

From: H. E. Sutherland

File 10023

Buildings & Roads

N^o 2822 Wd/Nov 26. 1885.

241

Approved.

2/11/85

21-11-85

G.O. 2547 Wd/2. 11. 85.

From

The Superintendent
Madras Harbour Works

N^o 4211

Dated 19th November 1885

N^o 2822 Wd/Nov 26. 1885.

N^o of Enclosures Nil

Closing of Piers

Reports portions of the Piers
which have been closed to the
public.

With order

No. 4211

FROM

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS,

TO

The Honble Colonel J. H. M. Shaw-Stewart, R.E.
Secretary to Government,
Public Works Department,
MADRAS, 19th November 1885.

Sir,

In reply to the second paragraph of
G.O. N^o 2547 Wd of 2nd November 1885, ordering
me to report what portion of each pier it seems
necessary to close against the public for their
safety, I have the honour to state that at present
I have closed the whole of the North Pier, as the
waves break over it at its very commencement
during the North East monsoon. And at the
South I have left about 800 feet open to the public,
closing 1600 feet.

I have the honour to be,
Sir,

Your most obedient Servant,
J. H. M. Shaw-Stewart,
Superintendent.

26/11/85

Supltt M. H. W.

22/11/85

21-11-85

BUILDINGS AND ROADS.
CIVIL WORKS.

Gobt. of {1885} Madras.
PUBLIC WORKS.

Dated November, 2nd.

Recd.

Encl.

G.O., 2nd Nov. 1885, No. 2547 W.

NOVEMBER.

Madras Harbour Works

Orders on the progress report of the —
for the month of September 1885.

2ND NOVEMBER 1885, No. 2547 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

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 1885, No. 31 W.

I have the honor to submit the following report of the progress on these works during September. As all the constructive work has been below water, I do not forward a plan, as there would be little to show in addition to the coast line at high water on 30th September.

2. *North pier rubble base.*—Work has been going on steadily at the north pier base during September, and there were very few days on which the boats could not work. The line of new foundations is accurately marked out with iron beacons, and the divers have been employed in blowing up those blocks which lie in the line of the work so as to interfere with the superstructure hereafter. There have been 9,192 tons of rubble deposited during the month, being 2,000 tons more than was deposited in August. This portion of the work is now in a forward state, and bids fair to be executed at lower rates than shown in the estimate.

3. *Recovering old blocks.*—On the 7th and 14th September the sea was as smooth as it ever is at Madras, and a fine opportunity was offered for trying the floating craft for raising blocks. On each occasion the best and most experienced diving staff and boat lascars endeavoured without ceasing for half a day to attach the claws to a block lying apart at the bottom of the sea, but the movement of the boats even on a smooth day was such that it was absolutely impossible to manage these claws in a depth of $3\frac{1}{2}$ fathoms, and I finally put a stop to the attempts as the experiment really was unsafe for a diver in the thick water. The attempt on the 14th was more nearly successful than on the 7th, but it was nevertheless a failure. I have reported these results to Mr. Parkes, who is very anxious that old blocks should be recovered; and, in the meantime, have given up this section of the work as, in my opinion, hopeless with the plant at command—an opinion which I am bound to say I have been inclined to from the first. Mr. Parkes may have some suggestion to make which will justify a renewed attempt. If, however, he should be satisfied that it is not worth while to proceed further in the matter, there will have been but little money lost on the experiments, as the boats, crab, chains and timber-work will all be available in other directions.

4. *South pier rubble base.*—At the south pier the sea has interfered very much with all work, the site of operations being still opposite to the first large gap in the damaged wall, referred to in paragraph 5 of my last report. It is to be feared that so long as the swell comes from the south of east there will always be trouble at this point both in diving operations and working at the superstructure. At this spot the fallen blocks lie very thick and in much confusion, so that it is delicate work inserting the cartridges for blasting. During September 17 blocks were blown to pieces, giving an equivalent to 460 tons of rubble deposited, in addition to which 2,005 tons of granite from Pallavaram were thrown in from boats. This work is now proceeding satisfactorily on the whole.

5. For the blasting of blocks at the south pier, I have tried a few charges of "blasting gelatine," which is about 50 per cent. more powerful than dynamite, and possesses the additional advantage of being water-proof, a quality of great value in sea-work. The dynamite, however, I find is the more satisfactory material for the particular work in question, as the gelatine seems to be too quick in its explosion, cutting

a block of 432 cubic feet clean in two pieces, whereas dynamite shakes the block throughout.

6. *Block-making*.—The work of making concrete blocks has been suspended during September owing to want of room in the block platforms. It will be resumed during the current month, the second platform having been completed in September, and the old blocks being stacked away.

For the commencement of the new work in the north and south piers old blocks are being altered by manual labor to suit the new design. A total number of 231 blocks have thus been modified, of which 38 were done in September.

7. *Pallavaram quarries*.—At Pallavaram for three days the quarry line was completely blocked up owing to very sudden and heavy rains, which caused a landslide on the side of the hill. The contractor met the difficulty very well, and the result was only the cancelling of three trains on one day. During the month 13,264 tons of stone were delivered at Madras, being 1,400 tons more than was delivered in August.

8. *Titan cranes and plant*.—The titan crane for the north pier is now approaching completion. The top frame, consisting of four heavy girders and an end piece, being now rivetted together was raised to its full height of 15 feet on the 26th September. The operation of raising this frame was necessarily slow, as it had to be done entirely with hydraulic and screw-jacks. On the 30th the packing or scaffolding was removed and the machine brought to rest on its own wheels. The engine and boiler, the crab and balancing tank have yet to be erected, which I think will be done during this month. All pressure has been put on this work by working overtime every day to bring it to completion as soon as possible. I regret to state that 950 important bolts and nuts appear to have been omitted from the shipment of this machine, and I fear they will have to be made on the works. I have telegraphed to Mr. Parkes to know if it is any good waiting for them. The titan crane for the south pier is being landed and placed in position for erection at the root of the pier. The foundation "compressors" (referred to in paragraph 17 of Mr. Parkes' report—G.O., No. 3127 W., of 19th December 1884) have arrived in pieces and are being put together.

9. *Stores received on works*.—During September there arrived from England the following vessels:—

		Cargo.
S.S. Cormorant	...	900 tons cement.
" Rewa	...	40 "
" Clan Mackenzie	...	Plates and rivets for titan roads.
" Lamington	...	South pier titan.
" Almora	...	Foundation compressors.

Also from Gopálpur there arrived the steamers *Secundra* and *Sirdhana* with salwood sleepers and pieces for block-making.

10. *Expenditure*.—Until the new estimate receives sanction it is hardly possible to give an intelligible statement of expenditure, for at present all outlay has to be charged to the obsolete and unsuitable heads of the estimate for the original work. But I have extracted some of the rates at which the work is now being carried on, and they compare favorably with the estimate as here shown:—

		Estimate.	Actual.
		RS. A. P.	RS. A. P.
Concrete blocks	... per c. yard	9 0 0	7 12 8
Rubble deposit from breakwater	... per ton	1 8 0	1 5 0
Do. from boats, north pier	"	2 0 0	1 10 9
Do. do. south pier	"	2 0 0	1 8 7

It is possible that these rates may be increased by delays in the work, but they are taken from the total cost of a considerable amount of work and may be considered satisfactory so far as they go.

11. *The public and the breakwaters*.—On the 24th September a lad was washed off the south breakwater and drowned. There are plain notices in English and Tamil at the commencement of each breakwater warning the public against walking on the piers as the seas are treacherous. At the inquest on the body of the lad the Coroner's jury remarked that the notices "were useless to illiterate persons," which is no doubt true; and the jury recommended that a watchman should stand at each pier to

"warn the public of the danger." This could hardly be carried out, and have therefore taken measures to exclude the public as much as is possible, and thus prevent a recurrence of such accidents. On works like these in England the public are always jealously excluded, but my attempt to do so here in 1879 was greatly resented. Now, however, that a Coroner's jury have considered the present system insufficient, I trust that Government will lend its approval to the closing of the piers to the public with reasonable exceptions.

From F. N. THOROWGOOD, Esq., M. INST. C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 14th October 1885, No. 35 W.

In reply to your memorandum of the 12th October, No. 1623 C., regarding the public and the harbour piers, I regret to state that I have no correspondence on this subject. I will relate what occurred.

2. In 1878-79 the public used to come on to the works in progress very freely, and in my opinion to their imminent risk, as well as to the serious inconvenience of those working at the pier ends. I then resolved to do, as is nearly always done on similar work, viz., erect a barrier with a notice prohibiting the public from passing. At the same time watchmen were posted at the barrier with written instructions signed by myself, explaining that it was necessary to keep the public back.

3. This move was followed by people *insisting* on passing the barrier, defying the watchmen, and by repeated letters * addressed to me complaining that, as the works were "public works," the public ought to be admitted. So far did this resentment go that some individuals had to be forcibly removed from the south pier, because they persisted in crowding round the men engaged in setting blocks.

One man came to me in a perfect frenzy of rage because he was not allowed to see the works, "public works" as he reminded me that they were.

4. The Harbour Works have always been subject to the criticism of almost every cooly who has seen them, and no doubt the closing of the breakwaters was supposed to arise from a wish to keep something from meeting the public eye.

5. It became so extremely unpleasant at last to have these little battles with the public, and to receive resentful letters from natives who could hardly write, that I relaxed the watch on the piers, and put up notices in Tamil and English warning people of the danger. Since then two natives have been drowned, and at the inquest on the last case the jury recommended that a watchman should be stationed to warn illiterate persons of the danger verbally. This is a refinement that I do not feel disposed to carry out, for it is hardly to be expected that a watchman could explain to every cooly-child the danger of walking on the breakwater. I think it will be better once more to close the piers, allowing discretion to the watchman as to who shall pass, and thus try to prevent the public from being washed off.

ORDER—dated 2nd November 1885, No. 2547 W., Public Works.

The Harbour Works appear to have made satisfactory progress during September.

2. With advertence to the concluding paragraph of his letter, dated 2nd October 1885, the Superintendent will state the portion of the length of each breakwater which he considers it necessary to close, in view to the safety of the public.

(True Extract.)

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

To the Superintendent, Madras Harbour Works.

Exd. J. Henricus.

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