

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	971-72 (Ry)	Press
~~B.P. No.~~		~~Mis.~~
Dated	11-4-	1876

Not to be folded or roughly handled

No. 230. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 16th March 1876, No. 131 :—

Letter from Agent, South Indian Railway, dated 29th February 1876, with report from Chief Engineer.
3 Plans.
4 Estimates (Exhibits A to G).

WITH reference to the Proceedings of Government, dated 5th August 1875, No. 2,263, and subsequent orders on the same subject, I have the honor to submit, for the consideration of Government, the accompanying papers giving the results of the investigations which have been made regarding the alternative proposals for the terminal arrangements of the South Indian Railway at Madras.

2. The following four cases have been considered by the Chief Engineer :—

- (1). Passengers to be conveyed to the Madras Central Station, and goods to the Salt Cotaurs, *via* the Penitentiary site, with an overbridge for crossing the Poonamallee road, and a bridge of two 120 feet spans over Cochrane's canal. The junction with the Madras Railway being effected at a point 250 feet north of the distance signal, the extra distance involved for passengers would be about three-quarters of a mile. A separate goods shed and sidings to be provided at the Salt Cotaurs.
- (2). Accommodation for traffic (passengers and goods) the same as in No. 1, but the junction with the Madras Railway to be effected at a point to the north of that Company's bridge over the canal, by which means a second bridge for the South Indian Railway would be dispensed with. Extra distance passengers would travel about $1\frac{1}{2}$ miles.
- (3). Accommodation for passengers and goods at the Central Station and Salt Cotaurs. The line being carried round by Perambore, where a junction with the Madras Railway would be effected. Extra distance involved for passengers about $3\frac{3}{4}$ miles.
- (4). The proposals originally sanctioned by Government, providing a separate passenger station at the Penitentiary site, and a goods station at Egmore, with a branch from the Penitentiary to the Salt Cotaurs for the working of through goods traffic. In this case a level crossing is allowed at the Poonamallee road, as the traffic will be small, and can, if necessary, be worked at night.

In all cases the engine shed and workshop, staff quarters, and store buildings to be located at Egmore as originally designed.

3. The cost of the different schemes, starting from a point a little to the north of the Cooum bridge, is estimated as follows :—

Scheme No. 1	...	...	...	...	...	...	...	Rs. 9,43,937
Do. „ 2	...	...	...	...	...	...	...	7,89,170
Do. „ 3	...	...	...	...	...	...	...	8,33,159
Do. „ 4	...	...	...	...	...	...	...	8,07,422

But in the first three estimates no provision is made for extra offices at the Central Station. The present accommodation is only sufficient for the Traffic Department of

the Madras Railway; and, excepting the waiting-rooms which might be used for both Companies, it would appear necessary to provide almost the same accommodation as is allowed in the sanctioned design for the Penitentiary site; and this probably at an increased cost owing to the more costly design of the Central Station having to be followed. Under scheme No. 3 fresh land would have to be acquired from the Cooum bridge to Perambore, that already taken up being resold at a considerable loss; while the adoption of this route would also involve the abandonment of the work already executed on the north of the Cooum river. Schemes Nos. 1 and 2 would involve extra engine mileage to and from the shed, and a back shunt for all passenger trains.

4. It would thus appear that the scheme (No. 4) already sanctioned is financially the best, while, for the accommodation of passenger traffic, there can be no doubt that it would be more convenient to all except through passengers. The latter would have to walk across the hospital bridge, but their numbers would be very small. The extra mileage for which toll would be levied under schemes 2 and 3 would greatly discourage local traffic, and would, to a certain extent, affect all third-class traffic.

5. As regards goods traffic, the Government, in their Order, dated 21st January 1873, No. 198, ruled that the convenience to traders by having the goods stations of the two railways near one another was more than counterbalanced by engineering objections, and that the linking of the South Indian Railway with the Railway system of Northern India would be better attained *via* Chingleput and Arconum. The revised estimates for the Chingleput-Conjeveram link, and for converting the Arconum branch to the metre gauge, are now before Government; and I cannot too strongly urge the early commencement of that work. On the completion of this direct line for South Indian traffic going to the west and north, the amount of through traffic to be dealt with at Madras cannot but be insignificant.

6. Should it, on reconsideration, be deemed advisable, in the interest of traders in Madras, to locate the goods shed of the South Indian Railway at the Salt Cotaurs, I am still of opinion that the passenger arrangements should be kept separate. This case has not been considered by the Chief Engineer, but its cost may be set down as follows:—

Cost of scheme No. 4, providing a passenger terminus at the Penitentiary site, with a branch to the Salt Cotaurs for through goods traffic	Rs.
Extra cost of masonry in goods shed, and of earth-filling in sidings	8,07,422
Loss on works at Egmore	60,000
Total	8,67,422
	30,000
	8,97,422

A portion of the goods shed at Egmore could probably be utilized for store buildings, and the remainder as a shed for effecting minor repairs to carriages, so that the loss on its abandonment would not be heavy. It seems questionable however whether, in the event of the whole of the goods traffic being worked into the Salt Cotaurs Station, the requirements of street traffic would be met by a level crossing at the Poonamallee road. There can be no doubt that the plan of overbridge by which the level of the

road provided in schemes 1 and 2 is raised 15½ feet, and a large bank interposed between the sea and the Peoples' Park, would be considered very objectionable.

7. At present the works are being completed up to the site of the goods station at Egmore; and, if the temporary arrangements for passengers are found to work favorably, it might be well to stop the line at this point until experience shall have shown whether the additional convenience to passengers by an extension up to the Penitentiary would be sufficient to compensate for the extra expenditure. After full consideration of the various schemes which have been proposed, I beg to submit, for the consideration of Government, the following recommendations:—

- (1). That the main line be at present stopped at Egmore, and that the construction of the link from Chingleput to Conjeveram and the conversion of the Arconum branch be pushed on as rapidly as possible.
- (2). That should experience show that the proper convenience of the public demands that the stations be brought nearer to the centre of the population, the line be extended to the Penitentiary, and that a separate passenger station be built there. I am strongly of opinion that the inconvenience to working the traffic, the extra mileage involved, and the cost of providing office accommodation at the Central Station, far outweigh the supposed convenience to through passengers, and any small saving that might be effected in working the station.
- (3). That if, after the construction of the Chingleput-Conjeveram link, the through goods traffic be such as to demand a connection with the Madras Railway at the Salt Cotaurs, the branch from the Penitentiary through the Peoples' Park be constructed.
- (4). That if, after sufficient experience has been gained in working the goods traffic at Egmore, it be considered necessary in the interests of merchants and traders that the goods stations of the two Railways should be contiguous, the goods depôt of the South Indian Railway be removed to the Salt Cotaurs. This would, however, involve the crossing of the Poonamallee road at a point where a large traffic converges, and it would probably be extremely difficult to adopt a method which would satisfactorily meet the various public interests concerned.

8. I have to express my regret for the delay which has occurred in furnishing the information now submitted. The Government are aware that the resources of the Engineering Department of the South Indian Railway have been heavily taxed of late, owing to which the references from this office have only now been replied to.

From W. S. BETTS, Esq., Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 29th February 1876, No. 1,318.

Your letter, No. 531, of the 7th of August last. I forward, herewith, for the information of Government, a copy of a report from the Chief Engineer, in which he gives the result of his investigation of certain schemes for working this Company's traffic in Madras.

2. It would appear therefrom that the carrying out of the plans and estimates of our station accommodation in Madras, as approved by the Madras Government, instead of taking the South Indian Lines into the Madras Railway Company's stations, would save money to the State;

relieve the South Indian Railway Company of a considerable debit; and at the same time more conveniently accommodate the majority of the travelling public.

3. The estimated expenditure upon our separate station arrangement shows a saving over the figures of the cheapest of the three schemes now reported upon of Rupees 15,310. I do not consider a branch line or tramway to connect the two goods depôts is needed; at any rate I would not advocate the expenditure of Rupees 42,562 (exclusive of cost of land) on this account, until we have proof that the quantity of goods to be exchanged is sufficiently great to justify the outlay. A few months' working would show if the accommodation is really needed.

4. We should be relieved of a considerable debit by completing our separate arrangements, because, in addition to the cash outlay on construction works upon either of the three schemes referred to, a heavy charge in the shape of rent for the use of the Central Station, would have to be borne. As a fair comparison with our present plan of the cost to my Company of adopting either of the schemes, there should be added to the latter one-half of the cost of the Central Station. We pay at present to the Madras Railway Company for the use of their station at Erode an annual rental of 7½ per cent. upon one-half of the cost of the station buildings and the permanent-way within station limits.

5. Our plan more conveniently accommodates the majority of the travelling public. So far as location is concerned one station is quite as convenient as the other. The only people who would reap a slight benefit by being taken by rail between the two stations would be the "through" passengers. I have no hesitation in asserting that these would not exceed 10 per cent. of the number of local passengers. The adoption of scheme No. 2 would have the effect of compelling 90 out of every 100 passengers to lose half an hour and to pay 2 miles extra toll for every trip they took, without being placed in any better position after leaving the train.

6. Extra mileage would have to be performed by every light engine in running to and from the locomotive depôt.

7. I concur with the Chief Engineer upon the other points noted in his letter, and I trust that the information now supplied to Government will induce them at once to permit our works to be proceeded with.

From the Chief Engineer, to the Agent of the South Indian Railway, dated Trichinopoly, 16th February 1876, No. 3,545.

REFERRING to your No. 8,054—4,161, of 13th December 1875, and previous correspondence, I now send you the results of my investigation of the following schemes for working the terminal traffic in Madras.

The schemes are four in number.

Scheme No. 1 is that suggested by the Government of India. It dispenses with a terminal passenger station on the South Indian Railway, the passenger traffic being accommodated in the Central Station of the Madras Railway. The arrangement for goods traffic is that the South Indian Railway should build a goods shed and lay down the necessary sidings at the Salt Cotaour Station of the Madras Railway, workshops, store buildings and staff quarters being still located at Egmore as originally designed.

A junction is effected with the Madras Railway in the following manner: The line runs from the Cooum bridge to a point near the Penitentiary marked O on plan No. 1; it curves to the left here, and, crossing Cochrane's canal by a bridge of two 120 feet lattice girder spans, meets the Madras Railway Line at a point 250 feet north of the distance signal at the Central Station. The traffic of the Poonamallee road is passed over the line by means of a girder bridge of 24 feet span with embanked approaches. This scheme provides for the cutting down of the platform of the Madras Railway Central Station to suit narrow gauge vehicles, but it does not provide for any additional siding accommodation.

The cost of the scheme is Rupees 9,43,937.

Scheme No. 2 utilizes the terminal passenger and goods stations of the Madras Railway in the same way as in scheme No. 1, but the mode of junction is different. The South Indian Line runs from the Cooum bridge to the point O on plan No. 1 as before; but instead of crossing Cochrane's canal by a new bridge (as in scheme No. 1) the line crosses the Poonamallee road, and, running along the west bank of Cochrane's canal, effects a junction with the Madras Railway a little to the north of the Railway bridge over the canal, and this bridge is used for running the South Indian Railway into the Central Station.

The cost of this scheme is Rupees 7,80,170.

Scheme No. 3, suggested as an alternative of the Government of India, arranges as in schemes Nos. 1 and 2 for the accommodation of the passenger and goods traffic in the Central and Salt Cotaours Stations of the Madras Railway, but the junction of the two Railways is effected at Perambore, from whence to the Central Station the South Indian trains would run by the provision of a third rail to the Madras Railway Lines.

The cost of this scheme is Rupees 8,33,159.

Scheme No. 4 is the proposal originally sanctioned by Government, whereby the South Indian Railway Company would have terminal accommodation of their own independent of other interests. The goods station, stores buildings, and staff quarters being situated at Egmore, and the passenger station opposite the Penitentiary. This scheme provides a branch line from near the Penitentiary, following the course of the line of scheme No. 2, by which a junction is formed with the Madras Railway Salt Cotaour Station.

The cost of this scheme is Rupees 8,07,422.

To abstract the foregoing, the cost of

Scheme No. 1 is Rupees 9,43,937.

" " 2 is " 7,80,170.

" " 3 is " 8,33,159.

" " 4 is " 8,07,422.

In the foregoing figures no allowance has been made for the cost of land to be acquired in schemes Nos. 1, 2, and 3. The land for scheme No. 4 has already been handed over to the Company. No allowance is made for any additions to the Madras Central Station for extra office accommodation, and no account is taken of the rental to be paid to the Madras Railway for the use of their line and premises.

Taking the four schemes as the figures stand, it appears that the choice lies between schemes Nos. 2 and 4.

The seeming saving between schemes Nos. 2 and 4 is about Rupees 27,000, but here again, if the Capital representing the rental to be paid to the Madras Railway Company be added, this saving will become a minus quantity.

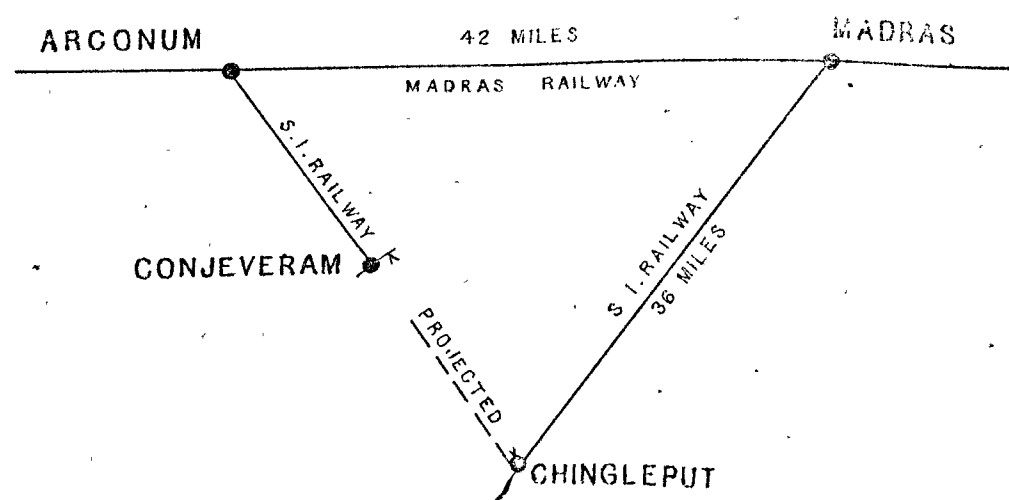
So far therefore as the interests of the South Indian Railway Company are concerned, even the least costly of the alternative schemes under discussion would prove less advantageous from a pecuniary point of view than the adoption of scheme No. 4 which preserves to the Company their independence and freedom from the expense, and the discomforts and friction almost inevitable in working a joint station under the most favorable circumstances.

If the object in view by the proposition to join the Madras Railway be the convenience of the public, I believe that this will be amply served by the branch (see scheme No. 4) connecting the South Indian Line to the Salt Cotaours. At the best the interchange of traffic between the two Companies at Madras, especially goods, will be very small, and when by the construction of the Chingleput and Conjeeveram line, and the conversion to the metre gauge of the Arcotum-Conjeeveram branch, the South Indian Railway is connected with the Madras Railway at Arcotum, the interchange will be still less.

Indeed, I am strongly of opinion that it would be wiser to push forward with the construction of the Chingleput-Conjeeveram line so as to connect our system with the Madras Railway before undertaking the Salt Cotaour branch, because we should then be in a better position to see the ultimate requirements of the Madras terminus from actual working.

Proceedings of the Madras Government, Public Works Department,
11th April 1876.

The relative positions of the Madras and South Indian systems in the neighbourhood of Madras are approximately shown by the following diagram:—



From this it may be seen that the length of Madras Railway from whence it is at all probable that any traffic will be drawn to the South Indian Terminus at Madras and *vice versa* from the South Indian to the Madras system is very short. In neither case exceeding (1) the distance between Madras and Arconum (42 miles), or (2) between Madras and Chingleput (36 miles), and probably in few cases exceeding half these distances.

There can, I think, therefore be little doubt that the interchange of traffic at Madras between the two Companies will be insignificant; but supposing it to be great, it is a question whether a joint station would best serve the object in view. It has not been found an unmitigated benefit in large towns in England to concentrate goods traffic into one locality, especially when that locality is difficult of access.

In a place like Madras, centralization of the goods traffic might tend to the convenience and economy of establishment of some of the larger firms of merchants, but I think it is open to considerable doubt whether the addition of a large traffic to the already-extensive business of the Madras goods station would result in serving the general interests of the public and of the Railway Company as well as the provision of a separate goods-yard managed by one interest and free from inconveniences and delays entailed by working over a mixed gauge.

As the subject of the line between Arconum and Chingleput has been mentioned in connection with this question, I would take the opportunity to urge the necessity for a speedy sanction to the construction of the Chingleput-Conjeveram length, and the conversion of the Arconum-Conjeveram branch to the metre gauge. So long as this is not done, we cannot hope to secure much of the traffic from the south of Chingleput for localities lying inland from Madras. For example, a merchant in Tindivanam, who wishes to send goods to Arconum or any station on the Madras Railway west of Madras, will not place his goods on the South Indian Railway, because he would have to take them off again at Chingleput and cart them to Arconum. The goods are lost to the Railway Company, being carted all the way from Tindivanam to Chingleput and South Arcot and the country inland, north and west of Madras, the bulk, if not the whole of this traffic, will be lost to our Company as long as the Chingleput-Arconum link with the Madras Railway remains unmade; and the whole of the South Indian Railway system north of Cuddalore, at all events, will be kept in a comparatively undeveloped state.

Memorandum of Enclosures.

Three tracings, viz., Nos. 695, 695-A, and 695-B.

Seven papers of details marked A, B, C, D, E, F, & G.

(True Copy.)

(Signed)

W. S. BETTS,
Agent.

Proceedings of the Madras Government, Public Works Department,
11th April 1876.

ENGINEERING DEPARTMENT, NORTHERN EXTENSION.

Revised Statement showing the Cost of each of four different schemes for the Terminal Works at Madras.

The initial point is the Cooum bridge at 2 miles 76 chains.

SCHEME No. 1.

The line runs from the Cooum bridge to a point near the Penitentiary (marked O on Plan No. 1) where it curves, and, crossing Cochrane's canal, effects a junction with the Madras Railway at a point 250 feet east of the distance signal at the Central Station.

Cost of line from Cooum bridge to point O on Plan No. 1 as per Exhibit A.—

	RS.	RS.
III. Construction of Line	33,434	
IV. Ballast and Permanent-way	1,08,996	
V. Stations and Buildings	2,40,940	
		3,83,370

Cost of line from point O on Plan No. 1 to Salt Cotaurs and into Madras Railway Central Station as per Exhibit B.—

III. Construction of Line	2,16,412	
IV. Ballast and Permanent-way	2,14,809	
V. Stations and Buildings	1,29,346	
		5,60,567
Total ...		9,43,937

SCHEME No. 2.

The line runs from the Cooum bridge to a point near the Penitentiary (marked O on Plan No. 1) where it curves, and, running along the southern bank of Cochrane's canal, effects a junction with the Madras Railway at the Elephant Gate bridge road level crossing.

Cost of line from Cooum bridge to point O on Plan No. 1, as per Exhibit A.—

	RS.	RS.
III. Construction of Line	33,434	
IV. Ballast and Permanent-way	1,08,996	
V. Stations and Buildings	2,40,940	
		3,83,370

Cost of line from point O on Plan No. 1 to Salt Cotaurs and into Madras Railway Central Station as per Exhibit C.—

III. Construction of Line	70,574	
IV. Ballast and Permanent-way	1,87,458	
V. Stations and Buildings	1,38,768	
		3,96,800
Total ...		7,80,170

SCHEME No. 3.

The line runs from the Cooum bridge northwards and effects a junction with the Madras Railway at the Perambore Station.

Cost of line from the Cooum bridge to the Perambore Station as per Exhibit D.—

	RS.	RS.
III. Construction of Line	68,876	
IV. Ballast and Permanent-way	46,783	
V. Stations and Buildings	...	
		1,15,659

*Proceedings of the Madras Government, Public Works Department,
11th April 1876.*

Cost of line from the Perambore Station into the Salt Cotaurs and Madras Central Station as per Exhibits E and A.—					Rs.	Rs.
III. Construction of Line	...	...	...	...	51,366	
IV. Ballast and Permanent-way	...	...	...	...	2,76,598	
V. Stations and Buildings	...	...	...	...	3,89,536	
						7,17,500
				Total ...		8,33,159

N.B.—This estimate does not include the royalty which would have to be paid to the Madras Railway Company for the use of 3 miles and 48 chains of their line, the distance between the Perambore and Central Stations.

SCHEME No. 4.

This is the original scheme that the South Indian Railway should have its own terminal works altogether independent of those of the Madras Railway.

Cost as per Exhibit F.—

III. Construction of Line	...	...	...	...	33,434	Rs.
IV. Ballast and Permanent-way	...	...	...	...	1,86,351	
V. Stations and Buildings	...	...	...	...	5,45,075	
						7,64,860
				Total ...		7,64,860

Add cost of branch line running along southern bank of Cochrane's canal from Terminal Station to Salt Cotaurs, as per Exhibit G—

III. Construction of Line	...	...	...	...	15,156	
IV. Ballast and Permanent-way	...	...	...	...	26,944	
V. Stations and Buildings	...	...	...	...	462	
						42,562
				Total ...		8,07,422

TRICHINOPOLY,
26th February 1876.

(Signed) F. F. SMITH,
for Chief Engineer.

No. 230-A.

NOTE by His Grace the Governor.

(Here enter, dated 11th April 1876.)

No. 231.

ORDER THEREON, 11th April 1876, No. 971.

RAILWAY, No. 29.

HIS GRACE the Governor in Council on full consideration of the several proposals made in respect to the terminal arrangements of the South Indian Railway is of opinion that the best course under the circumstances is to stop the main line at Egmore as recommended in paragraph 7 of the Consulting Engineer's letter, leaving it to experience to determine further extension. The construction of the link from Chingleput to Conjeveram and the conversion of the Arconum branch which has been remitted for the early orders of the Government of India will, when carried out, exercise an important bearing on this question; and the effect on the through traffic should therefore be closely watched. Meanwhile, the subject of further development of the Railway system within the

*Proceedings of the Madras Government, Public Works Department,
11th April 1876.*

limits of the town of Madras should be taken up by the Consulting Engineer for Railways in the light of the remarks of His Grace the President which will be separately communicated.

2. The land already acquired will be retained.
3. The papers will be forwarded to the Government of India.

(Here enter, No. 972, dated 11th April 1876.)

(True Extract.)

Colonel,
Offg. Under Secy. to Govt., P.W.D.

To the Consulting Engineer for Railways, with copy of remarks
by His Grace the President.

Exd. A. Grubert.
Spare Copies

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 11th April 1876.

No. 232.

No. 972.

FROM

MAJOR-GENERAL G. W. WALKER, R.E.,
Secretary to the Government of Madras,
Public Works Department,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

RAILWAY, No. 30.

From Govt. of India, No. 1,874 R., dated 28th July 1875.
To Govt. of India, No. 2,739, dated 21st September 1875.
From Govt. of India, No. 2,628 R., dated 22nd October 1875.
From Government of India, No. 193 R.

SIR,—Adverting to the correspondence quoted in the margin on the subject of the terminal arrangements of the South Indian Railway, I am directed to forward the accompanying papers containing the results of the investigations into the several projects which have presented themselves for inquiry. It

will be seen from the Proceedings of Government thereon that His Grace the Governor in Council is of opinion that it will be best to stop the main line at Egmore, pending further experience as to the requirements of the traffic. The proposals for the conversion of the line from Arconum to Conjeveram and its extension thence to Chingleput are expected to have an important bearing on the question of the accommodation to be afforded at Madras for through traffic by the South Indian Railway Company.

2. The early orders of the Government of India on these proposals have been asked in a separate communication.

I have the honor to be,

Sir,

Your most obedient servant,

Colonel,
Offg. Under Secy. to Govt., P.W.D.,
for Secretary to Government.

Exd. A. Grubert.

Spare Copies

RAILWAY DEPARTMENT

CONSULTING ENGINEER'S OFFICE.

Madras, 16 March 1876.

No. 134

From

LIEUT.-COLONEL J. H. M. SHAW-STEWART, R.E.,

Consulting Engineer for Railways.

To

MAJOR-GENERAL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department,

Fort Saint George.

Sir,

With reference to the

Proceedings of Government dated 5th

August 1875, No 2263, and subsequent

Orders on the same subject, I have the

honour to submit for the consideration

Letter from Agent South Indian Railway of Govern-

dated 29th February 1876, with report ment, the

from Chief Engineer

3 Plans

4 Estimates/Exhibits &c. &c.

accompany-

ing papers

giving the

results

results of the investigations which have been made regarding the alternative proposals for the terminal arrangements of the South Indian Railway at Madras.

2. The following four cases have been considered by the Chief Engineer.

(1) Passengers to be conveyed to the Madras Central Station, and goods to the Salt Stacks, via the Penitentiary site, with an overbridge for crossing the Pona-mallee Road, and a bridge of two 120 feet spans over Cochran's

Canal

Canal. The junction with the Madras Railway being effected at point 250 feet north of the distance signal, the extra distance involved for passengers would be about three quarters of a mile. A separate goods shed and sidings to be provided at the Salt Stacks.

(2) Accommodation for traffic (passengers and goods) the same as in No 1, but the junction with the Madras Railway to be effected at a point to the north of that Company's bridge over the Canal, by which

means

means a second bridge for the South Indian Railway would be dispensed with.

Extra distance passengers would travel, about $1\frac{1}{2}$ miles.

(3). Accommodation for passengers and goods at the central station and salt stacks. The line being curved round by Perambore, where a junction with the Madras Railway would be effected. Extra distance involved for passengers about $3\frac{3}{4}$ miles.

(4) The proposals originally sanctioned by Government

Government, providing a separate passenger station at the Penitentiary site, and a goods station at Egmore, with a branch

from the Penitentiary to the salt stacks for the working of through goods traffic. In this case a level crossing is allowed

at the Porramallee Road, as the traffic will be small and can, if necessary, be worked at night.

In all cases the engine-shed and workshop, staff quarters, and storebuildings are located at Egmore, as originally designed.

The

The cost of the different
 schemes, starting from a point a little
 to the north of the Coom bridge, is
 estimated as follows: —
 Scheme No 1 ————— 9,43,937
 Scheme No 2 ————— 7,80,140
 Scheme No 3 ————— 8,33,159
 Scheme No 4 ————— 8,07,422
 but in the first three estimates no
 provision is made for extra offices at
 the Central Station. The present
 accommodation is only sufficient for
 the Traffic Department of the
 Madras Railway; and, excepting
 the waiting-rooms which might be
 used

used for both Companies, it would
 appear necessary to provide almost
 the same accommodation as is allowed
 in the sanctioned design for the
 Penitentiary site; and this probably
 at an increased cost owing to the
 more costly design of the Central
 station having to be followed.
 Under scheme No 3 fresh land would
 have to be acquired from the Coom
 bridge to Perambore, that already
 taken up being re-sold at a consider-
 able loss; while the adoption of this
 route would also involve the abandon-
 ment of the work already executed on
 the north of the Coom river. Schemes
 Nos

nos 1 and 2 would involve extra en-
gine mileage to and from the shed,
and a back shunt for all passenger
trains.

It would thus ap-

pear that the scheme (No 4) already
sanctioned is financially the best,
while, for the accommodation of
passenger traffic, there can be no
doubt that it would be more con-
venient to all except through passen-
gers. The latter would have to
walk across the Hospital bridge,
but their numbers would be very
small. The extra mileage for

which

which toll would be levied under
schemes 2 and 3 would greatly dis-
courage local traffic, and would, to
a certain extent, affect all third class
traffic.

As regards goods traffic,
the Government, in their Order dated 21st
January, 1873, No 198, ruled that the
convenience to traders by having the
goods stations of the two Railways -
near one another, was more than
counterbalanced by engineering ob-
jections, and that the linking of
the South Indian Railway with the
Railway system of Northern India
would be better attained via -

Chingleput

Chingleput and Arcot. The revised estimates for the Chingleput. Coniferam link, and for converting the Arcot branch to the metre gauge, are now before Government; and I cannot too strongly urge the early commencement of that work. On the completion of this direct line for South Indian traffic going to the west and north, the amount of through traffic to be dealt with at Madras cannot but be insignificant.

Should it, on reconsideration, be deemed advisable, in the

the interest of traders in Madras, to locate the goods shed of the South Indian Railway at the Salt Cotore, I am still of opinion that the passenger arrangements should be kept separate. This case has not been considered by the Chief Engineer, but its cost may be set down as follows:

Cost of scheme to providing a passenger terminus at the Penitentiary site, with a branch to the Salt Cotore for through goods traffic.	Rs 804,422
Extra cost of masonry in goods shed, and of earth-filling in sidings.	60,000
Does on works at Egmore.	
Total	Rs 864,422
	30,000
	Rs 894,422

A portion of the goods shed at Egmore could probably be utilized for store buildings, and the remainder as a shed for effecting minor repairs to carriages, so that the loss on its abandonment would not be heavy. It seems questionable however whether, in the event of the whole of the goods traffic being worked into the Salt Bains station, the requirements of street traffic would be met by a level crossing at the Poona Mallie Road. There can be no doubt that the plan of overbridge by which the level of the road provided in schemes

13
1 and 2 is raised $15\frac{1}{2}$ feet, and a large bank interposed between the sea and the People's Park, would be considered very objectionable.

7. At present the works are being completed up to the site of the goods station at Egmore; and if the temporary arrangements for passengers are found to work favourably, it might be well to stop the line at this point until experience shall have shown whether the additional convenience to passengers by an extension up to the Penitentiary would be sufficient to compensate for the extra expenditure.

after

After full consideration of the various schemes which have been proposed, I beg to submit for the consideration of Government the following recommendations:-

(1) That the main line be at present stopped at Egmore; and that the construction of the link from Chingleput to Conjeveram and the conversion of the Arcot branch be pushed on as rapidly as possible.

(2) That should experience show that the proper convenience of the public demands that the

the stations be brought nearer to the centre of the population, the line be extended to the Peritentiary, and that a separate passenger station be built there. I am strongly of opinion that the inconvenience to working the traffic, the extra mileage involved, and the cost of providing office accommodation at the Central station, far outweigh the supposed convenience to through passengers, and any small saving that might be effected in working the Station

Station.

(3) That if, after the construction of the Chingleput. link, the through goods traffic be such as to demand a connection with the Madras Railway at the Salt Coasters, the branch from the Penitentiary through the Peoples Park be constructed.

(4) That if, after sufficient experience has been gained in working the goods traffic at Egmore, it be considered necessary in the interests of

15 9
of merchants and traders that the goods stations of the two Railways should be contiguous, the goods depot of the South Indian Railway be removed to the Salt Coasters. This would however, involve the crossing of the Penitentiary Road at a point where a large traffic converges, and it would probably be extremely difficult to adopt a method which would satisfactorily meet the various public interests concerned.

8. I have to express my
regret for the delay which has
occurred in furnishing the in-
formation now submitted. The
Government are aware that the
resources of the Engineering De-
partment of the South Indian
Railway have been heavily taxed
of late, owing to which the
references from this office have
only now been replied to.

I have the honour to be

Sis

Yours most obedt Servt.
Munttawnt L. Col. R. E.

Genl. Engineer for Railways

A complete file of papers in book form

No. 1318

South Indian
GREAT SOUTHERN OF INDIA RAILWAY.

AGENTS OFFICE,

NEGAPATAM, 29 February 1896.

From

THE AGENT,
South Indian
Great Southern of India Railway,

To

The Consulting Engineer for Railways
Madras.

SIR,

Your letter No 531 of the 7th of August last. I forward herewith for the information of Government a copy of a report from the Chief Engineer in which he gives the result of his investigation of certain schemes for working this Company's traffic in Madras.

It would appear therefrom that the carrying out of the plans and estimates of our station accommodation in Madras as approved by the Madras Government, instead of taking the South Indian lines into the Madras Railway Company's stations would save money to the State, relieve the South Indian Railway Company of a considerable debt, and at the same time more conveniently accommodate the majority of the travelling public.

The estimated expenditure upon our separate stations arrangement shows a saving over the figures of the cheapest of the three schemes now submitted upon of Rs 15,310. I do not consider a branch line or tramway to connect the two goods depots is needed, at any rate. I would not advocate the expenditure of Rs 42,562 (exclusive of cost of land) on this account, until we have proof that the quantity of goods to be exchanged, is sufficiently great to justify the outlay. A few more years working would show if the accommodation is really needed. We should be relieved of a considerable debt by

RAILWAY DEPARTMENT.

From

No. 2000

The Consulting Engineer

for Railways,

To

The Secretary to Government,

P. W. Department,

Fort Saint George.

Dated 16th March 1896

Recd 18th March 1896

No. 1318

Submitting

certain papers giving

results of the investigation

from which have been

made regarding the

alternative proposal

for the terminal an

arrangement of the

South Indian Rail

ways at Madras

No. 230

22-3-96

by completing our separate arrangements because in addition to the cash outlay on construction work upon either of the three schemes referred to, a heavy charge in the shape of rent for the use of the Central Station would have to be borne. As a fair comparison with our present plan of the cost to my Company of adopting either of the schemes, there should be added to the latter one-half of the cost of the Central Station. We pay at present to the Madras Railway Company for the use of their station at Eode an annual rental of $\frac{1}{2}$ per cent upon one-half of the cost of the station buildings and the permanent way within station limits.

Our plan more conveniently accommodates the majority of the travelling public. So far as location is concerned one station is quite as convenient as the other. The only people who would reap a slight benefit by being taken by rail between the two stations would be the "through" passengers. I have no hesitation in asserting that these would not exceed ten per cent of the number of local passengers. The adoption of scheme N^o 2 would have the effect of compelling 90 out of every 100 passengers to lose half an hour and to pay two miles extra toll for every trip they took, without being placed in any better position after leaving the train.

Extra mileage would have to be performed by every light engine in running to and from the locomotive depot. I confer with the Chief Engineer upon the other points noted in his letter, and I trust that the information now supplied to Government will induce them at once to permit our Works to be proceeded with.

I have the honour to be
Your most obedient servant
William B. W.
Agent

S P 15 12

South Indian Railway Letter from the Chief Engineer to the Agent, dated Trichinopoly 16th February 1876 N^o 5545.

Referring to your N^o ⁸⁰⁵⁴/₄₁₆₁ of 13th December 75 and previous correspondence, I now send you the results of my investigation of the following schemes for working the terminal traffic in Madras.

The schemes are four in number. Scheme N^o 1. is that suggested by the Government of India. It dispenses with a terminal passenger station on the South Indian Railway, the passenger traffic being accommodated in the Central Station of the Madras Railway. The arrangement for Goods traffic is that the South Indian Railway should build a Goods shed and lay down the necessary sidings at the Salt Cotour Station of the Madras Railway; Workshops, Store buildings and Staff quarters being still located at Egmore as originally designed.

A junction is effected with the Madras Railway in the following manner. The line runs from the Coorum bridge to a point near the Penitentiary marked O on plan N^o 1; it curves to the left here, and crossing Cochrane's Canal by a bridge of two 120 ft. lattice girders, meets the Madras Railway line at a point 250 ft. north of the distance signal at the Central Station. The traffic of the Poonaallee road is passed over the line by means of a girder bridge of 24 ft. span with embankment approaches. This scheme provides for the cutting down of the platforms of the Madras Railway Central Station to suit narrow gauge vehicles, but it does not provide for any additional sitting accommodation.

The cost of the scheme is ———— Rs. 9,43,937.
Scheme N^o 2. utilizes the Terminal passenger and Goods Stations of the Madras Railway in the same way as in scheme N^o 1 but the mode of junction is different. The South Indian line runs from the Coorum bridge to the point O on

on plan No 1 as before, but instead of crossing Cochrane's Canal by a new bridge (as in Scheme No 1) the line crosses the Ponnammall road, and running along the west bank of Cochrane's Canal, effects a junction with the Madras Railway a little to the north of the Railway bridge over the Canal, and this bridge is used for running the South Indian Railway into the Central Station.

The cost of this scheme is Rupees—7.80.170.
Scheme No 3 suggested as an alternative of the Government of India, arranges as in Schemes Nos 1 & 2 for the accommodation of the Passenger and Goods traffic in the Central and Sact Cotham Station of the Madras Railway, but the junction of the two Railways is effected at Perambore, from whence to the Central Station the South Indian trains would run by the provision of a third rail to the Madras Railway lines.

The cost of this scheme is Rupees—8.33.159.
Scheme No 4 is the proposal originally sanctioned by Government whereby the South Indian Railway Company would have terminal accommodation of their own independent of other interests. The Goods station, Stores buildings and Staff quarters being situated at Egmore, and the Passenger station opposite the Penitentiary. This scheme provides a branch line from the Penitentiary following the course of the line of Scheme No 2 by which a junction is formed with the Madras Railway Sact Cotham Station.

The cost of this scheme is Rupees 8.07.422.
To abstract the foregoing, the cost of

Scheme No 1 is—Rupees 9.43.937.

2 ——— " — 7.80.170

3 ——— " — 8.33.159.

4 ——— " — 8.07.422.

In the foregoing figures no allowance has been made for the cost of land to be acquired in Schemes Nos 1, 2 & 3. The land for Scheme No 4 has already been handed over to the Company.

19 13
No allowance is made for any additions to the Madras Central Station for extra office accommodation, and no account is taken of the rental to be paid to the Madras Railway for the use of their line and premises.

Taking the 4 schemes as the figures stand, it appears that the choice lies between Schemes No 2 and 4.

The seeming saving between Schemes No 2 & 4 is about Rs 27,000, but here again, if the Capital representing the rental to be paid to the Madras Railway for every be added this saving will become a minus quantity.

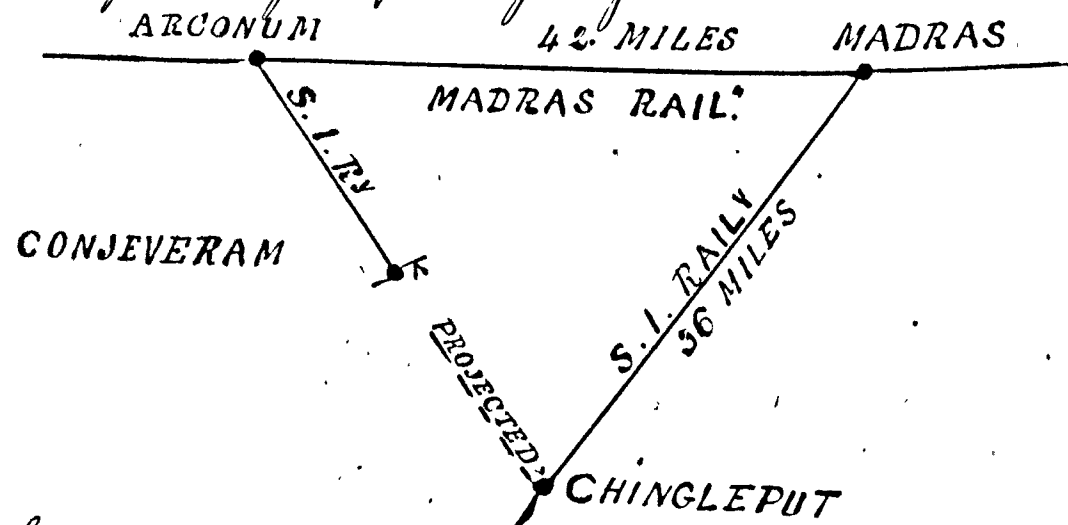
So far therefore as the interests of the South Indian Railway Company are concerned, even the least costly of the alternative schemes under discussion would prove less advantageous from a pecuniary point of view, than the adoption of scheme No 4 which preserves to the Company their independence and freedom from the expense, and the discomforts and friction almost inevitable in working a joint station under the most favorable circumstances.

If the object in view by the proposition to join the Madras Railway, be the convenience of the Public, I believe that this will be amply served by the branch (see Scheme No 4) connecting the South Indian Line to the Sact Cotham. At the best the interchange of traffic between the two Companies at Madras, especially Goods will be very small, and when by the construction of the Chingleput and Conjeeveram branch the North Indian Railway is connected with the Madras Railway at Arcotum, the interchange will be still less.

Indeed I am strongly of opinion that it would be wiser to push forward with the construction of the Chingleput Conjeeveram line so as to connect our system with the Madras Railway before undertaking the Sact Cotham branch, because we should then be in a better position to see the ultimate requirements of the Madras terminus from actual working.

The relative positions of the Madras and South Indian systems in the neighbourhood of Madras are as follows.

approximately shown by the following diagram.



From this it may be seen that the length of Madras Railway from whence it is at all probable that any traffic will be drawn to the South Indian Terminus at Madras and vice versa from the South Indian to the Madras system is very short. In neither case exceeding (1) the distance between Madras and Arcotum (42 miles) or (2) between Madras and Chingleput (36 miles) and probably in few cases exceeding half these distances.

There can I think therefore be little doubt that the interchange of traffic at Madras between the two Companies will be insignificant, but supposing it to be great, it is a question whether a joint station would best serve the object in view. It has not been found an unmitigated benefit in large towns in England to concentrate goods traffic into one locality, especially when that locality is difficult of access.

In a place like Madras centralization of the goods traffic might tend to the convenience and economy of Establishment, of some of the large firms of merchants, but I think it is open to considerable doubt whether the addition of a large traffic to the already extensive business of the Madras Goods Station, would result in serving the general interests of the Public, and of the Railway Company as well as the promotion of a separate goods yard managed by one interest and free from inconveniences and delays entailed by working over a mixed gauge.

As the subject of the line between Arcotum

14
Arcotum and Chingleput has been mentioned in connection with this question, I would take the opportunity to urge the necessity for a speedy sanction to the construction of the Chingleput Conjeveram length, and the conversion of the Arcotum Conjeveram branch to the metric gauge. So long as this is not done, we cannot hope to secure much of the traffic from the South of Chingleput for localities lying inland from Madras. For example, a Merchant in Tindivanam who wishes to send goods to Arcotum or any station on the Madras Railway west of Madras, will not place his goods on the South Indian Railway because he would have to take them off again at Chingleput and cart them to Arcotum. The goods are lost to the Railway Company being carted all the way from Tindivanam to Arcotum. Assuming therefore that there is a considerable traffic between the Districts of Chingleput and South Arcot, and the country inland, East and West, of Madras, the bulk of not the whole of this traffic will be lost to our Company as long as the Chingleput Arcotum line with the Madras Railway remains unmade; and the whole of the South Indian Railway system north of Tuticorin, at all events, will be kept in a comparatively undeveloped state.

Enclosure.

3 Tracings viz. 1st 695, 695 A & 695 B

7 Papers of details marked A, B, C, D, E, F & G

(True Copy)

Agent's Office
Vengalpetam
29 February 1876
All

William B. B.

Agent

South Indian Railway
 Engineering Department. Northern Extension
 Revised
 Statement showing the Cost of each of four different
 schemes for the Terminal works at Madras.
 The initial point is the boom bridge at 2 Miles 76 Chains
 Scheme No 1.

The line runs from the boom bridge to a point
 near the Penitentiary (marked O on plan No 1) where
 it curves, and crossing Lochranes Canal effects a
 junction with the Madras Railway at a point
 250 feet east of the distance signal at the Central
 station

Cost of line from boom bridge
 to point O on plan No 1 as per
 Exhibit A

III Construction of Line	331134
IV Ballast & Permanentway ...	108996
V Stations & Buildings ...	210910
	<u>383370</u>

Cost of line from point O on plan
 No 1 to Salt Pottans and into Madras
 Railway Central Station as per
 Exhibit B

III Construction of Line	216112
IV Ballast & Permanentway	211809
V Stations & Buildings	129316
	<u>560567</u>
Total	<u>Rs 913937</u>

Scheme No. 2.

The line runs from the Coorn bridge to a point near the Penitentiary (Marked O on plan No. 1) where it curves and running along the Southern bank of Cochrane's Canal effects a junction with the Madras Railway at the Elephant Gate bridge road level Crossing

Cost of line from Coorn bridge to point O on plan No. 1 as per Exhibit A

III Construction of Line	33434	
IV Ballast & Permanentway ..	108996	
V Stations & Buildings	<u>240940</u>	383370

Cost of line from point O on plan No. 1 to Salt Bataurs and into Madras Railway Central Station as per Exhibit C.

III Construction of Line	40574	
IV Ballast & Permanentway ..	187458	
V Stations & Buildings	<u>138768</u>	396800

Total

Rs. 780170

Scheme No. 3

The line runs from the Coorn bridge northwards and effects a junction with the Madras Railway at the Serambore Station.

Cost of line from the Coorn bridge to the Serambore Station as per Exhibit D

III Construction of Line	68876	
IV Ballast & Permanentway ..	46783	
V Stations & Buildings	<u>"</u>	115659

Cost of line from the Serambore Station into the Salt Bataurs and Madras Central Station as per Exhibit E and A

III Construction of Line	51366	
IV Ballast & Permanentway ..	276598	
V Stations & Buildings	<u>389536</u>	717500

Total

833159

N.B. This estimate does not include the royalty which would have to be paid to the Madras Railway Company for the use of 3 Miles and 48 Chains of their line. the distance between the Serambore and Central stations.

Schindler's

V.M.C.
No 2000/75

This is the original scheme that the South Indian
Railway should have its own terminal works
altogether independent of those of the Madras
Railway

Cost as per Exhibit I

III Construction of Line	33431	
IV Ballast & Permanent way	186351	
V Stations & Buildings	515075	761860
	Total	761860

Adds Cost of branch line running
along Southern bank of Cochrane's
Canal from Terminal Station
to Salt Cottages as per Exhibit C

III Construction of Line	75156	
IV Ballast & Permanent way	269111	
V Stations & Buildings	162	12562
		No 807122

Chief Engineer's Office
Trichinopoly 26 February 1876 } Francis Smith
Chief Engineer

Copies by

AP

Compd

L.N.

Letter of ... Com. by M.W.
No 134 - 16 March

I agree with the conclusion that
the main line be at present stopped
at Egmore, - within Madras limits
that future developments must be
influenced by the wants of traffic -
But I think consideration should
be given to the possible need of
connection of S.I. with the Harbour
which may I think very
probably prove of more importance

Letter from the Consulting
Engineer for Railways No 134

than connection with Madras N. W.
Opening the Harbour materials
constructed successfully - Goods or
trains will no doubt speedily follow
when ships can lie & receive a number
their cargo - The railway & canal
will each need to be brought into connection
with the shipping -

The Penitentiary site seems hardly
to be suitable for this object -
might not arrangements be made by
which the passenger carriages of the
S. I. should be run by horse power
from Wynore ~~to~~ on rails laid in

the street connecting with the T. W.
rails - & then via the existing T. W. to
the beach - at certain times - which
would accommodate all passengers for the
Foot - the warehouses on beach would
enabling them
to be set down & taken up at
for more convenient ^{spots} than at
even the Penit: while the inclosure
of overridges & level crossings would
be much lessened & a large capital saved
might not the same across the river
for many years for the good & better -
indeed this would not seem to be
any great difficulty in allowing a
system under proper regulation to

S. L. V.

P. W. 6

P. W. Dept.

Letter from the Consulting
Engineer for Railways No 134
Dated 16th March 1876.

Submitted for
Orders.

C. M. Walker Major General
Secretary to Govt. D. W.

pass at night by this route & on
from the program - and if as I
think is not improbable that
an attempt would be made that
to the ~~the~~ and the
Canal also brought them. The whole
object would be accomplished - with
but little outlay of capital.

with these views - I do not like to
express any opinion favourable to the
Penit site which seems to me to have
many incommensurate ~~with~~ corresponding
advantages - I should suggest visiting in
favour of present site at Lyman. That the
penit canal in this memo be covered by
C. M. Walker for P. W. Chief Engineer for R. 25/3

7-1 (1-2)

I willingly defer to the
 opinion of his Grace the
 Governor, & concur in
 adopting the recom-
 -mendation contained
 in the Consulting Engineers
 letter para 7. to stop
 the river on the main
 line at Egnore. leaving
 it to experience to determine
 further extension - The
 other important suggestions
 contained in his Grace's note
 should be submitted to the
 Consulting Engineers & Chief Surveyor

From
 The Dept of
 P.W. Works
 The Chief Engineer
 for Railways

Dated 29th Feb 76
 Recd 3 Feb 76
 11th March 1918

Report of the result
 of the investigation
 by Chief Engineer of
 schemes for widening
 bridge at Chertsey

Done
 20/3/76
 I do not see the land
 already included
 Donegal N.C.
 4/4/26
 22-3-76

No 971

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 11th April 1876.

Read the following:—

From: The Conference } (U.C. No. 131) 16th March 1876
for Railways }
Note by His Grace the Govr (18)

His Grace the
Governor in Council
in full consideration
of the several proposals
made in respect to the
terminal arrangements
of the South Indian
Railway is of opinion
that the best course
under the circumstances
is to stop the main line
at Egmore as herein-
mentioned in favour of
the

MP
1874

the Consulting Engineer's
 letter, leaving it to ex-
 perience to determine
 further continuation. The
 contributions of the Govt.
 from Calcutta to
 Calcutta and that con-
 sideration of the proposed
 branch which has been
 submitted for the con-
 sideration of the Govt.
 of India, will
 when carried out, con-
 sidered as important
 bearing on the question
 and the effect on the
 through traffic should
 therefore be closely watched.
 Meanwhile the subject

of further development
 of the Railway system
 within the limits of
 the town of Madras
 should be taken up to
 by the Consulting
 Engineer for Railways
 in the light of the
 remarks of His Grace
 the President which
 will be separately
 communicated.

The land already
 acquired will be retained.

The papers will
 be forwarded to the
 Government of
 India.

69
 2

W. D. C. for Rep. H. C. 1892 dated 11/10/92
 with copy of same by
 Mr. J. M. C. President
 Dated 11/10/92

To
The Secy. to the Govt.
of India, B.H.C.

Sir,

Referring to the
correspondence quoted

Encls 9 - viz 6 - Etc
3 - Plans

in the margin of the ^{2nd} ^{1st} ¹⁸⁷⁴ ²³ ^{July} ¹⁸⁷⁵
subject of the terminal ^{2nd} ^{1st} ¹⁸⁷⁴ ²³ ^{July} ¹⁸⁷⁵
arrangements of the

Lauterbach Railway

I am directed to forward

the accompanying

papers containing

the results of the

investigations into

the several projects

which have presented

themselves for enquiry.

It will be seen from
the Proceedings of
the

Government there is
that His Grace the
Governor in Council
is of opinion that
it will be best to
stop the main line at
Cognore, pending further
experience as to the
requirements of the
traffic. The proposals
for the conversion
of the line from Cro-
num to Cunjivaram
and its extension thence
to Chingleput are
expected to have an
important bearing
on the question of the
accommodation to be
afforded.

afforded at Madison for
through traffic by the
South Western Railway
Company.

The early action of
the Government of India
and these proposals have
been met with a response to
communications.

Desd 5/5/16

2000

Gobi. of Madras

PUBLIC WORKS.

✓

The Com^r Engr^s for M^{rs}

Order

File

Ref

600 N^o 11870. 8. 971
972

Nos. 231 - 231

232

Engr^s P^y
2-11-76

Terminal Arrangements

L. Indian P^y

Passing orders on
papers relating containing
the results of the investiga
tions which have been
made relative to the al
ternative proposals for
the — at Madras