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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PW

DEPARTMENT

G.O. No.	2335 (W)	Press.
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Dated	11.10.1980	197/

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Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

11th October 1880, No. 2,335 W.

Buildings and Roads.
Civil Works.

Read the following paper :—

No. 46. From F. N. THOROWGOOD, Esq., M. INST. C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 2nd October 1880, No. 44 W.

I HAVE the honor to submit the following report of the progress on these works during the past month of September in which no less than 447 lineal feet of deep sea piers have been constructed, being 90 feet more than was built in the previous month of August.

2. *North Pier Superstructure.*—The weather in September was favorable for work (excepting heavy rains in the early part of the month) and every advantage was taken of the quiet sea to push the construction on rapidly. There were 360 blocks set in the north pier, advancing the work by a length of $210\frac{3}{4}$ lineal feet, and making the total length from the point B on 30th September $3,512\frac{1}{2}$ feet. A length of 163 feet in advance of the present termination brings the work to the commencement of the pier head.

3. The large number of blocks set in the north pier during August and September (viz. 680) has severely taxed the supply, and a few days' delay is unavoidable in order to insure the use of no blocks that are not thoroughly hardened.

4. *North Pier Rubble Base.*—The deposit of stone in the rubble base was as great as could be managed, but not nearly such as I could wish. The failing supply of laterite at Ambatūr, together with the laying up of the two Steamers *Hobart* and *Salisbury* for repairs, seriously interfered with rapid progress under this head. There were 12,445 tons of stone deposited in September, of which the steam hoppers conveyed only 3,935 tons. The blockwork has now run rather close on the end of the rubble bank which extends 215 feet in advance of the last block, but is not fully made up for more than half this distance. The enforced stoppage of blocksetting for eight or ten days will give an opportunity for completing the base as far as the pier head, and at the same time will restore the proper amount of advance of base over blockwork.

5. *Concrete Blockmaking.*—Unfortunately during September, although the rapid and constant making of blocks was most important, the heavy rains in the early part of the month prevented any work being done on many days. And when with much difficulty the blockmaking gangs could be kept at work the rain at the Pallāvaram quarries interfered with a sufficient supply of suitable stone. Every exertion has been made since the rain ceased to make up for the lost days, and 483 blocks were turned out during the month, but I had hoped to be able to make 70 or 80 more than that number. The work done in the last two months has been so much in excess of the estimated rate of advance of 150 feet a month that I hope it need not be a matter of surprise that we should have used up all the thoroughly seasoned blocks for one pier. There is no want of blocks for the south pier.

6. The special blocks for the north pier head are now being made, and of these sufficient are ready for the first 50 feet of that portion of the work.

7. *Quarries.*—The rain already referred to interfered much with work at the quarries in the early part of September, but every exertion has been made to keep the

supply up to the requirements. From Ambatúr 14,812 tons of laterite were received, and from Pallávaram 18,365 tons of granite, giving a total for the month of 33,177 tons, which is about 7,000 tons less than we require to keep all branches of the works going at full speed.

8. At Pallávaram the Contractor Kazim Ali Nakry Sahib has completed a separate line at his own cost (the harbour works lending the rails) which was passed for traffic throughout on 27th September. The despatch of stone from this quarry will be much assisted by the opening of this line.

9. *South Pier Superstructure.*—At the south pier I have the pleasure to report a greater rate of advance than I myself ever anticipated and I believe than has ever been reached before in any deep sea work. There were set in September 416 blocks, advancing the pier by a length of 236½ feet, and bringing the total length from the point E to 2,972½ feet. There now remains only a length of 51 feet to complete the curved work of this pier.

10. *South Pier Rubble Base.*—The supply of stone to the south pier base was below the usual amount as at the north pier. During September 12,823 tons were deposited, of which the steam hoppers only conveyed 2,923 tons. At this pier also the blockwork is following rather too closely on the base which extends only 220 feet in advance of the last block, and is made up fully for 120 feet of that length. Every exertion will now be made to hasten the completion of the two bases as rapidly as possible, the feeble condition of the two steamers having thrown this branch of the work back unavoidably.

11. *Protective Works to the Beach.*—The sea continues to encroach to the north of the Police tannah, and it has become a difficult matter to supply sufficient stone to protect the shore without seriously impeding the progress of the harbour works themselves. I have made arrangements for putting on a greater force at the protective works at this spot, and I hope that by constructing a good revetment in the next ten days to prevent any damage to property before the wind changes to the north-east. With a change of wind a change of effect from the wave action may be relied on. In September 900 tons of boulders were used in protective works.

12. *Intercepting drain along Beach.*—The intercepting drain from the Fort to Ráyapuram has worked very well hitherto. The heavy rains at the beginning of September taxed it pretty severely and obliged me to make some alterations in the storm overflows which are not yet completed. The only danger to be apprehended seems to be that the Municipal authorities may surcharge the sewer by excessive pumping at the southern end, but over their operations I have no control. The size and gradient of the sewer was approved by their Engineer at the commencement.

13. *Steam Hopper Barges.*—I have twice referred to the laying up of the *Hobart* and *Salisbury*. This had to be done in order to replace their boiler tubes, a task which, owing to the peculiar construction of the vessels, involved shifting the boilers bodily. At some risk I ventured to carry on these repairs at Madras in the open sea and the result has been satisfactory. The new tubes were procured from Bombay and the *Hobart's* repairs were completed on 23rd September. The *Salisbury* was laid off on 22nd September and the renewing of the tubes is still in hand. The work was in the immediate charge of the Engineers of the vessels, to whom much credit is due for its successful carrying out under particularly inconvenient circumstances. The bottoms of both vessels are very foul from barnacles, &c.

14. *Stores received on works from England.*—The following vessels have arrived with stores from home during the past month. It will be observed that amongst them are some of the articles mentioned by me in my letter to Government, No. 40 W., of 10th September, on which G.O., No. 2,158 W., of 14th September, was passed. I had no advice of the despatch of the articles when I wrote:—

S.S. *Duke of Argyll*—45 bolts of canvas.

18 stone-crusher jaws (20 ordered).

1 case India-rubber washers.

S. *Ladona*—1,982 casks of Portland cement (of which 1,370 are landed).

15. *Expenditure.*—The expenditure during the month of September (subject to correction in detail) has been Rs. 1,53,971, and the total expenditure up to date, exclusive of outstanding accounts, has been Rs. 45,23,045.

16. *Plans and Sections.*—The usual lithographed plan on a scale of 200 feet to 1 inch accompanies this report, showing the Harbour Works line on 30th September in brown edged with blue. The Harbour Works line of 31st August is shown in green. Two sections showing the blockwork built in the month and the extent of the two rubble bases also are forwarded.

17. *General Remarks on Progress.*—With September terminates the third quarter of the year 1880, during which quarter the advance of the north pier has been 487·6 and of the south pier 572·3; this is the greatest amount of work done in any three months up to the present date. The remaining three months of the year cannot be reckoned upon for much progress, as in the deep water now reached only a slight sea from the north will interfere with operations. But the concrete blocks for the north pier head may be completed and there seems to be no reason why the north pier should not be finished before the end of the financial year 31st March 1881.

No. 47. ORDER THEREON, 11th October 1880, No. 2,335 W.

The Government note with much satisfaction the rapid rate of progress at both piers.

2. The Superintendent's remarks in regard to the danger to be apprehended from over-pumping at the southern end of the intercepting beach drain will be communicated to the President of the Municipal Commission in the Financial Department.

(True Extract.)

Major, R.E.,
Under Secy. to Govt. P.W.D.

To the Superintendent, Madras Harbour Works.
" Secretary, Harbour Works Committee.
" Financial Department.
" Marine do.
To General Morgan.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1880) Madras.
PUBLIC WORKS.

To
THE SUPERINTENDENT OF THE
MADRAS HARBOUR WORKS.

&c., &c., &c.

Dated October, 11th.

Issued

Recd.

Encl.

G. O., 11th October 1880, No. 2,335 W.

OCTOBER.

Nos. 46-47.

Progress Report of the Madras Harbour
Works for September 1880.—The rapid
rate of progress at both piers noted with
satisfaction.

No. 44 W

From

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS.

To

Colonel R. A. Sankin C.B. R.E.
Secretary to Government P.W.D.
Buildings & Roads. Chempak.

MADRAS, 2nd October 1880.

SIR,

I have the honor to submit the follow-
ing report of the progress on these works
during the past month of September in
which no less than 447 lineal feet of deep
sea piers have been constructed, being
90 feet more than was built in the previous
month of August.

North Pier
Superstructure

2. The weather in September was favorable
for work (excepting heavy rains in the
early part of the month) and every ad-
vantage was taken of the quiet sea to
push the construction on rapidly. There
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vancing the work by a length of $210\frac{3}{4}$
lineal feet, and making the total length
from the point 13 on 30 September $3512\frac{1}{2}$

feet. A length of 163 feet in advance of the present termination brings the work to the commencement of the Pier Head.

3 The large number of blocks set in the North Pier during August and September (viz 680) has severely taxed the supply, and a few days delay is unavoidable in order to insure the use of no blocks that are not thoroughly hardened.

4 The deposit of stone in the rubble base was as great as could be managed but not nearly such as I could wish. The failing supply of laterite at Umbathore together with the laying up of the two Steamers Hobart and Salisbury for repairs seriously interfered with rapid progress under this head. There were 12,445 tons of stone deposited in September of which the steam Hoppers conveyed only 3936 tons. The blockwork has now run rather close on the end of

North Pier
Rubble Base

Concrete Block-
-making

233/2
The rubble bank which extends 215 feet in advance of the last block, but is not fully made up for more than half this distance. The enforced stoppage of block setting for 8 or 10 days will give an opportunity for completing the base as far as the Pier Head and at the same time will restore the proper amount of advance of base over blockwork.

5 Unfortunately during September although the rapid and constant making of blocks was most important the heavy rains in the early part of the month prevented any work being done on many days. And when with much difficulty the blockmaking gangs could be kept at work the rain at the Pallaberram Quarries interfered with a sufficient supply of suitable stone. Every exertion has been made since the rain ceased to make up for the lost days and 1,03

blocks were turned out during the month, but I had hoped to be able to make 70 or 80 more than that number. The work done in the last two months has been so much in excess of the estimated rate of advance of 150 feet a month that I hope it need not be a matter of surprise that we should have used up all the thoroughly seasoned blocks for one pier. There is no want of blocks for the South Pier.

6. The special blocks for the North Pier-head are now being made, and of these sufficient are ready for the first 50 feet of that portion of the work.

7. The rain already referred to interfered much with work at the Quarries in the early part of September but every exertion has been made to keep the supply up to the requirements. From Ambathur 14,812 tons of laterite were received, and from Pallavaram 18,365 tons of

Quarries

granite giving a total for the month of 33,177 tons, which is about 7000 tons less than we require to keep all branches of the works going at full speed.

8. At Pallavaram the Contractor Kazi Ali Nakhvi Sahib has completed a separate line at his own cost (the Harbour Works including the rails) which was passed for traffic throughout on September 27th. The despatch of stone from this quarry will be much assisted by the opening of this line.

South Pier Superstructure

9. At the South Pier I have the pleasure to report a greater rate of advance than I myself ever anticipated and believe than has ever been reached before in any deep sea work. There were set in September, 416 blocks advancing the pier by a length of 236 $\frac{1}{4}$ feet and bringing the total length from the point E to 2972 $\frac{1}{2}$ feet. There now remains only a length of 51 feet to complete the curved work of this pier.

10. The supply of stone to the South pier base was below the usual amount, as at the North pier. During September 12,823 tons were deposited of which the Steam hoppers only conveyed 2,923 tons. At this pier also the blockwork is following rather too closely on the base which extends only 220 feet in advance of the last block and is made up fully for 120 feet of that length. Every exertion will now be made to hasten the completion of the two bases as rapidly as possible, the feeble condition of the two steamers having thrown this branch of the work back unavoidably.

South Pier
Rubble Base

11. The sea continues to encroach to the North of the police tamarah and it has become a difficult matter to supply sufficient stone to protect the shore without seriously impeding the progress of the Harbour Works themselves. I have made arrangements for putting on a greater force at the protective works at this spot and I hope that by constructing

Protective Works
to the Beach

16 2335
a good pavement in the next 10 days to prevent any damage to property before the wind changes to the North East. With a change of wind a change of effect from the wave action may be relied on. In September 900 tons of boulders were used in protective works.

Intercepting Drain
along Beach

12. The intercepting drain from the Port to Royapuram has worked very well hitherto. The heavy rains at the beginning of September taxed it pretty severely and obliged me to make some alterations in the storm overflows which are not yet completed. The only danger to be apprehended seems to be that the Municipal Authorities may surcharge the sewer by excessive pumping at the Southern end, but over their operations I have no control. The size and gradient of the sewer was approved by their Engineers at the commencement.

Steam Hopper
Barges

13. I have twice referred to the laying

up of the 'Robert' and 'Salisbury'. This had to be done in order to replace their boiler tubes; a task which owing to the peculiar construction of the vessels involved shifting the boilers bodily. At some risk, I ventured to carry on these repairs at Madras in the open sea and the result has been satisfactory. The new tubes were procured from Bombay and the 'Robert's' repairs were completed on September 23rd. The 'Salisbury' was laid off on September 22nd and the renewing of the tubes is still in hand. The work was in the immediate charge of the engineers of the vessels to whom much credit is due for its successful carrying out under particularly inconvenient circumstances. The bottoms of both vessels are very foul from barnacles &c.

14. The following vessels have arrived with Stores procured on Malta from England stores from home during the past month. It will be observed that amongst them are some of the articles mentioned by me in my letter to Government N^o 40 W.

23/9 85
of 10th September on which G.O. N^o 2158 W of September 14th was passed. I had no advice of the despatch of the articles when I wrote.

S.S. Duke of Argyll. 45 bolts of Canvas
18 Stone Crushers jaws (20 orders)
1 Case India Rubber washers to
S. Latona 1982 Casks of Portland Cement
(of which 1370 are landed)

Expenditure 15. The expenditure during the month of September (subject to correction in detail) has been Rs 153,971 and the total expenditure up to date exclusive of outstanding accounts has been Rs 45,23,045.-

Plans & Sections 16. The usual lithographed plan on a scale of 200 feet to one inch accompanies this report, showing the A.W. line on September 30th in brown edged with blue. The A.W. line of August 31st is shown in green. Two sections showing the block-work built in the month and the extent

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17. With September terminates the third ^{General progress}
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This is the greatest amount of work done
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North will interfere with operations.

But the concrete blocks for the North pier
head may be completed and there seems
to be no reason why the North Pier should
not be finished before the end of the
financial year March 31. 1881.

I have the honor to be,

Sir,

Your most obedient servant

J. H. Harrowood M. Inst. C. E.
Superintendent Madras Harbour Works

G.O. No 2161 Wd/15-9-80

P.W.D.
4 OCT 80
NR 6289

Buildings & Roads

From

The Superintendent
Madras Harbour Works.

To

The Secretary to Govt P.W.D.

N^o. 444 N. dated 2nd October 1880

N^o of Enclosures 3. Plans

one vol

8/10

Progress Report

Submits - for September 1880.

Cir B. 10 80. Rd. 9-10 80

O. 4/10 80 Rd. 11/10 80

N^o. 2335 W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 11 Oct 1880

Read the following:—

From the Supt^l Madras Harbour Works. (N^o. 444 W. d/ 22 Oct 1880)

The Government note with much satisfaction the rapid rate of progress at both piers. The Superintendent's remarks in regard to the danger to be apprehended from overpumping at the southern end of the intercepting beach-drain will be communicated to the President of the Municipal Commission, in the Financial Department.

Att

6/10/80

To

The Supt^l Madras H. Works. 4

Secy: H.W. Committee 3 Dated

Financial Department 18-10-80

Marine Department 18-10-80

General Manager 130 18-10-80

9 Am. H. Hullett

10-2

Recd 10/10/80

10/10/80
The last sent
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all in 10/10/80

Print sent
11/10

Cir 8-10-80. Rte 9-10-80.
H. 10-80

6289

Gobt. of (1879) Madras.

PUBLIC WORKS.

To

Dated

Issued

Recd.

13/10

(10)

S. D. M.

Encl.

G. O. 115 Oct 1880 No 2335 W.

No 46-47

Progress report of the
M & W. Co.
for Sept + 1880.

The rapid rate of
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satisfaction.

Emery