

(1) Number of pages 180(2) Date of repair 22.11.62(3) Initials of the Referencer 1

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.G.O. No. 1262Press
Mis,

416-417.

Dated 23 — 4 — 1868.Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
23rd April 1868.*

No. 416. Read the following Proceedings of the Madras Government in the Revenue Department:—

Requesting the Board of Revenue to instruct the Collector to take measures for obtaining the land required for the extension of the Northern Canal from Deogoorazapatam to Kistnapatam.

(Here enter 20th April 1868, No. 1,045.)

No. 417. ORDER THEREON, 23rd April 1868, No. 1,242.

CIVIL WORKS, No. 54.

Communicated to the Superintending Engineer of the 4th Division, with reference to the Order of the 15th April 1868, No. 1,124.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Proceedings of the Madras Government, Public Works Department.
15th April 1868.

3

Read the following papers:—

No. 184. Endorsement of the Superintending Engineer, 4th Division, dated Madras, 16th March 1868, No. 5,609:—
From W. FRASER, Esq., C. E., Executive Engineer, East Coast Canal, to the Superintending Engineer, 4th Division, dated Doogoorazpatam, 29th February 1868, No. 247.

1. I have the honor to inform you that I returned here this evening from an examination of the Sooranamooky, and of the country for a few miles north of that river.

I examined the points of crossing proposed by Colonel Chambers, R.E., and by Mr. Kennedy, and also one or two other points which appeared to me to present peculiar advantages.

2. So far as the mere crossing of the river is concerned, there is very little choice to be made. Wherever it is crossed there will be difficulty in dealing with the sand washed down by the floods, and from the fact that, within the limits between which we must cross, the high floods overflow the banks of the river; so that the principal thing to be attended to in selecting the point of crossing is to see that it leads into a good line on the north side of the river.

3. Mr. Kennedy's line, as you are aware, goes right into the high sand hills along the coast, with a cutting of 13 to 16 feet in depth. Colonel Chambers' line crosses the river higher up, and curves into a narrow swamp, which runs nearly the whole way to Kistnapatam; and in this line the average depth of cutting is seven to nine feet. In crossing from the river to the swamp, Colonel Chambers' line passes through two or three miles of high sand hills, in which the maximum cutting is about 17 feet; by crossing still higher up the river, these sand hills would be altogether avoided, and, in other respects, a better line would be obtained. But the Government Order No. 398, dated 5th February 1868, is so decisive in favor of Mr. Kennedy's line, (and this after a full discussion of the subject,) that I do not consider myself at liberty to pursue this question further. I am, therefore, proceeding with the first $6\frac{1}{2}$ miles from Doogoorazpatam, between which points we all agree.

1. Submitted to Government for information.

2. It will be seen that work is progressing on $6\frac{1}{2}$ miles of canal from Doogoorazpatam northwards, where no difference of opinion exists as to the line to be taken.

3. It is hoped that the Government will not insist on Mr. Kennedy's line being followed, until the Superintending Engineer has had an opportunity of examining and reporting on both lines, which he hopes to do in a month's time.

(Signed) A. J. M. BOILEAU, Colonel, R. E.,
Superintending Engineer, 4th Division.

No. 185. From Lieutenant-Colonel J. C. ANDERSON, R. E., Chief Engineer for Irrigation, to the Secretary to Government, Public Works Department, dated Fort St. George, 31st March 1868.

1. Having at your request availed myself of the opportunity offered by a recent visit to Nellore to examine the line of the country between Doogoorazpatam

and Kistnapatam, I have the honor to furnish you with my opinion as to the precise line in which the extension of the East Coast Canal should be carried. Colonel Winscom, Superintending Engineer of the 2nd Division, travelled with me over the ground, and I had the advantage of discussing with him, the relative advantages of the several alignments which have been recommended by Captain Chambers, Mr. Kennedy, and Mr. Fraser.

2. Captain Chambers, after crossing the Sooranamooky at the 8th mile, proposed to deflect his line to a swamp which runs nearly parallel to the sea, and to follow the course of the swamp from the 10th to the 18th mile. By this arrangement the greater part of the 10th and 19th mile would be in a deep cutting in sand, but the intermediate eight miles would be in comparatively low ground.

3. Mr. Kennedy proposed to avoid the swamp altogether, and to carry the line nearly straight through the sandy plateau which extends from the swamp to the sea.

4. Mr. Fraser recommends Captain Chambers' line in the main in preference to Mr. Kennedy's, but proposes to cross the Sooranamooky higher up, so as to avoid the deep cutting contemplated by Captain Chambers between the 8th and 10th mile.

5. Mr. Kennedy's object in proposing a radical alteration of the original design was to avoid the great difficulty which, as he thought, would be experienced in excavating the canal in the bed of the swamp, and to obviate the necessity of destroying a tract of land valuable for cultivation.

6. It is quite true that if the canal is to be carried along the swamp the wet cultivation now carried on there must be seriously injured, if not entirely put an end to; but, although the cultivation is valuable to the ryots and less precarious than perhaps any other kind of wet cultivation in the district, it occupies so small an area that even an exceptionally high rate of compensation will form an insignificant item in the cost of the project. A portion of the land in question is Zemin-dary, and the area under wet cultivation is not known, but of Government land only about 120 acres will be affected.

7. Mr. Kennedy's objection on this head cannot, therefore, be considered a very valid one. On the other hand, so far from the difficulty of excavating a canal along the swamp being greater than along the sandy plain, the fact is precisely the reverse; I apprehend that it would be found nearly impracticable by ordinary appliances to obtain the required depth along Mr. Kennedy's line, while the expense would certainly be enormous. The soil is pure sand, and water appears two or three feet below the surface, the depth of cutting being generally 13 or 14 feet. In addition to the inconvenience and expense which would be occasioned by the infiltration of the sand from the sides of the cutting in draining off the water, there would appear to be cause to apprehend that the lowering of the springs which that draining would produce, would deprive what little vegetation there is in the locality, of its moisture, for some distance at all events from the banks of the channel, and thereby increase the quantity of drift sand. For about a mile from the sea, there is nothing but a mass of barren sand hills, and the absence of vegetation is probably due to there being no impervious stratum to

prevent the lowering of the spring water to sea level. At the best, the successful completion and maintenance of Mr. Kennedy's line of canal would be a matter of great uncertainty.

8. There is no such uncertainty with regard to the swamp line. The soil is alluvial—a pit 10 feet deep was dug close to a paddy-field without any difficulty, and whatever drainage would be caused by carrying a canal through it, will thus be merely from the surface. I attach so much importance to securing this soil for the excavation of the canal, that I would propose to adhere to the line of the swamp throughout, though the length of the canal will be increased by more than a mile, in consequence. If the line were deflected in the manner proposed by Mr. Fraser, the additional length would not be so much, but it is very desirable that the Sooranamooky should be crossed at or near the point selected by Captain Chambers, that is in tidal water and near the mouth of the Tsalla Calwa, instead of at some point higher up, where the floods of the latter would prove very destructive to the canal.

9. The line would thus pass near the village of Goondapooram, and be curved round so as to pass to the west of the village of Siddarum. The land is low and favorable throughout excepting for a short distance from the Tsalla Calwa, where the soil is sandy. Some stone revetment will be required here, which need not be very expensive as a supply of stone can be obtained within a distance of six miles. The line should also be carried further to the west than Captain Chambers proposed between the 19th and 20th mile, that is towards its junction with Kistnapatam backwater.

10. The cultivation along the swamp is carried on mainly in the following manner. The water is led to it by means of numerous small cuts in the sand ridge. Bunds are thrown across the swamp, and tanks are thus formed which furnish a supply for wet cultivation. The land in the swamp itself is mostly waste, the principal cultivation is at the north and south ends. The excavation of the canal would destroy these small tanks, and the wet cultivation thus deprived of its source of supply would have to be abandoned. I would recommend that the whole of it be taken up in the first instance on behalf of Government, and that, on the completion of the canal, the area that is not actually occupied by the canal, may be let out to the ryots for such cultivation as it may be found to be suited. I believe that eventually there will be little or no reduction of the area of cultivation, but the ryots will have to content themselves with such crops as can be raised by the aid of picottah irrigation. There is no fear of cultivation being injuriously affected by the salt water in the canal. Near Kistnapatam backwater, we observed paddy growing on the level of tidal water with only a small bund to prevent the fresh and salt water intermingling. The water in the canal will be several feet below the level of the ground for almost the entire distance between the Sooranamooky and Kistnapatam backwater, and no land will be rendered uncultivable except what is actually within the limits of the channel.

11. There are some fine sites on the sandy plain adjacent to the line of canal for Casuarina plantations, and Acacias, and other trees will grow readily on the alluvial soil of which the spoil banks of the canal will be formed. There are also strips of alluvial soil on the margin of the swamp, which may be conveniently retained within canal limits, for the formation of a plantation.

*Proceedings of the Madras Government, Public Works Department,
15th April 1868.*

No. 186.

ORDER THEREON, 15th April 1868, No. 1,124.

CIVIL WORKS, No. 22.

1. In November 1863 Mr. Kennedy, the then Executive Engineer in charge of the East Coast Canal, in compliance with the Orders of Government submitted plans, with estimates amounting in the aggregate to Rupees 2,35,000, for the extension of the Northern Canal from Doogoorazpatam to Kistnapatam, a distance of about 19½ miles.

2. The country between these points was originally examined by Captain Chambers, who proposed that the line of canal should after crossing the Soorana-mooky at the 8th mile deflect westward to a swamp, along which it should be carried from the 10th to the 18th mile. Mr. Kennedy did not advocate the adoption of this line on the ground of the serious injury which would result to a large area of valuable wet cultivation, of the heavy compensation which would have to be paid for land and damage, and of the difficulty which, as he believed, would be experienced in excavating the canal in the bed of the swamp; and he accordingly proposed to avoid the swamp altogether, and to carry the line nearly straight across the sandy waste lying between the swamp and the sea.

3. Believing under all the circumstances, that the line chosen by Mr. Kennedy was the most favorable that could be adopted, the Government submitted his estimate to the Government of India, whose sanction, as well as that of the Right Honorable the Secretary of State, was communicated in the orders marginally noted.

G. O. No. 1,084, 15th April 1864.
,, ,, 2,241, 5th August ,,

4. The relative advantages of the alternative lines of canal from Doogoorazpatam to Kistnapatam was again discussed in the papers read in Proceedings of the 20th January 1865, No. 189, and doubts were thrown upon the expediency of adopting that recommended by Mr. Kennedy; but the Government were unable to arrive at any proper decision with the information then before them.

5. The question was, however, again brought under the notice of Government in the letter from the Superintending Engineer of the 4th Division above recorded, and, in order to its being finally and definitively settled, Colonel Anderson, the Chief Engineer for Irrigation, was requested on the occasion of his recent visit to the Nellore District to inspect the country between Doogoorazpatam and Kistnapatam, and to report his opinion of the direction in which the canal should be carried.

6. The result of Colonel Anderson's examination is contained in the second of the papers above read, in which he expresses himself strongly in favor of Captain Chambers' line with a slight deviation to the westward for a short distance near where it joins the Kistnapatam backwater, as indicated on the accompanying plan.

7. On a full consideration of the grounds upon which Colonel Anderson bases his recommendation the Government approve of the adoption of Colonel Chambers' line where it differs from Mr. Kennedy's line, and, believing that the cost of the canal will not be materially affected by the change, they direct that the work be proceeded with on that line with the modification suggested by Colonel Anderson.

*Proceedings of the Madras Government, Public Works Department,
15th April 1868.*

8. These Proceedings will be communicated to the Revenue Department, with a view to measures being taken for obtaining possession of the land required.
(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineers, 2nd and 4th Divisions, with two Plans.
" Controller of Public Works Accounts.
" Revenue Department.

Order thereon 20th April 1868 No. 1045

Communicated to the Board of Revenue, who will instruct the B. Collector to take the necessary steps for obtaining the land required - in communication with Mr. Fraser the Executive Engineer -

The B. Collector's attention should also be directed to the planting projects suggested by Colonel Anderson.

(True Extract.)

*Foramt.
Under Sec^y to Govt.*

Exd. S. T. Augustin

To The Department Public Works

1791 1838 2000
Royal Society of Arts
1787

1791

1791

1791 1242

1791 1242 2300
1791 1242 2300

Command & the
Engineer of the 2. The
with reference to the
order of the 15 April
1888, No 1124 -

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300

1791 1242 2300
1791 1242 2300