

Public Works (1898) Department.

RAILWAY BRANCH.

G.O., No. 1375-764.

DATED 8th Nov 1898

12/1/00

[Dispatch Abstract.]

Report of inspection on the Bezwada
Madras section of the E. C. Ry.

Ordered that the Senior Engrs. Inspectors
dated 7th Nov 1898, be forwarded
to the Govt of India for information.

Forwarding ^{for info} the Sec. Copy of P.O.
subordinating the Senior Engrs. Inspectors
dated 7/11/98.

Indexed.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

BEZWADA-MADRAS SECTION OF THE EAST COAST RAILWAY.

STANDARD, 5' 6", GAUGE.

Inspection made by the Senior Government Inspector of Railways, Madras.

1. *General.*—I inspected from Madras to Bezwada on the 2nd and 3rd November and returned on the 4th and 5th. I was accompanied by Mr. T. W. Bartlett who has been recently officiating as Engineer-in-Chief during Mr. E. J. Moore's absence. The entire distance from Madras to Bezwada is 263 miles. The first 10 miles out from Madras, however, as far as Ennur, have been made, and are now being worked, by the Madras Railway Company, and the last 3 miles from Kistna canal junction to Bezwada were made and are worked by the East Coast Railway; so that 249 miles is the actual length of the section of railway under construction which was inspected on this occasion. Out of these 250 miles, the 24 miles from Gudur to Nellore have for some time past been under conversion from metre to broad gauge. The actual change of gauge was carried out, under the supervision of Captain Ashworth, R.E., on the 31st October, and on the 1st November the converted section was brought into use for broad gauge trains under the control of the East Coast Railway. My reason for making the present inspection was that I had got to learn that it was intended to offer the whole unopened 226 miles for inspection prior to opening for all traffic before the close of 1898, and I wished to be able to judge what prospects there were of my being able to advise that it be opened. As this is not the detailed report referred to as being necessary, prior to opening for traffic, in Government of India Public Works Department Circular No. 6 Ry., dated 7th September 1893, I shall not follow the instructions therein laid down as to its form, but shall confine myself to describing in a general way the state of progress of the work, and to stating what I shall insist on being done before the line can be passed for passenger traffic. For the week previous to, and during, the inspection the north-west monsoon was raging, culverts and bridges were all running full, great tracts of country were under water, the banks had been heavily tried, and the places too soft to run upon were evident enough; the inspection therefore was made under circumstances specially favourable for the purpose in view.

2. *Formation.*—Banks and cuttings throughout are supposed to be quite complete and are indeed generally in excellent order. But naturally the recent heavy rain has in places affected the banks a good deal, and has revealed faults in the drainage of some of the cuttings. For the most part banks have been covered on top with a layer of sand or of moorum; but where platelaying has been so recently done that there has not been time to run out ballast trains for this purpose, the tops of the banks are very soft and have suffered a good deal. At some of the bridges the earthwork of the approaches wants making up to full section. Between Gumidipundi and the Arni river, banks want making up, also between the arm of the Pulikat lake and Ellavur, and also between the Kalinga river and Tada.

3. *The Road.*—The road at present, except at selected places, is practically devoid of ballast. The sleepers rest on, or in places are only boxed with, sand or soft moorum or clayey red gravel. For some few miles there is not even any of this. The really bad part of the road—a part which for want of sand or gravel can at present be

only crawled over—is the 17 miles between Naidupet and Gudur. Other parts fit for not faster speeds than 15 miles per hour are the 8 miles from Ponneru to Gumidipundi, the 24 miles from Tada to Naidupet, and the 24 miles from Ulavapadu to Ongole. The remaining 152 miles of road are in their present state fit for 20 miles per hour, and perhaps 52 miles out of the 152 are fit for 30 miles per hour. If the length of a ballast train is one-eighth of a mile, and if one train-load of sand can be spread over a quarter mile of road, it will take some 300 train-loads of sand or moorum and a sufficient lot of gangs for spreading and packing, to bring the 73 miles of bad road into a state fit to be opened at a speed of 20 miles per hour. Two trains of sand per mile or sufficient to cover the outer ends of the sleepers, or 200 trains in all, will suffice to bring up the remainder of the line to a 30 mile per hour standard. The above is my estimate; the Engineers can judge whether they will or will not be able to do the work in the remaining few weeks of the current year.

4. *Sleepers.*—One of the principal causes which have delayed the completion of this railway has been the failure of the supply of sleepers. This has necessitated the half-sleeping of some 17 miles between Naidupet and Gudur. This section is being full sleepered as fast as sleepers can be picked up from diversions, but meanwhile the road has sunk a good deal and will give some trouble to pick up again. On the 60 or 70 miles where deodar sleepers have been used, pyngadu sleepers have been used two at the joints and one at centre of each rail. Sleepers at joints are in progress of being double spiked.

5. *Ballast.*—A large quantity of most excellent ballast has been collected at several depots and along the line in places. Now that the bank has been so much rained on, and that so much of it has been well topped with sand, I think that an effort ought to be made, at once after opening for traffic, to get a good supply of the permanent ballast into place. The sand road is extremely dusty and will cause great discomfort to passengers. The improvement in economy of maintenance ought to cover interest on the loss of some portion of the ballast by sinking into the new bank.

6. *Signals.*—The List-Morse system of signalling is in process of installation, but comparatively little progress has yet been made with its erection. South of Gudur none of the nine stations have as yet been supplied with home signals, while only three have had their distant erected, and these are not wired. North of Nellore home and distant signals have been partially erected at sixteen stations out of twenty-four. But unless a good deal more skilled labour is procured than is apparently now available, there seems to me to be very little prospect of the completion of the half-finished signals and of the signalling of the remaining seventeen stations before the close of the year. Either the permanent signals must be in proper working order or efficient temporary signals must have been substituted in place of them before I can consent to pass the line for passenger traffic.

7. *Station buildings.*—Out of the 37 stations, the station buildings of only about twelve have been roofed yet and made fit for use or nearly so. Fifteen more are more or less ready for roofing, and the remaining ten are half to three-quarter built. They will require a smart lot of skilled labour to complete the buildings by the end of the year, and there does not seem to me to be anything like enough of such labour about. But, provided there is any sort of a hut in which the traffic department will be content to house their men and to keep their instruments and books, I shall be prepared to pass the stations for opening even if the regular buildings are unfinished.

8. *Staff Quarters.*—These are more or less ready for occupation at I think ten stations, and are ready, more or less, for roofing at about fifteen stations. Everywhere they are in progress and walls are half to three-fourth finished.

9. *Platforms.*—In nearly every case platform walls are practically complete, but at numerous stations the earthwork of the platform has not yet been made up. Before I can open for traffic at least 300 ft. by 15 ft. of platforms must be properly topped, not necessarily in a permanent manner, but fit for the free movement of a crowd of passengers.

10. *Goods sheds.*—Many of these have been begun and more or less progress has been made, but none, I believe, are fit for use yet. Their completion can follow opening,

11. *Bridges.*—With the exception of one or two, which must be completed before the line can be opened, all bridges have been permanently and properly sleepered and finished. A very large number of girders however are free to move about on their bedplates. The Engineer-in-Chief has promised to insert the missing bed bolts, and this must be done before speed restrictions can be removed. The girders are all of regular State Railway type, and as most of them have been run over by engines for several months past. On the longer bridges ample facilities are being provided for workmen to escape from passing trains.

12. *Ennur North distant signal.*—This is now at the south end of the Ennur bridge, and only 600 feet outside facing points, with a 1 in 200 down grade for a train entering the station. The signal should be removed to the far end of the bridge if a wire will run freely on pulleys fixed on the bridge sleepers, and I think it will run quite freely for the full distance. Failing this, means must be contrived to erect the signal on one of the piers, and this can perfectly easily be done with a bit of contriving and with the help of the workmen's escape platforms, although the piers are only 13 feet long.

13. *Swarnamukhi river.*—This most certainly requires a training bund well pitched and aproned at its south abutment, up stream side, if the main approach bank is not to be cut into by the flooded river. A bund extending 200 to 300 feet up stream and 50 down, at right angles to the line of railway, and well pitched at its outer end, back and front, ought to serve. It ought to be completed before next monsoon.

14. *Level-crossings.*—The sleepers now temporarily used in place of guard rails at level-crossings must be removed and proper guard rails must be provided before opening. Gate lodges are in progress nearly everywhere, or finished. There are no gates as there is no fencing.

15. *Engine-watering.*—These are very backward. At, I think, only one or two stations are the permanent watering arrangements anything like complete. Ashpits are generally ready and many water columns have been erected, but very few tanks are ready or wells completed, and very little piping has been laid. There is a sufficiency of temporary watering arrangements all along the line, and these must be made to do. It is however difficult to understand how it has come about that such essentials to working as signals and watering arrangements have been left unfinished long after bridges and earthwork and such non-essentials as high platform walls were completed.

16. *Engine-changing stations.*—I have already more than once expressed the opinion that a mess is being made of this important matter. For the proper and economical working of this section of the Calcutta-Madras Railway, Bezwada and Madras ought to be engine-homing stations and some intermediate point a running shed station. The half-way point is approximately Bitragunta, and arrangements were designed for making this place not a running station as it ought to be made but a full homing station, and a large number of its quarters have been begun or finished. There are obvious advantages in having Madras as a homing station, whether the section of the Calcutta-Madras Railway south of Vizagapatam port is to be worked by the Madras Railway Company or not. But whatever may be the working agency, supervision of a large European colony is easier at Madras than at Bitragunta, and, moreover, as the staff of the Madras Railway Company do, the men can to a great extent house themselves without difficulty in the immediate neighbourhood. The best possible site for a large locomotive homing station has unfortunately been recently taken up by the Madras Municipality from the Military Department as a plague camp, and an inferior site must now be put up with whether Madras be made a running or a homing station.

17. *The present state of Bitragunta.*—Six men could now at once be housed here, and four more could be housed by the end of the month. The pits of the engine shed have all been built, but the shed will not be ready until the end of the year. The tank masonry is nearly ready, and the tank ironwork is ready to erect. The turntable is ready. The locomotive well, however, though now full of water, is said to be inadequate and a commencement has been made of a pumping scheme from half-mile off where water is said to be good and plentiful. I received a suggestion from the Manager, East Coast Railway, that Nellore should be made the changing station,

but I do not like the suggestion. Bitragunta is nearer half way between Bezwada and Madras: it is healthy and dry: it can apparently be made a good watering station though they seem to be taking it leisurely about the well and pump: and its quarters have progressed too far now for it to be economical to give it up as a running station, though not so far as to make it unwise to give up the idea of making it a homing station.

18. *Mile and Grade Posts.*—There are practically no mile posts. Very few miles even of the telegraph posts have been numbered. There are, I think, 60 or 70 miles of guide posts. These small matters ought all to be pushed on now with vigour though they need not delay opening. Name boards of stations have for the most part not yet been erected.

19. *Telegraph.*—A good deal of work has still to be done to get the telegraph properly installed in the station buildings. But if the Traffic Department are contented to work the line with temporary accommodation I shall raise no objection.

20. *Bridge Waterways.*—As there had been several days of very heavy rain previous to and during the inspection, and as consequently there was a great deal of water crossing the line and some of the rivers were in heavy flood, I was able to form the general impression that questions of sufficiency of waterway had received due consideration. Neither banks nor waterway anywhere gave me the idea of being insufficient, though needless to say no commercially permissible amount of waterway will save a line from being breached if the failure of a series of tanks gives a flood equivalent to that resulting from a fall of several inches of rain per hour for several hours. I judge the bank between miles 236 and 238 to be a couple of feet too low.

21. *Latrines.*—Very few have yet been erected. Before the line can be opened for passengers some sort of latrines, even mat ones if necessary, must be erected at least at alternate stations.

22. *Station Furniture.*—I was informed that this is all ready, and has been distributed to the various divisions.

23. *Conversion of Gudur-Nellore Section.*—On October 31st, I authorised the opening of this section for broad gauge on the responsibility of the Engineer in charge, pending my inspection of it. On November 2nd, I inspected the 24 miles. As the section in question has long been open for all traffic, though on the metre gauge, and as the new girders have for months past been run over on that gauge, I took the responsibility for considering the case as coming fairly within the provision of section VI, 2, of the rules accompanying Government of India Circular No. 6 Ry., dated 7th September 1893, and therefore authorised its use for broad gauge traffic. The section is still unfinished in several details. Sidings have in some cases not been put in, and other minor matters are incomplete; but all is in hand, and everything ought to be in good order by the time the Madras-Bezwada Railway is offered for inspection prior to opening. The arches of the Nellore engine shed are 13 feet wide instead of 14; the centre pier between the arches had best be replaced by a column, and meanwhile a notice warning engine men ought to be posted on the wall of the shed at its entrance, and in the working time-table. The north ashpit at Gudur wants draining. Either the Gudur platform should be raised or the road opposite it lowered some 2 or 3 inches. The Gudur refreshment and waiting-room is being built. A joint water scheme for this junction is under preparation.

24. *The Kistna Canal Junction—Bezwada Section.*—This short section belongs, properly speaking, to the East Coast Railway. It was opened long ago for metre gauge traffic for the use of the Southern Mahratta Railway. It will now be necessary to formally open it for broad gauge traffic, simultaneously with the opening of the Bezwada-Madras Railway. This section commences a furlong north of the northern facing points of Kistna Canal junction, or where the Bezwada-Madras Railway proper ends, viz., at mile 262.67 of the latter railway's working section. From that point to the centre of Bezwada station is 2.74 miles. The Southern Mahratta metre gauge enters the broad gauge, by means of a *fixed switch*, 100 feet south of the Western Kistna canal bridge. The mixed gauge is then maintained over the Kistna bridge and the Eastern and Western Canal bridges for a distance of about 2 miles, and

again by means of a fixed switch the gauges separate. Between the Western canal bridge and the Kistna bridge is a station called Sitanagram which gives access to the broad gauge engine station. The signalling of this short section is now satisfactory and there is nothing to prevent its being opened for broad gauge traffic at any speed. I wish to record, however, that the whole arrangement will be immensely improved and the congestion of traffic greatly relieved if the permanent locomotive homing station is built at Bezwada itself. The locating of engine arrangements at Sitanagram was intended originally to be a strictly temporary measure. Certain houses and sheds were available and so were utilized. But the greater part of the value of the houses and sheds lies in doors, roofs, &c., which can be used again, and there is ample room at Bezwada where there is an ample and excellent water-supply, and there will be no more of that dead running which causes the present congestion.

25. *Conclusion.*—The Engineer-in-Chief of the Bezwada-Madras Railway and the Manager of the East Coast Railway are anxious to open for passenger traffic the whole section from Bezwada to Ennur, or if that should prove impossible, the section from Bezwada to Nellore, by the 20th of December. I do not think this programme an impossible one, at least for daylight running, if the weather clears and if a better supply of skilled labour and supervision is secured for the completion of signals; if a properly organized service of send and moorum trains is set going in each division; and if large extra gangs of experienced platelayers, under regular workmen—not loafers, are set moving first over the worst parts of the road and then over the rest of it, while the regular mile gangs are kept up to the mark in their rear. Even under the most favourable circumstances I scarcely expect to open south of Gudur for night running for three or four months more.

MADRAS,
7th November 1898.

FRANCIS J. E. SPRING,
Senior Government Inspector of Railways.

ORDER—No. 1375 Ry., dated 8th November 1898.

The report will be forwarded to the Government of India.

[Here enter No. 1376 Ry., dated 8th November 1898.]

(True Extract.)

FRANCIS J. E. SPRING,
Joint Secretary.

To the Engineer-in-Chief, Bezwada-Madras Railway,
" Manager, East Coast Railway.
" Agent, Madras Railway.
" " South Indian Railway.
" Consulting Engineer for Railways, Madras.

Ezd. T. K. Narayana Aiyangar.

RAILWAY.

Government {1898} of Madras. PUBLIC WORKS.

Recd.

Regd.

1898.

Enclosures

Spare copies

Letter, No. 1376 Ry., 8th November 1898.

NOVEMBER.

Report of Inspection on the Bezwada-Madras Section of the East Coast Railway

Forwarding, for information, copy of Proceedings embodying the Senior Government Inspector's —, dated 7th November 1898.

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

FRANCIS J. E. SPRING, Esq., C.I.E.,

Joint Secretary to the Government of Madras,

Public Works Department,

Railway Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

Sir,

I am directed to forward, for the information of the Government of India, a copy of the Proceedings of this Government, No. 1375 Ry., dated 8th November 1898, embodying the Senior Government Inspector's report on the Bezwada-Madras section of the East Coast Railway.

I have the honour to be,

Sir,

Your most obedient servant,

FRANCIS J. E. SPRING,

Joint Secretary.

MADRAS,

8th November 1898.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

BEZWADA-MADRAS SECTION OF THE EAST COAST RAILWAY.

STANDARD 5' 6" GAUGE.

Inspection made by the Senior Government Inspector of Railways, Madras.

1. *General.*—I inspected from Madras to Bezwada on the 2nd and 3rd November and returned on the 4th and 5th. I was accompanied by Mr. Bartlett who has been recently officiating as Engineer-in-Chief during Mr. E. J. Moore's absence. The entire distance from Madras to Bezwada is 261 miles. The first 9 miles out from Madras, however, as far as Ennur, have been made and are now being worked, by the Madras Railway Company, and the last 3 miles from Kistna canal junction to Bezwada were made and are worked by the East Coast Railway; so that 249 miles is the actual length of the section of railway under construction which was inspected on this occasion. Out of this 249 miles, the 24 miles from Gudur to Nellore have for some time past been under conversion from metre to broad gauge. The actual change of gauge was carried out under the supervision of Captain Ashworth, R.E., on the 31st October and on the 1st November the converted section was brought into use for broad gauge trains under the control of the East Coast Railway. My reason for making the present inspection was that I had got to learn that it was intended to offer the whole unopened 225 miles for inspection prior to opening for all traffic before the close of 1898, and I wished to be able to judge what prospects there were of my being able to advise that it be opened. As this is not the detailed report referred to as being necessary prior to opening for traffic to Government of India, Public Works Department Circular No. 6 Ry., dated 7th September 1893, I shall not follow the instructions therein laid down as to its form, but shall confine myself to describing in a general way the state of progress of the work, and to stating what I shall insist on being done before the line can be passed for passenger traffic. For the week previous to, and during, the inspection the north-west monsoon was raging, culverts and bridges were all running full, great tracts of country were under water, the banks had been heavily tried, and the places too soft to run upon were evident enough; the inspection therefore was made under circumstances specially favourable for the purpose in view.

2. *Formation.*—Banks and cuttings throughout are supposed to be quite complete and are indeed generally in excellent order. But naturally the recent heavy rain has in places affected the banks a good deal, and has revealed faults in the drainage of some of the cuttings. For the most part banks have been covered on top with a layer of sand or of moorum, but where platelaying has been so recently done that there has not been time to run out ballast trains for this purpose, the tops of the banks are very soft and have suffered a good deal. At some of the bridges the earthwork of the approaches wants making up to full section. Between Gumidipundi and the Arni river banks want making up, also between the arm of the Pulikat lake and Ellavur, also between the Kalinga river and Tada.

4. *Sleepers*.—One of the principal causes which have delayed the completion of this railway has been the failure of the supply of sleepers. This has necessitated the half-sleeping of some 17 miles between Naidupet and Gudur. This section is being full sleepers as fast as sleepers can be picked up from diversion, but meanwhile the road has sunk a good deal and will give some trouble to pick up again. On the 60 or 70 miles where deodar sleepers have been used, pyngadu sleepers have been used at the joints, and over at centre of each rail. Sleepers at joints are in progress of being double spiked.

6. *Signals*.—The List-Morse system of signalling is in process of installation, but comparatively little progress has yet been made with their erection. South of Gudur none of the nine stations have as yet been supplied with home signals, while only three have had their distant erected, and these are not wired. North of Nellore home and distant signals have been partially erected at sixteen stations out of twenty-four. But unless a good deal more skilled labour is procured than is now apparently available, there seems to me to be very little prospect of the completion of the half-finished signals and of the signalling of the remaining seventeen stations before the close of the year. Either the permanent signals must be in proper working order or efficient temporary signals must have been substituted in place of them before I can consent to pass the line for passenger traffic.

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22. *Station Furniture.*—I was informed that this is all ready, and has been distributed to the various divisions.

23. *Conversion of Gudur-Nellore Section.*—On October 31st, I authorised the opening of this section for broad gauge on the responsibility of the Engineer in charge, pending my inspection of it. On November 2nd, I inspected the 24 miles. As the section in question has long been open for all traffic, though on the metre gauge, and as the new girders have for months past been run over on that gauge, I took the responsibility for considering the case as coming fairly within the provision of section VI 2 of the rules accompanying Government of India Circular No. 6 Ry., dated 7th September 1893, and therefore authorised its use for broad gauge traffic. The section is still unfinished in several details. Sidings have in some cases not been put in, and other minor matters are incomplete; but all is in hand, and everything ought to be in good order by the time the Madras-Bezvada Railway is offered for inspection prior to opening. The arches of the Nellore engine shed are 13 feet wide instead of 14; the centre piece between the arches had both be replaced by a column, and meanwhile a notice warning engine men ought to be posted on the wall of the shed at its entrance, and in the working time-table. The north ashpit at Gudur wants draining. Either the Gudur platform should be raised or the road opposite it lowered some 2 or 3 inches. The Gudur refreshment and waiting-room is being built. A joint water scheme for Gudur is under preparation.

24. *The Kistna Canal Junction—Bezwada Section.*—This short section belongs properly speaking, to the East Coast Railway. It was opened long ago for metre gauge traffic for the use of the Southern Mahratta Railway. It will now be necessary to formally open it for broad gauge traffic simultaneously with the opening of the Bezwada-Madras Railway. This section commences a furlong north of the northern facing points of Kistna Canal junction, or where the Bezwada-Madras Railway proper ends, viz., at mile 262.67 of the latter railway's section. From that point to the centre of Bezwada station is 2.74 miles. The Southern Mahratta metre gauge enters the broad gauge by means of a *fixed switch* 100 feet south of the Western Kistna canal bridge. The mixed gauge is then maintained over the Kistna bridge and the Eastern and Western Canal bridges for a distance of about 2 miles, and again by means of a fixed switch the gauges separate. Between the Western canal bridge and the Kistna bridge is a station called Sitanagram which gives access to the broad gauge engine station. The signalling of this short section is now satisfactory and there is nothing to prevent its being opened for broad gauge traffic at any speed. I wish to record, however, that the whole arrangement will be immensely improved and the congestion of traffic greatly relieved if the permanent locomotive housing station is built at Bezwada itself. The locating of engine arrangements at Sitanagram was intended originally to be a strictly temporary measure. Certain houses and sheds were available and so were utilized. But the greater part of the value of the houses and sheds lies in doors, roofs, &c., which can be used again, and there is ample room at Bezwada where there is an ample and excellent water-supply, and there will be no more of that dead running which causes the present congestion.

25. *Conclusion.*—The Engineer-in-Chief of the Bezwada-Madras Railway and the Manager of the East Coast Railway are anxious to open the whole section from Bezwada to Ennur, or if that should prove impossible, the section from Bezwada to Nellore for passenger traffic by the 20th of December. I do not think this programme an impossible one at least for daylight running, if the weather clears and if a better supply of skilled labour and supervision is secured for the completion of signals; if a properly organized service of Send and Moore's trains is set going in each division; and if large extra gangs of experienced plalelayers, under regular workmen—not loafers, are set moving first over the worst parts of the road and then over the rest of it, while the regular mile gangs are kept up to the mark in their trains. Even under the most favourable circumstances I scarcely expect to open south of Gudur for night running for three or four months more.

MADRAS,
7th November 1898.

FRANCIS J. E. SPRING,
Senior Government Inspector of Railways.

ORDER—No. 1375 Ry., dated 8th November 1898.

The report will be forwarded to the Government of India.

[Here enter No. 1376 Ry., dated 8th November 1898.]

(True Extract.)

Under Secretary.

To the Engineer-in-Chief, Bezwada-Madras Railway.

„ Manager, East Coast Railway.

„ Agent, Madras Railway.

Exd. T. K. Narayana Aiyangar.

17/11/98

Government of Madras.

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

To

THE Secy. to Govt. of India

P. W. Dept.

Madras, 8th November 1898.

SIR,

I am directed
to forward, for the
information of the
Government of India,
a copy of the Prop.
of this Govt. No 1375 R
dated 8th November 1898
embodying the Senior
Government Inspectors
report on the Bezwada
Madras section of the
East Coast Railway.

8 9/11/98

S. C. 10/11/98