(1) பக்கங்களின் எண்ணிக்கை 30 ✓

(2) புதுக்கித் திருப்பிய நாள் 2/90

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் [illegible]

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

P.W.D துறை

அரசாணை எண்.
மு. கோப்புத் தாள் எண். 2652 / 2653

அச்சகம்
பலவகை

நாள் : 21 — 9 — 1885 19 .

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

Sheet no 14 map
Suit to Mambi Sattu

ஆவண. கா-1—18,006—15-6-87.

(13)

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper :—

From Sir RICHARD BARLOW, *Bart.*, C.S., Chairman, Harbour Trust Board, to the Chief Secretary to Government, Marine Department, dated Madras, 29th August 1889, No. 3062.

I have the honor to acknowledge the receipt of G.O., No. 1737 W., Public Works, dated 1st July 1889, which, after reference to the Board's Engineer, has been carefully considered by the Trustees, and, as directed, I now submit their views for the information of Government.

2. Having regard to the opinion of Sir A. Rendel that the section of the bonded wall of the breakwaters should be increased, the Trust consider that an increase of section, from 24 to 34 feet, may be advisable for such portions of the breakwater as are most exposed to the action of the waves, and are not protected by the ruins of the old breakwaters; but that as the whole of the most exposed portion of the breakwater now under construction, is protected, to a great extent, by the ruins of the old work, the increased section would only be necessary for the overlapping arm, which will have to be built, if a north-east entrance is decided upon, and not otherwise; and that in the event of a north-east entrance being eventually decided on, the Trust consider that no expense should be spared in ensuring the stability of the overlapping arm, which will not receive any protection from the old wall.

3. That as regards the question of increasing the section of the bonded wall throughout the length of the breakwaters and substituting wavebreakers in orderly rows for random work. the Trust are most strongly of opinion that, even if advisable, which they are not yet prepared to admit, the time has long gone by for making any alteration in the bonded section of the breakwaters now under construction. Experience has shown that the wavebreaker of random blocks amply fulfils the object with which it was recommended by Sir John Hawkshaw's committee in 1883, and there is every reason to believe that, in combination with the old wall, and the new 24-feet bonded wall, the section of the breakwaters according to the sanctioned design is fully strong enough.

4. On the subject of the position of the entrance, the Trust would most forcibly express their conviction that any attempt to fix the position of the entrance must be based on experience, and that to decide this important question in any other manner than by practical experience of the effect on the harbour of an eastern entrance, will certainly result in great loss of time and money.

5. With regard to the suggestions of Sir A. Rendel that an inner harbour for ships with quays should be constructed, the Trust consider that no useful purpose would be served by discussing these suggestions until experience has been gained of the state of the water in the harbour with an eastern entrance; for if practically smooth enough, no inner harbour or dock will be required, moreover, the very heavy additional expenditure involved in these proposals, renders it impossible for the Trust to contemplate the carrying out of any work not absolutely necessary for the reasonable requirements of the trade of the port.

It has been estimated that the additional cost involved in forming a north-east entrance would be 21½ * lakhs, and the proposals for an inner ship harbour would not be much less costly, while their advantages over plan No. IV-A have yet to be demonstrated; it is obviously therefore sound financial policy for the Trust to adhere to a plan of operations which may very possibly give them a harbour, suitable for the requirements of the port, at the present estimate of 49¾ lakhs, while at the same time it does not prevent the future construction of a north-east entrance, or the formation of an inner harbour, if either should be found necessary hereafter.

	Lakhs.
* Sanctioned plan	49¾
Plan No. IV-A	71¼
Difference ...	21½

6. The general conclusion which the Trustees have now arrived at, after very careful reconsideration, is that they adhere to the views expressed in para. 4 of my letter, No. 2685, dated 19th October 1888. They consider Mr. Pogson's plan No. IV-A the best which has been proposed, and if in following out this plan to a practical completion of the eastern entrance upon the sanctioned design "it is then found that an eastern entrance will not give sufficiently smooth water, the Board are unanimously of opinion that plan No. IV-A should be adopted if the financial position of the port will admit of it," and the Trustees consider that if experience shows that the harbour will not be practically smooth enough with an eastern entrance, Sir A. Rendel should be asked to personally inspect the works, and favor the Board with his views as to the best method of completing the harbour, so as to ensure smooth water.

Safety for ships during storms is not now contemplated as one of the objects for which a harbour is required at Madras, and if, on the other hand, it is found that an eastern entrance answers all practical purposes, Sir A. Rendel might be asked to furnish designs for the pier heads, lighthouses and other adjuncts required to complete the harbour, and for these purposes a personal inspection will perhaps not be necessary. Both on financial and engineering grounds the Trust consider that the work should be prosecuted with the greatest rigour on the lines which they have already most strongly recommended to Government, when forwarding Mr. Pogson's proposals for a north-east entrance according to plan No. IV-A.

Transferred to the Public Works Department.

11th September 1889. (Signed) W. S. MEYER,
Assistant Secretary.

Order—dated 23rd September 1889, No. 2652 W., Public Works.

Ordered that the Government of India be addressed.

(Here enter No. 2653 W., dated 23rd September 1889.)

(True Extract.)

(Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

To the Chairman, Madras Harbour Trust Board.
" Marine Department.

Exd. P. L. Pereira.
Spare Copies

2652

2

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated September, 23rd.

Recd. *Encl.*

G.O., 23rd Sept. 1889, No. 2652 W.

SEPTEMBER.

Madras Harbour

Ordered that the Government of India be addressed on the subject of the reconstruction of the — and the position of the entrance.

2652

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

LETTER—from

LIEUT.-COL. R. R. E. DRAKE-BROCKMAN, R.E.,
Ag. Joint Secretary to the Government of Madras,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

With his despatch to this Government, No. 7, Public Works, dated 23rd May 1889, the Right Honorable the Secretary of State for India forwarded a preliminary report drawn up by Sir Alexander Rendel, K.C.I.E., regarding the reconstruction of the Madras Harbour and the position of the entrance, and requested that the views of this Government on the important recommendations made therein should be communicated to the Government of India.

2. In compliance with these instructions, I am now directed to forward a copy of a letter * from the Chairman, Madras Harbour Trust Board, setting forth the conclusions at which the Board has arrived after careful consideration of the report.

* Proceedings of Government, No. 2652 W., dated 23rd September 1889.

Those conclusions may be briefly stated as follows:—

(1) That the present section of the harbour walls, with 40-feet wavebreaker protection, and the further protection at the most exposed parts, afforded by the ruins of the old walls, is sufficiently strong.

(2) That the only portion which may require an increased section, will be the overlapping arm which must be built should a north-east entrance be eventually decided upon.

(3) That the Board is strongly opposed to the proposal to place the wavebreaker blocks in orderly rows, and considers that the main feature of the present design is the wavebreaker protection of "random" work, which experience has shown answers admirably, while the orderly rows do not satisfactorily break up the waves.

(4) That the question of the position of the entrance should be decided hereafter by practical experience.

(5) That no useful purpose will be served by, at present, discussing Sir A. Rendel's suggestions regarding the provision of an inner harbour for ships, with quays, &c.

3. The general conclusion at which the Board has arrived is that the work should be prosecuted nearly to completion on the lines of the present sanctioned design, and

3

that the question of the position of the entrance should be left to be finally determined hereafter when experience has shown whether or not an eastern opening gives sufficiently smooth water.

4. I am directed to say that this Government fully concurs in the views expressed by the Harbour Trust Board. Notwithstanding anything which may be said to the contrary, this Government is of opinion that the Madras Harbour, as it is being constructed at present, must be regarded as an experiment, and that to attempt to finally fix the position of the entrance now would be a fatal mistake. Experience alone can show, after completion of the piers on the sanctioned design, whether an eastern opening will give practically smooth water; and if it is found that this object has been secured, no one will dispute that it would be useless to make a north-east opening at an additional cost of 21½ lakhs of rupees.

5. This Government sees no reason to doubt the correctness of the other conclusions arrived at by the Board, and as regards the inner docks and quays suggested by Sir A. Rendel, it has yet to be shown that the trade of Madras requires them and that the port is financially capable of providing them.

6. In conclusion, I am to say that if the work is allowed to proceed on the present lines, this Government and the Harbour Trust Board will probably in less than two years' time have actual facts to guide them as to the further steps to be taken.

I have the honor to be,
Sir,
Your most obedient servant,

Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

Fort St. George,
23rd September 1889.

Exd. P. L. Pereira.
Spare Copies

2652

4

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated September, 23rd.

Recd. *Encl.*

23rd Sept. 1889, No. 2653 W.

SEPTEMBER.

Madras Harbour

Forwarding, with remarks, certain correspondence relating to the construction of the — and the position of the entrance.

Harbour Trust Board Office,

MADRAS, 29th August 1889.

No. 2652

From Sir Richard Bourdillon Bart CS

Chairman, Harbour Trust Board,
MADRAS.

To The Honble J. F. Price CS

Chief Secretary to Government,
Marine Department.

Sir

I have the honour to acknowledge the receipt of G.O. No. 1787 M, Public Works, dated 1st July 1889, which after reference to the Board's Engineer has been carefully considered by the Trustees, and as directed I now submit their views for the information of Government.

2 Having regard to the opinion of Sir A. Rendel that the section of the breakwaters should be increased, the Trust consider that

that an increase of section from 24 to 34 feet, may be advisable for such portions of the breakwater as are most exposed to the action of the waves, and are not protected by the ruins of the old breakwaters; but that as the whole of the most exposed portion of the breakwater now under construction, is protected to a great extent by the ruins of the old work, the increased section would only be necessary for the overlapping arm, which will have to be built, if a North East Entrance is decided upon and not otherwise; and that in the event of a North East Entrance being eventually decided on, the Board consider that no expense should be spared in securing the stability of the overlapping arm which will not receive any protection from the old wall.

That

3 That as regards the question of increasing the section of the bonded wall throughout the length of the breakwaters, and substituting rubble breakers in orderly rows for random work, the Board are most strongly of opinion that, even if advisable, which they are not yet prepared to admit, the time has long gone by for making any alteration in the bonded section of the breakwaters now under Construction. Experience has shown that the wave breaker of random blocks amply fulfils the object with which it was recommended by Sir John Hawkshaw's Committee in 1858, and there is every reason to believe, that in combination with the old wall, and the new 24 foot bonded wall, the section of the breakwaters according

to

to the Sanctioned design is fully strong enough.

4. On the subject of the position of the entrance the Trust would most forcibly express their conviction that any attempt to fix the position of the entrance must be based on experience, and that to decide this important question in any other manner than by practical experience of the effect on the Harbour of an Eastern Entrance, will certainly result in great loss of time and money.

5. With regard to the suggestions of Sir A. Rendel that an inner Harbour for ships with quays should be constructed, the Trust Consider that no useful purpose would be served by discussing these suggestions until experience has been gained of the state of the water in the Harbours with

with an Eastern Entrance; for if practically smooth enough no inner Harbour or dock will be required, moreover, the very heavy additional Expenditure involved in these proposals renders it impossible for the Trust to contemplate the carrying out of any work not absolutely necessary for the reasonable requirements of the trade of the Port.

It has been estimated that the additional cost involved in forming a North East Entrance would be 21½ lakhs, and the proposals for an inner Ship Harbour would not be much less costly, while their advantages over Plan No. IV A have yet to be demonstrated, it is obviously therefore sound financial policy for the Trust to adhere to a plan of Harbour which may very possibly give them a Harbour, suitable for the

* Lakhs
Sanctioned plan No. IV A — 71/4
Plan No. IV A — 71/4
Difference 21/2

the requirements of the Port at the present estimate of traffic, while at the same time it does not prevent the future construction of a North East entrance, or the formation of an inner Harbour, if either should be found necessary hereafter.

6 The general conclusion which the Trustees have now arrived at, after very careful reconsideration, is that they adhere to the views expressed in para 4 of my letter No 2680 dated 19th October 1868. They consider Mr Jopson's plan No III the best which has been proposed, and if in following out this plan to a practical completion of the Eastern entrance upon the sanctioned design, it is "then found that an Eastern "entrance will not give sufficiently "smooth water; the Board are "unanimously of opinion that "plan No II A should be adopted

2652

"if the financial position of the Port will admit of it, and the Trustees consider that if experience shows that the Harbour will not be practically smooth enough with an Eastern entrance, Sir A. Rendel should be asked to personally inspect the works, and favour the Board with his views as to the best method of completing the Harbour, so as to secure smooth water.

Safety for ships during storms is not now contemplated as one of the objects for which a Harbour is required at Madras, and if on the other hand it is found that an Eastern entrance answers all practical purposes, Sir A. Rendel might be asked to furnish designs for the pier heads, light-houses and other adjuncts required to complete the Harbour, and for these purposes a personal inspection will perhaps not be necessary

recommend Harbour Proprietors
and Corporation of London to
grant consent to the work
should the proprietors with the
greatest despatch as this is
which they have already most
strongly recommended to the
Government, when forwarding
Mr Topin's proposals for a North
East Entrance according to Plan
No LV A.

I have the honor to be
Sir
Your most obedient Servant
[illegible]
Chairman
Harbour Trust Board

Pro

Rec

No 1737 w 4-7-89
" 2370 w 28-8-89 2652
" 16/2277 w 19-8-89
" 2277 w 17-8-89
" 2193 w 12-8-89
" 602 B 31-7-89
" 1995 w 24-7-89
" 1583 w 17-6-89
" 11/1492 w 6-6-89
" 1492 w/A 6-6-89
" 1139 w 29-4-89
" 1062 w 18-4-89
" 821 w 19-3-89
" 7/622 w 2-3-89
" 622 w 2-3-89
" 174 w 22-1-89
" 3919 w 13-12-88
" 22/3644 w 17-11-88
" 3644-5 w 17-11-88
" 19/3065 w 1-10-88
" 11/2335 w 1-8-88
" 2335-6 w 1-8-88
" 153 w 16-1-88
" 3484 w 20-12-87
" 3128 w 19-12-87

9

MARINE DEPARTMENT.

From

THE CHAIRMAN,

Harbour Trust Board,

MADRAS.

To

The Chief Secretary to Government,

Marine Department

Dated 29th August 1889

Received

Registered

No. 3062

SUBJECT.

Submitting for the information of Government the views of the Trustees on Sir A. Rendel's report on the Madras Harbour.

I have the honour to be,

Sir,

Your most obedient servant,

Chairman.

No. 512 Ext of 19.11.89
" 3442 W = 9.11.89
" 1858 W " 16.11.89
" 2535 W = 1-12-89
" 2535 N = 1-12-89
" 3668 W = 7-12-89
" 3668 W = 1-12-89
" 3644-45 W-17-12-89
" 24/3644 W = 17.12.89
" 3919 W = 13.12.89
" 174 W = 22.1.89
" 7/8224 W = 2.3.89
" 821 W " 19.11.89
" 1062 W = 18.4.89
" 1739 W = 29.4.89
" 1492 W = 6.6.89
A
" 11/1492 " 6.6.89
A
" 1583 W " 17.6.89
" 1757 W " 1-7-89
" 1998 W " 24.7.89
" 528 D " 28.7.89
" 602 D = 31.7.89
" 2193 W " 12.8.89
" 2277 W = 19.8.89
" 16/2277 W = 19.8.89
" 2370 W = 28.8.89

H.E. 19-9-89 R. 23-9-89
H.M. 16-9-89 R 19.9.89

Ext

B.B.R. & Works

IV

I.B.R. has noted the main points of the Board's letter, to which I must add as (5) the Board are strongly opposed to placing the new harbour blocks in entirely novel, and unproven position the normal design is the more hardy protection of "freedom" work, which experience has shown answers admirably, while the orderly rows do not interpretively break up the waves.

I hope Govt will support the views of the Board. For the last two years I have urged the necessity of considering the Rendel Rubble, as an experiment. To attempt to fix the entrance, will I am convinced, be a fatal mistake; there is no means at present of deciding whether an E. or W. entrance will be the best; and personal feeling should be kept out of the question. vide para 11 of Sir A Rendel's report.

and requested that the views of

B&R
& works

No. 2652

PUBLIC WORKS DEPARTMENT.

2652

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 23 Sept. 1889

READ the following

From the Chairman Harbour Trust Board. H.L. No. 2062 of 29th August 1889

Endorsement in the Marine Dept. - H.L. No. - of 11th Sept 1889.

Ordered that the Govt. of India be addressed:-

H.L. No. 2653 dated 23 Sept 1889

To The Secy to the Govt. of India P.W. Dept.

Sir,

With his despatch to this Government No. 7 Public Works of 23rd May 1889, the Right Honble the Secy. of State for India forwarded a preliminary report drawn up by Sir Alexander Rendel K.C.M.G. regarding the reconstruction of the Madras Harbour and the position of the entrance, and requested that the views of

To The Chairman M.H.T. Bd & Marine Dept.

The views of the H.T.B. obviate me as regards that part of Sir A. Rendel, who aims at a complete upset of existing plans.
I agree with the Board so far as I can form an opinion, but the beginning of para 4 should be altered. I have seen no note or discussion of the question by the professional advisers of the Govt.

MES
10 Sept

of this Port on the important recommendations made therein should be communicated to the Govt. of India.

2. In compliance with these instructions, I am now directed to forward a copy of a letter† from the Chairman Madras Harbour Trust Board setting forth the conclusions at which the Board has arrived after careful consideration of the report. These conclusions may be briefly stated as follows:

(1) That the present section of the Harbour walls, with its fine wave breaker protection, and the further protection at the most exposed parts, afforded by ruins of the old walls, is sufficiently strong.

(2) That the only portion which may require immediate an increased section, will be the overlapping arm which must be built should a north east entrance be eventually decided upon.

(3) That the Board is strongly opposed to the proposal

† Proceedings of Govt. of Mad. No. 2652 of 23rd Sept. 1887.

to place the wave breaker blocks in orderly rows, and considers that the main feature of the present design is the wave breaker protection of "sand arm" work, which experience has shewn answers admirably, while the orderly rows do not satisfactorily break up the waves.

(4) That the question of the position of the entrance should be decided hereafter by practical experience.

(5) That no useful purpose will be served by, at present, discussing Sir A. Rendel's suggestion regarding the provision of an inner harbour for ships, with quays &c.

3. The general conclusion at which the Board has arrived is that the work should be prosecuted nearly to completion on the lines of the present sanctioned design, and that the question

of

of the position of the entrance should be left to be finally determined hereafter when experience has shewn whether or not an eastern opening gives sufficiently smooth water.

4. I am directed to say that ~~the desirable object~~ this Govt: fully concurs in the views expressed by the Madras Trust Board. Notwithstanding anything which may be said to the contrary, this Govt is of opinion that the Madras Harbour, as it is being constructed at present, must be regarded as an experiment, and that to attempt to finally fix the position of the entrance now would be a fatal mistake. Experience alone can shew, after completion of the piers, on the sanctioned design, whether an eastern opening will give practically smooth water, and if it is found that this object has been secured,

no one will dispute that it would be useless to make a north east opening at an additional cost of 21/2 lakhs of Rupees.

5. This Government sees no reason to doubt the correctness of the other conclusions arrived at by the Board, and as regards the minor docks and quays suggested by Lt A. Rendel, it has yet to be shewn that the trade of Madras requires them and that the port is financially capable of providing them.

6. In conclusion I am to say that if the work is allowed to proceed on the present lines, this Govt and the Harbours Trust Board will probably in less than two years time have actual facts to guide them as to the further steps to be taken to

Recd to Simla with D.O. 1/10/89 Recd 16.9.89

B Stone

Recd 16-9

Ch

It must be remembered that even in its present state the harbour is of great use, and that every foot of wall now being built adds to its utility

Thompson.

W.

2652
93/14

H.E. 19-9-87
H.M. 16-9-87


WHITEHAVEN
SURVEYED BY COMMANDER H. M. DENHAM, F.R.S.
AND MR ABRAHAM MIDDLETON, 1841.
The North Wall, Dock and works North of it
Corrected by Staff Commander Kerr, R.N. 1876.
Further corrections from a plan by Mr J. Brodie C.E. 1887.
SOUNDINGS IN FEET
At Low Water Springs.
North Pier Spit
Outer Light
NORTH HARBOUR
QUEENS DOCK
SOUTH HARBOUR
CUSTOM HOUSE DOCK
Market Place
St Nicholas Church
Trinity Church
Whitehaven Castle
Castle Gardens
Queen Street
Church Street
Scotch Street
Duke Street
Roper Street
Wellington Row
HILL
Bowgill Incline
Hill
company Sir A. M. Rendel's
on the subject of the
Harbour of 16th Apl. 1859.
All the piers, quays, tongues,
are solid. There are no

Govt. of 18 Madras

PUBLIC WORKS.

Dated 1891

Rect. Encl.

G.O. 23 Sep 1891 No. 2652

2653

60/3

Madras Harbour

Ordered that the Secretary in India in Council be requested to submit a Report on the construction of the Harbour and the position of the entrance.

Madras Harbour

Forwards, with Remarks, certain correspondence relating to the construction of the Harbour and the position of the entrance.

23/6