M.R.O. 1—32,400—12-11-35.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 4	Press Mis.
Dated	18

Not to be folded or roughly handled

1 C

Fort Saint George, Public Works Consultation of 3rd March 1857.

No. 71. Read the following Extract from the Minutes of Consultation in the Public Department, dated 7th February 1857, No. 175.

Read the following letter from Colonel C. E. FABER, Chief Engineer; to the Secretary to Government, P. W. D., dated 5th January 1857, No. 9296.

SIR,

Public.
Defence of the right bank of the Adyaur.

I have the honor with reference to Extract from Minutes of Consultation, dated 27th November 1856, No. 1411, to forward the accompanying report* from the Superintendent of Government roads, on the subject of his recent operations in the bed and on the banks of the river Adyaur.

* No. 278, dated 20th December 1856.

2. It will be observed that the effect of his measures has been to increase the section of the artificial channels, previously made through the Island below the bridge, and that a deposit of silt has been formed along the south bank of the river.

3. The works moreover protected the south bank to a great degree.

4. Permanent results could only be expected at a cost exceeding the value of the property likely to be injured by the action of the stream, which itself merely requires watching and occasional expenditure on a small scale to keep the erosion within moderate bounds.

5. At present I would only recommend the re-construction of the bank, between the lower side of the bridge, and a large Island below it, and the construction of a groin near the bridge, and abutting on the above bank, and I trust that the Government will be pleased to authorize the Superintendent of Government roads, to proceed with these protective works.

From Captain W. K. WORSTER, Superintendent of Government Roads; to the Chief Engineer Department of Public Works, Fort St. George, dated 20th December 1856, No. 278.

SIR,

I have the honor to acknowledge the receipt of Extract from the Proceedings of the Chief Engineer, under date the 4th Instant, conveying the order for a report on the state of the Adyaur river as affected by the works executed in its bed, in the year 1854-55.

2. Before discussing the immediate subject of this report, it may be well to explain the nature of the operations intended to improve the regimen of the river.

3. In the year 1854, from the effect of the waters on the South bank above Elphinstone Bridge, and from their scouring action under the arches adjoining, it was considered necessary to cut four channels through the Islands in the river, to divert the stream more towards mid channel, and to dam a deep channel under Colonel Underwood's property below bridge on the north bank, which had been undermined and injured during former freshes. The cost of these works was Rupees 608-4-8.

4. In the following year, in order to increase the water-way below bridge which appeared necessary, a broad channel was cut through the main Island somewhat more towards the middle of the stream than that excavated by convicts under my orders after the completion of the bridge. A dam was also raised connecting the southern abutment with the Island to arrest the flow of the waters from the narrow branch of the river under Mr. Hudleston's, the depth of which had been considerably increased, and the bank seriously encroached on.

5. These two dams as to position and direction, were raised according to the instructions you were good enough to afford me.

6. It was anticipated that the waters thus diverted from their former course, would gradually operate on the Islands and Shoals in the bed of the river, and thus obviate the necessity of further operations beyond keeping the channels clear.

7. Still further to perserve a better regimen, a spur was raised at the bend of the river near Sir Henry Montgomery's above bridge both to deflect the stream towards the opposite Island, and the centre arches of the bridge, and to prevent erosion of the bank, which if not protected would eventually permit the waters to turn the southern abutment.

8. The effect of this spur has certainly proved very beneficial, and I would recommend that a second should be raised nearer the bridge to prevent all risk of accident from high freshes.

9. The cost of the works executed in 1855 was Rupees 950.

10. The operations in the river were thus confined to an enlargement of the water-way by channels through the obstructions above and below bridge, and to directing the course of the stream more towards mid channel, the immediate protection of the injured banks not being considered of any moment provided these measures proved successful.

11. Comparing the present wirh the former condition of the river, it is evident that the flow of waters is far more uniform, and the action on the bed less violent than in previous years. The channel under the southern arches however remains still unaffected to the extent I had anticipated; this arises no doubt from the dam connecting the bridge with the main Island having been caaried away during the gale in November last, when there was no longer a barrier to prevent the waters pursuing their former course under Mr. Hudleston's property.

12. Notwithstanding this accident, a deposition of silt would indicate that the velocity of the current in this direction has been diminished, the waters having a freer course towards mid channel. The absence of deep holes both above and below bridge, which in former years were of frequent occurrence would afford additional indication of a general improvement in the regimen of the river.

13. The diversion of the current by the dam near Colonel Underwood's has had the effect of deepening the river north of the Island with which it is connected, a channel is thus formed between the sand banks in process of formation which may be ultimately removed by judicious operations on the Islands on either side, it will also I think be deemed a prudent precaution to direct the Bar to be opened on the waters coming down to permit the river to discharge itself at once and thus prevent as much as possible the deposit of silt whereby the depth of water is diminished. At present the orders of Government do not permit the Bar to be opened until the last extremity and it has frequently occured that sufficient time has elapsed for the whole of the suspended matter to fall down leaving the water quite clear, before this critical period has arrived.

14. The effect of the recent freshes in increasing the section of the artificial channels has been such as to lead to the hope that the Islands through which they are cut will be gradually affected, but to prevent the detritus being deposited lower down, additional operations will probably be necessary in order that its progress seaward may not be arrested, a third channel, through the main Island and a cut across the extremity of that opposite Colonel Underwood's will perhaps be beneficial towards effecting it.

15. The annexed Memorandum of the soundings taken at different times will mark the changes that have occurred, though they can scarcely be considered as strictly accurate, yet sufficiently so to indicate the alterations in the bed of the river since the 1st soundings in 1848. I regret that I am so occupied as to prevent my submitting a plan and sections of the river, but there are rough sketches in the Chief Engineer's Office which may perhaps be sufficient to exhibit to the eye the nature of the changes that have occurred since that period.

16. In conclusion I beg to state, that whatever improvements may have been effected by the operations in the bed of the Adyaur, they are mainly due to the suggestions of Major Lawford, who was good enough to explain the most advantageous course for me to pursue to direct the flow of the waters towards their proper channel.

Memorandum showing the soundings taken at different times near Elphinstone bridge.

	Near the Bridge East.				Bridge soundings.	Near the Bridge West.			
	In 1848.	In 1855.	8th Sept. 1856.	18th Dec. 1856.	Soundings under the Arches 8th September 1856.	In 1848.	In 1855.	8th Sept. 1856.	18th Dec. 1856.
1st Arch North	7 1/2	0 0	7	9 11/2	3 1/4	0	0 1 1/2 0	3 1/2	2 1/2
2nd	8	3 3	4	2 3	5 1/2	0	3 1/2 4 2	3	2 1/2
3rd	9	6 7	5 1/2	5 6	6	3 1/4	2 1/2 7 3 1/2	2	3
4th	4 1/2	5 3 1/2	3	4 3 1/2	3 1/2	3 1/2	2 3 1/2 4 1/2	2	1 1/2
5th	4 1/2	4 5	3	2 1/2 2 1/2	3 1/2	8	1 4 1/2 4	2 1/2	1 1/2
6th	3 1/2	1 1/2 3 1/2	3	1 1/2 2	2	5 1/2	1 2 1/2 3 1/2	1 1/2	1/2
7th	3 1/2	0 2 1/2	2	1	2 1/2	4 1/4	0 2 3 1/2	1	1/2
8th	5	3 1/2 3	3 1/2	3 0	1 1/2	3 1/4	0 3 4	1 1/2	1/2
9th	4 1/4	1 3	3 1/2	1 1/2 1 1/4	4	3 1/4	1 1/2 4 3 1/2	3	1 1/2
10th	2 1/2	6 2 1/2	1 1/4	0 0	1 1/2	4	1 2 0	3/4	0
11th	4 1/2	5 1/2 6 1/2	4	0 1 1/2	2	4 1/2	1 2 3	1 1/4	1/2
12th	5 1/2	3 3/4 5	4	1 1/2 4	3 1/4	4 1/4	2 4 5	3 1/2	2 1/2
13th	3 1/2	3 4 1/2	4 3/4	3 0 3 1/2	4	6	2 1/4 4 4 1/4	2 3/4	2 1/2
14th	4	3 4 1/2	4 3/4	1 1/2 1 1/2	4	6 1/4	3 4 4	3	2 1/2
15th	4	4 1/4 6 1/2	2	2 1 1/2	9	6	3 4 4 1/4	3 3/4	4
16th	6	6 1/2 7	7	6 3 1/2	12 1/2	6 3/4	9 9 9	8	7 1/2
17th	3 1/2	3 1/2 6 1/2	3 3/4	2 1	2	5	0 2 1/2 3 1/2	4 1/2	0
18th do. South	0	5 5	3 3/4	0 1 1/2		5	0 1 1 0	3	0

(True Copies.)

(Signed) C. E. FABER, Colonel,
Chief Engineer.

Madras,
20th December 1856.

Resolved that copy of the foregoing letter and of the report which accompanied it be forwarded to the Honorable Court of Directors, in reference to para. 61 of the Despatch from this Department, under transmission to England.

2. In this report the Superintendent of Government roads explains the nature of the operations resorted to towards improving the course of the Adyaur river, in the vicinity of the Elphinstone Bridge, and, in regard to their result, adds that "comparing the present with the former condition of the river, it is evident that the flow of waters is far more uniform, and the action on the bed less violent than in previous years."

3. Permanent results, however, of an effective character can only, it appears, be attained at a cost exceeding the value of the property likely to be injured by the action of the stream, which requires to be watched and occasional expenditure incurred on a small scale to keep the erosion of the south bank within moderate bounds.

4. At present, the Chief Engineer would only recommend "the re-construction of the bank between the lower side of the Bridge and a large Island below it, and the construction of a Groin near the bridge and abutting on the above bank." Orders for the execution of these works will accordingly be issued in the Department of Public Works.

5. As a further means towards attaining the object aimed at by the operations now in progress, Captain Worster proposes that "the Bar be opened on the waters coming down, to permit the river to discharge itself at once and thus prevent as much as possible the deposit of silt

whereby the depth of water is diminished." This proposition has not been noticed by the Chief Engineer. He will now be good enough to give his opinion upon it.

(True Extract and Copies.)

(Signed) T. PYCROFT,
Chief Secretary.

No. 72. ORDER THEREON, No. 401; dated 2nd March 1857.

Ordered to be communicated to the Chief Engineer who will prepare and submit for sanction an estimate of the cost of the protective works suggested in his letter of the 5th January, and referred to in para. 4 of the Resolution in the Public Department, dated 7th February 1857, No. 175.

(Signed) H. FORBES.
Acting Secretary to Government.

PUBLIC DEPARTMENT.

No. 175.

Extract from the Minutes of Consultation under date the 7th February 1857.

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3d	9	6	7		5½	5	6	6	3¾	2½	7	3½	2½	3
4th	4¼	5	3½		3½	4	3½	3½	3½	2	3½	4½	2¾	1½
5th	4¼	4	5		3	2½	2½	3¾	8	1	4½	4	2½	1½
6th	3½	1½	3½		1½	2	2	3½	5½	1	2½	3½	1½	¾
7th	3½	0	2½		2	1	2	2	4¼	0	2	3½	1	¼
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9th	4¼	1	3		3½	1½	1¼	4	3¾	1½	4	3½	3	1½
10th	2½	6	2½		1¼	0	0	1½	4	1	2	0	¾	0
11th	4¼	5½	6½		4	0	1½	2	4½	1	2	3	1½	½
12th	5½	3¾	5		4	1½	4	3½	4¼	2	4	5	3½	2½
13th	3½	3	4½		3¾	0	3½	2¾	6	2½	4	4¼	2¾	2½
14th	4	3	4½		4¾	1⅛	1½	4	6½	3	4	4	3	2½
15th	4	4¼	6½		2	2	1½	4	6	3	4	4¼	3½	4
16th	6	6½	7		7	6	3½	9	6¾	9	9	9	8	7½
17th	3½	3½	6½		3¾	2	1	2½	5	0	2½	3½	4½	0
18th do. South	0	5	5		3¾	0	1½	2	5	0	1	0	3	0

(True Copies.)

Madras,
20th December 1856.

(Signed) C. E. FABER, Colonel,
Chief Engineer.

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(True Extract and Copies.)

Chief Secretary.

To the Department of Public Works,
with copy of letter No. 9296, and its enclosures.

Chief Engineer.

Exd. F. Cartledge.

3rd & 4th Reminder 5th M.57

Pub. Works 1857 Depart.
Dft & Corrs 3d March.

( ) 317.

Extract from Corrs
Public Department

Dft 3rd
Rec'd 6th February 1857
From Fort St George
No 175 of 1857
Directing that Orders
be issued for the reconstruc-
tion of the bank between
the lower side of Elphin-
stone Bridge & a large
Island below it & the
construction of a Groin
near the Bridge & abut-
ting on the above bank.

With an order
No 401. 2nd March

L

No 401

Ordered to be communi-
cated to the Chief Engineer who will
prepare and submit for Sanction
an Estimate of the Cost of the pro-
posed works suggested in his letter
of the 5th January and referred to in
para 4 of the Resolution in the
Public Department dated 4th February
1857 No 175.

Fort St George
2 March 1857

A Copy to the Chief Engr. Dist. P.

No 1072.