

Enclosure 1 in No. 7.

OAMARU HARBOUR WORKS.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Wellington, 30th October, 1871.

I have the honor, in accordance with your instructions, to submit the following report on the harbour works at Oamaru:—

The works which it is proposed to carry out there are shown in the accompanying general plan and consist of—1st, A south concrete pier; 2nd, A north concrete pier; 3rd, A dock.

It is proposed that the south pier only shall be constructed at present, the others being left for future consideration.

I made, accompanied by Mr. McGregor, the Engineer in charge of the harbour works, a careful examination of the coast from the mouth of the Kakanui River to the North Cape of Oamaru Bay, and again at the mouth of the Waitaki River, with the view of finding out where the shingle which forms the beach at Oamaru comes from, and whether it is stationary or not.

I feel pretty confident that the beach south of Cape Wanbrow is permanent, and that no shingle to speak of comes from the south into the harbour.

To the north the shore consists of shingle cliffs from twenty to fifty feet high, which are being rapidly cut down by the sea, and there is little doubt that this is the cause of the Oamaru beach. There is also, I think, no doubt that on the whole the beach is stationary. With northerly seas the shingle is heaped up opposite the town, and with southerly seas it is driven away again to the north. The heaviest seas are from the south-east, and the harbour is partially protected from them by Cape Wanbrow. It is found, however, that the waves curl round the end of the Cape into the harbour, and it is to prevent this that the south pier is to be constructed.

The pier is to consist of a concrete wall, 1,000 feet long, and raised to high-water level, and is estimated to cost £35,000. I have no doubt that it will much improve the harbour, and it appears to me to be designed of sufficient strength to resist the heaviest seas.

It is not unlikely that the shingle will collect to a considerable extent inside the harbour when the pier is completed. At present the shingle brought in by the northerly winds is driven out again by the southerly; the pier will offer no hindrance to its coming in, but by breaking the force of the southerly waves will prevent its being driven out again. I do not think this will cause serious trouble for many years; and, when it does, the erection of the proposed northern pier will stop it.

The northern pier is to be of concrete, about 2,000 feet long, and will cost about £70,000.

As it is not intended to go on with its construction at present, detailed plans have not been made; but there will be no difficulty in building it, and thus completing the protection of the harbour from all seas.

It is not proposed to build the dock until both piers shall have been completed; so neither plans nor estimates have been made.

I have, &c.,

JOHN CARRUTHERS,

Engineer-in-Chief.

The Hon. the Minister for Public Works, Wellington.

P.S.—The plan is in the Exhibition Room, Public Works Office.

Enclosure 2 in No. 7.

REPORT ON THE OAMARU BREAKWATER.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Public Works Office, Wellington, 14th July, 1874.

In accordance with your request that I should report on the present state of the Oamaru Breakwater, I have the honor to state that, although I examined the works closely when I was there, I took no measurements, and am therefore unable to report on the amount of work which has been done.

In October, 1871, before the work was begun, I had the honor to report to the Hon. the Minister for Public Works on the plans. It was at that time thought that enough shingle travelled round Cape Wanbrow from the south to render the breakwater unserviceable at a more or less distant date. I therefore carefully examined into this matter, and reported that I thought the beach to the south was stationary, and that "no shingle to speak of came from the south." Experience shows this opinion to have been correct. The contractors cannot now get any shingle from the south side of the breakwater, and it may be taken for granted that the works are perfectly safe from failure from this cause.

The breakwater is also designed of ample strength, and is being carried out in a manner highly creditable to the contractors and to all concerned in the supervision. As far as could be judged by what I saw, the work is being done as well as it is possible to do it. The cement used is of excellent quality. The concrete is well mixed, and the blocks are set in place in a very careful manner.

I have not in any respect changed the opinions I expressed in my former report—viz., that the present breakwater will much improve the harbour, but that eventually the northern pier will have to be built as well as the present one, on account of shingle from the north heaping up under the shelter of the southern pier. When this is done, the harbour will be protected from all winds, and will be a safe and useful work.

The rate of progress appears to me to have been slow; but I am not acquainted with the causes of delay, which have probably been unavoidable. With the magnificent plant now on the work, I have no doubt future progress will be more rapid.

I have, &c.,

JOHN CARRUTHERS,

Engineer-in-Chief.

The Hon. the Minister for Public Works, Wellington,