GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read again the following papers :—

G.O., dated 8th August 1889, No. 836 R., Public Works.

Read—the following letter from E. GIBSON, Esq., President, District Board, Tanjore, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Vallam, 23rd July 1889, No. 203 :—

With reference to G.O., No. 685 R., Public Works, dated 19th June 1889, I have the honor to report that the District Board, before whom the Government Order was placed on the 13th instant, have accepted the offer of the Government of India to grant a loan at 4¼ per cent. interest per annum, to be repaid within 30 years. Copy of their resolution is enclosed.

Enclosure.

Proceedings of the District Board, Tanjore, dated 13th July 1889.

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4. Read G.O., No. 685 R., of 19th June 1889, requesting that early intimation may be given whether they will accept the proposals of the Government of India regarding the opening of the Máyavaram-Mutupet Railway in view to the Secretary of State being addressed by that Government.

The Board accept the proposal of the Government of India for a loan at 4¼ per cent. to be repaid in 30 years.

* * * * * *

(Signed) H. G. JOSEPH,
for President.

Order—dated 8th August 1889, No. 836 R., Public Works.

Ordered to be forwarded to the Government of India with reference to its letter No. 360 R.C., dated 2nd May 1889, and telegram No. C 112, dated 14th June 1889, and with copy of G.O., 19th June 1889, No. 685 R.

(Here enter No. 837 R., dated 8th August 1889.)

(Signed) C. J. SMITH, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Endorsement—dated 8th August 1889, No. 837 R., Public Works.

Forwarded.

(By Order.)

(Signed) C. J. SMITH, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

G.O., dated 4th October 1889, No. 1072 R., Public Works.

Read—the following letter from the Government of India, Public Works Department (Railway Construction), to the Right Honorable the Secretary of State for India, dated Simla, 6th September 1889, No. 120 Railway :—.

We have the honor to acknowledge the receipt of your Lordship's Railway despatch No. 1, dated 10th January 1889, forwarding a copy of the correspondence which has passed with the Board of the South Indian Railway Company regarding the construction and working, by that Company, of a metre-gauge Railway from Máyavaram to Mutupet, with funds which it was proposed to raise in England on the guarantee of the Tanjore Local Board.

2. Your Lordship wishes to be furnished with our views on the proposal to raise the necessary capital in England, and generally as to the best course to be adopted for the furtherance of this project within proper financial limits.

3. In reply, we have to inform your Lordship that we consider that there are grave objections to the raising of a sterling loan in England by the Tanjore Board, and that it is doubtful whether a local loan could be raised by the Board except at a high rate of interest. We accordingly informed the Local Board, through the Government of Madras, that we would be prepared, subject to your Lordship's approval, to favorably consider an application for a loan from Imperial Revenues for the purposes of the Railway, the rate of interest being fixed at $4\frac{1}{4}$ per cent. per annum, and the loan to be repaid within 30 years; and that, in the event of your Lordship not agreeing to the money being lent by our Government, the Board should raise a loan otherwise in India on the best terms that could be obtained in the open market.

4. The Local Board has accepted our proposal to advance the money on the terms above mentioned; and we have now to ask your Lordship's sanction to our making the loan, as a special case.

5. It would be a necessary condition of such loan that the survey plans and the estimate should be approved by our Government before construction is commenced, and that the work when begun should be carried out under the control of the Government of Madras. The terms of agreement for the construction and working of the line will be arranged by the Local Board in direct communication with the South Indian Railway Company subject to our confirmation, or with the Government of India if the South Indian Railway Company is completely bought out and the line taken over by the State.

No. 859 R.C.

Copy forwarded to the Joint Secretary to the Government of Madras (Railway Branch), Public Works Department, for information, with reference to his No. 837 R., dated 8th August 1889, and with the request that the Tanjore Board may be instructed to ascertain from the South Indian Railway Company the terms on which it would be prepared to undertake the working of the line in case of its construction being sanctioned, and report the agreement arrived at for the information of the Government of India.

(By Order.)

(Signed) M. C. BRACKENBURY, Major, R.E.,
Under-Secy. to the Govt. of India.

7th September 1889.

Order—dated 4th October 1889, No. 1072 R., Public Works.

Communicated to the District Board, Tanjore, for favor of inquiry and report with reference to letter from the President, No. 203, dated 23rd July 1889.

(Signed) C. J. SMITH, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

Read also the following papers :—

From the Agent, South Indian Railway, to the President, District Board, Tanjore, dated Trichinopoly, 12th October 1889, No. 15176/2756.

Your letter No. 1577 of the 10th instant. The South Indian Railway Company will be willing to undertake the working of the Máyavaram-Mutupet Railway upon terms similar to those in force for the working of the Nellore branch of Villupuram-Dharmavaram State Railway, viz., the same percentage rate half-yearly of the gross receipts of the Máyavaram-Mutupet Railway, as that obtaining during the same period in working the South Indian Railway to be paid to the South Indian Railway Company. If rolling stock be found by that Company, 5 per cent. of the gross receipts to be paid to the Company for the hire thereof. One-fourth of the next profits to be paid to the Company as their remuneration for managing and working the railway—see your letter No. 1779 of the 14th September 1888.

2. Upon receipt of my report of the 18th idem my Board addressed the Secretary of State for India (see Proceedings of Government, 19th June 1889, No. 685 R., Public Works), and the Directors were informed in reply that, after consultation with the Governments of India and Madras, a further communication would be made to the Board. This is still awaited and no resolutions have therefore been passed on the subject.

No. 304.

(True copy.) Submitted to the Joint Secretary to Government (Railway Branch), Public Works Department, with reference to his endorsement No. 1072 R., dated 4th October 1889, and in continuation of this office foot-note No. 213, dated 22nd September 1888.

2. The subject will be placed before the District Board at their meeting of the 26th instant and copy of their resolution communicated.

(Signed) W. A. HAPPELL,
President.

Vallam,
15th October 1889.

From the President, District Board, Tanjore, to the Agent, South Indian Railway, dated Vallam, 21st November 1889, No. 1903.

With reference to your letter No. 15176/2756, dated 12th instant, I have the honor to forward copy of the District Board's resolution No. 1, dated 26th October 1889, and to request that you will be so good as to inform me, at an early date, whether your Company will be willing to forego the one-fourth of the net receipts asked for as remuneration for managing and working the Máyavaram-Mutupet line. This proposed Railway differs from the Nellore line in this important particular—it will be a branch from the South Indian main line and not entirely separated from it by a broad-guage Railway. It is certain that it will increase the through trade of the South Indian Railway in salt, and probable that it will do so in other descriptions of goods, as well as in passengers. I do not believe, and in this the District Board now agrees with me, that any traffic now carried by the South Indian line will be diverted to Mutupet.

2. A copy of the President's note about the financial position of the District Board is enclosed.

Enclosure.

Extract from the Proceedings of the District Board, Tanjore, dated 26th October 1889.

* * * * *

1. Read G.O., No. 1072 R., dated 4th October 1889, directing the Board to ascertain and report the terms under which the South Indian Railway Company will undertake the working of the Máyavaram-Mutupet Railway, and the Agent's reply thereto, No. 15176/2756, dated 12th October 1889.

The South Indian Railway Company will be asked, in consideration of the traffic which the new Railway is likely to bring to their line, and of the financial position of the Board, to forego the one-fourth of net receipts asked for as remuneration for managing and working the line. The President's note about the financial position will be communicated to them.

* * * * *

(Signed) W. A. HAPPELL,
President.

	Rs.
Estimated weekly traffic receipts per mile	90
Working expenses (weekly)	60
Net receipt	30
Deduct 5 per cent. of the gross receipts for the hire of the rolling-stock to be supplied by the South Indian Railway Company 90 × ·05 or 4·5	
Net profit	25·5
Deduct one-fourth to be paid to South Indian Railway Company	6·4
Net profit per week per mile	19·1
Net profit for one year for 53 miles ... 52 × 53 × 19·1 = 53,000 nearly.	
Annuity to repay capital and interest per 30 lakhs at 4¼ per cent.	1,78,800
Net annual traffic receipts as shown above	53,000
Annual receipts from land cess	85,000
	1,38,000
Interest on Railway Guarantee Fund (8,65,000) at 3¾ per cent. ...	32,437
Total Receipts ...	1,70,437
Deficit, *i.e.*, the difference between the annuity payable and the income	84,000 nearly.
Deduct interest on 2 lakhs spent out of the balance at 3¾ per cent.	7,500
Total deficit	15,900

2. If 24 lakhs are borrowed and the whole balance spent on construction—

Annuity to repay capital and interest per 24 lakhs 24 × 5,960 =	1,43,040
Net annual traffic receipts	53,000
Land cess receipts	85,000
Net balance to be repaid ... ... 1,43,040 — (53,000 + 85,000)	
Deficit =	5,040

	Rs.
N.B.—If 60 rupees be taken as the weekly traffic receipts per mile then the working expenses will be	40
Net profit	20
Deduct 5 per cent. of the gross receipts to be paid to the South Indian Railway Company	3
Net profit	17
Deduct one-fourth to be paid to South Indian Railway	4·25
Net profit per week per mile	12·75
Net profit for one year for 53 miles ... ... 35,139 or 35,000 nearly,	

or (53,000—35,000), *i.e.*, Rs. 18,000 less than the income, if Rs. 90 be taken as the average weekly traffic receipts.

(Signed) W. A. HAPPELL,
President.

No. 349.

(True copy.) Submitted, with copy of resolution, to Joint Secretary to Government (Railway Branch), Public Works Department, in continuation of this office foot-note No. 304, dated 15th October 1889.

Vallam, (Signed) W. A. HAPPELL,
21st November 1889. President.

From the Agent, South Indian Railway, to the President, District Board, Tanjore, dated Trichinopoly, 25th November 1889, No. 3134.

I will submit to my Directors the proposal contained in your letter No. 1903 of the 21st instant, viz., that the South Indian Railway Company should modify their offer to work the Máyavaram-Mutupet line by agreeing to withdraw that part of it which provided for their receiving one-fourth of the net profits.

2. With regard to your remark that the South Indian Railway will benefit by the interchange of traffic with the Máyavaram-Mutupet line, I wish to observe that, in my opinion, though the new Railway will greatly benefit the district, it will not increase the receipts of the South Indian Railway Company. There can be no doubt that traffic between the north and Nídamangalam Negapatam, and intermediate stations will proceed by the new line, and the Company will lose mileage *viâ* Tanjore on such traffic. Also, if salt is brought up from Mutupet to Tiruválúr to send to the west, it will displace the salt which has hitherto been worked from Negapatam and mileage will be lost thereon.

3. You may not have gone into figures showing the result to the South Indian Railway Company of working the Máyavaram-Mutupet line on a percentage allowance only, and I should like therefore to state them here. Your most favorable estimate of the earnings of the new line is a weekly mileage receipt of Rs. 90, and you assume the working expenses to be 66 per cent. The amount receivable by the Company would therefore be Rs. 60 per mile per week. If you will take our account for last half-year, you will see that the cost of working 654 miles of railway amounted to Rs. 21,12,478, or Rs. 3,230 per mile. Dividing that sum by the number of weeks in the half-year we arrive at the fact that it cost us over Rs. 124 per mile per week to work the line. You ask us to work the Máyavaram-Mutupet line for Rs. 60 per mile per week.

4. It is true that the expenditure last half-year was largely increased by heavy renewals of permanent-way, and that similar expenditure would not (for some years) be incurred on the new line; deducting Rs. 3,86,000 the cost of such renewals, the expenses per mile per week amount to Rs. 101-8-0.

No. 355.

(True copy.) Submitted to Government in the Public Works Department, Railway Branch, in continuation of this office foot-note No. 349, dated 21st November 1889, to copy of letter addressed to the Agent, South Indian Railway, with the observation that the shortening of the distance will unquestionably increase the traffic to Negapatam from the north both in goods and passengers.

Vallam, (Signed) W. A. HAPPELL,
28th November 1889. President.

From Major M. C. BRACKENBURY, R.E., Under-Secretary to the Government of India, Public Works Department (Railway Construction), to the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Calcutta, 17th December 1889, No. 1179 R.C.

In continuation of Public Works Department No. 859 R.C., dated 7th September 1889, I am directed to forward herewith a copy of a despatch * from Her Majesty's Secretary of State for India sanctioning, as a special case, the proposed loan by

* No. 121, Railway, dated 7th November 1889.

Government to the Tanjore Local Board of the amount required for constructing the Máyavaram-Mutupet Railway, on the understanding that the sum advanced will be treated as a part of the annual sum allotted for expenditure on railways from borrowed money, and provided that the arrangement does not impose on the Local Board a liability which their resources are insufficient to meet.

2. With reference to para. 3 of the despatch, I am to say that the Government of India regrets that, under the condition therein imposed, it will not be possible now to advance the necessary loan from Imperial funds, and that the only alternative is for the Local Board to raise a loan otherwise in India on the best terms that can be obtained in the open market.

3. I am, however, to add that before a loan in the local market is sanctioned the wishes of the Secretary of State, as expressed in para. 5 of the despatch, should be given effect to and the result reported to the Government of India.

Enclosure.

Despatch from the Right Honorable the Secretary of State for India, to His Excellency the Most Honorable the Governor-General of India in Council, dated India Office, London, 7th November 1889, No. 121, Railway.

Construction by Tanjore Local Board of a metre-gauge line from Máyavaram to Mutupet.

Your Excellency's Railway letter No. 120, dated 6th September 1889, respecting the best course to be pursued in order to enable the Tanjore Local Board to proceed with the construction of a metre-gauge railway from Máyavaram to Mutupet, has received my consideration in Council.

2. Your Excellency considers that there are grave objections to permitting the Tanjore Local Board to raise the funds required by means of a sterling loan in this country, and as a loan could not, in your opinion, be raised in India by the Board, except at a high rate of interest, you state your willingness to advance the sum required to the Board at 4¼ per cent. per annum, such loan to be repaid within 30 years.

3. I am willing to assent to the course proposed, as the best solution of this special case, on the understanding that the amount so advanced shall be treated as a part of, and not as an addition to, the annual sum allotted as expenditure on railways from borrowed money.

4. I agree with your Excellency that, under the circumstances, the general control of Government over the expenditure of the funds, as indicated in the 5th paragraph of your letter under reply, is desirable, and should be carried into effect.

5. It is of course understood that your Excellency's Government are satisfied that the terms to which my assent is requested do not impose on the Tanjore Local Board a liability which their resources are insufficient to meet.

From the Consulting Engineer for Railways, dated Madras, 11th January 1890, No. 25 A.

From the Agent, South Indian Railway, to the Consulting Engineer for Railways, dated Trichinopoly, 6th January 1890, No. 9.

In continuation of my letter No. 1664 of the 31st December 1889, I beg to inform you that I forwarded to you by the mail train of last Saturday the plans and estimates of the proposed Máyavaram-Mutupet Railway, with a report from Resident Engineer, Mr. F. F. Smith, who was deputed to inspect the line estimated for after it was stacked out on the ground.

2. The preliminary estimate sent to you in June 1884 amounted to Rs. 27,87,619, and the revised estimate now forwarded and recommended for sanction amounts to Rs. 28,94,144, or Rs. 53,804 per mile.

3. The variations of the revised over the preliminary estimate are explained in detail in Mr. Smith's report.

4. The rise in the price of iron-work accounts for a sum of Rs. 2,82,565 in excess of that provided for girders and permanent-way in the preliminary estimate.

5. The following is a summary of the various estimates submitted :—

	Total.	Per mile.
(1) Original preliminary estimate	27,87,619	50,284
(2) Revised estimate as per details given in book No. 2.	26,11,579	48,551
(3) Estimate recommended for sanction allowing for increased price of iron	28,94,144	53,804
(4) Estimate including cost of junction station arrangements	29,73,631	55,282

Note on the Máyavaram-Mutupet Railway Estimate.

In G.O., No. 1084 R., dated 18th December 1888, the Agent, South Indian Railway, was instructed to engage a staff for the preparation of the working survey of the line, and in G.O., Mis. No. 2379 L, dated 22nd December 1888, the Local Fund Board, Tanjore, were authorised to place Rs. 13,500 from the balance of the Railway Guarantee Fund at the Agent's disposal. The actual expense of the survey amounted to Rs. 16,200, which was met from the same fund.

The line originates at Máyavaram station on the South Indian Railway at mile 175 from Madras and runs south for 22 miles where it joins the Negapatam Branch and by curving westwards runs into Tiruválúr station. From this point it runs south for about 11 miles, after which, by mainly following a south-west course, it reaches its terminus at Mutupet, a distance of 54 miles from Máyavaram. The alignment taken at Mutupet will permit of extension to Adirámpatnam. Prior to construction it is desirable that a further investigation of the alignment be made between the 33rd mile and Tiruturaipúndi station and between this station and Mutupet, when perhaps a saving (3,965 chains) may be effected. Care has been taken to avoid, as far as possible, all interference with house property, and no temples have been touched. There are 17 curves on the whole length.

2. The following statement compares the estimated cost of the line with the actual expenditure on the South Indian Railway, after being opened for traffic for two years :—

—	Máyavaram-Mutupet, 53·79 miles.		South Indian Railway northern extension, 218 miles.		South Indian Railway southern extension, 215 miles.	
	Total.	Per mile.	Total.	Per mile.	Total.	Per mile.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I. Preliminary expenses ..	16,200	301	109,814	504	268,637	1,249
II. Land	175,000	3,254	..	..	..	..
III. Construction of line—						
1. Earthwork	199,990	3,718	641,556	2,943	641,731	2,985
2. bridge work—	**387,155**	**1,842**				
(*a*) Small bridge	384,924	17,725	3,161,745	14,504	1,289,756	5,999
(*b*) Large bridge	568,446					
	587,094					
3. Tunnels	..	..	..	..	..	..
4. Level crossings ..	26,911	500	178,183	817	116,455	541
5. Fencing	7,070	132	150,221	689	139,783	650
6. Electric Telegraph ..	29,160	542	..	..	..	..
IV. Ballast and Permanent-way—	57,033	1,060	206,792	949	174,711	813
1. Ballasting	**990,802**	**18,420**				
2. Permanent-way	729,116	13,555	3,309,755	15,182	3,585,501	16,676
	169,174	3,145	1,076,123	4,936	866,141	4,029
V. Stations and buildings ..	**72,757**	**1,353**				
VI. Plant	64,280	1,195	480,308	2,203	284,492	1,323
	..	..	1,795,436	8,236	1,988,750	9,250
VIII. Rolling-stock	..	..	452,198	2,075	295,947	1,377
IX. Maintenance	..	..	2,155,020	9,885	1,403,229	6,527
X. Establishment	175,500	3,263	121,696	558	90,696	422
XI. Contingencies	8,775	161				
Total ..	**2,894,144**	**53,804**	13,838,847	63,481	11,145,829	51,841
	2,611,579	48,551				

The figures in thick black type take into account the rise in the price of iron and steel.

3. It will be noticed that the present estimate does not include rolling-stock. The figures under contingencies only relate to item X, Establishment, on which they are calculated at 5 per cent. The mileage rate inclusive of rolling-stock would amount to Rs. 57,000. No provision has been made for temporary telegraph, as it is anticipated that the Government Telegraph Department will proceed with the construction of the permanent line as soon as the construction of the railway is sanctioned.

4. *Stations.*—The following stations are allowed for in the estimate:—

	Mileage.	Distance apart.		Mileage.	Distance apart.
Máyavaram ...	0	...	Thorakudi ...	30¾	7¼
Mangavallur ...	5	5	Kurumbal ...	36¾	6
Peralam ...	10	5	Tiruturaipúndi ..	39¾	3
Mannilam Road ...	14¾	4¾	Nachikulam ...	48¾	9
Tiruválúr ...	23½	8¾	Mutupet ...	53¾	5

The Chief Engineer recommends that instead of Mangavallur and Peralam, one station 8 miles from Máyavaram should be provided. Present requirements would, he thinks, be met by one station a little south of Thorakudi instead of Thorakudi and Kurumbal. These alterations would result in a saving of about Rs. 20,000.

Minor Bridges.—The estimated cost of the minor bridges is decidedly ample, every irrigation channel however small having been provided for. It is probable that in construction a considerable saving may be effected by the diversion of some of the smaller channels. Foundations are taken out for a depth of 15 feet below the level of the nullah beds, and a considerable number of the culverts and bridges will require flooring which has been duly provided for.

Large Bridges.—Ample provision appears to have been made under large bridges, and allowances for baling and coffer damming have been made. Provision has also been made for five causeways between the most important channels, to act as flood outlets in case of any of the channels bursting. Two thousand three hundred and eighty-five linear feet of waterway, exclusive of the causeways, have been estimated for, and are distributed as follows: four bridges of 5-40, five of 3-40, one of 2-40, three of 1-40, two of 3-30, one of 2-30, two of 1-30, one of 5-25, four of 3-25, and one of 3-20. Two bridges of 1-30 feet spans are included under "large bridges" which would more correctly have been shown under "small bridges." The cost of erecting girders appears to have been much over-estimated. An all-round rate of Rs. 25 per ton would, it is thought, suffice. In consequence of the rise in the cost of iron item III will require increasing by Rs. 20,879.

Electric Telegraph.—Under electric telegraph provision has been made for 1½ years' rental of one wire at Rs. 30 per mensem.

Ballasting and Permanent-way.—The estimate provides for steel transverse sleepers and 41-lb. steel rails at Rs. 6-10-0 per yard, but owing to the late rise in the price of iron and steel it will be necessary either to allow Rs. 9-4-7, which will increase item IV by Rs. 2,61,686, or possibly to substitute wooden for the iron sleepers.

Stations and Buildings.—The cost of a stationmaster's bungalow and latrine Rs. (1,820 + 134) = 1,954 is extremely high, and should admit of a reduction of Rs. 750. Except at Mutupet and omitting temporary structures, no other official but the stationmaster is provided with quarters.

Maintenance.—Maintenance has been omitted as revenue is to be debited with its cost from date of opening.

Establishment is based on the assumption that the line will be completed in 18 months, and consequently has only been calculated for a period of 1½ years.

Fencing.—Wire fencing has only been provided in the neighbourhood of stations.

Plant.—Plant has been calculated at 3 per cent. on items III, IV, V. If the recent rise in the price of steel be considered, it may be necessary to increase the figures under this head This point will be referred to the Chief Engineer, South Indian Railway.

Level Crossings.—Gates have been estimated for at important crossings only, rail-posts and chains being considered sufficient for minor positions. As the amounts under fencing and level crossings are small, the enhanced cost of iron would have but little effect on the figures of the estimate.

Estimate from Tiruválúr to Mutupet.—For the section of the line between Tiruválúr and Mutupet an estimate, derived from that submitted for the whole project, is appended. The charges under land, earthwork, ballasting and permanent-way are extracted on the mileage proportion of 29·5 to 53·79. Level crossings are estimated to cost half as much as, and fencing three-fifths of, the main estimate. The telegraph is taken at Rs. 30 per mile, per wire, per mensem for a period of a year-and-a-half. Plant is allowed for at 3 per cent. on items III, IV and V. Establishment is presumed to be half the corresponding figures in the main estimate *plus* the salary of the Assistant Engineer at head-quarters. The remaining figures are extracted for the miles concerned, but the whole amount under "Preliminary expenses" has been entered as this sum has been spent.

This estimate is approximate only and must be considered subject to revision by the Chief Engineer of the South Indian Railway.

It seems well worthy of consideration whether this branch line should not, with iron at its present prices, be laid on creosoted fir sleepers (of rectangular type not half round). The Chief Engineer will be asked to revise the estimate in this respect.

In the meanwhile, for financial consideration it is thought a mileage rate not exceeding Rs. 50,000 may be adopted, or say 30 miles to cost 15 lakhs of rupees.

(Signed) C. J. SMITH, Colonel, R.E.,
Consulting Engineer for Railways.

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Statement comparing the estimated cost of the Southern Extension (29½ miles) with the actual expenditure on the South Indian Railway, after being opened for traffic for two years.

	Máyavaram-Mutupet Railway southern extension, 29½ miles.		South Indian Railway northern extension, 218 miles.		South Indian Railway southern extension, 215 miles.	
	Total.	Per mile.	Total.	Per mile.	Total.	Per mile.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I. Preliminary expenses	16,200	549	1,09,814	504	2,68,637	1,249
II. Land	95,975	3,253	..	..	..	..
III. Construction of line—						
1. Earthwork	1,09,680	3,718	6,41,556	2,943	6,41,731	2,985
2. Bridge work—	**8,932**	**303**				
(a) Small bridges ..	3,07,011	10,407	31,61,745	14,504	12,89,756	5,999
(b) Large bridges ..	..	..	..	..	..	..
3. Tunnels	13,455	456	1,78,183	817	1,16,455	541
4. Level crossings	4,242	144	1,50,221	689	1,39,783	650
5. Fencing	15,930	540	..	..	..	..
6. Electric Telegraph						
IV. Ballast and Permanent-way—	31,279	1,060	2,06,792	949	1,74,711	813
1. Ballasting	**1,42,958**	**4,846**				
2. Permanent-way ..	3,99,868	13,555	33,09,775	15,182	35,85,501	16,676
	1,47,644	5,005	10,76,123	4,936	8,66,141	4,029
V. Stations and buildings	**4,557**	**154**				
VI. Plant	30,395	1,030	4,80,308	2,203	2,84,492	1,323
			17,95,436	8,236	19,88,750	9,250
VIII. Rolling-stock	..	..	4,52,198	2,075	2,95,947	1,377
IX. Maintenance	..	..	21,55,020	9,885	14,03,229	6,527
X. Establishment	86,490	2,932	1,21,696	558	90,696	422
XI. Contingencies	4,325	147				
Total {	**1,56,447**	**5,303**	1,38,38,847	63,481	1,11,45,829	51,841
	12,62,494	42,796				

Figures in thick black type show the amounts that should be added if the present increase in the price of iron and steel be taken into account. The increased rate per mile will be Rs. 48,099.

Revised Abstract of the cost of the Máyavaram-Mutupet Railway between Tiruválúr and Mutupet, length 29½ miles.

Final head of account.	Description of work.	Cash.	Stores.	Amount.	Total.
		Rs.	Rs.	Rs.	Rs. A. P.
I	Preliminary expenses	..	..	..	16,200 0 0
* II	Land	..	..	..	95,975 0 0
III	Construction of line	..	..	..	4,34,388 0 0
	* 1. Earthwork	1,09,680	..	1,09,680	..
	2. Bridge work—		**926**	**926**	
	(i) Minor bridges	50,520	6,529	57,449	..
			8,006	**8,006**	
	(ii) Large bridges	1,94,467	55,095	2,49,562	..
	3. Tunnels	..	..	..	..
	† 4. Level crossings	10,210	3,245	13,455	..
	‡ 5. Fencing	425	3,817	4,242	..
	6. Temporary Telegraph	..	..	..	..
IV	Ballast and Permanent-way	..	..	..	4,31,147 0 0
	* 1. Ballasting	31,279	..	31,279	..
			1,42,958	**1,42,958**	
	* 2. Permanent-way*	24,761	3,75,107	3,99,868	..
V	Stations and buildings	..	..	..	1,47,644 0 0
	1. Stations and offices	47,022	23,205	70,227	..
	2. Workshops and Store buildings	..	..	..	..
	3. Staff quarters	19,913	4,928	24,841	..
	4. Station machinery	17,994	34,582	52,576	..

* Extracted from South Indian Railway estimate on mileage proportion of 53·79 : 29·5.
† Half amount entered in South Indian Railway estimate.
‡ Three-fifth South Indian Railway estimate.

Revised Abstract of the cost of the Máyavaram-Mutupet Railway between Tiruválúr and Mutupet, length 29½ miles—*cont.*

Final head of account.	Description of work.	Cash.	Stores.	Amount.	Total.
		Rs.	Rs.	Rs.	Rs. A. P.
* VI	Electric Telegraph	..	..	..	15,930 0 0
† VII	Plant	..	..	..	**4,557 0 0** / 30,395 0 0
VIII	Rolling-stock	..	..	..	..
IX	Maintenance	..	..	..	..
‡ X	Establishment	..	..	..	86,490 0 0
XI	Contingencies	..	..	..	4,325 0 0
	Total ..	..	..	..	**1,56,447 0 0** / 12,62,494 0 0
	Cost per mile	..	..	..	42,796 4 0 / **5,303 0 0**

* Rs. 30 per mile per wire per mensem for 18 months.
† Rs. 3 per cent. on III, IV, V.
‡ Half South Indian Railway estimate + Assistant Engineer's head-quarters.

Other items extracted from South Indian Railway estimate.
Figures in thick black type show amounts that should be added if the present increase in the price of iron and steel be taken into account when the rate per mile will be Rs. 48,099.

Submitted to Government with reference to its Order No. 1072 R., dated 4th October 1889.

Telegram from Sir C. ELLIOTT, to the Consulting Engineer for Railways, dated Calcutta, 12th February 1890.

Cannot hope to lend any money to Tanjore Local Board out of our limited Railway grant.

Order—dated 1st March 1890, No. 315 R., Public Works.

Communicated to the District Board, Tanjore, in continuation of Proceedings of Government, No. 1072 R., dated 4th October 1889, for consideration as to the course to be now adopted, and whether they are prepared to raise the required capital in the open market which now appears to be the only alternative.

2. It appears from the estimates submitted by the South Indian Railway Company that the portion of line from Tiruválúr to Mutupet could probably be constructed for a mileage rate of Rs. 50,000, that is, for a sum not exceeding 15 lakhs. This figure will require the confirmation of the Railway Company, but assuming it approximately correct, it seems worthy of consideration whether the Board would not be wise in the first instance to undertake the construction of the southern section only, which of itself would open out a very important part of the district and may be regarded as a project complete in itself and within the competence of the Local Fund Board.

(True Extract.)

Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
„ President, District Board, Tanjore.
„ Local and Municipal Department.
„ Examiner, Guaranteed Railway Accounts.

Exd. J. Moses.
Spare Copies

Original

22/12/23 B.11

RAILWAY.

Govt. of {1890} Madras.

PUBLIC WORKS.

Dated March, 1st.

Recd. *Encl.*

G.O., 1st Mar. 1890, No. 315 R.

MARCH.

Mayavaram-Mutupet Railway

Telegram from the Government of India stating that it will not be possible now to grant a loan from Imperial funds for the —, communicated to the District Board, Tanjore, with instructions.

the Board would not be wise in the first instance to undertake the construction of the Southern Section only which of itself would open out a very important part of the district and may be regarded as a project complete in itself and within the competence of the Local Fund Board.-

C.S.
21.2.9
R

To
The Consg: Engr for Rys
" President Dist. Bd Tanjore (enclg letter)
" Local Fund Dept.
" Exam Gd Rys

Despd
11/3

Form

Continuation of Progs. of Govt
No. 872 R dated 4th October
1889 for consideration
as to the course to be now
adopted and whether they
are prepared to raise the
required Capital in the
open market which now
appears to be the only alter-
native.-

2. It appears from the
estimates submitted by the
Tanjore Railway Company
that the portion of line from
Nannilam to Muthupet could
probably be constructed for
a mileage ~~rate~~ of Rs 46,000
that is, for a sum not ex-
ceeding 13½ lakhs.- This
figure will require the con-
firmation of the Railway
Company, but assuming it
approximately correct, it seems
worthy of consideration whether
the

No 315 R

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 1st March 1890.

again
READ the following

Progs: of the Madras Govt: P. W. Deptt: — } No. 836-37 R dy 8th Augt: 1889

— Do — Do — 1072 R dy 4th Octr: —

Read also the following:-

Endorsement from the President District Bd Tanjore } No. 304 dy 15th Octr: 1889

— Do — Do — 349 dy 21st Novr: —

— Do — Do — 355 dy 28th do —

Letter from the Govt: of India P. W. Deptt: — } 1179 R.C., dy 17th Decr: 1889

Endt from the Consg Engr for Rys — } 25 A dy 11th Janry 1890

Abstract Estimate of the cost of the Improvement Restricted Railway between Tirvadur & Nattapet 29½ miles

Telegram from Sir Charles Elliot — } — dy 12th Febry: 1890

Communicated to the District Board Tanjore with Centy

Form No. 3.

From

CONSULTING ENGINEER.

REGISTERED
No. 96
FILE

Ayr Jn to Nattapet Rly

For information and orders.

C. S. Smith Colonel R.E.
Joint Secy: to Govt: P. W. D.
Railway Branch.

The papers and the Estimate must be cond: to the Tanjore Dist: Board for consideration as to the course to be now adopted. Further they are requested to borrow in the open market which is the only alternative. The portion of the line which is of most importance for the purpose of opening out the district is the Southern, from Tirvadur to Nattapettai. A statement should be prepared from the Estimate showing the cost of this portion for the information of the Board. It is probable that the Stables in hand with a loan of the same amount would be such sum to do this portion which would provide necessary temporary terminal station. The line might if the northern portion is abandoned be continued to Adirampattanam. Then take out the cost from Tirvadur to that point as a separate project.

A. M. 13-2-90 R 14-2-90 Ats 1476

No. 315R

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

GOVERNMENT

390

F. C²

Class. D Press

INDIAN TELEGRAPH.

05068

To (Station) Madras

From (Station) Calcutta Fort St

Words.	Day.	Hour.	Minute.	OFFICIAL INSTRUCTION.
27	12	15	28	Old

To (Person)

From (Person) Sir C. Elliott

Col C. J. Smith Consulting Engineer

1 Consulting Engineer Railways

2

3 cannot help to

4 lend any money

5 to Tanjore Local

6 Board out of

7 our limited Railway

8 grant.

9

10

11 C.S. Mr 2 Cs

12 Mr 13 2 Cs

13

RECD. FROM AT Hrs. L. N. Mts., By

SENT TO AT Hrs. L. N. Mts., By

Date MADRAS 12-2-90

Telegraph Master.

District Board Tanjore

Century

Form No. 3.

P.W.D. No. 1379

From

THE CONSULTING ENGINEER

FOR RAILWAYS,

MADRAS,

No. 254

Dated 11th January 1890.

Received 11

No. OF ENCLOSURES.

A No. 315R dy 1.3.90.

Subject.

Submitting a letter from the Agent, South Indian Railway, regarding the revised estimate of the Negapatam Tanjore Railway, with the Consg. Engineer's Note thereon.

R

FORM No. 1.

PUBLIC WORKS DEPARTMENT.

OFFICE OF CONSULTING ENGINEER FOR RAILWAYS,

Madras, 11th January 1890.

Letter from the Agent, South Indian Railway, No 9, dated 6th January 1890, with plans, Estimates &c of the Mayaveram-Mutupet Railway.

- Note by the Consulting Engineer for Railways, Madras on the Mayaveram-Mutupet Ry. Estimate.

No. 25 A.

SUBMITTED _____ to _____ Government,

with reference to its order No 1072 R, dated 4th October 1889.

R.D.G. Stratton Lieut. R.E.,

for Consg. Engr. for Rys.

Revised

Abstract of the Cost of the Mayaveram Mutupet Railway between Tiruvalur and Mutupet.

Length 29½ miles.

Final Head of Account.	Description of work.	Cash.	stores.	Amount.	Total
I	Preliminary expenses				16200 " "
II	Land				95,975 " "
III	Construction of line				4,34,388 " "
	1. Earthwork	1,09,680 " "	" " "	1,09,680 " "	
	2. Bridgework				
	i Minor Bridges	50,520 " "	6,929 (926) " "	57,449 (926) " "	
	ii Large Bridges	1,94,467 " "	55,095 (8006) " "	249,562 (8006) " "	
	3. Tunnels	" " "	" " "	" " "	
	4. Level crossings	10,210 " "	3,245 " "	13,455 " "	
	5. Fencing	425	3,817 " "	4,242 " "	
	6. Temporary Telegraph	" " "	" " "	" " "	
III	Ballast and Permanent way				4,31,147 " "
	1. Ballasting	31,279 " "	" " "	31,279 " "	
	2. Permanent way.	24,761 " "	3,75,107 (1,42,958) " "	3,99,868 (142958) " "	
V	Stations and Buildings				1,47,644 " "
	1. Stations and offices	47,022 " "	23,205 " "	70,227 " "	
	2. Workshops and stone Buildings	" " "	" " "	" " "	
	3. Staff Quarters	19,913 " "	4,928 " "	24,841 " "	
	4. Station Machinery	17,994 " "	34,582 " "	52,576 " "	
VI	Electric Telegraph				15,930 (4557) " "
VII	Plant				30,395 " "
VIII	Rolling stock				" " "
IX	Maintenance				" " "
X	Establishment				86,490 " "
XI	Contingencies				4,325 "
				Total	12,62,47.

Cost per mile Rs 42,796.4. (5303.)

* Extracted from the detailed estimate in mileage proportion of 53:19:29.5

† half amount entered in P. W. D. estimate

⊙ Rs 30 per mile for wire per annum for 18 months

P Rs 3,750 on III, IV & V

× 1/2 Engrs estimate + 1/2 Contr Engr 4.0

b 3/5 L. S. P estimate

Figures in red show amounts that should be added if the present increase in the price of iron and steel is taken into account. Total will be Rs 48,079.

Statement comparing the estimated costs of the Southern Extension (29½ miles) with the actuals expenditure on the South Indian Railway, after being opened for traffic for two years.

	Mayavaram Mattupalli Ry. Southern Extension, 29½ miles		South Indian Ry. Northern Extension 218 miles		South Indian Ry. Southern Extension 215 miles	
	Total	Per mile	Total	Per mile	Total	Per mile
I Preliminary Expenses	16,200	549	109,814	504	268,637	1,249
II Land	95,975	3253	641,556			
III Construction of line						
1. Earthwork	109,680	3,718	641,556	2,943	641,731	2985
2. Bridgework						
(a) Small bridges	307,011	10,407	361,745	14,504	1289766	5,999
(b) Large bridges						
3. Tunnels						
4. Level crossings	13,455	456	178,183	817	116,455	541
5. Fencing	4,242	144	150,221	689	139,783	650
6. Electric Telegraph	15,930	540				
IV Ballast & Permanent Way						
1. Ballasting	31,279	1060	206,792	949	174,711	813
2. Permanent way	399,868	13,555	3309,775	15182	3585501	16696
V Stations and buildings	147,144	5005	1076,123	4936	866,141	4029
VI Plant	30,395	1030	480308	2203	284492	1323
VII Rolling stock	-	-	1795436	8236	1988,750	9250
IX Maintenance	-	-	452,198	2075	295,947	1377
X Establishments	86,490	2932	2155020	9885	1403229	6527
XI Contingencies	4325	147	121,696	558	90,696	422
Total	1262,494	42796	13838847	63,481	11145829	51,841

Figures in red ink shew the amounts that should be added if the present increase in the price of iron and steel be taken into account. The increased cost per mile will be Rs 48000