[Finl. / 6.]
500—24-8-97.

Financial (1898) Department.

ORDINARY MS.

G.O., No. 998

DATED 3-11-98

INDEXED. 5/5

[Despatch Abstract.]

Authorising the A.G. to place, at the disposal of the P.W.Dept from Poll Funds, a sum of Rs 28000 required for building a barge for the work of Tuticorin and mounting on it the Priestman's dredger lying at present in the P.W. Workshops, Madras.

T 21/1458

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Financial CURRENT NO. 2914

BUILDINGS AND ROADS.
CIVIL WORKS.

Government {1898} of Madras.

PUBLIC WORKS.

408:29-4-98
398:28-4-98

CHIEF SECRETARY'S GOVERNMENT OF MADRAS 18 OCT. 1898

Recd. 18th Oct
Regd. 20th "
} 1898.

Enclosures

Spare copies

Rep 21/10/98

G.O., No. 2479 W., 27th September 1898.

SEPTEMBER.

Dredger for the Port of Tuticorin

Estimate of Rs. 24,000 for building a barge and mounting on it the Priestman's dredger lying at present in the Public Works Workshops, Madras, sanctioned, with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers:—

From Commander H. A. STREET, R.I.M., Presidency Port Officer, Madras, to the Secretary to Government, Marine Department, dated 14th April 1898, No. 163/140 G.

With reference to G.O., No. 826, Marine, dated 22nd September 1897, I have the honour to acquaint you, for the information of Government, that the Superintending Engineer, VI Circle, has been consulted as directed in the Government Order above quoted, and I submit herewith a copy of his letter to me on the subject; in paragraph 6 the Superintending Engineer states that he considers a Priestman type of dredger would do very well for the purpose of clearing away the silt, and suggests that a suitable platform to hold the crane might be constructed locally at Tuticorin.

2. I have now received from the Port Officer, Tuticorin, information that a floating platform 40′ × 15′ × 5½′ could be constructed locally at a cost of Rs. 2,104 in round numbers; a platform of this size would suffice for a crane of 10 cwt, and the Director, Royal Indian Marine, estimates that the cost of crane and machinery would be about Rs. 10,000.

3. For receiving the silt, boats would have to be hired or special barges constructed. The hire of boats would be about Rs. 30 each and six boats would probably be necessary. This will not affect the initial cost of the dredger.

4. The total cost of the apparatus including the platform will be about Rs. 13,000 in round numbers, and this sum will have to be met from the Eastern Group Port Funds. In the forecast accompanying the letter No. 1730/18 G., dated 14th January 1898, a sum of Rs. 30,000 was specified as the amount likely to be required to meet dredging purposes.

ENCLOSURE.

From Lieut.-Colonel O. V. BODDY, R.E., Superintending Engineer, VI Circle, to the Presidency Port Officer, Madras, dated Tuticorin, 11th February 1898, No. 85 T.N.

With reference to your letter No. 163/166, Public Works, dated 10th October 1897, I have the honour to inform you that I have had levels taken of the sea bed on each side of the pier at Tuticorin and also round the T head.

2. Comparing these levels with levels taken in 1891, that is, before the construction of the pier, I find that up to the T head, the sea bed remains much as it was. There has been a very little silting. It amounts on the north side to from 1 to 2 inches, and on the south side from 2 to 4 inches.

3. Round the T head there has been more silting. On the north side it amounts to 1 foot, on the east side to 6 inches and on the south side to 1¾ inches.

4. This silting is unquestionably due to the littoral currents bearing silt being checked at the T head, both by the piles, and by the boats lying alongside which draw some 5 feet of water, and thus depositing the silt.

5. I have examined the coast line and waters between Puckle's drain on the north to the Oopar odai on the south. I consider that the drainage carried out to sea through Puckle's drain can have had no effect in tending to silt up the sea bed in the vicinity of the pier, as it is shut off from access to the pier by the sand spit running out from near the Sub-Collector's bungalow and the shoal beyond.

6. The silt which reaches the pier is, I have not the slightest doubt, brought down by the Oopar odai, and carried on by currents to be deposited when their velocity or free flow is checked. The amount of deposit is very small and there is no remedy for this. All that can be done is, as you suggest, to dredge the accumulation out. I consider that a Priestman's type of dredger would do very well for this purpose, but I hardly think that it is necessary to obtain such an expensive apparatus as you propose.

7. The Port officer at Tuticorin could, I believe, construct a floating platform on which to mount the steam crane.

From H. A. Moss, Esq., General Superintendent, Public Works Workshops, to the Superintending Engineer, V Circle, No. 37 S.E./5, dated 7th June 1898.

With reference to paragraph 1 of the Chief Engineer's letter, received with your No. 132 P.W.S., dated 2nd April 1898, I have the honour to forward herewith a plan and estimate, amounting to Rs. 24,000, for building a barge for the Priestman's dredge at present in our stores and mounting the dredge on it.

2. I regret the long delay in sending the plan and estimate. It is due partly to the difficulty in getting at the weight of the dredge and partly to the delay in fitting it, to see what was required to complete it, but chiefly to the insufficiency of the drawing establishment in the Workshops office. We have only one draughtsman, a feeble old man, who is very slow. He gets a certain amount of assistance from the workshops marker, but he being equally ancient and feeble, his assistance is not of much value. These men may have been equal to their work formerly, but of late it has been too much for them and would be even if they were more capable than they are.

3. Consequently I have been unable to submit the complete set of working drawings showing every bolt and rivet that I should like to have sent in. This drawing now sent, however, will give a pretty complete idea of the construction of the barge proposed and will be enough for us to work from. The estimate too, I believe, will be found sufficient though necessarily only roughly approximate in some items. It allows for building the barge in the workshops here, and then sending it in pieces and fitting it up at Tuticorin.

4. The cost of the dredge itself has been taken at Rs. 11,000 which is its value as it lies in the stores now (Rs. 10,000 *plus* Rs. 1,000 the cost of completing and fitting it here. The latter item, I consider, ought to be written off from the first. I think Rs. 10,000 is too high and does not represent its present market value even if complete. The whole amount of Rs. 24,000, I think, will be found to be moderate when compared with the cost of any other floating dredge of equal power.

5. The object aimed at in the design of this barge has been to make it very strong to withstand the racking action of a large grab-dredge in working to make it stable and steady in working, by giving it considerable width and keeping the heavy weights as low as possible to make it of small draught and therefore as useful as possible, and by giving it a high free board to make it safe to work even in rough water. Its properties as a sea-going boat have been kept entirely subsidiary to these and the only attempt in that way has been to make it capable of steering sufficiently well when towed.

6. As the dredge complete with the framing necessary to secure it and distribute its weight will weigh nearly 20 tons, an equal amount of ballast will be required in the after-end of the barge to keep it on an even keel. It is so arranged that this ballast should as far as possible consist of a supply of coal and fresh water. Extra weight will, however, be needed. This will consist of stone, sand or other material as may be found convenient.

7. The cabins for the Engineer and crew will be placed amidships. A passage 5 feet wide is left between the two cabins for the carriage of coal, and to receive the grab when the dredge is not at work.

8. As the dredge is to work in salt water, the bottom would quickly become foul, if of iron, and the hull would require to be hauled up scraped and painted every year at least. As this is a slow and costly business, it has been thought best to build the hull of a strong iron framing covered with stout planking sheathed with copper.

The cost is not more than an entire iron hull would be, and it will have the advantage of not needing to be taken out of the water for repairs more than once in several years. The cross-frames of the barge are of angle iron as shown in the drawing. Longitudinal stiffness is given by four kelsons of 6″ × 4″ steel beams and a deep stringer of ½″ plate all round, just under the gunwale. The dredge itself is carried by two box-girders resting on and attached to the kelsons and extending from side to side. Additional intermediate kelsons are provided under these girders to better distribute the concentrated weight of the dredge over the forward-end of the boat. Four hand-winches are provided for warping the barge. Chains are led from these over-guide pulleys, two ahead and two astern.

9. The space for coals and ballast and the passage between the cabins will be floored with some hard jungle wood laid diagonally as shown. The portion of the passage floor on which the grab rests will be strengthened with an iron plate. Fully loaded and in working order, the barge ought to draw about 2 feet of water or less.

No. 391 W.

Submitted to the Chief Engineer, Public Works Department, with reference to paragraph 1 of his office-note No. $\frac{1871}{A}$ C., dated 26th March 1898.

(Signed) A. W. SMART, Colonel, R.E.,
14th June 1898. Offg. Supg. Engineer, V Circle.

From H. A. MOSS, Esq., General Superintendent, Public Works Workshops, to the Chief Engineer, Public Works Department, dated Madras, 14th July 1898, No. 65 C.

With reference to your office-note No. 3106 C., dated 8th July 1898, I have the honour to report that the dredger can raise 600 tons per working day of 10 hours in free soil, and two-thirds of this quantity in sand or stiff soil. The stuff will have to be deposited in barges alongside. No barges are available in the Public Works Workshops.

2. The working day of a dredger is always 10 hours. It would interfere with work too much to make it less. A lot of time is necessarily lost in getting to work, and as this is the same for a short spell of work as for a long, more work is proportionately done in the long working day.

From Commander W. AVES, R.I.M., Acting Presidency Port Officer, Madras, to the Secretary to Government, Marine Department, dated 25th August 1898, No. 163/289 G.

With respect to Public Works Department Memorandum, No. 3384 C., dated 29th July 1898 (enclosures * herewith returned) I have the honour to report that the dredger in store at the Public Works Workshops appears to be well suited for the requirements of the port of Tuticorin. An extra allotment must, however, be made for anchors and chains.

* Per packet post.

2. No boats suitable for spoil are available at Tuticorin. They could, however, be built locally; but, I think, they would be better constructed at the Public Works Workshops and the draft could be fixed with greater certainty.

3. I would suggest the construction of three barges to carry the greatest possible quantity of spoil on a draft of 1½ feet.

4. In regard to the disposal of the spoil, the question has not yet been settled, but the best and most profitable method would appear to be to utilize the same in reclaiming more foreshore in extension of that already reclaimed. In the meantime the construction of the barges and the completing and fitting of the dredger might be proceeded with.

5. A small cooking place should be provided in the dredger.

Note by the Chief Engineer, Public Works Department.

Submitted to Government with the recommendation that the estimate be sanctioned. Copper sheathing to the hull is essential for working in salt water.

(Signed) W. B. deWINTON,
12th September 1898. Chief Engineer.

Order—No. 2479 W., dated 27th September 1898.

The estimate, amounting to Rs. 24,000, for building a barge and mounting on it the Priestman's dredger lying at present in the Public Works Workshops, Madras, is sanctioned.

2. The attention of the Superintending Engineer is drawn to paragraph 5 of the Presidency Port Officer's second letter above recorded, and to the note by the Chief Engineer, and he will submit, at an early date, an estimate for the construction of the three barges referred to in paragraph 3 of the same letter.

3. In the budget estimate under Port and Marine Funds for 1898–99, there is an allotment of Rs. 28,000 for a dredger for Tuticorin. The Financial Department will be requested to transfer the above provision to the Public Works Department.

4. The Presidency Port Officer will report whether the anchors and chains, required for the dredger, will be provided by the Port Department. The proposal of the same officer to utilise the spoil in the further reclamation of the foreshore at Tuticorin will be considered in the Marine Department.

5. The sanction accorded in paragraph 1 has been registered as Excluded Local No. 22 W., of 1898–99, and classified as Miscellaneous Public Improvements, Original Works.

(True Extract.)

A. Kindall.

Under Secretary to Government.

To the Superintending Engineer, V Circle,
with three enclosures.
" Superintending Engineer, VI Circle.
" Examiner, Public Works Accounts.
" Presidency Port Officer.
" Marine Department.
" Financial Department.

Exd. Shaik Karim.

[G. 175 200—19-9-98.]

Finl. Department.

C. No. 2914

From the Public Works Deptt., No 2439W, dated 27 Septr. 1898.

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L.D. Order W. 9988 3-11-98

Mss The Accountant General will be authorised to place the sum of Rs(28,000) twenty eight thousand at the disposal of the Public Works Dept. from Port Funds.

28/10/98 Cmd. 2.XI.98

1/11/98.

To The A.G. (S.C. +o)
" P.W.D. (q)
- Marine Dr. (q)

Decpd 5/11/98

When given for copying 3/11
When copied 4/11
When examined 4/11 } 1898
When signed

READ AGAIN G.O., No
18 . DATED

CURRENT No.

ENCLOSURES TO C. No.

ORDER OF GOVERNMENT.	A	A	A	A	A	A	A	
LETTER OF GOVERNMENT.								
STATEMENT WITH DITTO								
PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH IN ORIGINAL.								

N.B.—
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