

27TH APRIL 1885, No. 989 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following letter from F. N. THOROWGOOD, Esq., M. INST. C.E.,
Superintendent, Madras Harbour Works, to the Secretary to Government,
Public Works Department, dated 11th April 1885, No. 3 W. :—

I have the honor to submit, herewith, two plans and a report of the progress and general state of the Madras harbour works up to 31st March 1885, and I think that, as active operations are now resumed, it will be advisable to resume also the submission of monthly reports to Government as was done regularly up to end of 1881.

2. *Last report.*—My last report of progress was dated 4th November 1884, and in the fourth paragraph I drew attention to the special protective works that had been carried out at a spot 200 feet from the commencement of the north pier. I shall have occasion to refer to this again, and in the meantime will review what has been done during the financial year 1884-85.

3. *North pier foreshore work.*—The work of preparing the foreshore of the north pier for carrying the 30-ton blocks of the “wave-breaker” has been pushed steadily forward whenever the state of the weather would permit, and will be completed during the current month. The work consists merely in raising and widening the present foreshore in accordance with the approved design for restoration. During the year 43,357 tons of stone from Pallavaram have been used for this purpose, of which 39,167 tons were deposited from boats and the remainder thrown into the sea by hand. The South Indian Railway having now more wagons available for stone traffic I hope very shortly to bring this part of the work up to its proper rate of execution. The greater the quantity of work got through in a day the less per ton will be the cost, and as with the present state of affairs the cost of the foreshore deposited in the sea has been during the year only a fraction over Rs. 1-8-0 per ton (Mr. Parkes’ estimate being Rs. 2), there is every prospect of a considerable saving being effected in this branch of the work.

4. *Storm of 20th November 1884.*—On 20th November a sudden and sharp cyclonic storm during the night raised a heavy sea from the north-east, and so great was the force of the waves that, at the spot referred to in paragraph 4 of my last report, the rubble protective mound, carrying 16 blocks of 30 tons weight each, was battered down very rapidly, causing 12 of the 30-ton blocks to fall over gently towards the sea and so take up the random position intended for them. A remarkable feature of the storm was that the attacking waves threw up some 50 tons of the boulders of the mound on to the surface of the pier and indeed over into the harbour during the night, yet at daybreak on the 21st the wind and sea were coming from the south of east, and the battered mound of rubble was in absolutely smooth water. It is noteworthy that high water occurred at 10-30 P.M., when the rise of tide was so

high that the self-registering tide gauge on the iron pier-head could not record it, the pencil running off the diagram paper.

5. *Position of blocks shown on plan.*—On the accompanying plan I have shown in red at the point marked M the site of this rubble mound, also the remaining four of the 30-ton blocks which have not yet fallen forward. There is also shown by red lines nearly parallel to the two piers the extent of the new foreshore deposited.

6. *South pier foreshore work.*—At the south pier during the past year only 19,538 tons of rubble were deposited in the foreshore, but this work only was commenced on 11th October 1884, and had to be stopped in February when the wind and waves came from the south of east.

7. *Plants and machinery on shore.*—Preparations on shore for the work of rebuilding the piers have been going steadily on throughout the year, but it was not until receiving the grant of Rs. 50,000 (G.O. No. 308 W., of 9th February 1885) that I was able to throw any briskness into the work. Since that date two platforms, each 1,134 feet in length, have been completed for making and storing the new concrete blocks required. This work, which I estimated would cost Rs. 3,037, has cost actually only Rs. 2,632. There remain now two more similar platforms to be altered at the north pier-yard and two of smaller dimensions at the south pier-yard. The work of altering three others, however, cannot be taken in hand until the concrete blocks now covering the sites can be deposited in the sea, and this cannot be done until the arrival of one of the cranes from England. With reference to these new block platforms I should remark that two tiers of blocks can be stacked on each platform, and at the same time the blocks can be placed much nearer together than was the case during the construction of the original works, and by these means the number of blocks on hand, as compared with the stock in former years, can nearly be trebled.

8. *Block moulds.*—There have been made twenty-four blocks moulds for the "wave-breaker" blocks, and these have been made mostly from old material. The block moulds for the new work of construction are being pushed rapidly forward. These are made from some very excellent teakwood supplied by the Superintendent of the Public Works Stores who has been good enough to arrange for a further supply, which will be necessary shortly.

9. *Light travellers.*—Three light travelling cranes are required for block-making, and of these one has been completed, another is well forward, and the third is in hand. All that can be done to repair and renew existing machinery has been carried out.

10. *Recovery of old blocks.*—Mr. Parkes' orders to me are to construct some apparatus for the recovery of those concrete blocks that lie under water in the line of the proposed new foundations. It will be necessary to obtain two powerful lighters, each capable of sustaining at least 20 tons for this purpose. I have hitherto not been successful in obtaining suitable boats, but am now trying to get two from Cocanada, to which port the Master Attendant recommended me to apply at first. I am not very sanguine of success in recovering the old blocks, but the value of each block recovered is so considerable that the experiment may well be made. In the meantime, I am blowing up with dynamite many of the old submerged blocks, thus converting each block into 432 cubic feet of rubble foundation, and preparing the way for depositing more rubble for the base of the new built work. At the present moment I have had to suspend this work owing to failure of the electric fuses lately supplied; others, however, are ordered from Bombay.

11. *Preparation for work tenders.*—With the prospect of heavy work going on for the next four years in connection with this harbour, I deemed it advisable to call for tenders by public advertisement for all those branches of the work which admit of working by contract. These are three, viz.,—

I. Deposit of rubble base in foundations.

II. Labor in making concrete blocks.

III. Quarrying and supplying stones.

12. Having prepared specifications for each of these works, together with forms of tender, I advertised in all the local papers. More than fifty persons applied for

specifications of each different work, the greater part of them probably not having the slightest knowledge of what was required, nor the slightest intention of tendering. For the first work (I) I received seventeen tenders, out of which I selected four as being fair and reasonable, and of the four I selected the tender whose rates gave the lowest total for the whole work, the name of the tenderer being Dhonadee Peddah Thumboo. For the second work (II) I received only ten tenders, all nearly equal, and I accepted the tender of the man who had done the work since the commencement, by name P. Annamalay Chetty. For the third work (III) I received only nine tenders, and, after rejecting two as out of all question too low, I accepted the lowest of the remaining seven, the contractor being G. M. Kazim Ali Nakvy Sahib, who has hitherto done the work satisfactorily. The result of my calling for tenders in this way is that every branch of work will be executed at a less rate than heretofore, and consequently at a lower rate than we estimated.

13. *Survey of harbour.*—In February and March, Mr. Beardmore and I resurveyed the whole area of the harbour and much of the coast to the south. The result of our survey is shown on the plan accompanying this report, the depths being below DeHavilland's mean sea level, which is $2\cdot7\frac{1}{2}$ above low water spring tides. The weather having been peculiarly favorable, the soundings given on this chart may be relied on as absolutely correct. I have shown the successive positions of high water-mark from February 1879 (green line) to February 1885 (black line), and it will be seen that the advance of the shore is very regular and steady outside the harbour and to the south.

14. *Survey of 1882.*—The blue contour lines are taken from the survey of September and October 1882, and serve well for comparison. Commencing outside the harbour area it will be seen that where the 5 fathoms line fell in 1882 we now get depths of from 21 feet to 26 feet, and where the 3 fathoms line fell in 1882 there are now only from 13 to $16\frac{1}{2}$ feet of water.

15. *Shoaling.*—This shoaling up to the south was always foreseen by Mr. Parkes, and is no way more rapid than was at first predicted by him—see G.O. No. 3343, dated 9th December 1876 (paragraphs 41 and seq. of Mr. Parkes' letter therewith).

16. *Depths inside harbour.*—Inside the harbour area there is also some shoaling as may be seen on looking at the soundings. The 7 fathom contour has not altered appreciably, but at the 3 fathom line of 1882 there is a shoaling of from 1 to $1\frac{1}{2}$ feet and at the 2 fathom line of from 1 to 3 feet. The H.W. line of 1879 (green) is 120 feet further back at the iron pier than the present H.W. line.

17. *Commissary-General's remarks on H.W. line.*—Before leaving this subject of the H.W. line, I would call special attention to the fact that, in 1879, its position cuts the present site of the Commissariat mule lines—a fact which the Commissary-General appears to disbelieve in his letter attached to the proceedings of Government recorded with G.O. of 19th December 1884, No. 3127 W.

18. *Expenditure.*—The expenditure during the year has been Rs. 2,04,244, of which Rs. 29,775 was incurred during the past month of March.

19. *Dates for new establishment to begin.*—In conclusion, I would respectfully ask if 1st April may not be taken as the date from which the new scale of establishment sanctioned in G.Os. No. 3574 W., dated 14th December 1883, and No. 292 W., dated 7th February 1885, may take effect, active operations being now resumed.

ORDER—dated 27th April 1885, No. 989 W., Public Works.

The Government have read this report with great interest, and are especially pleased to learn the success which has attended Mr. Thorowgood's endeavours to secure the execution of the work by contract at comparatively low rates.

2. The scale of establishment sanctioned in G.O. No. 3574 W., dated 14th December 1883, may have effect from 1st April 1885.

3. The Superintendent's proposal to resume the submission of monthly progress reports is approved.

4. Prior to the cyclone of November 1881, special quarterly progress reports were submitted for the information of the Government of India. That Government will be requested to state whether they wish that practice to be resumed.

(Here enter No. 990 W., dated 27th April 1885.)

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintendent, Madras Harbour Works.
„ Examiner, Public Works Accounts.
„ Marine Department.

Exd. A. Grubert.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of 1885 Madras.

PUBLIC WORKS.

Dated April, 27th.

Recd.

Encl.

G.O., 27th April 1885, No. 989 W.

APRIL.

Madras Harbour Works

Orders on progress report of the — up to
31st March 1885.

27TH APRIL 1885, No. 990 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

LETTER—from

COLONEL J. SHAW-STEWART, R.E.,

Secretary to the Government of Madras,

Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

SIR,

Adverting to this office endorsement No. 2677 W., dated 1st November 1881, I am directed to inquire whether the Government of India wish the submission of quarterly reports on the progress of the Madras harbour works to be resumed, now that active operations for the reconstruction of the harbour have been commenced.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed)

J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

OOTACAMUND,
27th April 1885.

Exd. A. Grubert.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1885} Madras.
PUBLIC WORKS.

Dated April, 27th.

Recd.

Encl.

27th April 1885, No. 990 W.

APRIL.

Madras Harbour Works

Inquiring whether quarterly reports of
the progress of the — are required to be
submitted.

No. 22 W.

FROM

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS,

To *The Hon. Col. J. H. M. Shaw-Stewart R.E.*
Secretary to Government P.W.D.
MADRAS, *16th July* 1886.

Sir,

*I have the honour to forward herewith
a plan showing the progress on these works
during the quarter ended June 30th 1886,
for the information of the Government of
India.*

*2. There does not appear to me to be suffi-
cient change in the appearance of the works
above water since March 31st 1886 to justify
expenditure on a quarterly set of photographs
at present.*

I have the honour to be,

Sir,

Your most Obedient Servant,

J. N. Horsburgh. M. Inst. C.E.
Superintendent.
Madras Harbour Works.

No. 1764 W. d/ 13th July 1886.

Ordered to be
forwarded to the
Govt. of India, in
Continuation of No. 377 W.
8th 2nd Feb 86.

Dated 2nd February
1886.

Ca. W. d. 13th July 1886
file at 100
not in the file mentioned

No. 1765 W. d/ 13th July 1886

Forwarded
Forwarded

W. d/ 7/8/86
9-7-86

Secy. to the Govt. of India
S. to the P. W. D.
with the plan
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Building & Roads

From

The Superintendent
Madras Harbour Works

Dated 6th
Recd 7 } July 1886.

Nos. 1764 W. d/ 13th July 1886.
1765

No 12 W

2857 W

No of Enclosure. One

(Mun)

Progress Report

Submit quarterly

ending 30 June 1886.

End with R

EXTRACT of Proceedings of the HARBOUR TRUST BOARD, at a
Meeting held at the offices of the Board on
Thursday the Eighteenth day
of November 1886.

x

x

x

x

9. Read letter No 422 ell dated 12th
November 1886, from the Superintendent Madras
Harbour Works forwarding a plan and
photographs showing the progress made
at the Madras Harbour Works during the
quarter ending 30th September 1886.

Resolved that the plan and photo-
graphs be forwarded to Government for
the information of the Government of India.

x

x

x

x

True Extract

Consent

Secretary
Harbour Trust Board.



Harbour Trust Board Office,
MADRAS, 19th November 1886.

No. 1217

FROM
23.11.86

The Honorable R. W. Barlow C. S.

CHAIRMAN, HARBOUR TRUST BOARD,
MADRAS,

TO
Colonel J. C. Hasted R. E.

CHIEF SECRETARY TO GOVERNMENT,

Public Works Marine Department.

SIR, Chepauk.

I have the honor to forward herewith Copy of resolution of the Harbour Trust Board at their meeting held last evening together with plan and four Photographs, for submission to the Government, of India, showing progress made on the Madras Harbour Works during the quarter ending 30th September last.

I have the honor to be

Sir

Your most Obedient Servant

P. H. B.

M. W. Barlow
Chairman
Harbour Trust Board.

Ph. 9/138/6

1764-5-13-7-86.
990-27-4-85.
1789-2-4-85-86.

In the Pnos
No 3121 W a/24. No 786

B
Ordered to be
forwarded to the
Govt of India, in
continuation of
Go. N. 1765 W a/24
of 13 July 1886.
13th July 1886.

(H. N. 3122 W a/24. No 786)
Forwarded.

May
23.11.86

To
The Secy to the Govt of India
with 1 plan and 4 photos
four photographs
with 1 plan & 4 photos

Despd 25-11-86.
Jul 12 25/11/86

P.W.C. No 9138
MARINE DEPARTMENT.

FROM
THE CHAIRMAN,
HARBOUR TRUST BOARD,
MADRAS,

TO
THE ~~CHIEF~~ SECRETARY TO GOVERNMENT,
Public Works Marine Department.
Calcutta

DATED 19 } November 1886.
RECEIVED 22 }

ENCLOSURE 26 (+ 1 plan & 4 photos)
No. 1217

No 3121
3122 W a/24. No 786

SUBJECT.

Forwarding resolution
of the H. T. B. at their
meeting held on 18th Nov^r
1886, with plan and
photographs showing
the Progress made on
the Madras Harbour
during the quarter ending
30th September 1886.

ST DW
W