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MADRAS RECORD OFFICE.

Government of Madras.

public works **DEPARTMENT.**

G.O. No.	152	Press
		~~Mis.~~
308-309		
Dated	15-6	1866.

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
15th January 1864.*

No. 308. Read the following letter from Lieutenant-Colonel A. J. M. BOILEAU, R. E., Superintending Engineer, 4th Division, to Colonel C. A. ORR, R. E., Secretary to Government, Public Works Department, dated Madras, 8th January 1864, No. 4,413:—

SIR,

1. In accordance with your verbal instructions conveyed to me on the evening of the 2nd instant (and in anticipation of the receipt of the Order No. 13, dated 4th instant), I have the honor to report that I have conferred with Sir Macdonald Stephenson on subjects connected with utilizing the Pier.

1 Sketch.
1 Letter dated 4th January 1864.

2. As, however, that gentleman has kindly put upon paper his views, I beg to forward the same as expressed in his original letter (and sketch) to my address, dated 4th instant.

3. My want of experience in floating breakwaters does not warrant me in passing an opinion that can be considered as of any value in advising Government as to constructing such a frame work as is proposed by Sir Macdonald Stephenson, who, it will be observed, himself looks upon the matter quite in an experimental light. Certainly I do not think that such an experiment is at all likely to answer.

4. A recent writer observes with regard to this subject: "There have been submitted to the public of late years a great number of schemes for forming floating breakwaters, and wave-screens, or for employing some more economical system than that of creating as it were, artificial islands. But the marked failures of these ingenious contrivances have been so notorious, that it would be unnecessary here to discuss any of them."

5. Sir Macdonald Stephenson was probably not aware when writing about the ladders that those now in use are merely temporary, and that the new ladders are to be some feet longer. Practically, however, it is not found that even now boats get under the foot of the ladder.

From Sir MACDONALD STEPHENSON, Civil Engineer, to Lieutenant-Colonel A. J. M. BOILEAU, R. E., Superintending Engineer, 4th Division, dated Madras, 4th January 1864.

SIR,

1. As my stay in Madras is short, I send you the suggestions which occur to me as likely to assist in further utilizing your Pier, and which appear to me to deserve to be tried.

2. The importance of obtaining comparatively smooth water, at all times, for embarking and landing, will readily be admitted, as until that can be secured, the public are deprived of great part of the practical value and utility of the Pier, and the Government returns are restricted in consequence. The course I would suggest, is based upon the conviction, that the object can be obtained, but that the precise means cannot be predicated from analogy, or without previous experiment that the experiment can be tried at a moderate cost, and that if successful, the end attained will fully justify the expenditure.

3. The experimental operations, with which alone I need now occupy your time, consist in constructing two descriptions of floating timber breakwater, to be chain-moored, in such positions and at such angles to the surf, and to the direction of the north-east monsoon, as experiment may decide, with a buoy to each mooring chain, to regulate the rise and fall. The mooring chains, anchors, grapnels, screw-moorings, bolts, &c., can probably be borrowed from Government stores, and the timber can be disposed of to the Railway Companies for sleepers, after being used.

4. The forms of breakwater are two-fold, the one used parallel and at right angles to the Pier, and at a distance to allow boats to lay inside, to be of 20 more or less balk-timbers of 20, 25 or 30 feet long, as most readily procured, and between each balk, two circular blocks of wood bound with sheet or loop iron and two mooring chains passing from end to end, through the timber and the blocks, by the buoys to the moorings. If the balks are of 2 feet section and 30 feet long the timber required will be about 30 feet for every foot run, exclusive of the blocks.

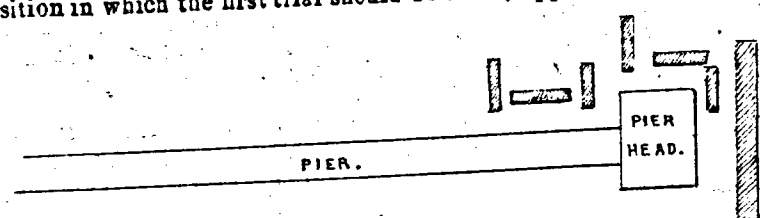
5. The other break-water for the face of the Pier head to be constructed in sections each of 11 rows of balk-timber, placed vertically, the first or middle row of 30 feet the second row on each side of 25 feet, the third 20 feet, the fourth 15 feet, the fifth 10 feet, and the sixth 5 feet, in length, with longitudinal balks running between each vertical timber the entire length, and in both directions bolted and moored.

6. About 150 feet of timber will be required to the foot run. The dimensions, number, and positions of these frames must be regulated, according to circumstances, by the Officer in charge of the experiment. Base about 40' x 30.

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Proceedings of the Madras Government, Public Works Department,
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7. The position in which the first trial should be made, appears to me to be as under:



8. I would suggest that all the ladders in present use at the Pier should have the two sides prolonged several feet and joined by a curved end, by which means the risks now incurred of boats getting under the ladder and being swamped will be avoided.

9. I will send you a sketch of the breakwaters, but you will scarcely need it, with the above description, brief as it is.

No. 309. ORDER THEREON, 15th January 1864, No. 152.
Referred, through the Marine Department, for the opinion of the Superintendent of Marine.

(True Extract.)

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

To the Marine Department, with Plan.

Exd. S. T. Augustin.

Col. A. Boileau R.E.
Lieut. Eng. 4th Div. Madras
Dear Col. Boileau

Madras Jan 1864.

As my stay in Madras is short. I send you the suggestions which occur to me as likely to assist in further utilising your Pier; and which appear to me to deserve to be tried.

The importance of obtaining comparatively smooth water, at all times, for embarking & landing, will readily be admitted, - as until that can be secured, the public are deprived of great part of the practical value & utility of the Pier, & the Government returns are restricted in consequence. The Council's suggestion is based upon the conviction that the object can be obtained, but that the precise means cannot be predetermined from analogy, or without previous experiment - that the experiment can be tried at a moderate cost - and that if successful, the end attained will fully justify the expenditure.

The experimental operations with which alone I need now occupy your time consist in constructing two descriptions of floating timber breakwaters, to be chain moored, in such positions, and at such angles to the wharf, and to the direction of the N.W. Monsoon, as experiment may decide - with a view to each moving chain, to regulate the rise of tide.

The Moving Chains, Anchor, grapnels, Scurry mooring, Bollies can probably be borrowed from J. S. Thomas - and the timber can be disposed of to the Railway Company, for sleepers, after being used.

The forms of breakwater are twofold the one used parallel and at right angles to the pier, and at a distance to allow boats to lay inside, to be of 20 more or less balk timbers, of 20, 25, or 30 ft long, as most readily procured, - and

between each belt, two corner blocks of hard wood with sheet iron spurs; and two mooring chains passing from end to end, thro' the timber & the blocks, by the buoys to the moorings. If the balks are of 2 feet section and 30 feet long the timber required will be about 30 feet for every foot run, exclusive of the blocks.

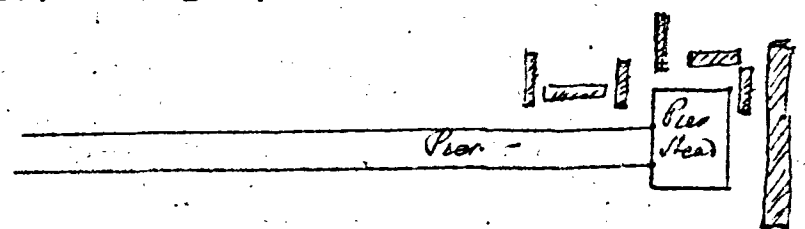
The other consideration for the face of the pier head to be con-

sidered in sections each of 11 rows of balk timber placed vertically, the first or middle row of 30 feet, the second row on each side of 25 feet, the third 20 ft the fourth 15 ft the fifth 10 feet & the sixth 5 feet, in length - with longitudinal balks running between each vertical timber the entire length, and in both directions - bolted - and mortised -

About 150 feet of timber will be required to the foot run -

The dimensions, number, & positions of these frames, must be regulated, according to circumstances, by the Officer in charge of the experiment. Base about 40 x 30.

The position in which the first trial should be made, appears to me to be as under.



I would suggest that all the ladders in position at the pier should have the two sides prolonged several feet, and joined by a curved end, by which means, the risk now incurred of boats getting under the ladder, & being swamped will be avoided -

I will send you a sketch of the breakwater, but you will scarcely need it, with the above description, brief as it is.

Ever dear Sir
Believe me, yours faithfully,

Macdonald Stephenson.

N^o 4413

Super. Engrs Office 4th D^o
Madras 8th January 1864.

From,

Lieutenant Colonel A. J. M. Poileau R. E.
Superintending Engineer 4th D^o

To,

Colonel C. A. Orr R. E.
Secretary to Government C. M. D.

Sir,

In accordance with your verbal
instructions conveyed ^{to me} on the evening of the 2nd Instant
(and in anticipation of the receipt of the order N^o 13 dated
4th Instant), I have the honor to report that I have con-
ferred with Sir Macdonald Stephenson on subjects
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As however that gentleman has
kindly put upon paper his views, I beg to forward
the same as expressed in his original letter (and sketch)
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My want of experience in floating
Breakwaters does not warrant me in passing
an opinion that can be considered as of any
value in advising Government as to constructing
such a frame work as is proposed by Sir Macdonald
Stephenson, who it will be observed, himself

looks

To Mr. C. A. Orr 21.8.1864

Thos. M. Stephenson
Civil Engineer

Dated 4th January
1864

JMB

Ed 92/64
Offers estimate suggestions
for further utilizing the
Pier.

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Supr. Engrs Office & D. } I have the honor to be
Madras 8th January 1864 } Sir
Yours Most Obedient

Bureau ^{Sicut. Col. R. E.}
Supr. Engrs. & D.

To, Colonel C. A. Orr R. E.
Secretary to Government M.D.

1864
The Secretary of the
Board of Supervisors
of the City of New York

The Superintendent of
the City of New York
to the Secretary of the
Board of Supervisors
of the City of New York

The Secretary of the
Board of Supervisors
of the City of New York
to the Superintendent of
the City of New York

April 8th 1864
Dec. 9th 1864
Jan. 13th 1864

The Secretary of the
Board of Supervisors
of the City of New York
to the Superintendent of
the City of New York

April 13th 1864
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to the Secretary of the
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of the City of New York

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