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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No.	3662	Press Mis.
422-423		
Dated	20-12-	18 66

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*Proceedings of the Madras Government, Public Works Department,
20th December 1864.*

No. 422. Read the following letter from Captain J. G. RYVES, R. E., Superintending Engineer, 1st Division, to Colonel C. A. ORR, R. E., Secretary to Government, Department Public Works, dated Waltair, 16th November 1864, No. 1,272 :—

SIR,

- 1 Plan, lock.
- 1 Longitudinal section (by banghy.)
- 2 Estimates.
- 2 Lock estimates.
- 2 Specifications.
- 3 Traffic returns.

* No. 133 of 17th January 1863.

a Rupees 21,780.
b " 87,400.
c " 87,000.

† No. 1,149, dated 2nd June 1860.
" 916, " 2nd May 1862.
" 1,225, " 2nd June "

1. With reference to G. O. as per margin,* I have the honor to submit an estimate (amounting to Rupees 1,22,000) for opening a canal between the Chilka lake and the port of Ganjam.

2. Previous estimates for this work framed by Captain (now Colonel) Birdwood a, Captain (now Major) Harington b, and Captain Philipps c, have been before Government in their Proceedings† noted in the margin, but sanction was refused, until definite information regarding the traffic which the canal would serve, had been laid before Government.

3. This information is now furnished in the returns of traffic for the year 1863-64, which accompany the estimate now submitted. The following abstract of them shows that the importance of this line has not been overrated by the Officers who have recommended the construction of the canal :—

To or from Ganjam.	Boats on the Chilka lake at Rumbah and Sooblia.	Bandies on road between Rumbah and Ganjam.		Passengers.
		Loaded.	Empty.	
To ...	12,106	1,62,180	1,783	91,696
From ...	6,063	10,113	1,51,467	91,574

Bearing in mind that the articles brought to Rumbah are principally grains and oil seeds. I deduce from the above abstract that the annual traffic is about 1,10,000 tons valued at a quarter of a million Sterling, and that as much as 1½ lac Rupees is paid annually for carting the cargoes of the lake boats across to the port of Ganjam.

4. The average boat, or rather water-tight box, at present in use on the lake, is 40 or 45 feet long, 6 or 7 feet wide, and draws from 2½ to 3½ feet when loaded. The average *net* load of a boat is *stated* to be ten tons.

5. It will be observed that (1½) sixteen-seventeenth of the traffic is towards the port.

6. Of the ninety thousand people moving up and† down the lake, 65,000 travel in July and November, the months in which the Juggernaut feasts are held. The movement of passengers on ordinary business is very small, averaging per month only about 2,000 either way.

7. It has been proposed to impose a toll of 4 Annas per ton on the canal: at this rate, the annual returns would be about 25 to 30,000 Rupees, sufficient to cover 10 per cent. interest on the capital, after ample provision for repairs and conservancy.

8. The estimate now submitted amounts to Rupees 1,22,000, instead of 87,000, the amount of the estimate which was before Government in Proceedings No. 6,385, dated 29th October 1860. To give the canal a width sufficient for two boats of the larger size to pass freely, I have allowed a bottom width of 8½ yards. I estimate the cost of each of the two locks at 16,000, or if their dimension be reduced from 100' × 15' to 60' × 10' at 13,200 Rupees; as the difference in cost is so small, I have adopted the larger size in the estimate for the canal.

*Proceedings of the Madras Government, Public Works Department,
20th December 1864.*

9. I now beg to submit for consideration some observations regarding leaving the canal open to the tides, only having its entrances guarded by simple wings and sills, to prevent their enlargement by erosion, when the water of the lake or the Ganjam river is flowing through them. I believe there would be an advantageous effect on the bar at Ganjam, by the increased volume of tidal flow and ebb, and by the extended period of discharge of fresh water floods during the rains. This effect would not be very great, but as far as it went, it would be good, and, by allowing the currents to enlarge the canal (under strict control by means of simple regulating works at its ends), it might, no doubt, be considerably increased in power.

10. The only disadvantages which I can foresee, are (1), the Rooshookoolia depositing silt in the Canal; and (2), the obstacle to traffic by the contrary current of the flood tide accelerated (and the period of flood extended) by the southerly winds which prevail during the dry season. The former (1) would seldom occur, for, during the rainy season, the Chilka water-surface at its southern extremity is higher than the high water mark of the Ganjam river at the same season: it would occur when the Rooshookoolia brought down a fresh, produced by local or brief fall of rain, by which the level of the Chilka water-surface would be only slightly or not at all raised. The latter (2) would, no doubt, be a serious disadvantage during the two or three hot months when the southerly winds blow, and when the waters of the lake are at their lowest, and are driven up to its northern extremity by the southerly winds.

11. On the other hand by leaving the canal open, we should get a greater depth of water at the lake entrance during those (two or three dry) months; with the locked canal, the lake surface would, for several weeks, be at or below low water springs, i. e., $1\frac{1}{2}$ to 2 feet below ordinary low water. Again, the open canal would, during the north-east monsoon, give the boats the advantage of current in the direction of the traffic; and during the remainder of the year, the laden boats would go into Ganjam with the ebb, and return with the flood tide.

12. On the whole, I think, the question should be carefully considered before the locks are commenced. I am inclined, with all the information obtainable at present, to favor the open canal, though in the absence of fuller information and not having yet personally examined the lake and port, I do not venture to express a decided opinion.

13. I am however decidedly of opinion that we ought to open the canal first without locks; if, after two or three seasons, it be found advisable to build them, they can be built. I have therefore prepared, and submit with the other, an estimate for the open canal (bed $3\frac{1}{2}$ feet below low water spring), amounting to Rupees 1,18,200, which I beg to recommend for sanction.

14. The estimates are accompanied by a longitudinal section shewing the water levels and proposed level of bed of canal and by drawings of the locks.

No. 423. ORDER THEREON, 20th December 1864, No. 3,642.

To enable the Government to decide on the alternative schemes submitted for connecting the Chilka lake with the Ganjam river, it is essential that the necessity or otherwise of the locks should be clearly established, and with this view they direct that Captain Ryves will take an opportunity of proceeding to visit the spot and give his opinion as to whether the locks should be constructed or whether the project for an open canal should be adopted in preference.

(True Extract.)

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

To the Superintending Engineer, 1st Division.

Exd. T. O'Connor.

Proceedings

Public Works Dept.
 Pro. of Govt. Comm.
 No. 3642
 Pro. of the Madras Govt.
 920 December/64

Enclosures
 11.

- { 1. Plan. Lock.
- 1 Longitudinal Section
 (by Banghy.)
- 2 Estimates
- 2. Lock Estimates
- 2. Specifications
- 3. Traffic Returns

From

Captain J. G. Ryles R.E.

To

Superintending Engineer, T. D.

Colonel C. A. Ory R.E.

Secretary to Govt. D. J. W.

Madras.

Sir,

No. 133 of
 14th Dec. 1863.

With reference to G.O. as per margin, I have the honor to submit ~~the~~ an Estimate (amounting to Rupees 122,000) for opening a Canal between the Chilka Lake and the Port of Ganjam.

2. Previous Estimates for this work framed by Captain (now Colonel) Birdwood^a, Captain (now Major) Harrington^b & Captain Philipps^c have been before Government in their

a Rs 21780.

b Rs 87400.

c Rs 87000.

Proceedings

Proceedings noted in the margin: But sanction was refused, until definite information regarding the traffic which the Canal would serve, had been laid before Government.

3. This information is now furnished in the Returns of Traffic for the year 1863/64, which accompany the Estimate now submitted. The following abstract of them shows that the importance of this line has not been overrated by the Officers who have recommended the construction of the Canal:-

To or from Gaujam.	Boats on the Chilka Lake at Pambah & Sooblia.	Boats in Pass between Pambah and Gaujam.		Passengers.
		Loaded.	Empty.	
To	12106	162180	1783	91696
From	6063	10113	157467	91574

Bearing

* 7th Date
1149 of 2nd June 1860
916 " 2nd July 1862
1225 " 2nd June 1862

Bearing in mind that the articles brought to Pambah are principally grains & oil seeds. I deduce from the above abstract that the annual traffic is about 110000 tons valued at a quarter of a million sterling - and that as much as $1\frac{3}{4}$ lac Rupees is paid annually for carting the cargoes of the lake boats across to the Port of Gaujam.

4. The average boat or rather watertight box, at present in use, on the Lake, is 40 or 45 ft. long, 6 or 7 ft. wide and draws from $2\frac{1}{2}$ to $3\frac{1}{2}$ ft. when loaded. The average nett load of a boat is stated to be ten tons.

5. It will be observed that ($\frac{16}{17}$) sixteen seventeenths of the traffic is towards the Port.

13/6

6. Of the ninety thousand people moving up and down the Lake, 65,000 travel in July and November the months in which the Juggernaut feasts are held. The movement of passengers on ordinary business is very small, averaging per month only about 2,000 either way.

7. It has been proposed to impose a toll of 4 annas per ton on the Canal. At this rate, the annual returns would be about 25 to 30,000 Rupees, sufficient to cover 10 per cent Interest on the Capital, after ample provision for Repairs & Conservancy.

8. The Estimate now submitted amounts to Rs. 1,22,000 instead of 87,000. the amount of the Estimate which was before Government in Proceedings No. 6385 dated 29th October 1860. To give the Canal a width sufficient for

for two boats of the larger size to pass freely. I have allowed a bottom width of $8\frac{1}{2}$ yards. I estimate the cost of each of the two Locks at 16,000, or if their dimensions be reduced from $100' \times 15'$ to $60' \times 10'$ at 13,200 Rupees. As the difference in cost is so small, I have adopted the larger size in the Estimate for the Canal.

9. I now beg to submit for consideration some observations regarding leaving the Canal open to the tides, only having its entrances guarded by simple wings and sills, to prevent their enlargement by erosion when the water of the Lake or the Ganges River is flowing through them. I believe there would be an advantageous effect on the bar at Ganges, by the increased volume of tidal flow and ebb and by the extended period of discharge of fresh water floods.

floods during the Rains. This effect would not be very great, but as far as it went, it would be good. and, by allowing the currents to enlarge the Canal (under strict control by means of simple regulating works at both ends) it might, no doubt, be considerably increased in power.

10. The only disadvantages which I can foresee are (1) the Rooshookoolia depositing silt in the Canal - and (2) the obstacle to traffic by the contrary current of the flood tide accelerated (& the period of flood extended) by the southerly winds which prevail during the dry season. The former (1) would seldom occur, for, during the rainy season, the Chilka watersurface at its southern extremity is higher than the H.W. mark of the Ganjam River at the same season: it would occur when the

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the Rooshookoolia brought down a fresh, produced by local or brief fall of rain; by which the level of the Chilka watersurface would be only slightly or not at all raised. The latter (2) would, no doubt, be a serious disadvantage during the two or three hot months when the southerly winds blow, and when the waters of the lake are at their lowest; and are driven up to its northern extremity by the southerly winds.

11. On the other hand by leaving the Canal open, we should get a greater depth of water at the lake entrance during those (two or three dry) months; with the locked Canal, the lake surface would, for several weeks, be at or below L.W. springs i.e. $1\frac{1}{2}$ to 2 ft. below ordinary L.W. Again the open

open Canal would, during the N. E. Monsoon, give the boats the advantage of current in the direction of the traffic; and during the remainder of the year, the laden boats would go into Ganjam with the ebb, and return with the flood tide.

12. On the whole, I think, the question should be carefully considered before the Locks are commenced. I am inclined, with all the information obtainable at present, to favor the open Canal, though in the absence of fuller information and not having yet personally examined the lake and port, I do not venture to express a decided opinion.

13. I am however decidedly of opinion that, we ought to open the Canal first without Locks; if, after two or three seasons, it be found advisable to

to build them they can be built. I have therefore prepared, and submit with the other, an Estimate for the open Canal (bed $3\frac{1}{2}$ feet below L. W. Spring) amounting to Rs. 1,18,200 which I beg to recommend for sanction.

14. The Estimates are accompanied by a longitudinal section showing the water levels and proposed level of bed of Canal & by drawings of the Locks.

I have the honor to be
Sir,
Your most Obedt^l Servt.

J. L. S. Capt. R. E.
Superintending Engineer, P. W. D.

1864
20. of Car. 1500
22

The Deputy Engineer

are necessary to you.

Madras.
Oct 16th

Dec 12 1872

De Witt Davis, Esq.

\$120,000, for opening

of Mr. & Mrs. and the
Cannon between the

cost of process.

Handwritten: *Handwritten signature*

2612

To enable the Govt. to decide

the alkaline residues produced

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They direct their

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20th Decr - 1864

for Macduffyburg 1st 1751
at 10 P. M. the Acadians