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## MADRAS RECORD OFFICE

Government of Madras

*Public Works* DEPARTMENT

|          |        |       |                 |
|----------|--------|-------|-----------------|
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| Dated    | 19. 1. | 195   | 18/5            |

Not to be folded or roughly handled

No. 320. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 22nd December 1874, No. 776:—

I HAVE the honor to forward, herewith, seven Statements showing the progress made during the third quarter of the current year on the construction works of the Northern and Southern Extensions of the South Indian Railway for transmission to the Government of India, together with two descriptive reports by the Chief Engineer of that Railway.

From D. LOGAN, Esq., Chief Engineer, to W. S. BETTS, Esq., Agent of the South Indian Railway, dated Trichinopoly, 9th November 1874, No. 8,105.

I HAVE now the pleasure to send you my usual quarterly reports on the progress of the works on the Southern and Northern Extensions respectively.

SOUTHERN EXTENSION.

The embankments and cuttings are practically completed. Turfing and trimming is being gone on with, and I hope will, during the present wet season, be finished.

In masonry the progress has been chiefly in finishing up wing walls, parapets, and copings. The bridges, with one exception, are being rivetted up and put in position as quickly as possible. The exception is the bridge over the river Vypar at Sattoor (12·70 feet girders), where an unexpected dip or hollow of the hard substratum upon which the bridge is being founded has compelled us to sink wells to reach the hard under Abutment No. 1 and Pier No. 2.

This has checked progress, as we had to manufacture well-curbs and bricks before any thing could be done to this abutment and pier; there is, however, no fear of any delay in opening the line on this account, as the rest of the bridge is practically ready for the girders.

All the girders, with the exception of 5·70 feet spans for a bridge on District 10, have been received from England.

The 5·70 feet spans referred to are on board the Ship *Ellenborough*, which has been reported as having put into Rio Janeiro leaking badly.

With the exception of one 70-foot span, all the girders on the line between Trichinopoly and the north bank of the river Vygay have been delivered at their respective bridges; many have been placed in position, and the remainder are being rivetted up and erected as quickly as possible.

The majority of the 15·70 feet spans for the river Vygay I propose to retain until I can run them by train to Dindigul, and thence by cart to Madura; to guard against delay in opening however, I propose to cart a few direct, viz., just so many as can be rivetted and placed in position on the bridge, before I shall be in a position to run the rest to Dindigul and save a cartage of about fifty miles.

From Madura up to the Verundaputty river all the 30-foot girders have been delivered on the ground.

Between Tuticorin and Tinnevely nearly all the smaller spans have been distributed. I propose to have some of the larger spans rivetted up at Tuticorin under the eye of the Engineer in charge and thereafter run them out to their respective sites on trucks, thus saving cartage and ensuring a closer supervision of the rivetting.

In platelaying the line is within about two miles of being finished between Trichinopoly and Dindigul.

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On District 7 (Madura) there are about twelve miles laid, and inland from Tuticorin about sixteen miles. All has been laid as quickly as we could get the material to do it.

The length laid at Madura had to be carted from Trichinopoly, but the economy resulting in the facilities for carriage of stone and material by rail instead of cart has amply justified this course, the quarries being some five miles from the largest works on the district.

The portions between Trichinopoly and Dindigul and inland from Tuticorin have been laid, as far as I could without risk of delay by working the material out, hand over hand in wagons on the telescopic principle.

For the line not yet laid between Dindigul and Madura (about thirty miles), I have arranged to run the greater part of the material to Dindigul by engine and train to be distributed thence by cart, and I hope in this way to save a considerable sum in cartage.

In the south I propose to pursue the same course as far as time will permit, that is when I can see my way to saving in cartage without the risk of delay in opening the line for traffic, I shall do so.

Ballasting has been done by engine-power on Districts 1 and 2 during the quarter, also on District 7 (Madura) to which a locomotive was sent by road. Two engines are expected at Tuticorin during the current quarter, and I expect by the beginning of the year to avail myself of them in ballasting and running material trains.

The works at the different stations are in progress; the weather during the current quarter is likely to be against rapid progress in these buildings, but during the first quarter of next year they ought to be all very close upon completion.

The temporary line of telegraph has, as I have more than once reported to you, been a source of constant and vexatious expenditure, and the sooner some decision is come to on the subject of a permanent line, the better for all interests concerned.

The report for the Northern Extension will follow in continuation of this letter.

(True Copy.)

(Signed) W. S. BETTS,  
*Agent.*

*Letter from the Chief Engineer, to the Agent, dated Trichinopoly, 16th November 1874,  
No. 8,105-A.—In continuation of my No. 8,105 of 9th instant.*

*NORTHERN EXTENSION.*

On the line between Madras and Cuddalore, and between Cuddalore and Tanjore there have been thrown up in earthwork 259,000 and 50,000 cubic yards, respectively, during the quarter, making an aggregate to date of nearly one-half the total estimated quantity of earthwork to be done between Madras and Tanjore.

In masonry about 3,720 cubic yards have been built between Madras and Cuddalore. Between Cuddalore and Tanjore the collection of material only has yet been sanctioned by Government.

The progress in masonry and preparation of material has again, I greatly regret to say, been most disappointing, owing to the almost constant rain since the date of my last quarter's report.

All the low-lying lands have been under water, and the majority of the rivers and channels full of water; so much was this the case that I judged it expedient to caution my Assistants against attempting to go into foundation work during such weather, the constant bailing required being expensive, and the rain conducing both to extra expense and unsatisfactory work.

As much as possible the preparation and collection of material were pushed; but here again, as in my last quarter's experience, the extremely damp weather greatly retarded brick-making.

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19th January 1875.*

Still a considerable quantity of bricks has been burnt, and I hope, after the monsoon is over, to make up for lost time.

As some indication of the unusually wet season we have had, I may state that during the year 1873 there fell 42.68 inches of rain at Chingleput, while up to the end of September only, this year, there were 62.03 inches registered at the same place.

Again, during the quarter there fell at Punnuruti 22.6 inches this year, and during the same period last year only 9.40 inches were reported.

As Permanent-way materials are now coming in for the length between Madras and Cuddalore, I shall, during next working season, be in a position to assist any weak points in our sources of supply for building materials by using the railway for carriage, and thus the richer localities will be made to supply the deficiencies of the poorer ones. There are many parts of the line to which at present there is no access in wet weather for the delivery of materials.

We have received to date two locomotive engines and 15 ballast wagons; one engine will be set to work in the Madras district, and another from St. Thomas' Mount southwards as soon as the weather permits of out-door operations being carried on economically.

At Madras there have been landed 29,673 rails and 54,824 sleepers, and at Cuddalore 800 rails and 10,138 sleepers; and platelaying operations will soon be going on rapidly.

All the smaller girders indented for for the line between Madras and Cuddalore have, I believe, been shipped from England, and the large girders for the same length will all, I expect, be on the way out during the first half of next year.

On the line between Cuddalore and Tanjore earthwork has been commenced at both ends, and the preparation of brick-fields is being speedily gone on with.

Up to the end of the quarter 49½ miles of the line had been staked out, and the working surveys and sections taken. This work is being pushed as rapidly as the means at my command will permit.

I am not sanguine of great progress in the works during the current quarter, for the monsoon is upon us; we have already seen enough to justify a somewhat gloomy view of what I shall have to say in my next report. I am hopeful, however, of rapid progress during our next working season.

(True Copy.)

(Signed) W. S. BETTS,  
*Agent and Manager.*



Proceedings of the Madras Government, Public Works Department,  
19th January 1875.

B.  
Progress Report of Large Bridges on Southern Extension from Trichinopoly to Tuticorin,  
215 Miles and 1 Chain, for Quarter ending 30th September 1874.

| Names of Bridges.                                                                                                 | Foundations. | Abutments and Piers up to Springing or Girder level. | Arching or Erection of Girders. | Other Items. | Remarks.                                                        |
|-------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------|---------------------------------|--------------|-----------------------------------------------------------------|
| District No. 1.—Bridge at 0 mile 50 chains—<br>Percentage done ...<br>Date of completion ...                      | 100<br>...   | 50<br>...                                            | ...                             | ...          | 3-20 feet girders.                                              |
| Do. No. 1.—Corayaur bridge at 3 miles 43 chains—<br>Percentage done ...<br>Date of completion ...                 | 100<br>...   | 100<br>...                                           | 100<br>...                      | 25<br>...    | 5-30 feet girders.<br>Pier points and copings in hand.          |
| Do. No. 1.—Bridge at 4 miles 2 chains and 61 links—<br>Percentage done ...<br>Date of completion ...              | 100<br>...   | 100<br>...                                           | 100<br>...                      | 25<br>...    | 4-20 feet girders.<br>Copings in hand.                          |
| Do. No. 2.—Bridge at 2 miles 41 chains—<br>Percentage done ...<br>Date of completion ...                          | 100<br>...   | 100<br>...                                           | 100<br>...                      | ...          | 4-20 feet girders.<br>Copings, etc., in hand.                   |
| Do. No. 2.—Bridge at 9 miles 51 chains—<br>Percentage done ...<br>Date of completion ...                          | 100<br>...   | 100<br>...                                           | 100<br>...                      | ...          | 3-20 feet girders.<br>Copings, etc., in hand.                   |
| Do. No. 3.—Bridge at 1 mile 45 chains—<br>Percentage done ...<br>Date of completion ...                           | 100<br>...   | 97<br>...                                            | ...                             | ...          | 5-20 feet girders.<br>Girders on ground.                        |
| Do. No. 3.—Bridge at 9 miles 40 chains—<br>Percentage done ...<br>Date of completion ...                          | 100<br>...   | 84<br>...                                            | ...                             | ...          | 1-70 feet girder.                                               |
| Do. No. 3.—Bridge at 14 miles 45 chains and 89 links—<br>Percentage done ...<br>Date of completion ...            | 100<br>...   | 85<br>...                                            | ...                             | ...          | 3-30 " "                                                        |
| Do. No. 4.—Callar Nullah bridge at 5 miles 70½ chains—<br>Percentage done ...<br>Date of completion ...           | 100<br>...   | 100<br>...                                           | ...                             | ...          | 2-30 " "                                                        |
| Do. No. 4.—Mooloopady river at 8 miles 42 chains and 70 links—<br>Percentage done ...<br>Date of completion ...   | 100<br>...   | 95<br>...                                            | ...                             | ...          | 6-30 " "                                                        |
| Do. No. 5.—Anavoolothan Nullah at 3 miles 8 chains and 96 links—<br>Percentage done ...<br>Date of completion ... | 100<br>...   | 100<br>...                                           | 100<br>...                      | ...          | 6-30 " "                                                        |
| Do. No. 7.—Vygar bridge at 5 miles 13 chains and 40 links—<br>Percentage done ...<br>Date of completion ...       | 100<br>...   | 100<br>...                                           | ...                             | ...          | 15-70 " "                                                       |
| Do. No. 8.—Goondar bridge at 5 miles 51 chains and 50 links—<br>Percentage done ...<br>Date of completion ...     | 100<br>...   | 100<br>...                                           | 100<br>...                      | ...          | 7-30 " "                                                        |
| Do. No. 8.—Shevicotay bridge at 10 miles 46 chains and 49 links—<br>Percentage done ...<br>Date of completion ... | 100<br>...   | 100<br>...                                           | 33<br>...                       | ...          | 6-30 " "                                                        |
| Do. No. 8.—Bridge at 14 miles 10 chains 80 links—<br>Percentage done ...<br>Date of completion ...                | 100<br>...   | 109<br>...                                           | ...                             | ...          | 2-30 " "                                                        |
| Do. No. 9.—Virdupatty river at 7 miles 31 chains and 58 links—<br>Percentage done ...<br>Date of completion ...   | 100<br>...   | 100<br>...                                           | ...                             | ...          | 9-30 " "                                                        |
| Do. No. 9.—Kalingspoory at 13 miles 72 chains—<br>Percentage done ...<br>Date of completion ...                   | 100<br>...   | 100<br>...                                           | ...                             | ...          | 4-20 " "                                                        |
| Do. No. 9.—Vuchacareputty at 14 miles 2 chains—<br>Percentage done ...<br>Date of completion ...                  | 100<br>...   | 100<br>...                                           | ...                             | ...          | 3-20 " "                                                        |
| Do. No. 10.—Bridge at 2 miles 23 chains—<br>Percentage done ...<br>Date of completion ...                         | 100<br>...   | 66<br>...                                            | ...                             | ...          | 5-70 " "                                                        |
| Do. No. 10.—Bridge at 6 miles 35 chains 46 links—<br>Percentage done ...<br>Date of completion ...                | 100<br>...   | 100<br>...                                           | ...                             | ...          | Uncertain, ship with girders not arrived.<br>5-50 feet girders. |
| Do. No. 10.—Bridge at 8 miles 31 chains 14 links—<br>Percentage done ...<br>Date of completion ...                | ...          | 75<br>...                                            | ...                             | ...          | 12-70 " "                                                       |

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19th January 1875.

Progress Report of Large Bridges on Southern Extension from Trichinopoly to Tuticorin,  
215 Miles and 1 Chain, etc.—(Concluded.)

| Names of Bridges.                                                                                                     | Foundations. | Abutments and Piers up to Springing or Girder level. | Arching or Erection of Girders. | Other Items. | Remarks.                     |
|-----------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------|---------------------------------|--------------|------------------------------|
| Do. No. 10.—Bridge at 8 miles 64 chains—<br>Percentage done ...<br>Date of completion ...                             | 100<br>...   | 100<br>...                                           | ...                             | ...          | 1-70 feet girders.           |
| Do. No. 10.—Bridge at 12 miles 35 chains 52 links—<br>Percentage done ...<br>Date of completion ...                   | 100<br>...   | 100<br>...                                           | ...                             | ...          | 3-20 " "                     |
| Do. No. 11.—Nulli bridge at 0 miles 73 chains 25 links—<br>Percentage done ...<br>Date of completion ...              | 100<br>...   | 95<br>...                                            | ...                             | ...          | 4-30 " "                     |
| Do. No. 12.—Bridge at 3 miles 2 chains 37 links—<br>Percentage done ...<br>Date of completion ...                     | 100<br>...   | 100<br>...                                           | ...                             | ...          | 3-20 " "                     |
| Do. No. 12.—Bridge at 8 miles 27 chains 15 links—<br>Percentage done ...<br>Date of completion ...                    | 100<br>...   | 100<br>...                                           | ...                             | ...          | 3-20 " "                     |
| Do. No. 13.—Kuthapilles Nuttum Nullah at 2 miles 45 chains 73 links—<br>Percentage done ...<br>Date of completion ... | 100<br>...   | 95<br>...                                            | ...                             | ...          | 3-50 " "                     |
| Do. No. 13.—Shoriamungalam Nullah at 3 miles 66 chains 75 links—<br>Percentage done ...<br>Date of completion ...     | 100<br>...   | 95<br>...                                            | ...                             | ...          | 4-50 " "                     |
| Do. No. 14.—Chittaur bridge at 5 miles 9 chains—<br>Percentage done ...<br>Date of completion ...                     | 100<br>...   | 100<br>...                                           | ...                             | ...          | 10-70 " "                    |
| Do. No. 14.—Bridge at 2 miles 45 chains 69 links—<br>Percentage done ...<br>Date of completion ...                    | 100<br>...   | 100<br>...                                           | ...                             | 100          | 3-20 " "<br>Coping and caps. |
| Do. No. 14.—Bridge at 13 miles 69 chains 66 links—<br>Percentage done ...<br>Date of completion ...                   | 100<br>...   | 100<br>...                                           | ...                             | ...          | 2-30 feet girders.           |

C.  
Progress Report of Stations of the Southern Extension from Trichinopoly to Tuticorin,  
215 Miles and 1 Chain, for Quarter ending 30th September 1874.

| Names of Stations.                                                                     | a<br>Platforms. | b<br>Passengers' Buildings. | c<br>Goods Sheds. | d<br>Watering arrangements. | e<br>Staff quarters (by rooms.) | f<br>Engine Sheds. | g<br>Small Items. |
|----------------------------------------------------------------------------------------|-----------------|-----------------------------|-------------------|-----------------------------|---------------------------------|--------------------|-------------------|
| District No. 1.—Trichinopoly Station—<br>Percentage done ...<br>Date of completion ... | 90<br>...       | 95<br>...                   | ...               | 25<br>...                   | ...                             | 35<br>...          | 95<br>...         |
| Do. No. 1.—Collatore station—<br>Percentage done ...<br>Date of completion ...         | 95<br>...       | 95<br>...                   | 25<br>...         | ...                         | ...                             | ...                | 95<br>...         |
| Do. No. 2.—Manapalay station—<br>Percentage done ...<br>Date of completion ...         | 75<br>...       | 40<br>...                   | 20<br>...         | ...                         | ...                             | ...                | ...               |
| Do. No. 3.—Yellengacoorchy station—<br>Percentage done ...<br>Date of completion ...   | ...             | ...                         | ...               | ...                         | ...                             | ...                | ...               |
| Do. No. 4.—Vadamadma station—<br>Percentage done ...<br>Date of completion ...         | 50<br>...       | 33<br>...                   | ...               | 10<br>...                   | ...                             | ...                | ...               |
| Do. No. 4.—Dindigul station—<br>Percentage done ...<br>Date of completion ...          | 96<br>...       | 90<br>...                   | 33<br>...         | 10<br>...                   | ...                             | ...                | ...               |
| Do. No. 5.—Ammanaikanoor station—<br>Percentage done ...<br>Date of completion ...     | 98<br>...       | 33<br>...                   | 33<br>...         | 10<br>...                   | ...                             | ...                | ...               |

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19th January 1875.*

ENGINEERING DEPARTMENT.  
General Progress Report of Northern Extension from Madras to Tanjore, 217 Miles, for Quarter ending 30th September 1874.

| Refer-<br>ence to<br>Heads of<br>Esti-<br>mate. | Details.                                | TOTAL ESTIMATE.             |                                | ACTUAL INDIAN<br>EXPENDITURE. |                                                          | NUMBERS.      |                   |                           | QUANTITIES.                    |                                   |                   | PROBABLE DATE                                                           |  |
|-------------------------------------------------|-----------------------------------------|-----------------------------|--------------------------------|-------------------------------|----------------------------------------------------------|---------------|-------------------|---------------------------|--------------------------------|-----------------------------------|-------------------|-------------------------------------------------------------------------|--|
|                                                 |                                         | Indian<br>Expendi-<br>ture. | Value of<br>English<br>Stores. | During<br>quarter.            | Total<br>from com-<br>mencement<br>to end of<br>quarter. | Total.        | Finished In hand. | Total as per<br>Estimate. | Executed<br>during<br>quarter. | Executed<br>to end of<br>quarter. | Of completion.    | By which the<br>Permanent-way<br>could be laid if<br>urgently required. |  |
| I.                                              | Preliminary Expenses                    | 3,61,000                    | ...                            | 1,149                         | 1,12,795                                                 | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
| II.                                             | Leads                                   | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
| III.                                            | Construction of Line—                   |                             |                                |                               |                                                          |               |                   |                           |                                |                                   |                   |                                                                         |  |
|                                                 | Earthwork. { Embankments                | 3,91,360                    | ...                            | 44,399                        | 1,24,876                                                 | M. CHS. 217 0 | M. CHS. * 93 0    | M. CHS. 40 0              | C. FT. 81,424,345              | C. FT. 8,350,312                  | C. FT. 40,304,238 | ...                                                                     |  |
|                                                 | Minor Bridges and Culverts              | 2,11,000                    | ...                            | 11,753                        | 25,966                                                   | No. 700       | No. 35            | No. 95                    | 1,053,400                      | 64,469                            | 150,816           | ...                                                                     |  |
|                                                 | Large Bridges (as per State-<br>ment B) | 8,63,443                    | ...                            | 14,544                        | 18,498                                                   | M. CHS. 34    | M. CHS. 8 23      | 6                         | 500,035                        | 36,124                            | 39,717            | ...                                                                     |  |
|                                                 | Fencing                                 | 83,970                      | ...                            | 352                           | 947                                                      | 217 0         | 8 23              | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Other Items                             | 41,700                      | ...                            | 453                           | 522                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
| IV.                                             | Ballast and Permanent-way               | 22,06,876                   | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Ballast { Collected                     | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Spread                                  | ...                         | ...                            | 62                            | 361                                                      | ...           | ...               | ...                       | 12,495,037                     | 40,551                            | 40,581            | ...                                                                     |  |
|                                                 | Lifted                                  | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Linked in                               | ...                         | ...                            | ...                           | ...                                                      | ...           | No. 729           | No. 116,400               | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Rails                                   | ...                         | ...                            | 812                           | 832                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | In Depdt                                | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | Arrived at port                         | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |
|                                                 | during quarter.                         | ...                         | ...                            | ...                           | ...                                                      | ...           | ...               | ...                       | ...                            | ...                               | ...               | ...                                                                     |  |

Depends on receipt of Permanent-way materials from England.

During the year 1876.

(Signed) D. LOGAN,  
Chief Engineer.

(Signed) J. SMITH,  
for Agent.

\* Finished miles over-estimated in last report.

† Rails in Depot—  
At Madras.  
,, Cuddalore

|        |  |
|--------|--|
| 16,043 |  |
| 358    |  |
| <hr/>  |  |
| 16,400 |  |

General Progress Report of Northern Extension from Madras to Tanjore, etc.—(Concluded.)

Proceedings of the Madras Government, Public Works Department,  
19th January 1875.

| Refer-<br>ences to<br>Heads of<br>Esti-<br>mate.                                          | Details.                                         | TOTAL ESTIMATE.             |                                | ACTUAL INDIAN<br>EXPENDITURE.                            |                                                          | NUMBERS. |           |          | QUANTITIES.               |                                |                                   | PROBABLE DATE  |                                                                                             |  |
|-------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------|--------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------|-----------|----------|---------------------------|--------------------------------|-----------------------------------|----------------|---------------------------------------------------------------------------------------------|--|
|                                                                                           |                                                  | Indian<br>Expendi-<br>ture. | Value of<br>English<br>Stores. | During<br>mencement<br>quarter.<br>to end of<br>quarter. | Total<br>from com-<br>mencement<br>to end of<br>quarter. | Total.   | Finished. | In hand. | Total as per<br>Estimate. | Executed<br>during<br>quarter. | Executed<br>to end of<br>quarter. | Of completion. | By which the<br>Permanent-way<br>could be laid if<br>urgently required.                     |  |
| V.                                                                                        | Lifted                                           | ...                         | ...                            | ...                                                      | ...                                                      | ...      | No.       | ...      | ...                       | ...                            | ...                               | ...            | During the year 1876.<br><br>Depends on receipt of Permanent-way materials<br>from England. |  |
|                                                                                           | Wooden Sleep-<br>ers.                            | ...                         | ...                            | ...                                                      | ...                                                      | ...      | 3,080     | 26,920   | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Laid in<br>depot                                 | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Arrived at port<br>during quarter.               | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Stations and Buildings (as per State-<br>ment C) | 8,53,320                    | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | (a.) Platforms                                   | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | (b.) Passengers Buildings                        | 8,13,070                    | ...                            | 7,088                                                    | 14,173                                                   | ...      | ...       | 1        | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | (c.) Goods-sheds.                                | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | (d.) Watering arrangements                       | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | (e.) Staff Quarters                              | 14,250                      | 31,000                         | 2,584                                                    | 5,803                                                    | ...      | 18        | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
| VI.                                                                                       | (f.) Engine-sheds, Workshops, etc.               | ...                         | ...                            | ...                                                      | 2,118                                                    | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            | During the year 1876.<br><br>Depends on receipt of Permanent-way materials<br>from England. |  |
|                                                                                           | (g.) Small Items                                 | 6,830                       | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Telegraph                                        | 54,500                      | 1,57,200                       | 347                                                      | 3,347                                                    | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Plant                                            | 2,70,510                    | 4,97,490                       | 153                                                      | 153                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Rolling Stock                                    | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Maintenance                                      | 55,080                      | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Establishment                                    | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           | Contingencies                                    | ...                         | ...                            | ...                                                      | ...                                                      | ...      | ...       | ...      | ...                       | ...                            | ...                               | ...            |                                                                                             |  |
|                                                                                           |                                                  |                             |                                |                                                          |                                                          |          |           |          |                           |                                |                                   |                |                                                                                             |  |
|                                                                                           |                                                  |                             |                                |                                                          |                                                          |          |           |          |                           |                                |                                   |                |                                                                                             |  |
| See Report for Southern Extension which includes expenditure on this section of the line. |                                                  |                             |                                |                                                          |                                                          |          |           |          |                           |                                |                                   |                |                                                                                             |  |

\* Sleepers in Depot—  
At Madras ... 18,620  
" Cuddalore ... 8,300  
26,920

NEGAPATAM,  
7th December 1874.

(Signed) J. SMITH,  
Chief Auditor.

(Signed) S. M. JOHNSON,  
Asst. Govt. Examiner of Railway Accts.

(Signed) W. S. BETTS,  
Agent.

Proceedings of the Madras Government, Public Works Department,  
19th January 1875.

B.

Progress Report of Large Bridges on Northern Extension from Madras to Tanjore, 217  
Miles, for Quarter ending 30th September 1874.

| Names of Bridges.                                                                                              | Founda-<br>tions. | Abutments and<br>Piers up to<br>Springing or<br>Girder level. | Arching or<br>Erection of<br>Girders. | Other<br>items. | Remarks.           |
|----------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------|---------------------------------------|-----------------|--------------------|
| District No. 1—Coorn bridge at 3 miles ...<br>Percentage done ...<br>Date of completion ...                    | ...               | ...                                                           | ...                                   | ...             | 4'40 feet girders. |
| Do. No. 1—Adyar bridge at 6 miles 50<br>chains ...<br>Percentage done ...<br>Date of completion ...            | 85                | 40                                                            | ...                                   | ...             | 6'66 " "           |
| Do. No. 2—Oorapankum bridge at 21<br>miles 77 chains ...<br>Percentage done ...<br>Date of completion ...      | 50                | ...                                                           | ...                                   | ...             | 5'20 " "           |
| Do. No. 3—Goodwancherry bridge at 23<br>miles 47 chains ...<br>Percentage done ...<br>Date of completion ...   | 75                | ...                                                           | ...                                   | ...             | 3'20 " "           |
| Do. No. 3—Chingleput tank bridge at 33<br>miles 74 chains ...<br>Percentage done ...<br>Date of completion ... | 50                | ...                                                           | ...                                   | ...             | 6'20 " "           |
| Do. No. 7—Pombay river bridge at 97<br>miles 3 chains ...<br>Percentage done ...<br>Date of completion ...     | 50                | ...                                                           | ...                                   | ...             | 3'30 " "           |

N.B.—Only the works actually started are enumerated above. For the rest, Brickfields are working as fast as possible, and materials have been collected to the extent of about 47 lacs\* of bricks, 1,900 cubic yards of stone, and 700 parabs of chunam stone.

\* 31 lacs burnt.  
16 do. moulded.

TRICHINOPOLY,  
30th September 1874.

(Signed) D. LOGAN,  
Chief Engineer.

(Signed) W. S. BETTS,  
Agent.

C.

Progress Report of Stations of the Northern Extension from Madras to Tanjore, 217  
Miles, for Quarter ending 30th September 1874.

| Names of Stations.                | (a)<br>Plat-<br>forms. | (b)<br>Passengers'<br>Buildings. | (c)<br>Goods<br>Sheds. | (d)<br>Watering<br>arrange-<br>ments. | (e)<br>Staff quar-<br>ters (by<br>rooms. | (f)<br>Engine<br>sheds. | (g)<br>Small<br>items. | Remarks.                                   |
|-----------------------------------|------------------------|----------------------------------|------------------------|---------------------------------------|------------------------------------------|-------------------------|------------------------|--------------------------------------------|
| District No. 1—Madras<br>Station— | ...                    | ...                              | ...                    | ...                                   | ...                                      | ...                     | ...                    | ...                                        |
| Percentage done ...               | ...                    | ...                              | 65                     | ...                                   | ...                                      | ...                     | 40                     | (g) Madras Goods<br>yard boundary<br>wall. |
| Date of completion ...            | ...                    | ...                              | ...                    | ...                                   | ...                                      | ...                     | ...                    | ...                                        |

TRICHINOPOLY,  
30th September 1874.

(Signed) D. LOGAN,  
Chief Engineer.

(Signed) W. S. BETTS,  
Agent.

*Proceedings of the Madras Government, Public Works Department,  
19th January 1875.*

D:  
NORTHERN AND SOUTHERN EXTENSION.  
*General Progress Report of Work in Erecting and Building Locomotive and Rolling  
Stock for Quarter ending 30th September 1874.*

|                                       | Number<br>sanc-<br>tioned. | Number erected<br>up to 30th June<br>1874. | NUMBER ERECTED<br>DURING CURRENT<br>YEAR. |                       | Building or under<br>erection at end<br>of quarter. | Arrived at Shops<br>during quarter. | Arrived at Port<br>during quarter. | Balance to arrive<br>in Port. | Remarks. |
|---------------------------------------|----------------------------|--------------------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------------|-------------------------------------|------------------------------------|-------------------------------|----------|
|                                       |                            |                                            | During<br>quarter.                        | To end of<br>quarter. |                                                     |                                     |                                    |                               |          |
| Locomotive Engines<br>and Tenders ... | 82                         | ...                                        | 3                                         | 3                     | ...                                                 | ...                                 | 5                                  | 77                            |          |
| Composite carriages.                  | 20                         | ...                                        | ...                                       | ...                   | 2                                                   | ...                                 | ...                                | ...                           |          |
| 1st class do. ...                     | 10                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| 2nd do. do. ...                       | 10                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| 3rd do. do. ...                       | 176                        | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Passengers' brake<br>vans ...         | 37                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Post Office vans ...                  | 3                          | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Horse-boxes ...                       | 20                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Carriage trucks ...                   | 4                          | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | 1                                  | ...                           |          |
| Goods brake vans ...                  | 16                         | ...                                        | 1                                         | 1                     | ...                                                 | ...                                 | ...                                | ...                           |          |
| Covered goods<br>wagons ...           | 580                        | ...                                        | ...                                       | ...                   | 50                                                  | ...                                 | ...                                | ...                           |          |
| Ballast wagons ...                    | 150                        | ...                                        | 40                                        | 40                    | ...                                                 | ...                                 | 1                                  | ...                           |          |
| Open goods do. ...                    | 80                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | 1                                  | ...                           |          |
| Timber trucks ...                     | 27                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Gun-powder vans ...                   | 3                          | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Salt trucks ...                       | 40                         | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| High sided open<br>trucks ...         | 229                        | ...                                        | ...                                       | ...                   | 80                                                  | ...                                 | ...                                | ...                           |          |
| Cotton trucks ...                     | 100                        | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Five-tons travelling<br>crane ...     | 2                          | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Sets of iron work<br>(carriages) ...  | 280                        | ...                                        | ...                                       | ...                   | ...                                                 | 81                                  | 102                                | 1,125                         |          |
| Do. (wagons) ...                      | 1,227                      | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | 1,597                              | 4,419                         |          |
| Springs ...                           | 6,028                      | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | ...                                | ...                           |          |
| Wheels and Axles,<br>pairs ...        | 3,014                      | ...                                        | ...                                       | ...                   | ...                                                 | ...                                 | 936                                | 2,072                         |          |

NEGAPATAM, (Signed) E. G. SHEWARD, (Signed) W. S. BETTS,  
14th December 1874. Loc. and Carriage Supt. Agent.

No. 321. ORDER THEREON, 19th January 1875, No. 153.

RAILWAY, No. 41.

be requested to arrange that the report of the local officers shall be submitted to him as soon after the close of the quarter to which they apply as possible. Attention has already been called to this point.

G. O., No. 1,990, dated 23rd July 1874.  
" " 2,886, " 9th Oct. "

(True Extract.)  
(Signed) G. W. WALKER, Colonel, R.E.,  
Secretary to Government.

*Proceedings of the Madras Government, Public Works Department,  
19th January 1875.*

No. 322. (DOCKET, No. 154, dated 19th January 1875.)

COPY of the above forwarded to the Government of India.

(True Extract.)

Colonel, R.E.,  
Secretary to Government.

Exd. T. O'Connor.  
Spare Copies.

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 776.

From

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

Consulting Engineer for Railways,

To

COLONEL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department.

Fort Saint George.

SIR,

I have the honour to forward herewith seven statements showing the progress made during the third quarter of the current year on the construction works of the Northern and Southern Extensions of the South Indian Railway for transmission to the Government of India, together with two descriptive reports by the Chief Engineer of that Railway.

Have the honour to be  
Sir

Your most obedt servt.

Wm. L. L. L.

made  
22 Dec  
1874

Cons. Engineer for Railways

9

W. 1874 Depart.  
 P. W. Dept for Engg  
 RAILWAY DEPARTMENT.

From *No. 8040.*  
 The Consulting Engineer  
 for Railways,  
 To.  
 The Secretary to Government,  
 P. W. Department,  
 Fort Saint George.

Dated 22 Decr. 1874.  
 Recd. 23 Decr.

Encl. 9. No. 776.

submits progress  
 report for the third  
 quarter of 1874 on the  
 construction works  
 of the Northern and  
 Southern Extensions  
 of the S. I. Railway  
 with 2 descriptive  
 reports by the Chief  
 Engineer.

Encl. No. 153456. 19-1-75.

Ch. 328

No. 8105

South Indian Railway  
 Chief Engineer's Office  
 Trichinopoly 9<sup>th</sup> November/74.

W. S. Pitts Esq

My dear Sir,

Have now the pleasure to send you my  
 usual Quarterly Reports on the progress of the works on the Southern  
 and Northern Extensions respectively.

Southern Extension.

The embankments and cuttings are practically completed. Purifying  
 and trimming is being gone on with and I hope will during the  
 present wet season be finished.

In Masonry the progress has been chiefly in finishing up  
 masonry walls, parapets and copings.

The Bridges, with one exception, are being rivetted up  
 and put in position as quickly as possible. The exception is the  
 bridge over the River Vypas at Pattor (12.70 ft girders) where an  
 unexpected dip or hollow of the hard substratum upon which the  
 bridge is being founded, has compelled us to sink wells to  
 reach the hard under abutment No. 1 and Pier No. 2.

This has checked progress as we had to manufacture  
 well curbs and bricks before any thing could be done to the  
 abutment and pier. There is however no fear of any delay in  
 opening the line on this account, as the rest of the bridge is  
 practically ready for the girders.

All the girders with the exception of 5.70 ft span  
 for a bridge on District 10 have been received from England.

The 5.70 Spans referred to are on board the ship  
 "Ellenborough" which has been reported as having put into  
 Rio Janeiro leaking badly.

With the exception of one 70 feet span, all the girders on the line between Trichinopoly and the North bank of the River Vygay have been delivered at their respective bridges, many have been placed in position and the remainder are being rivetted up and erected as quickly as possible.

The majority of the 15-70 ft spans for the River Vygay I proposed to retain until I can run them by train to Dindigul and thence by cart to Madras, to guard against delay in opening however I proposed to cart a few direct, viz. just as many as can be rivetted and placed in position on the bridge, before I shall be in a position to run the rest to Dindigul and save a cartage of about 50 miles.

From Madras up to the Vundaputty river all the 30 ft girders have been delivered on the ground.

Between Tuticorin and Punalur nearly all the smaller spans have been distributed, I proposed to have some of the larger spans rivetted up at Tuticorin under the eye of the Engineer in charge and thence run them out to their respective sites on trucks, thus saving cartage and ensuring a closer supervision of the rivetting.

In Punalur the line is within about 2 miles of being finished between Trichinopoly and Dindigul.

On District 7 (Madras) there are about 12 miles laid, and inland from Tuticorin about 16 miles. All has been laid as quickly as we could get the material to do it.

The length laid at Madras had to be carted from Trichinopoly, but the economy resulting in the facilities for carriage of stone and material by rail instead of cart has amply justified this course, the Quarries being some five miles from the largest works on the District.

The portions between Trichinopoly and Dindigul

and inland from Tuticorin, have been laid as far as I could without risk of delay by working the material out hand over hand in waggons, on the telescopic principle.

For the line not yet laid between Dindigul and Madura (about 30 miles) I have arranged to run the greater part of the material to Dindigul by Engine and train to be distributed thence by cart, and I hope in this way to save a considerable sum in cartage.

In the Month I purposed to pursue the same course as far as time will permit, that is when I can see my way to saving in cartage without the risk of delay in opening the line for traffic - I shall do so.

Ballasting has been done by Engine power on Districts 1 and 2 during the quarter, also on District 7 (Madura) to which a Locomotive was sent by road. Two Engines are expected at Tuticorin during the current quarter and I expect by the beginning of the year to avail myself of them in ballasting and running material trains.

The works at the different stations are in progress, the weather during the current quarter is likely to be against rapid progress in these buildings but during the first quarter of next year, they ought to be all very close upon completion.

The temporary line of telegraph has - as I have more than once reported to you, been a source of constant and vexatious expenditure, and the sooner some decision is come to on the subject of a permanent line, the better for all interests concerned.

Yours faithfully  
(sd) David Logan

Chief Engineer

The Report for the Northern Extension will follow in continuation of the letter - (True Copy)

William B. B. B.

6

3.

2

$$\begin{array}{r} 804074 \\ \hline 1 \end{array}$$

report. All the low lying lands have been under water, and the majority of the rivers and channels full of water, so much was this the case, that I judged it expedient to caution my ~~plantations~~ against attempting to go onto foundation work, during such weather. The constant bailing required being expensive and the rain conducing both to extra expence and unsatisfactory work.

As much as possible the preparation and col.

9



season, we have had I may state that during the year 1873 there fell 42.68 inches of rain at Chingleput, while up to the end of September only, this year there were 62.03 inches registered at the same place.

Again during the Quarter there fell at Punnuruti 22.6 inches this year, and during the same period last year only 9.40 inches were reported.

As permanent way materials are now coming in for the length between Madras and Cuddalore, I shall during next working season be in a position to assist any weak points in our sources of supply for building materials by using the Railway for carriage and thus the richer localities will be made to supply the deficiencies of the poorer ones. There are many parts of the line to which at present there is no access in wet weather for the delivery of materials.

We have received to date two Locomotives Engines and 15 Ballast waggons, one Engine will be set to work in the Madras District and another from St. Thomas' Mount Southwards as soon as the weather permits of outdoor operations being carried on economically.

At Madras there have been landed 29,673 rails and 54,824 sleepers; and at Cuddalore 800 rails and 10,138 sleepers, and platelaying operations will soon be going on rapidly.

All the smaller girders ordered for, for the line between Madras and Cuddalore have I believe been shipped from England, and the large girders for the same length will all I expect be on the way out during the first half of next year.

On the line between Cuddalore and Vayore, Earthwork has been commenced at both ends and the preparation of brickfields is being speedily gone on with.

Up to the end of the Quarter 49 1/4 miles of the

line had been started out and the working surveys and sections  
taken. This work is being pushed as rapidly as the means at my  
command will permit.

I am not sanguine of great progress in the works  
during the current quarter, for the monsoon is upon us, we have  
already seen enough to justify a somewhat gloomy view of  
what I shall have to say in my next report. I am hope-  
ful however of rapid progress during our next working season.

(True Copy)

William B. Smith

Agent  
17/11/74.

8958040/74  
2

Proceedings of the Madras Government  
Read the following

From  
The Consul General for Mys (H. E. No. 796 of 22<sup>nd</sup> Dec/74)

153

Ordered that these  
papers be forwarded  
to the Government of  
India -

It is not satisfac-  
tory that Progress Re-  
ports for one Quarter  
should not reach Govt.  
-ment till nearly the  
end of the following  
Quarter. The following

The Consul General  
Mysore  
Rangoon  
Local  
State  
as  
the

Engineers <sup>letter</sup> afford  
no information as to  
the causes of delay  
from which the Govt  
might hope that they  
will be obviated in  
future; such delay  
having already been  
noticed in former orders.

Genl 1990 of 23<sup>rd</sup> July/74.  
" 2886 - 9<sup>th</sup> Octr - "  
To the Comdg Engrs for Rly  
Sept 21/1/75.

Docket no. 154 of  
Copy of the above  
forwarded to the  
Govt of India -  
Genl

50

Sign 830 S. Captid Sept 21/1/75.

Govt. of Madras.  
PUBLIC WORKS.

after the close of the  
Quarter to which they  
apply as possible -

To  
The Engineer-in-Chief  
Survey of India

Date

Recd.

Encl.

153

G. O. 19 June No. 154

Nos. 320222

South Indian Railway

The Progress Report for  
the third quarter of 1874  
in the construction works  
of the Northern & Southern ex-  
tensions of the South Indian  
Ry. orders to be forwarded  
to the Secy of India, & the  
Comr. for Ry. requested  
that the Report  
of the Officers shall be  
forwarded to him as soon

Forwarding copy  
of orders passed on the  
Progress Reports for the  
third quarter of 1874  
in the construction  
works of the Northern  
& Southern extensions  
of the South Indian  
Railway -