

HARBOUR-WORKS.

Karamea Harbour.—During the past year the preliminary work in connection with the reconstruction of the breakwater has been practically completed, and a start made to place stone along the line of the training-wall.

The laying of the tramway from the quarry to the outer end of the training-wall was completed. This included the ballasting of the track for a distance of 1 mile 50 chains; erection of 280 ft. of trestle from the end of the tram-line to the beginning of the training-wall; cutting down and recapping the old training-wall; and erecting stringers and laying rails a total distance of 15 chains.

The plant, consisting of petrol-locomotive and trucks, portable engine and compressor and 5-ton crane, came to hand early in the year, and a locomotive-shed and two extra workers' cottages were erected.

The opening-up of the quarry is well in hand, the work involved being increased by slips from above the high rock-face. It was found necessary to pass round a blunt spur of comparatively soft rock before tapping the outcrop of harder material farther up the Oparara River, and quarrying operations to the end of the year were confined thereto.

The recent disastrous earthquake has caused severe damage to the training-wall, and will involve considerable alteration to the staging and a probable increase in the amount of stone required.

Waikokopu Harbour.—Some time ago the old hulk "Talune" was sunk to form an experimental breakwater in order to provide shelter at the wharf. This hulk has been broken up by the heavy seas experienced here, but it lasted long enough to demonstrate that given similar shelter vessels could load and unload at the wharf under conditions where formerly they could not have approached the wharf. In view of this funds were provided for the construction of a stone breakwater, 5 chains long, and a contract has been let accordingly.

In order to carry out this contract it has been necessary to construct two miles and a half of tramway up the Tahaenui Valley, leading off the Waikokopu line, to obtain stone. A number of 20-ton trucks have been built, the quarry has been opened up, the installation of a crane, air-compressor, and other plant completed, and work should now proceed expeditiously.

The existing works have been adequately maintained, and the wiring of the Harbour Board's shed and wharf for electric light for future use with standard voltage has been carried out, and is now in use, in conjunction with a small lighting plant.

Karaka Point Wharf.—During the year all the timber and materials were landed on the site, and a contract let for erection. The work is now practically complete.

Raupo Ferry Slip Extension.—This work was completed early in the year, and can now operate in conjunction with the Tikinui Ferry Slip across the river.

Rawene Launch-landing and Motor-landing.—A contract for the construction of the pontoon landing and steps, together with ramp landing for cars, was let early in the year. The bulk of the work is now done, and it should be completed very shortly.

Tinopai Wharf.—A contract has been let for the erection of this wharf.

Totara Wharf.—A contract was let for the erection of this wharf in New Zealand timbers, and was completed, together with approaches, early in the year.

Whangaroa Wharf.—This reinforced-concrete wharf has been completed during the period, with a shed and cold store; the approaches were faced with rock.

Half-moon Bay Wharf, Stewart Island.—During the year an extension of 51 ft. long by 31 ft. wide was completed; the approach to the wharf was also widened and strengthened by fitting additional bracing.

Miranda Wharf.—This structure, consisting of a wharf and jetty of a total length of 105 ft. 6 in., a galvanized-iron shed, and three retaining-walls, was completed during the period.

Matakana Wharf.—This wharf, which is of reinforced concrete, 1,440 sq. ft. in area, and carrying a shed with a floor-area of 720 ft., was erected during the year.

Whangamata Wharf.—All the timber has been delivered for this wharf, and arrangements are in hand for its erection.

Howick Wharf.—Extensive repairs were carried out at this wharf.

LIGHTHOUSES.

North Cape Lighthouse.—This light, which consists of an automatic flashing outfit mounted on a concrete base, was erected during the period. The flasher is of the open-flame type, and is contained in an 800 mm. catadioptric lens, the whole being enclosed in a lantern-house and fitted with sun-valve. This light is visible for about seventeen miles in clear weather, and marks the turning-point in the courses of vessels proceeding round the northern portion of the North Island.

Manukau South Head.—This light was converted from a watched oil-burning light to an automatic acetylene outfit; the original lens and lantern-house have been retained, but the range has been reduced to about sixteen miles. This will result in a saving of several hundred pounds per annum.

Honeycomb Rock (commonly known as Kahau Rocks).—The erection of this light, which is of the Dalen automatic type, was completed, and the light exhibited in June. Its main purpose is to mark the position of the group of off-shore rocks in this locality. Owing to the great construction difficulty of building on the rocks themselves, the lighthouse has been erected on a prominent point on the foreshore and the exact position of the rocks defined by a red sector. The light itself consists of a 300 mm. catadioptric lens drum fitted with a Dalen incandescent burner with automatic mantle-exchanger and sun-valve. The apparatus is lodged in a lantern-house with cast-iron murette for the storage of the gas-accumulators, and is built on a concrete base on the top of what is locally known as the Honeycomb Rock, at a height of approximately 80 ft.