No. 408, sanction was accorded by Government to the substitution of iron for wooden sleepers on the South-West Line, between Madras and Salem. No further sanction has since been accorded; but from a misconception on the part of the Railway authorities, the renewal with iron sleepers has been carried out as far west as the Cauvery river, a distance of about thirty-five miles from Salem.

6. It is now proposed to carry the iron road as far as Palghaut, a further distance of ninety miles. I have on several occasions discussed this question with

the officers of the Railway Company, and I agree with them in considering the measure advisable. The expenditure incurred in renewing this part of the line with wooden sleepers has risen greatly of late years, and I am satisfied that the conversion will be an economical measure. It has been ascertained that suitable ballast is procurable as far as Palghaut.

7. During the current official year it is proposed to extend the iron road to Avenashy; and as it has been represented that it would be highly inconvenient to stop the work which has been commenced, as above explained, under a misapprehension, I have communicated authority to the Agent to proceed with it in anticipation of sanction. I learn from the Chief Engineer that the probable cost of the work to be undertaken during the current year will be as follows :—

	Rs.
English expenditure	3,69,930
Indian do.	2,20,335
Total ...	5,90,265

The whole of the Indian expenditure will be charged to Revenue; and according to the scale sanctioned by Government, fifty per cent. of the English expenditure incurred during 1869 will be charged to Capital, and 41·66 per cent. of what is incurred during 1870.

8. With reference to the 2nd proposal, viz., that an experimental mile of iron road should be laid down near the Kuddlehoondy river, on the West Coast, I am by no means so clear. The ballast procurable there is almost entirely of laterite, which experience has shown to be unsuitable to the form of iron sleeper hitherto used on the Madras Railway. The Railway authorities recommended, for this reason, that a trial should be made on the West Coast of a differently shaped sleeper, supposed to be better adapted to the peculiar qualities of laterite ballast; and in this recommendation I concurred. The Board however, as will be seen from the 15th para. of their letter to the Agent, have, upon the advice of Mr. Hawkshaw, their Consulting Engineer, requested that a careful trial should be made of the present sleepers with such ballast as the country affords; and with this object it is proposed to lay down an experimental mile. The cost of this will probably fall not far short of Rupees 20,000; and of this sum a considerable portion (41·66 per cent. of the English expenditure, if laid down in 1869, or 36·91 per cent. if in 1870) will fall upon Capital. Our present knowledge on the subject, as gathered from experience, is not, in my opinion, such as to justify so large an expenditure; and I think that a length of half a mile will be sufficient to give conclusive results as to the suitability or otherwise of the present form of bowl sleeper to the laterite ballast procurable on the West Coast. I have therefore the honour to recommend that the experimental mile, proposed by the Board, be reduced by one-half.

From the Agent and Manager of the Madras Railway Company, to the Consulting Engineer for Railways, dated Madras, 26th August 1869, No. 466.

I HAVE the honour to enclose a copy of paras. 14 and 15 of the Secretary's letter, No. 432, dated London, 4th June, and with reference to the conversation which took place at our meeting this morning, to apply for the sanction of Government to extend the iron sleeper road to Palghaut.

2. From my letter of the 23rd instant, No. 454, you will have learnt that the officers of the Railway considered they had authority to undertake this work from the tenor of Lieutenant-Colonel O'Connell's communication of the 9th February 1865, No. 120, and the substitution of iron for wood is now in progress.

3. As I concur with the Chief Engineer in thinking that it would be a great pity to disband the gangs of men who are now engaged in relaying with iron pots between the Cauvery and Avenashy, I trust that His Excellency in Council will be pleased to allow the work to proceed, in anticipation of the formal sanction of the Government of India.

4. Adverting to the observations of the Board, as made known in para. 15, I beg to apply for the sanction of Government to introduce on the Western Coast, in the neighbourhood of the Kuddlehoondy, one mile of iron pot sleepers, with a view to determine their suitableness or otherwise in laterite ballast.

Extract of a letter from the Secretary, London Board, Madras Railway Company, dated 4th June 1869, No. 432.

PARA. 14.—The Board approve of the Chief Engineer's recommendation, supported in your letter, No. 832, to extend the iron sleeper road of the South-West Line to Palghaut, to which place the ballast is shown to be suitable for them. Experience has fully proved on our Railway the superiority of the iron over the wooden sleeper in point of durability, and in the cost of maintaining the permanent-way; while the evils apprehended in some quarters from its adoption have been hardly appreciable upon the rolling stock. It is observed from the Engineer's report, that on the 1st and 3rd Divisions of the South-West Line, the substitution of iron for wooden sleepers is now completed, and nearly so on the 2nd Division. The Board hope, therefore, that in future the cost of maintenance of those divisions will be reduced, more nearly than heretofore, to that of the North-West Line, where it has been from the first satisfactory.

15. With regard to Mr. B. Anderson's suggestion, that some other form of iron sleeper, more suitable than the pots for laterite ballast, should be selected and sent out for use on the Western or Malabar District, Mr. Hawkshaw is desirous that, before making any change in this respect, a careful trial should be made of our present sleepers with such laterite ballast as the country affords. He suggests, therefore, that a mile or so of the line in that quarter should be laid and run over, so as practically to determine the suitableness or otherwise of the pots with such ballast. We are not aware that any conclusive trial on this point has been made, and it seems to the Board important that there should be. If the objection has rested only on the greater breakage of the pots with ballast of this description elsewhere, that is, if they have not been found strong enough to bear the contact, they can easily be made stronger. You will accordingly be so good as to direct this trial to be made, and the results carefully watched and reported to the Board.

(True Extract.)

(Signed) R. B. ELWIN,
Agent and Manager.

No. 122. ORDER THEREON, 7th October 1869, No. 3,234.

RAILWAY, No. 21.

RESOLVED that this letter be forwarded to the Government of India, and that the sanction of that Government be requested to the proposed outlay on the substitution of iron for timber sleepers on the portion of the South-West Line between the Cauvery and Avenashy.

2. His Excellency the Governor in Council concurs in the views expressed by the Consulting Engineer in paragraph 8, and he approves of half a mile in length of the Railway being experimentally laid with iron sleepers near the Kuddlehoundy river. The cost of this road will it is presumed not exceed Rupees 10,000.

Ordered that the following letter be sent to the Government of India:—

(Here enter No. 3,235, dated 7th October 1869.)

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Ed. S. T. Augustin.

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, *7th October* 1869.

No. 123.

No. 3,235.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

RAILWAY, No. 22.

I AM directed herewith to forward a letter from the Consulting Engineer for Railways, in which that officer brings to notice that though, in May 1861, this Government accorded its sanction to the substitution of iron for wooden sleepers only on the portion of the South-West Line between Madras and Salem, the Railway authorities, construing a communication from his predecessor, Colonel O'Connell, as conveying authority for carrying out the alteration on the whole of the line, have completed the renewal as far as the Cauvery, a distance of thirty-five miles beyond Salem. Observing during a recent inspection that operations were in progress between the Cauvery and Avenashy, Major Shaw Stewart requested the Agent to suspend them pending an application to Government.

2. With the approval of his Board of Directors Mr. Elwin now requests authority for extending the substitution of iron for wooden sleepers from the Cauvery to Palghaut, a distance of ninety miles, and the Consulting Engineer recommends the extension, as he believes that it will result in a considerable reduction of the present heavy outlay on maintenance; and he reports that, as it would be highly inconvenient to stop the work which has been in progress between the Cauvery and Avenashy, he has, in anticipation of sanction, permitted its continuance. The probable outlay on this portion of the line during the current year is estimated at Rupees 5,90,265, of which Rupees 3,69,930 represent the English, and Rupees 2,20,335 the Indian expenditure. The whole of this latter sum will be charged to Revenue, and fifty per cent. of the English expenditure to Capital.

3. Under these circumstances, I am to request the sanction of the Government of India to the proposed outlay.

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

Colonel, R.E.,
Secretary to Government.

Ed. S. T. Augustin.

Railway Department Com: Engrs Office

P. 279-

Sir,

Major J. H. de Shee Commd RE
Com: Engrs for Railways.

I have the honor to forward
herewith a Report dated the 27th Inst
with a Sketch of the Portion
of the South-West line of the
Madras Railway between the
Coonoor Incline and Kunnoor which was
being removed with iron sleepers, and
that as no work of that nature had
been sanctioned to the west of Salem,
and as a large part of the next
would

removed, necessarily fall upon Corporal,
I had ordered the Agent to suspend
operations pending the reference of
the application to Government.

2. I have the honour accor-
dingly to forward herewith a letter from the Agent, 22 Feb. 1865.
in which he explains what is stated
received from Colonel Crommelin on
the 9th February 1865 was suspended
to convey authority to remove the
whole of the South-West Circle until
upon deeper. Special Reserve that
that letter only communicated to
the Agent the order of Government
dated the 2d February 1865, No. 83,
which conveys no authority for
removing any portion of the
wooden Road inside from iron ore,
but merely lays down the mode

in

4. No. 1837.
forwarded 14 Aug. 1865.

in which the cost of such operations,
when incurred, is to be defrayed.

3. No. 4 Colonel Crommelin
in forwarding from the Central Districts
Letter dated the 4th June last,
and the papers thereto, requests the
decision of Government

(1) for the exclusion of the iron
road from the Commonage, for
the Public benefit, and

(2) for the laying down of an experi-
mental mile of iron road, near
the Shoalhaven, River on the
west coast.

4. No. 4 Colonel also requests that the
portion of the work already in
progress, between the Commonage,
River and Cremorne, may be
a Channel

allowed to proceed on anticipation
of sanction, as the disbanding of
the men then employed upon it
would cause serious inconvenience.

4. The Government are aware
that the question as to the advis-
ability of substituting iron for
wooden sleepers has formed the
subject of a prolonged correspondence,
and all that can now be
said is that, under
certain conditions, and where suitable
ballast can be easily procured,
the substitution has proved emi-
nently successful in keeping down
the cost of maintaining the line.
The mode in which the cost of
renewing a wooden road with iron
sleepers should be distributed
between

Estimated Capital and Revenue and
Working Expenses of the Railway
from Salem to Chetput.

Extract from Government Order
No. 2408, dated 29th May 1861.

5. Upon the 29th May 1861,
in their order No. 2408, sanction was
accorded by Government to the
substitution of iron for wooden
sleepers on the South-West Line
between Madras and Salem, for
portions renewable by reason of
decay, but from a miscellaneous
fund for the Railway
Maintenance, the renewal with
iron sleepers has been carried
out as far west as the Cauvery
River, a distance of about 25 miles
from Salem.

6. It is now proposed
to

to carry the iron road as far as Palghaut, a further distance of 90 miles. I have on several occasions discussed this question with the Officers of the Railway Company, and I agree with them in considering the measure advisable. The expenditure incurred in renewing this part of the line with wooden sleepers has risen greatly of late years, and I am satisfied that the conversion will be an economical measure. It has been ascertained that suitable ballast is procurable as far as Palghaut.

7 During the current official year it is proposed to extend the iron road to Avenashy, and as it has been represented

that

that it would be highly inconvenient to stop the work which has been commenced, as above explained, under a misapprehension, I have communicated authority to the Agent to proceed with it in anticipation of sanction. I learn from the Chief Engineer that the probable cost of the work to be undertaken during the current year will be as follows—

English expenditure	— Rs:	369,930
Indian Do	— " —	220,335
	Rupees	590,265

The whole of Indian expenditure will be charged to Revenue, and according to the scale sanctioned by Government, 50 per cent. of the English expenditure incurred

during

during 1869 will be charged to
Capital, and will be part of
what is expended during 1870.
& Ulrik refers to the
second proposal, namely, that
an experimental mile of iron
road should be laid down near
the Fredrikshavn Railway on the
west coast, a line by no means
so bad. The ballast procurable be
there is almost entirely of Calcrete,
which unfortunately has shown to be
unsuitable to the form of iron
sleeper hitherto used on the
Fredrikshavn Railway. The Railway
Authorities recommended, for this
reason, that a trial should be
made on the west coast of a
different

different shaped sleeper, supposed
to be better adapted to the pe-
culiar qualities of Calcrete ballast,
and on their recommendation a con-
tract was entered into with Messrs
Hansen & Weller, of Copenhagen, who
undertook to deliver 1000 sleepers
of this description at Skagen for
the sum of 2,000 Kroner, or
2 Kroner each sleeper. The Board however,
will be seen from the 5th paragraph of their letter to the
Secretary, have, upon the advice of
Mr. Hansen & Weller, their Consulting
Engineer, requested that a certain
trial should be made of the
proposed sleeper with Lucke bal-
last as the economy expected; and
while this object is proposed
to carry down an experimental
mile, the cost of this will pro-
bably fall not far short of
Kr. 20,000; and of this sum a
considerable portion (say 66 per
cent

cent of the English expenditure, if laid down in 1869, or 26.91 per cent, if in 1870) will fall upon Capital. Our present knowledge on the subject, as gathered from experience, is not sufficient to justify so large an expenditure; and I think that a Canal of half-a-mile will be sufficient to give reasonable facilities to the navigation of the present form of boat adapted to the Calcutta harbour or the river coast. I have therefore the honor to recommend that the proposed canal mile pro-posed by the Board be re-

Reduced

Received by me Sep.

Fourteen } Sept. 1869

I have the honor to be, Sir, Your most obedient Humble Servt

Chas. Eyre Forbes Railway

Extract of a Letter from the Secretary, Lancaster Turnpike Company, dated 4th. June 1809.

Paragraph 14. The Board approve of the Chief Engineer's recommendation, supported in your Letter No. 832, to extend the main sleeper road of the N.W. Line to Paoli, to which place the ballasting is now to be continued from Valley Forge; and they are fully persuaded, on mature deliberation, of the superiority of this mode of laying the wooden sleepers in point of durability, and in the cost of maintaining the pavement thereon, which will be considerably diminished in some measure from the adoption; but cannot be correctly ascertained until the rolling stock - Advices received from the Engineer's report that on the 7th mile 5 Furlongs of the N.W. Line, the substitution of iron for wooden sleepers is more completed, and nearly so on the S.E. division. The Board hope therefore that in future the cost of maintenance of those divisions will be reduced much more nearly than heretofore to that of the S.W. Line, where it has been from the first extraordinary low.

15. With regard to Mr. Anderson's suggestion that some other form of iron sleepers more suitable than the flats for laterite ballast should be selected and sent out for use on the western or mountainous districts, the Hawkshaw is desirous that before making any change in this respect, a careful trial should be made of some present sleepers with such laterite ballast on the Country offends - No suggestion

therefore that a mile or so of the line in that quarter should be laid and remain over, & as practically to determine the suitableness or otherwise of the soils with such ballast. We are not aware that any conclusive trials on this point have been made, and it seems to the Board important that there should be. If the objection lies solely on the greater breakage of the pots with ballast of this description elsewhere, that is, if they have not been found strong enough to bear the contract, they can easily be made stronger. You will accordingly be so good as to direct this trial to be made and the results carefully watched and reported to the Board.

I have &c.

(Signed) Walter Scott

Agent & Chief Engineer.

Compd to Genl

No. 1166

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 26th August 1869.

From

Robert B. Blair Esqre

Agent and Manager. M. R. Co.

To

Major Walter Scott Assoc. Inst. C.E.,

Consulting Engineer for Railways.

Sir,

I have the honor to enclose a copy of paragraphs XIV and XV of the Secretary's Letter No. 432 dated London 17th June, and with reference to the conversation which took place at our meeting this morning to apply for the sanction of Government to extend the Iron Sleeper Roads to Salighaut.

2. From my letter of the 23d. Instant, No. 951, you will have learnt that the Officers of the Railway considered they had sufficiently to undertake this work, from the tenor of Lieutenant Colonel O'Connell's communication of the 9th February 1865, No. 120 and the substitution of Iron for wood is now in progress.

3. We concur with the Chief Engineer in thinking that it would be a great pity to disband the gangs of men who are now engaged in relaying with Iron Poly-between the Coimbatore and Cherambadi, Inst. that His Excellency

be caused will be pleased to allow the
words to proceed, in anticipation of the
favourable decision of the Government of India
upon the following observations
of the Board as made known in paragraph
XV, Of my letter for the creation of
Embankments on the Western
bank of the Neighbourhood of the
Huddleswamy one mile of Iron Pallisades
with a view to determine their suitableness
or otherwise as Cattle bullets.

I have the honor to be,
Sir,
Your most obedient Servt.

Agent Kellumeyer.

No. 3936

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

P.C.O. 3799/64.

Dated 26th August 1864.

Recd. 27.

No. 466.

Enclosing copy of paragraphs XIV and XV of the Secretary's letter No 432, and applying for the sanction of the Hon'ble Court to the proposed Railway.

P. W. D.
№ 3234
Proceedings of the Madras Govt:
Under date the 4th October 69
Read the following:-

From the Secy to Govt P.W. & Railways, to No. 279 dated 3rd Septr 69

Resolved that this
letter be forwarded to the
Government of India, and
that the sanction of that
Government be requested
to the proposed outlay on
the substitution of iron
for timber sleepers on the
portion of the Cuddalore Road
Lower between the Canonry,
and Noorankuppy.

His Excellency
the Governor in Council
agrees with the views
expressed

1869. Sept.

RAILWAY DEPARTMENT.

From The Consg. Engineer for Railways,

To

The Secretary to Government,

P. W. Dept.

Dated 3rd September 1869.
Received

No. 279-

Enclosures, No. 2

№ 3234 & 3235 - 7 October 69
Submitting a
letter from the Superintendent
and Engineer of
the Railway Company
for the sanction
of Government to extend
the iron sleeper road
to Pallavaram &c-

№ 121

Q. 15th Octo 69 D.R. 123 ad

expressed by the Consulting Engineer in para 8, and he approves of half a mile in length being experimentally laid with iron sleepers near the Muddlebroody River. The cost of this road will it is presumed not exceed Rs 10,000.

Ordered that the following letter be sent to the Government of India

No 3235

The Secretary to the Government of India Public Works Department

I am directed here with to forward a letter from the Consulting Engr

To the Govt Engineer for Railways

Dispd 8/10/64

Engineer for Railways in which that Officer brings to notice that though, in May 1861, this Government accorded its sanction to the substitution of iron for wooden sleepers only on the portion of the Coast Line between Madras and Salem, the Railway authorities, contrary to the practice of their predecessor, Colonel O'Connell, as conveying authority for carrying out the alteration on the whole of the line, have completed the renewal as far as the Caniery, a distance of 35 miles beyond Salem. Observing during a recent inspection

inspection that operations were in progress between the Cauvery and Sree-rangam, Major Stevenson Stewart requested the Agent to suspend thereon pending an application to Govt.

With the approval of this Board of Directors Mr. Ebenezer now requests authority for extending the substitution of iron for wooden sleepers from the Cauvery to Palghaut, a distance of 90 miles, and the Chief Engineer recommends the extension as he believes that it will result in a considerable reduction of the present heavy outlay on renewals, and he reports that,

that, as it would be highly inconvenient to stop the work which has been in progress between the Cauvery and Sreerangam, he has, in anticipation of sanction, permitted its continuance. The probable outlay on this portion of the line during the current year is estimated at Rs. 5,90,266, of which Rs 3,69,930 represent the English, and Rs 2,20,336 the Indian expenditure. The whole of this latter sum will be charged to Revenue, and 50 per cent of the English expenditure to Capital.

Under these

circumstances

circumstances. I am to request the sanction of the Government of India to the proposed outlay.

Recd 8th October Copy of Gen. 3230 of 1865.

Ewe 3754-

Court House Plans.

PUBLIC WORKS.

The Consulting Engineers
for Roadways

2

3238

Nos. 121-122