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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PUBLIC WORKS DEPARTMENT

G.O. No.	1115 W	Press.
B.P. No.		Mis.
Dated	4. 3. 1878	197.

Not to be folded or roughly handled

115
1

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

4th March 1878, No. 1,115 W.

Buildings and Roads.

Civil Works.

Read the following papers:—

No. 58. Proceedings of the Madras Government in the Revenue Department,
dated 6th June 1877, No. 1,904.

Proceedings of the Board of Revenue, dated 17th May 1877, No. 2,276.

Read the following letter from W. McQUHAE, Esq., Collector of Madura, to H. E.
STOKES, Esq., Secretary to the Board of Revenue, dated 29th April 1877,
No. 271.

With reference to G.O., Public Works Department, dated 4th April 1877,
No. 1,109, communicated in the Board's Miscellaneous No. 6,137, dated 26th April
1877, I have the honor to report that there is a made road from Madura to
Permagudy, a distance of 45 miles. From Permagudy to Ramnad, a distance of
23 miles, the construction of a road has long been sanctioned, but the work has
been very expensive and is not yet half completed. From Ramnad to Muntapam,
a distance of 27 miles, the road passes through heavy sand, and no materials for
making a good road can be had within a reasonable distance.

2. The Shevagungah and Ramnad Estates cannot contribute to the cost of the
proposed railway, because they are both insolvent at present, and if at any future
period either of these estates has any money, its first business will be to repair its
ruined irrigation works.

SUBMITTED to Government with reference to the order quoted.

2. The Board concur with the Collector in considering that no aid can be
expected from either of the great zomindaries.

(A true Copy and Extract.)

(Signed)

C. A. GALTON,
Sub-Secretary.

COMMUNICATED to the Public Works Department.

(True Extract.)

(Signed)

C. G. MASTER,
Offg. Secretary to Government.

No. 58-A. From W. S. HARRINGTON, Esq., District Engineer, Madura, to Major-
General KENNEDY, Personal Assistant to His Grace the Governor of
Madras, dated Madura, 21st November 1877.

In compliance with instructions received from His Grace the Governor I do

One original letter.

„ sketch map.

myself the honor to forward certain
information regarding the proposed tram-
way from Devipatam to Shevagungah

in the form of a letter in original addressed to me in my official capacity by Mr.
J. Arbuthnott, Assistant Engineer. The letter is accompanied by a sketch map.

From J. ARBUTHNOTT, Esq., Assistant Engineer, on Special Duty, to W. S. HARRINGTON, Esq., District Engineer, Madura, dated Madura, 21st November 1877.

In accordance with verbal instructions received from His Grace the Governor, I have the honor to submit the following report regarding a tramway on the existing road from Shevagungah to Devipatam. On the 6th of October last (*vide* G.O., Public Works Department, No. 904 W, of that date,) the Chief Engineer applied for my services for the above purpose; but without the consent of the Court of Wards I could not leave Ramnad. The Court refused their consent, but this the Government over-ruled, *vide* G.O., Public Works Department, dated 22nd October 1877, No. 1,171 W, which I received on the 28th idem, and from it was under the impression that a detailed survey for a tramway from Shevagungah to either Devipatam, Atangarai or Kilakarai, whichever might most commend itself to me, was required; it was recommended that Road No. 11 should be followed, but from the wording of the order I had no idea that a survey of the road itself was required. On receipt of this order, or rather in reply to a telegram received from the Chief Engineer on the same day, I wrote to Colonel Foord applying for an establishment, and informing him that it was impossible to do anything then owing to the almost impassable state of the country on account of the extraordinary monsoon. I received sanction for the establishment on the 12th instant.

It was with the greatest difficulty, travelling on the 13th and 14th, that I managed to reach Madura to meet His Grace there. I then learnt, on the 15th, from His Grace that all that was required at present was whether, roughly speaking, it was possible to construct a tramway from Shevagungah to Devipatam on the existing road, that is, whether there were any gradients steeper than 1 in 200 or curves sharper than 660 feet radius. In immediate obedience to the personal instructions of His Grace, on the morning of the 16th I went out to Shevagungah and on the 17th and 18th went down the road as far as Eliangudi (20 miles from Shevagungah), and I had several times been over the road from Eliangudi to Kilyoor and about the country from there to Devipatam. Had I had the time even (His Grace wished this report to reach him at Tanjore) I could not have gone at this time of the year from Eliangudi to Devipatam as the country most of the way is under water, but I think I know enough about it for all practical purposes.

Shevagungah is nearly 30 miles from Madura and is connected with it by a very good metalled road, now a good deal cut up. There are also good metalled roads from Shevagungah to Melur, to Mana-Madura, Permagudy, 27 out of 40 miles to Tondy and to Tripatore. The road on which the tramway to Devipatam is required is made and metalled for the first 10 miles, that is as far as Shembanoor, with a width of roadway 18 feet, width of metal 9. On this section of the road there are 10 road dams with a total width of waterway of 410 feet, and 15 culverts with a waterway of 118 feet. I do not think that the culverts are being in the 1st mile from Shevagungah where the road runs round a tank on the top of the bund and where it will be necessary either to go through the tank or take up land outside for a curve of greater radius; the second is in the 7th mile, but this can easily be got over as the line is crossed, this is a drainage stream and when in fresh carries a good deal of water; when I saw it, it was 165 feet across with 3 feet of water in the middle, when running full it is about 200 feet wide and carries about 4 feet of water. This is the only stream of any size crossed. The soil road, from Shembanoor to Eliangudi, a distance of 10 miles, there are only three miserable villages on the jungle, with the exception of the last two miles into Eliangudi, where there is a little, a very little, cultivation; there are two ruined culverts on the line; the soil for the first 8 miles is laterite and gravel, the last two gravel, sand and black cotton. From Eliangudi to the surrounding country; the soil is black cotton with here and there sand.

It is impossible to tell at present what will be required in the way of culverts, but an embankment at least 2 feet high will be required. The face of the country is flat with a slight fall to the sea. There is no road from Kilyoor to Devipatam, a distance of 10 miles as the crow flies; as this country is also low an embankment will be required here, but as the line will run parallel with the drainage I do not think that much will be required in the way of culverts. The soil for 8 miles from Kilyoor is black cotton and sand, getting more sandy approaching Devipatam, within 2 miles of which place there is nothing but pure sea sand. Devipatam is a small fishing village. During the south-west monsoon all the Ceylon coolies embark and disembark here; the sea is very shallow for a long way out, so much so that ships of upwards of 200 tons have to anchor nearly three miles out, so much so that 20 tons cannot come within 300 yards of the shore; for this reason it is very little used as a port, the principal ones being Tondy for Shevagungah and Kilakarai for Ramnad; the port of Tondy labours under the disadvantage of being shallow but not so much so as Devipatam. At Kilakarai the largest ships up to 300 tons can anchor within half a mile and in very

bad weather can anchor at Yavandi, 8 miles west of Kilakarai, where there is a safe harbour at all times of the year, at least so the Custom's Superintendent of Kilakarai informs me. If a survey of any road for a tramway be required I would respectfully recommend that either the one from Shevagungah to Tondy, a distance of 40 miles, or from Madura by the south bank of the Vygay to Kilakarai, 80 miles, or both, may be taken in hand. In my humble opinion this line from Shevagungah to Devipatam has in itself nothing to recommend it; it passes through no large village and ends in no larger port; 15 miles out of 45 pass through an almost uncultivated jungle; it would bring nothing into Shevagungah and would take nothing out; the only people it would benefit would be the coolies emigrating to Ceylon during the south-west monsoon. Tondy, on the contrary, is the port for Shevagungah if indeed it is considered necessary to connect Shevagungah with the sea; the road is 5 miles shorter than the Devipatam one, embanked where necessary throughout and is metalled for 27 miles.

I have to thank Mr. Robert Fischer, the Manager of the Shevagungah Estate and a resident of Shevagungah for more than 14 years, also the Zemindary Sheristadar who has been there for the same number of years, for most of the information that I have obtained and now furnish.

No. 58-B. From J. ARBUTHNOTT, Esq., Assistant Engineer, on Special Duty, to the Chief Engineer, Public Works Department, dated Madura, 24th November 1877, No. 2.

With reference to G.O., No. 904 W, October 6th, 1877, I have the honor to request that I may be informed which of the four undermentioned lines I may be permitted to survey:—

- (1.) Line from Madura to Kilakarai via the south bank of the Vygay.
- (2.) Do. Shevagungah to Tondy.
- (3.) Do. do. to Devipatam.
- (4.) Do. do. to Kilakarai.

In my report,* written under the personal orders of His Grace the Governor, I have stated what I conceive to be objections to the adoption of line No. 3, and His

Grace objected to No. 4, because the Vygay would have to be bridged. There remains then only Nos. 1 and 2, and I wish to know if, before attempting a detailed survey, I should send in a report on the kind of country, so as to give a general idea of the line.

No. 58-C. From W. S. HARRINGTON, Esq., District Engineer, Madura, to the Chief Engineer, Public Works Department, dated Camp, Cumbum, 19th January 1878, No. 317.

I HAVE the honor to forward herewith extract from a demi-official received by me yesterday from Mr. C. H. G. Jenkinson, who has been deputed by Government to ascertain the best line for a tramway to Shevagungah from certain ports on the coast.

2. I venture to second Mr. Jenkinson's proposal that he be allowed to proceed to the Presidency with the express object of putting himself into personal communication with you regarding his future work. I think, moreover, that His Grace the Governor might not be unwilling to accord Mr. Jenkinson an interview on a subject which from a conversation held with him at Madura I believe that His Grace is much interested in.

The Government orders about the tramway do not give any definite idea of what is wanted; but I imagine that it is to be a very cheap line. The style of line will materially affect the surveys and setting out of the centre line. I was in America last year, 1876, inspecting some of their narrow gauge cheap railways, and the experience I gained there will be useful for this work; but I should be opposed to some of the ordinary customs in railway practice here which involve expense.

Perhaps if the Chief Engineer could see my notes, &c., it would save time and a great deal of correspondence, and I am sure that in half an hour's conversation I should learn more of the views of Government as to what is wanted and the details of the work than by a dozen letters.

As it seems I shall have to remain here some days waiting for instruments, &c., I would request you to let me go to Madras for a day or two for the object stated above.

No. 58-D.

MEMORANDUM.

At an interview that His Grace the Governor accorded me on the 26th instant, Object of Government. to receive instructions concerning a tramway or railroad in the Shevagungah and Ramnad Zemindaries, His Grace said that the object of Government was to No importance attached to seeking the town of Shevagungah. open up a port, and a communication for that part of the country, and especially for Ramnad, and that there was no importance attached to seeking the town of Shevagungah, which already has good roads to Madura and elsewhere, as the southern port of the estate would be benefited by a railroad south of the river Vygay.

His Grace approved generally of a line, marked in pencil on sheet No. 80 of the To consult local officers on general course of line. Ordnance Map, between the towns of Madura and Ramnad and thence to the sea at Kilakarai, but wishes me to consult Mr. Nicholson of Shevagungah and Mr. Lee Warner of Ramnad, as to the villages the line should, in their opinion, be taken to or near, having regard to their population and trade, and of course to the practicability and cost of any deviation from the straight direction that might be involved.

His Grace desired me to commence the survey at the Ramnad end. The pencil Survey to commence from Ramnad. line I have drawn on the map passes to the east of the tanks south of Ramnad, and to the east of the backwater at Kilakarai. His Grace did not object to this, but I understood that he would rather have the line brought to the village, where a trade is already established. The decision of this point, however, must depend on the surveys and my observations on the spot.

From the bend of the pencil line (Map 80) I am to continue a survey along the To survey towards Ramesweram, road towards Ramesweram; and from and towards Devipatam. Ramnad I am also to investigate the possibility of a branch to Devipatam to accommodate the cooly traffic to Ceylon, which already exists at that port.

His Grace also instructed me to visit the Harbour Master at Paumben, to ascertain from him where would be the most To ascertain from the Harbour Master at Paumben if it would be possible to construct a jetty at Kilakarai, or thereabouts, for vessels of 10 feet draught to lie alongside. convenient place on the coast near Ramnad to which the railroad should be taken; and if it would be possible at Kilakarai, or thereabouts, to construct a jetty where vessels of 10 feet draught could lie alongside.

His Grace is of opinion that the line should follow the course of the Madura-Ramnad road as far as possible, and that Line to follow course of road. After leaving the road, and wherever there are no culverts on the road, His Grace thinks that it would be sufficient for the present to cross the nullahs with Irish Irish bridges sufficient for the present.

bridges. In the black cotton soil near Ramnad His Grace thinks that banks should be avoided, and the formation should be kept as near the surface as can be; and, especially, that side cuttings for soil must be avoided and widely separated where unavoidable.

His Grace was pleased to approve of the type of line I suggested, viz., a 30-lb. flat-footed rail (Vignoles' type) fastened to cross sleepers by two 4" dog spikes, and the ends of the rail to be between sleepers. The number of sleepers per mile to be 2,514, or at about 2 feet centre to centre. I also suggested that the sleeper should measure 6' x 6" x 4". His Grace seemed to think that the depth, 4", was too small and would prefer a depth of 6". I am afraid, however, that I allowed His Grace to understand that the number of sleepers given above would give 2' 6" spaces from centre to centre; whereas 2' 6" spacing would give 2,263 sleepers per mile.

I suggested that in black cotton soil there should be at least 12" of ballast under the sleepers, which might be reduced to 9" in red soil, and in this His Grace concurred; and he further suggested that in black cotton soil there should be nothing else but a good quantity of ballast whether of sea sand or of morum, such as is found under the black soil, laid on the natural surface of the ground. And for the sake of getting sea sand His Grace would have the railroad commenced from the sea, and worked forward telescopically, bringing up the ballast as the rails were laid.

Except the permanent-way nothing is to be provided at present. There is to be one passing siding between Madura and Ramnad and a few sidings where necessary. Only Permanent-way to be provided at present. There will be no station machinery at present and for switching there will be "butt points" as on contractor's lines. No Station Machinery. There will be no station buildings, and if there is any passenger traffic it will be managed by a conductor on the omnibus principle. But at the termini sheds are to be provided for the shelter of engines, stock and coal. Sheds for Stock and Coal.

Along the line water is to be provided in pits or wells, as will be most convenient and cheapest, at intervals of not more than 10 miles. The water will be delivered to the engines in buckets, or by some simple and inexpensive contrivance. Water for Engines.

The line will probably be worked at first by small engines or by traction engines adjusted for running on rails, and perhaps by cattle driven in tandem. The weight on a wheel will be limited to 2½ tons. Method of Working.

I am directed to send in a plan and section of the first 30 miles from Ramnad as soon as I have got so far, with an idea of the quantity of earthwork required and an estimate of the quantity of rails, &c., in tons. Such plan and section are not required in a finished state, and the estimate will only be looked upon as a rapid approximation. Rough plans and section and approximate estimate of first 30 miles required as soon as survey is done.

MADRAS,
27th January 1873.

(Signed) C. H. C. JENKINSON, A.I.C.E.,
Assistant Engineer.

No. 58-E. From W. S. HARRINGTON, Esq., District Engineer, Madura, to the Chief Engineer, Public Works Department, dated Camp, Oosilumpetty, 17th February 1878, No. 373.

As requested by Mr. Jenkinson, Assistant Engineer, Madura and Ramnad Tramway Project, I have the honor to forward for the information and orders of Government copy of his No. 14, dated 10th instant, reporting the result of his observations of the road from Madura to Ramnad.

From C. H. G. JENKINSON, Esq., Assistant Engineer, Madura and Ramnad Tramway, to the District Engineer, Madura, dated Ramnad, 10th February 1878, No. 14.

From my observations of the road in travelling from Madura to Ramnad, and a careful study of the Ordnance Map, I have come to the conclusion that it will not be advisable to construct the tramway along the road after passing 21 miles from Madura.

2. After the 9th mile post from Tiroopoovanum (21st mile from Madura) the road winds through some paddy-fields, and it would be perfectly impossible to follow it, afterwards, and as far as Mana-Madura, for the greater part, it is almost in the bed of the river, and the flood has covered it three or four feet deep.

3. At Mana-Madura the road crosses the river (30th mile) and thence for 10 miles is very fair and on high ground. At the 10th mile stone from Mana-Madura the road meets the flood of the river again, it crosses the river and at about 12 miles from Mana-Madura (42nd mile) is again free from the floods.

4. It continues in fair condition, but wants levelling and repairs, up to the 58th mile or 13 miles from Paramagudy, but after that it has been completely destroyed by the late floods and must always be in great danger unless the tanks are properly maintained.

5. It does not seem to me that it would be difficult to keep the Madura-Ramnad road in fair repair throughout. For 58 miles there is a tolerable road for traffic, although in need of heavy repairs in certain places; as far as Paramagudy, and probably past that village, there seems to be plenty of metal available, as the road is to some extent metalled as far as the 58th mile, with the exception of a mile or two here and there. Even the latter 10 miles to Ramnad present no insuperable difficulty, the soil is not the real black cotton soil as I was led to expect, but, judging from the recently cut side-pits, there is a great admixture of sand in it which counterbalances the bad qualities of the soil to a considerable extent. It is very evident that sufficient water way was never provided for this piece, even for the ordinary drainage, and in order to make it worth while to take a tramway along this line a considerable bank and several culverts would be necessary. I saw plenty of sand about, and I presume "morum" and "kunkar" are to be found under the top soil as is generally the case; at all events a railroad to Ramnad could deliver metal there, from which place it could be distributed by cart or even by a temporary line of contractor's rails. It would therefore be useless to take the line of railroad along the present road merely for the sake of bringing up metal for the 23 miles between Paramagudy and Ramnad.

6. I have written the above not as a report on the road, which I should not presume to give after so cursory a view of it, but to dispel the idea that it is impossible to make the road fit for the cart traffic of the district; and that the metal is so far away as to render it advisable to lay a tramway for its collection. I do not say that a thorough good road could be made on the present alignment without considerable expense; and I should expect it would be an expensive line to maintain in good working order, but I do maintain that a sufficiently good road can be made at a reasonable cost.

7. As it is quite out of the question to cross the river twice, it is certainly necessary for the tramway to leave the road at, or near, Paramagudy, and as far as I can make out from the Ordnance Map this would entail nearly two miles extra length at a cost of, say, Rupees 40,000, and by running up to Paramagudy we should get unpleasantly near the river and into low irrigated land.

8. Judging by the Ordnance Map, there appears to be a water-shed (and I hear it is the case), the line of which as marked by the villages would be, roughly, starting from Ramnad, Yettivai (at fork of roads), Poothoor, Keelayendel, Vantiyandal, Shelloor, Murruntloor, Yellatoor, Payanthel, Pantipashacuraynellur, Mela Panthulay Thanoor, Keelamangoody, Pumbacherry, and joining the Madura road between Yeddacatoor and Maunad, or at 21 miles from Madura, as far as which the road is good (see paragraph 2). Considering the state and position of the road with regard to the river, as described in paragraphs 2 to 4, and that it would be evidently undesirable to construct a tramway, at large cost, in a position liable to be flooded, which would be much the same as throwing the money into the river, I should strongly recommend that the line

I have indicated should be adopted for a railroad between Madura and Ramnad. Added to these considerations this line would be shorter by at least two miles than if the line were taken via Paramagudy. It would be necessary to take up land which would add to the expense, but there is a village track marked on the map which it may be practicable to follow. It should be borne in mind, too, that in following the line of the road it would not be possible to keep the centre line of the railroad always on the land belonging to the road, especially at curves, and some allowance must be made for this in the estimate. Besides eliminating the cost of land from the estimate, another saving was looked for in following the road, viz., in culverts, as the road culverts would be used for the railroad. Very few of the road culverts are available for the railroad, because the culverts are square to the streams which cross the road at such an acute angle that it would not be possible to get the centre line of the railroad on to them except at a cost in earthwork, land, and length of line, which would probably exceed the cost of a new culvert and diversion of the channel.

9. To sum up. The state and position of the road from the 21st mile from Madura to Ramnad is not such as to render it advisable to construct a railroad along it, because a valuable property would be exposed to great danger of destruction from floods. The road-culverts with few exceptions could not be utilized for the railroad. A certain amount of land would be required outside the road boundaries because it would not be possible to keep the centre line of the railroad on the road, especially at curves. With the exception of 10 miles at the Ramnad end, the road is in tolerable condition, even so soon after the floods, and it is probably perfectly practicable to make, and maintain, a fairly passable cart road between Madura and Ramnad especially when a railroad shall deliver metal at Ramnad and near the line of road. Between Mana-Madura and Paramagudy a new line must be taken, as the road is on the north side of the river, and which involves two crossings of the river. It is therefore recommended that the line should leave the road at 21 miles from Madura, and from there keep on the water-shed, passing the village Pantipashacuraynellur (vide Ordnance Map) and thence in a tolerably direct line towards Ramnad.

10. A serious obstacle to taking a line from the west into Ramnad exists in the overflow from the large Ramnad tank, and I understand that a new and enlarged waste weir is to be constructed. Even if the line were taken on this weir with sunk rails or otherwise an expense would probably be incurred which would be very heavy for so cheap line as is contemplated. The district officers do not seem to consider it necessary that the line should go into the town, but they would be satisfied if the line, as I have described in paragraph 8, were taken in as direct a line as possible from Poothoor to Kilakarai. Afterwards, if the line should be extended to Davipattam to suit the cooly-emigration traffic, a branch could be made in that direction with a bridge on the new weir, and I should therefore recommend that the design for the weir should be made with that object in view.

11. I enclose a copy of a letter from Mr. Lee Warner to the Collector of Madura, kindly placed at my disposal by the former gentleman, which contains a proposal for another route for the tramway, which would serve the towns of Arupocottah and Mudukolatur and join the South Indian Railway at Virduputti. Such a line, so far as my information goes, could be made at least as cheaply as one along the Madura and Ramnad road, as we should for a great distance run on a bank being now made as an irrigation work. The river Gondar would have to be crossed at Kamuthy, but probably a bridge would not be required immediately, as the water is diverted from the river at Kamuthy towards Mudukolatur. After crossing the river high stony land is reached, and there would be no further difficulty nor extra expense incurred.

12. This line would pass through the poorest part of the zemindari and that most liable to famine, and considered as a preventive to famine only it would probably be the best route to take; but as a commercial line, and with a view to opening out the country, the line as sketched out in paragraph 8 has the approval of the district officers. Mr. Lee Warner also is of opinion that the supply if a promise were given to make a road from the Railway station at Virduputti to Tiroochooly.

13. As His Grace the Governor rather laid a stress on keeping to the line of road, and besides instructed me to consult with the district officers, I have the honor to request that this report may be submitted to the Chief Engineer, with a request that the orders of Government may be communicated to me as soon as possible. With respect to an extension to Pamban, I shall have the honor to submit a report after having seen the Master Attendant; it is only necessary to say at present that it does not affect the question of going into Ramnad, as I have information that it might be possible, if not better, to extend the line along the coast from Kilakarai.

From J. LEE WARNER, Esq., Special Assistant Collector, Ramnad, to the Collector of Madura, dated Ramnad, 8th November 1877, No. 363.

With reference to Mr. Arbuthnot's appointment to survey a tram line from Shervangum to some sea port in this zemindari limits, and the approaching visit of His Grace the Governor

to Madura. I have the honor to request that my idea of the construction of a branch line from Virduputti to Kilakarai may be also brought to notice. Such a line would pass through Aruppocottah, Mandapasalay, Kamuthy and Mudukolatur. Splendid material is to be procured along all the section from Kamuthy to Virduputti. From Kamuthy the right bank of the Regunatha Cavery work can be utilized, where there will be a bank already half formed for 24 miles. The great advantage of this line is that the crossing of the Vygay will be avoided altogether, and for a great part of the way no drainage is crossed which I believe would not be the case on the other side. Shevagungah is in tolerable communication with Madura by made roads through all parts of the zemindary. Ramnad is suffering from the opposite cause and this tram piercing it from west to east is likely to be of incalculable benefit.

No. 59.

ORDER THEREON, 4th March 1878, No. 1,115 W.

RECORDED with the remark that the line sketched out in paragraph 8 be adhered to, and the points alluded to in paragraphs 8 and 10 be abandoned.

(True Extract.)

Colonel, R.E.,
Secretary to Government, P.W.D.

To the District Engineer, Madura.
" Consulting Engineer for Railways.
" Revenue Department.

Exd. S. T. Austin.

Spare Copies

1115
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BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1878) Madras.
PUBLIC WORKS.

THE DISTRICT ENGINEER

MADRAS.

Dated March 4th.

Index

Recd.

G. O., 4th March 1878, No. 1,715 W.

MADRAS.

No. 58-59.

Madura and Ramnad Tramway Project.
Papers regarding the same recorded with
mark.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

6th June 1877, No. 1,904.

Read the following paper:—

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for making a good road can be had within a reasonable distance.

2. The Shevagangah and Ramnad Estates cannot contribute to the cost of
the proposed railway, because they are both insolvent at present, and if at any
future period either of these estates has any money, its first business will be to
repair its ruined irrigation works.

SUBMITTED to Government with reference to the order quoted.

2. The Board concur with the Collector in considering that no aid can be
expected from either of the great zemindaries.

(A true Copy and Extract.)

(Signed)

C. A. GALTON,
Sub-Secretary.

No. 69.

ORDER THEREON, 6th June 1877, No. 1,904.

Miscellaneous

Communicated to the Public Works
Department.

(True Extract.)

W. H. G. G. G.
Offg. Secretary to Government.

To the Public Works Department,
the Board of Revenue.

Exd. A. F. Goodall.

Memo: No 285 of 26-4-77
 Memo: 1586 of 13-6-77

12 JUN 77
 No 5788

Govt. of (1877) Madras.

REVENUE.

FOR PUBLIC WORKS REVENUE.

Public Works.

Public.

G.O. No. 1572, 26. 1. 1884.

JUNE.

No. 68-63.

Nothing can be done from between Government and
 Madras. — Communicating to the Public Works
 Department. Proceedings of the Board of Revenue
 in relation to the public works can be expected from either
 of the committees of the Board and the Board
 in connection with the public works.

Cor 1157-77

Assistant Engineer Madras
 Madras 21 November 1877

115/1

From

J. Althorpe Esquire
 Assistant Engineer, Public Works

To

The District Engineer, Madras.

Sir,

Part 1.

In accordance with verbal instructions received from His Grace the Governor I have the honor to submit the following report regarding a hamway on the existing road from Shivaquingah to Dimpalam. On the 10th of October last (vide G.O. No. 1157 of that date) the District Engineer applied for my services for the above purpose but without the consent of the Board of Works. I could not leave Madras. The Board refused their consent but the Government overruled vide G.O. No. 1157 Department dated 22 October 1877 and which I received on the 28th Idem and from it was under the impression that a detailed survey for a hamway

from Shraungah to either Devipatam
Manqam or Bilakharai whichever might
most command itself to me, was required
it was recommended that Road 1, to 11
should be followed but from the wording
of the order I had no idea that a survey
of the road itself was required. But receipt
of this order or rather in reply to a telegram
received from the Chief Engineer on the
same day I wrote to General Secord
applying for an establishment and
informing him that it was impossible
to do anything there owing to the almost
impassable state of the country on
account of the extraordinary monsoon.
I received sanction for the establishment
on the 12th instant. It was with the
greatest difficulty travelling on the
13th and 14th that I managed to reach
Madurai to meet His Grace there.
I then learnt on the 15th from His
Grace that all that was required
at present was, whether roughly
speaking it was possible to construct
a tramway from Shraungah
to Devipatam on the existing road.

115
that is whether there were any gradients
steeper than 1 in 200 or curves sharper
than 664 feet radius. In immediate
obedience to the personal instructions
of His Grace in the morning of the
16th I went out to Shraungah and
on the 17th & 18th went down the road
as far as Eliangudi (20 miles from
Shraungah) I had several times
been over the road from Eliangudi
to Thiloor and about the country
from there to Devipatam. Had I
had the time even (His Grace
wished this report to reach him at
Bangalore) I could not have gone at
this time of year from Eliangudi to
Devipatam as the country most
of the way is under water but I
think I know enough about it for
all practical purposes. Shraungah
is nearly 30 miles from Madurai
and is connected with it by a very
good metalled road, now a good
deal cut up there are also good metalled
roads from Shraungah to Melur,
to Mani Madurai, Permagoodry 27

out of 40 miles to Joddy and to Tripatare.
The road on which the masonry to
Deripatan is required is made and
metalled for the first 10 miles that is
as far as Shumbanor with a width
of roadway 18 feet width of metal 9
On this section of the road there are
10 road dams with a total width
of waterway of 110 feet and 15 culverts
with a waterway of 118 feet I do not
think that the culverts are substantial
enough for a masonry the curves are
with two exceptions easy the first
exception being in the 1st mile from
Shwagangah where the road runs
round a bank on the top of the land
and where it will be necessary either
to go through the bank or make up land
outside for a curve of greater radius
the second is in the 7th mile but this
can easily be got over as the line
runs through jungle where waste land
is available. At about 9 miles to
furlongs the Nhar river is crossed this
is a drainage stream and when in
fresh carries a good deal of water

when I saw it it was 165 feet across with
3 feet of water in the middle when
running full it is about 200 feet wide
and carries about 4 feet of water.
This is the only stream of any size
crossed the soil up to Shumbanor is
red and gravelly any amount of
laterite is obtainable at the side
of the road the country is very
nearly all jungle and there are only
a miserable villages on the roads.
From Shumbanor to Chingordi a
distance of 10 miles there is only a
cart track through jungle with the
exception of the last two miles into
Chingordi where there is a little and
very little cultivation there are two
ruined culverts on the line the soil
for the first 8 miles is laterite and
gravel the last two gravel sand and
black cotton. From Chingordi to
Shalipor 15 miles the road is merely
a cart track unbridged and lower
in most places than the surrounding
country the soil is black cotton
with here and there sand; it is

improbable to tell at present what will be required in the way of piers but an embankment at least two feet high will be required. The part of the country is flat with a slight fall to the sea. There is no road from Kildyoot to Deripatan at distance of 10 miles as the row flies as this country is also low and embankment will be required here but as the line will run parallel with the drainage I do not think that much will be required in the way of piers. The soil for 8 miles from Kildyoot is black cotton and sand getting more sandy approaching Deripatan within two miles of which place there is nothing but pure sea sand. Deripatan is a small fishing village; during the South West Monsoon all the Ceylon coolies embark and disembark here. The sea is very shallow for a long way out so much so that ships of upwards of 200 tons have to anchor nearly 3 miles out and boats of even 20 tons cannot come within 300 yards of the shore for this reason it is very

little used as a port the principal ¹¹¹⁶ports being Jondy for Munquangah and Kelakkarai for Sumnad - the port of Jondy labours under the disadvantage of being shallow but not so much so as Deripatan. At Kelakkarai the largest ships up to 200 tons can anchor within 2 miles and in very bad weather can anchor at Yavanti 6 miles west of Kelakkarai where there is a safe harbor at all times of the year at least so the Customs Superintendent of Kelakkarai informs me. If a survey of any road to a harbour be required I would respectfully recommend that either the one from Munquangah to Jondy at distance of 40 miles or from Madurai by the South bank of the Teyary to Kelakkarai 80 miles or both ways be taken in hand. In my humble opinion this line from Munquangah to Deripatan has in itself nothing to recommend it, it passes through no large village and into no large port 15 miles out of its

pass through an almost uncultivated
 jungle. it would bring nothing into
 Sherapur and would take nothing
 out. the only people it would benefit
 would be the coolies emigrating
 to Sikkim during the South West
 monsoon. Truly on the contrary
 it is the port for Sherapur if indeed
 it is considered necessary to connect
 Sherapur with the sea the road
 is 5 miles shorter than the Disputum
 and is metalled where necessary throughout
 and is metalled for 2 miles. I have
 to thank Mr Robert Fisher the Manager
 of the Sherapur Estate and
 a resident of Sherapur for more
 than 16 years also the gentleman
 Shrivastava who has been there for
 the same 16 of years for most of
 the information that I have obtained
 and now furnish.

I have the honor to be
 your most ^{truly} obedient servant

John Lubbock

W. H. Lawrence April Engineer, Bangalore
 District Engineer,
 Madras

115
12

To,

Major-General Kennedy
Personal Assistant to His Grace
the Governor of Madras
Sir,

In compliance with instructions received from His Grace the Governor I do myself the honor to forward certain information regarding the proposed tramway from Devipattam to Shevayungala in the form of a letter in original addressed to me in my official capacity by Mr J. Arbuthnot Assistant Engineer - the letter is accompanied by a sketch map.

I have the honor to be,
Sir,

Your most Obedt Servt

M. Harrison

District Engineer
Madras

Copy of Mr
Arbuthnot's letter

District Engineer's office
Madras 21st Nov 1877

W. M. 7

From

The District Engineer
Madura

The Personal Appt.
to His Grace the Governor
of Madras

Dated 21 Nov. 77
Recd.

No.

Encls: 2.
2 Sketches given to
Librarian
Tramway from Shervagunah
to Davipatam - for
information regarding
the construction of
N. M. 71 proposed
to be constructed
by the Government
of Madras

From

Assistant Engineers Office
Madura S. I. 4. November 1877
115
14

J. A. Pluthott Esq.
Assistant Engineer on
Special duty

The District Engineer,
Madura

Sir,

In accordance with verbal
instructions received from His Grace the
Governor, I have the honor to submit the
following report regarding a tramway on
the existing Road from Shervagunah
to Davipatam. On the 6th of October
last vide L. O. P. W. 19. No. 901. W of that
date the Chief Engineer applied for my
services for the above purpose, but
without the consent of the Court of Wards,
I could not leave Ramnad. The Court
refused their consent, but this the Government
overruled vide L. O. P. W. Department dated
22nd October 1877 No. 1171 W which I
received on the 28th Idem and from it
was under the impression that a detailed
survey for a tramway from Shervagunah
to either Davipatam, Athencary or

Kelacary whichever might most commend itself to me was required. It was recommended that Road No. 11 should be followed but from the wording of the order I had no idea that a survey of the Road itself was required. On receipt of this order or rather in reply to a Telegram received from the Chief Engineer on the same day I wrote to Colonel Ford applying for an Establishment and informing him that it was impossible to do any thing then owing to the almost impassable state of the country on account of the extraordinary monsoon. I received sanction for the establishment on the 12th Instant. It was with the greatest difficulty travelling on the 13th and the 14th that I managed to reach Madurai to meet His Grace there. I then learnt on the 15th from His Grace that all that was required at present was whether roughly speaking it was possible to construct a tramway from Shervagungah to Davipatam on the existing Road that is whether there were gradients steeper than one in 20 or curves sharper than 660 ft

Radius. In immediate obedience ¹¹¹⁵ to the personal instructions of His Grace on the morning of the 16th I went out to Shervagungah and on the 17th & 18th went down the Road as far as Eliangoody (20 miles from Shervagungah). I had several times been over the Road from Eliangoody to Telyour and about the country from there to Davipatam. Had I had the time even (His Grace wished this report to reach him at Tanjore). I could not have gone at this time of year from Eliangoody to Davipatam as the country most of the way is under water but I think I know enough about it for all practical purposes. Shervagungah is nearly 30 miles from Madurai and is connected with it by a good metal Road now a good deal cut up there are also good metal Roads from Shervagungah to Neylore to Manama. Madurai Peramagoody 27 out of 40 miles to Tondy and to Tirupatore. The Road on which the Tramway to Davipatam is required is made and metalled for the first 10 miles that is as far as Shembam with a width of Roadway 18 feet, width

of metal g, on this section of the Road
there are 10 Road dams with a total
width of water way of 410 feet and 15
culverts with a Waterway of 118 feet -
I do not think that the culverts are
substantial enough for a tramway the
curves are with two exceptions easy
the first exception being in the 1st
mile from Shervagungan where the
Road runs round a tank on the top of
the land and where it will be
necessary either to go through the tank
or take up land out side for a curve
of ^{greater} Radius. the 2nd is in the 7th mile
but this can easily be got over as the
line runs through jungle where waste
land is available. At about 9 miles
6 furlongs the Nippar river is crossed.
this is a drainage stream and when
in fresh carries a good deal of water
when I saw it, it was 165 feet across
with 3 feet of water in the middle.
when running full it is about 200
feet wide and carries about 4 feet
of water. This is the only stream of
any size crossed the soil up to Shembanore

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is red and gravelly - any amount of
laterite is obtainable at the side
of the road and the country is very
nearly all jungle and there are only
3 miserable villages on the road.
From Shembanore to Eliangoody a dis-
tance of 10 miles there is only a cart
track through jungle with the exception
of the last two miles into Eliangoody
where there is a little, a very little
cultivation. there are two ruined culverts
on the line. the soil of the first 8 miles
is laterite and gravel. the last two
gravel, sand and black cotton. From
Eliangoody to Kilayoor 15 miles the road
is merely a cart track unbridged & lower
in most places than the surrounding
country. the soil is black cotton
with here and there sand; it is
impossible to tell at present what
will be required in the way of culverts
but an embankment at least two
feet high will be required. The
face of the country is flat with a
slight fall to the sea. There is no
road from Kilayoor to Danipattam
a distance of 10 miles as the crow flies
as this country is also low an embankment

will be required here but as the line
will run parallel with the drainage
I do not think that much will be
required in the way of culverts. The
soil for 8 miles from Kilapoor is black
cotton and sand getting more sandy
approaching Davipatam within two
miles of which place there is nothing
but pure sea sand. Davipatam is
a small fishing village. during the
south west monsoon all the bellow
coolies embark and disembark here the
sea is very shallow for a long way out
so much so that ships of upwards
of 200 tons have to anchor nearly 3
miles out and boats of even 20 tons
cannot come within 300 yards of the
shore for this reason it is very little
used as a port the principal ones
being Tondy for Shervagunah and
Kilakarai for Ramnad. the port of
Tondy labors under the disadvantage
of being shallow but not so much
so as Davipatam. At Kilakarai
the largest ships up to 300 tons can
anchor within half a mile and in
very bad weather, can anchor at

Yarvadi 8 miles west of Kilakarai
where there is a safe harbor at all
times of the year, at least so the
Customs Superintendent of Kilakarai
informs me. If a survey of any road
for a railway be required I would
respectfully recommend that either the
one from Shervagunah to Tondy a distance
of 10 miles or from Madura by the South
bank of the Oygarai to Kilakarai
80 miles or both may be taken in hand.
In my humble opinion this line from
Shervagunah to Davipatam has in
itself nothing to recommend it. it
passes through no large village and
ends in no large port 15 miles out of
the pass through an almost uncultivated
jungle. it would bring nothing into
Shervagunah and would take nothing
out. the only people it would benefit
would be the coolies emigrating to
Bellow during the south west monsoon
Tondy on the contrary is the port for
Shervagunah if indeed it is considered
necessary to connect Shervagunah
with the sea the road is 5 miles

shorter than the Danipattam
one embanked where necessary
throughout and is metalled for
27 miles. I have to thank Mr
Robert Fischer the manager
of the Shevazungah Estate and a
resident of Shevazungah for more
than 14 years also the Zemindar
Sheristadar who has been there
for the same No. of years for
most of the information that I
have obtained and now furnish.

I have &
Signed/ J. Arbutnotth
Assistant Engineer
on Special Duty/

/True copy/

John Arbutnotth.
Assistant Engineer
on Special Duty/

N^o 2.

7 115/8
Spl. Assistant Engineer
Madura, 24th November 1877

From

J. Arbutnotth Esquire
Assistant Engineer
On Spl. Duty

To.

Colonel E. A. Ford R.E.
Chief Engineer D. P. W.
Madras.

Sir

With reference to G. O. N^o 9044
October 6th 1877, I have the honor to
request that I may be informed
which of the four undermentioned
lines I may be permitted to survey

1. Line from Madura to Kileharai via
the south bank of the Vijaya
2. Do from Shevazungah to Jondi
3. Do from Shevazungah to Devipattam
4. Do from Shevazungah to Kileharai

Courtesy In my report written under the personal
H. orders of His Grace the Governor, I have
stated what I conceive to be ob-
jections to the adoption of line N^o 3

and His Grace objected to No 4 because
the Vygay would have to be bridged.
There remain then only Nos 1 & 2 and
I wish to know if, before attempting
a detailed survey, I should send
in a report on the kind of country
so as to give a general idea of the
line.

I have the honor to be

Sir

Your Most Obedt. Servt.

John Lubbock

Assistant Engineer

On Spl. Duty

Min No 1704 of 17 Nov 1877
G.O. 1171 of 22 Oct 77
G.O. 994 of 9 Nov 77

Recd 28th Nov

The Government orders about the tramway do not give any definite idea of what is wanted. but I imagine that it is to be a very cheap line. The style of line will materially affect the surveys and setting out of the centre line. I was in America last year 1876 inspecting some of their narrow gauge cheap railways and the experience I gained there will be useful for this work. but I should be opposed to some of the ordinary customs in railway practice here which involve expense.

Perhaps if the Chief Engineer could see my notes it would save time and a great deal of correspondence, and I am sure that in half an hour's conversation I should learn more of the views of Government as to what is wanted & the details of the work than by a dozen letters.

As it seems I shall have to remain here some days waiting for instruments. I would request you to let me go to Shadras for a day or two for the object stated.

1115
20

above.

x

x

x

Signed: C. H. L. Jenkins

(True Extract)

W. Harrington

District Engineer,

Madras.

105
Encl: 1 in a letter from the
Dist Engr. Madras to the
Chief Engineer, D. O. No. 317
d/19. Dec.

Extract from Mr.
Jenkins's letter

No. 317 P & District Engineer's office.
Hampot Candam, 17th January 1868.

From, 1115
22
M. S. Harrington Esquire.
District Engineer, Madras.

To,
Colonel E. S. Ford. P.S.,
Chief Engineer. W. P. M. Madras.

Sir,
I have the honor to forward

Encls: 1 herewith extract from a deini official
received by me yesterday from Mr. A. H. G.
Jenkinson who has been deputed by Govern-
ment to ascertain the best line for a tramway
to Chevaquaya from certain ports on the coast.

2. I venture to second Mr.
Jenkinson's proposal that he be allowed to
proceed to the Presidency with the express
object of putting himself into personal com-
munication with you regarding his future
work. I think moreover that His Grace the
Governor might not be unwilling to accord
to Jenkinson an interview on or subject
which from a conversation held with him
at Madras I believe that His Grace is

much interested in

I have the honor to be

Sir,

Your most obedient servant,

W. Harrington

District Engineer,

Madison.

From -

The District Engineer

Madras

To
The Chief Engineer

W. D. W. Madras

No: 317

Dated 19th
Recd 3

January 1878

Encls: 1

Mr Genl Rinson -

Requesting to allow

to proceed to Madras

to record our interview

with His Grace

the Governor

Subject of Govt.

as object - patience
attached to serving the
town of Shivajanga.

consult local officers
general course of line

Survey to commence
from Ramnad

I prefer the line taken
village of Kilakurri
than the one to east of Badami.

At an interview that His Grace
the Governor accorded me on the
26th inst. to receive instructions
concerning a tramway or railroad in
the Shivajanga & Ramnad Zemindari
His Grace said that the object of Govt.
was to open up a port & a communication
for that part of the country, and
especially for Ramnad. and that
there was no importance attached to
serving the town of Shivajanga, which
already has good roads to Madras &
elsewhere, as the southern part of the
estate would be benefited by a railroad
south of the river Vaigai.

His Grace approved generally of a
line, marked in pencil on sheet L^o 80
of the Ordnance map, between the towns
of Ramnad & Ramnad and thence to
the sea at Kilakurri, but wishes me
to consult Mr. Nicholson of Shivajanga,
and Mr. Lee Warner of Ramnad, as to the
villages the line should, in their opinion, be
taken for near, having regard to their
population & trade, and of course, to the
practicability and cost of any deviation
from the straight direction that might be
indicated.

His Grace desired me to commence the
survey at the Ramnad end. The
pencil line I have drawn on the map
passes to the east of the tanks south of
Ramnad, & to the east of the backwater at
Kilakurri; His Grace did not object to this,
but I understood that he would rather have

the line brought to the village, where trade is already established. The decision of this point, however, must depend on the survey, and my observation on the spot.

From the bend of the pencil line (map 80) I am to continue a survey along the road towards Kamesheram. And from Kammad I am also to investigate the possibility of a branch to Denipattam to accommodate the colony to afford the line, which already exists at that port.

His Grace also instructed me to visit the Harbor Master at Pamban, to ascertain from him, where would be the most convenient place on the coast near Kammad, at which the rail road should be taken; and if it would be possible at Kilakarri, or thereabouts, to construct a jetty where vessels of 10 feet draught could lie along side.

His Grace is of opinion that the line should follow the course of the Kammad road as far as possible, and that the present culverts should be utilized. After leaving the road, and wherever there are no culverts on the road, His Grace thinks that it would be sufficient for the present to cross the Malabar with high bridges. In the black cotton soil near Kammad His Grace thinks that ~~it would be sufficient for the present~~ banks should be avoided and the formation should be kept as near the surface as can be; and, especially, that side cuttings for soil must be avoided and widely separated where unavoidable.

To survey the road
Kamesheram

and towards Denipattam

to ascertain from the
Harbor Master at

Kilakarri, Pamban if

it would be possible to construct
a jetty at Kilakarri or
thereabouts for vessels of
10 feet draught to lie alongside.

line to follow course of
road

high bridges sufficient
for the present.

avoid the avoided
black cotton soil &
generally side pits.

Type of line

Number & spacings
of sleepers

Ballast

Method of laying
line

Only Per m way the
provided at present.

Station machinery

No stations

Shed for stock & coal.

His Grace was pleased to approve
of the type of line suggested viz. a 30 lb
flat footed rail (Vignoles type) fastened to
cross sleepers by two 4" dog spikes, and
the ends of the rail. The distance between sleepers
The number of sleepers per mile was 2574
or at about 2 ft centre to centre. I also
suggested that the sleepers should measure
6 feet x 6" x 4". His Grace seemed to
think that the depth 4" was too small
and would prefer a depth of 6". I am afraid
however, that I allowed His Grace to understand
that the number of sleepers given above was
for 2'6" spaces from centre to centre; whereas
for 2'6" spacing would give 2263 sleepers per
mile.

I suggested that in black cotton soil there
should be at least 12" of Ballast under the
sleepers, it might be reduced to 9" in red soil,
and in this His Grace concurred; and he
further suggested that in black cotton
soil there should be nothing else but a
good quantity of ballast laid on the
natural surface, whether of sea sand, or
of our own, such as is found under the black
soil, laid on the natural surface of the ground.
And for the sake of getting the sand His Grace
would have the railroad commenced from the
sea, and worked forward telescopically, bringing
up the ballast as the rails were laid.

Except the Permanent Way, nothing
is to be provided at present. There is to be one
passing siding between Madras & Annamal
and a few sidings where necessary. There
will be no station machinery at present
and for switching there will be "bull points" as on
contractors lines. There will be no station
buildings and if there is any passenger
traffic it will be managed by a conductor on
the annamal principal. But at the terminus
sheds are to be provided for the shelter of
engines, stock & coal

(4) 1115/27

Water for engines

Along the line water will be provided in pits or wells, as the most convenient & cheapest, at intervals of not more than 10 miles. The water will be delivered to the engines in buckets, or by some simple and inexpensive contrivance.

Method of working

The line will be worked at first by ^{portable} contractor's engines or by traction engines adapted for running on rails, and also by cattle driven in tandem. The weight on a wheel will be limited to $2\frac{1}{2}$ tons.

Rough plan section & approx. estimate of first 30 miles required as soon as survey is done

I am directed to send in a plan and section of the first 30 miles from Ramnath as soon as I have got of an idea of the quantity of earthwork required & an estimate of the quantity of rails &c in tons. Such plan section are not required in a finished state, and the estimate will only be looked upon as a rough approximation.

C. D. Jenkins on
A. I. C. E.

Inclosure
Sept 27/20

Assis. Engr. Genl. H. H. R. N. 1115/27

No 14.

17 Ramnad

115 10: February 1878.
130

Sir,

The Assistant Engineer,
Madurai and Ramnad
TramwayThe District Engineer,
Madurai

Sir,

I have my observations of the road
in travelling from Madurai to Ramnad, and a
careful study of the Ordnance map, I have come
to the conclusion that it will not be advisable
to construct the tramway along the road after
passing 31 miles from Madurai.

2. After the 9th mile post from
Tiruppuram (31 miles from Madurai) the road
winds through some paddy fields, and it would
be perfectly impossible to follow it; afterwards,
and as far as Mand. Madurai, for the greater
part, it is almost in the bed of the river, and
the flood has covered it three or four feet deep.

3. At Manamadurai the road crosses
the river (30th mile) and thence for 10 miles
is very fair and on high ground. At the 10th
mile stone from Manamadurai the road
meets the flood of the river again, it crosses

The river runs at about 12 miles from Manas-
madura (42nd mile) is again free from the floods.

4. It continues in fair condition, but
wants levelling and repairs, up to the 50th mile
or 13 miles from Paramagordy; and after that it
has been completely destroyed by the late floods
and must always be in great danger unless the
banks are properly maintained.

5. It does not seem to me that it would
be difficult to keep the Madras Pannad Road
in fair repair throughout. For as there is a
tolerable road for traffic, although in need of
heavy repairs in certain places; as far as Paramagordy
and probably just that village there seems to be
plenty of metal available, as the road is to some
extent metalled as far as the 55th mile, with
the exception of a mile or two here and there.

Even the latter 10 miles to Pannad present
no insuperable difficulty. The soil is not the
red black cotton soil, as I was led to expect,
but, judging from the recently cut side pits, there
is a great admixture of sand in it, which counter-
balances the bad qualities of the soil to a considerable
extent. It is very evident that sufficient waterways
was never provided for this piece, even for the ordinary

drainage; and in order to make it more
to take a tramway along this line a considerable
bank and several culverts would be necessary.
I saw plenty of sand about and I presume iron
and "timber" are to be found under the top soil
as is generally the case; at all events a Rail road
to Pannad could deliver metal there, from
which place it could be distributed by cart or
even by a temporary line of contractor's rails. It
would therefore be easier to take the line of
Rail road along the present road, merely for the
purpose of driving up metal for the 23 miles between
Paramagordy & Pannad.

6. I have written the above not as a
report on the road, which I should not presume
to give utter to currency, a view of it, but to dispel
the idea that it is impossible to make the road
fit for the coast traffic of the District; and that
the metal is so far away as to render it advisable
to lay a tramway for its collection. I do not say
that a thorough good road could be made on
the present alignment without considerable
expense; and I should expect it would be an
expensive line to maintain in good working order.
But I do maintain that a sufficiently good
road can be made at a reasonable cost.

7. It is quite out of the question to cross the river since it is certainly necessary for the tramway to leave the road at, or near, Paramagudi, and as far as I can make out from the Ordnance map this would entail nearly two miles extra length, at a cost of Rs. 4,000; and by running up to Paramagudi, we should get unpleasantly near the River & its low irrigated land.

8. Judging by the Ordnance map, there appears to be a water shed land I have the the road. The line of which as marked by the villages would be, roughly, starting from Ramnad, Mettinal (not far from Road) Pothoor, Keelagudi, Vantiyandal, Shelloo, Merventoor, Yellatoo, Poyanthel, Vantipasth, Verragallur, Kela Paruthalay, Thernoor, Keelamangudi, Pumbacherry, and joining the Madurai Road between Yeddacater and

Ramnad, or not 24 miles from Madurai, as far as which the road is good (see para 6). Considering the state and position of the road with regard to the river, as described in paras 2 to 4, and that it would be evidently undesirable to construct a tramway, at large cost, in a position liable to be flooded, which would be much the same as throwing the money

115
into the river, I should ~~strongly~~ recommend that the line I have indicated should be adopted for a rail road between Madurai and Ramnad. Added to these considerations, this line would be shorter by at least 2 miles than if the line were taken via Paramagudi. It would be necessary to take up land which would add to the expense, but there is no village track marked on the map, which it may be practicable to follow. It should be borne in mind, too, that in following the line of ^{the} road it would not be possible to keep the centre line of the rail road always on the land belonging to the road, especially at curves, and some allowance must be made for this in the estimate. Besides eliminating the cost of land from the estimate, another saving was looked for in following the road, viz. in culverts as the road culverts would be used for the rail road. Very few of the road culverts are available for the rail road, because the culverts are square to the streams, which cross the road at such an acute angle that it would not be possible to get the centre line of the rail road on to them except at a cost in earth work, land, and length.

line which would probably exceed the cost of a new culvert, and division of the Channel.

To sum up - The state and position of the road from the 21st mile from Madura Ramnad is not such as to render it advisable to construct a railroad along it, because valuable property would be exposed to great danger of destruction from floods. The road, with few exceptions could not be utilized for the railroad. A certain amount of land would be required outside the road boundaries because it would not be possible to keep the centre line of the railroad on the road, especially at curves. With the exception of 10 miles at the Ramnad end, the road is in tolerable condition, even so soon after the floods, and it is probably perfectly practicable to make and maintain, a fairly passable cart road between Madura and Ramnad especially when a railroad shall deliver material at Ramnad and near the line of road. Between Manamadurai and Permagudi, a new line must be taken, as the road is on the north side of the river, and which involves the crossing of the river. It is therefore recommended that the line should leave the road at

21 miles from Madura^{115/31} and from there keep on the watershed, passing the village Paudepashacuraynellor (vide Ordnance map) and thence in a tolerably direct line towards Ramnad.

10 A serious obstacle to taking a line from the west into Ramnad exists in the river flow from the large Ramnad Tank, and I understand that a new and enlarged waste weir is to be constructed. Even if the line were taken on this weir with sunk rails or otherwise, an expense would probably be incurred which would be very heavy for so cheap a line as is contemplated. The district

Officers do not seem to consider it necessary that the line should go into the town, but they would be satisfied if the line, as I have described in paras, were taken in as direct a line as possible from Pothoor to Keelacurai. Afterwards, if the line should be extended to Panipattam to suit the coolie emigration traffic, a branch could be made in that direction with a bridge on the new weir, and I should therefore recommend that the design for the weir should be made with

that object in view.

11) I enclose copies of a letter from Mr. Lee Warner, in the following letter kindly placed at my disposal by the former gentleman, which suggests a project for another route for the drainage, which would serve the towns of Angamothah and Madaholath, and join the South Indian Railway at Virudupatti. Such a line, so far as my information goes, could be made at least as cheap as one along the Madurai and Ramanathapuram road, at least for a great distance, even on a bank being now made as an irrigation work. The river Koodar would have to be crossed at Namathy, but probably a bridge would not be required immediately, as the water is diverted from the river at Namuthi towards Madhulathur. After crossing the river high stony land is reached, and there would be no further difficulty, no extra expense incurred.

12) This line would pass through the poorest part of the Zemindari and that most liable to famine, and considered as a preventive to famine only, it would

Aggravated

probably be the best ¹¹¹⁵ ~~route~~ to take; but as a commercial line, and with a view to opening out the country, the line suggested out in para 8 has the approval of the district officers. Mr. Lee Warner also is of opinion that the country mentioned in para 11 would be sufficiently served and security given for grain supply, if a promise were given to make a road from the Railway station at Virudupatti to Tiruchody.

13) As His Grace the Governor rather laid a stress on keeping to the line of road, ^{and} besides instructed me to consult with the District officers I have the honor to request that this report may be submitted to the Chief Engineer, with a request that the orders of Government may be communicated to me as soon as possible. With respect to an extension to Pambur, I shall have the honor to submit a report after having seen the Master Attendant. It is only necessary to say at present, that it does not affect the question of going into Ramanathapuram as I have information that it might be possible, if not better, to extend the line

along the coast from Keelabana:

I have the
Honor of Mr. H. G. Jenkinson
Assistant Engineer

True copy

W. Lawrence

District Engineer

Madam.

1115
33

Enclosed in a letter
from the District Engineer
to the Chief
Engineer is P.W.D. Madras
No 373 dated 17th
February 1878.

Copy of Mr. Jenkinson's
letter to the Chief Engineer

No 368

2nd Panna

115/34
1st March 1878

From: The Special Assistant Collector,
Panna.
To: The Collector of Madras.

With reference to Mr.
Adushnott's appointment to survey a
train line from Sheringanga to some sea
port in this Government limits, and the
approaching visit of His Grace the Governor
to Madras, I have the honor to request
that my idea of the construction of a branch
line from Virduputty to Seelacarray may be
also brought to notice. Such a line would
pass through Muppacottah, Mandapattay,
Kamuthy and Mudacottah. Splendid
material is to be procured along all the
section from Kamuthy to Virduputty. From
Kamuthy the right bank of the Regumatta
canary works can be utilized, where there
will be a bank already half formed for
twenty four miles. The great advantage of
this line is that the crossing of the Vygar
will be avoided altogether, and for a

great part of the iron machinery is
crossed upon a timber trestle in
the case on the other side. It requires
an innumerable number of timbers
by made roads through all parts of the
hemlock. It is suffering from
the opposite cause and this is
picking it from west to east is likely to
be of incalculable benefit.

I have to
/Said J. H. New
of the 1st of October

Receipt

Wm. H. H. G. J.

Receipt

W. H. H. G. J.
District Engineer

Enclosure 3 in a letter
from the District Engineer
Madras to the Chief
Engineer. P. W. D. Madras
No 373 of 17 February 1878

Copy of Mr. Lee Warner's
letter

No 373.

From

To

Sir

District Engineer's Office
Camp Cochinpatt 17th Feb 1878
The District Engineer,
Madras

The Chief Engineer. P. W. D.
Madras.

Enclos: 2.

As requested by Mr.
Jenkins. Assistant Engineer Madras
and Ramnad Railway project, I have
the honor to forward for the information
and orders of Government copy of his letter
dated 10th Inst and reporting the result
of his observations of the line from Madras
to Ramnad.

I have the honor to be,
Sir,
Your most obedient servant
W. Harrington
District Engineer
Madras

No 373

PUBLIC WORKS DEPARTMENT.

1115
37

From,

The District Engineer
Madura.

To, The Chief Engineer
P. W. D. Madras

Letter from Mr. J. Ashbuthcott, Asst Engineer
on special duty, Madura; dated 21st Nov 1877

FOR ORDERS.

Circulated for
Orders with maps.

Edmund Colonel Pitt.
Secretary to Govt. P. W. D.

Wanted 17th }
Received } H. C. C. 1877

Enclosures 2

Madura and Ramn
Tramway Project
Submitting Mr.
Jenkinson's Report
regarding the -

This does not seem to
be a serious matter
but if a train is let
in it seems to
me, looking at the map,
that the line will
be from the village, via
Ramnan to Kulasam
It is a matter of some
importance for the local
convenience - The

486-10-77 h. 904 M.
.. 22-10-77 .. 1171 M.
.. 17-11-77 .. 1704 M. Min.
.. 5-1-78 .. 79 M.
C.E. 412A, 22-1-78.
492-2-78 h. 548 M. Min.
orig. papers vide book.

6-28-2-78. R3-3.78.

FOR ORDERS.

I aslain down
 in corner the vizay town
 across but by a delow
 both crossing respect
 avoided

207

For canper
 lost & suprising
 examination
 being no more
 that it is known
 which that men
 the communication
 207

121-3-78

Proceedings of Sub. Rev. Dept No 1900 of 6 June 1877
 Letter from the District Judge Madura to the Personal Asst
 to His Grace the Governor dated 24 Nov 1877
 from Mr Asst Surg J. Arbutnot No 2 of 24 Nov 1877
 from the District Judge Madura No 317 of 19 Jan 1878
 Memo by Mr Asst Surg Jenkins dated 27 Jan 1878
 Letter from the District Judge Madura No 373 of 17 Feb 1878
FOR ORDERS.

Edmund Collier
 Secy to Govt P. Dept

28 Feb 1878

Noted in margin
 of J. report
 1/24

Received
 1/24

121-3-78

No 1115 W Public Works Department

PROCEEDINGS OF THE MADRAS GOVERNMENT

Under date the 4th March 1878

Read the following:—

Pro. in the Rev. Dept:— (H E No 1904 of 6 June 77) —
From the Secy Madras (— 21 Nov 77) —
Mr Asst Secy Arbuthnott (No 2 of 24 do) —
" Secy Madras (— 317 of 19 Jan 78) —
Memo by Mr Jenkinson (— 27 do) —
From the Secy Madras (— 373 of 17 Feb 78) —

Recorded with the
remark that the line
sketched out in para 8 he
adhered to and the points
alluded to in paras 8 and
10 he abandoned

Wk
2.3.78

Dr. Madras Secy
C. P. A. Secy
Rev. Dept 21 17
Defd. 13.3.78

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1878
102603
5/23



1878
PUBLIC WORKS.

The G. & S. India

1878-79

Nos. 58-59-

Madura & Ramnad
Railway Project

Papers regarding the
recorded with Remarks

1878-79