

The erection of the stop-bank by means of ploughs and scoops was commenced at the lower end of the plain, 15 m. 54 ch. to 17 m., in September, 1924, and has been continued with increasing numbers of teams, with the result that the work to be undertaken by this method is nearing completion. The length of stop-bank completed to date with ploughs and scoops totals approximately 4 miles. A total of approximately 120,000 cubic yards of material has been placed by this method.

Since January, 1925, a steam-shovel with locomotive and trucks has been operating at Outram, widening the existing stop-bank. Some 13,000 cubic yards have been placed in the bank, which is in varying stages of completion between 0 m. 6 ch. and 0 m. 65 ch.

A drag-line with 60 ft. boom has been obtained for the erection of the bank between Allanton (5 m. 52 ch.) and Henley (13 m. 63 ch.), and this machine is now being assembled on the job.

A suction-dredge with 10 in. gravel-pump is being erected on the Waipori River for stop-bank erection and river-improvement round the shores of Lake Waipori and in the Waipori River.

The Taieri River has been cleared of willows in places by means of a traction-engine to give improved waterway. So far this work has been confined to the vicinity of Outram and at the Outram Railway-bridge, but operations will be commenced at Allanton at an early date.

MARINE.

LIGHTHOUSES.

Three Kings Islands.—A further series of direction-finding tests was carried out in Auckland Harbour in the presence of members of the Shipmasters' Guild and representatives of the Harbour Board and other interested bodies. The tests fully demonstrated the efficiency of the apparatus, and convinced all parties that it was a much more efficient aid to navigation than any auditory fog-signal. Arrangements are being made to procure the necessary equipment for establishing a direction-finding station at Cape Maria Van Diemen. This installation will then be operated by the personnel employed at the lighthouse, and will, it is considered, give better aid to navigation than a light and fog-signal on the Three Kings Islands themselves.

Cape Brett.—A new landing-crane has been erected at this station to replace the one which was destroyed by the phenomenal storm experienced here some time ago. This crane is exposed at times to very violent wave-action, and a special design had to be adopted to overcome the difficulties inherent to this place.

Tiritiri.—This light has been converted from a watched oil-burning light to an automatic flashing one. It was originally an important making-light for vessels approaching the coast, but owing to the diversion of trade through the Panama Canal and the provision of other powerful lights its importance is not so great as formerly. For this reason arrangements were made when converting to reduce the range of the light somewhat. The apparatus as converted is highly efficient, and is giving full satisfaction.

Piako River Leading-lights.—It is now proposed to replace the existing oil-burning lights with a single automatic flashing light, and details are being prepared to that end.

East Cape.—The new lenses required to replace the damaged ones in the old light have been received and placed in position. Improvements to the existing access road and landing have been also carried out. A special telephone-line has been erected and a toll station established here to serve the requirements of the light station and to enable the necessary meteorological information to be supplied.

Matakaoa Point.—The apparatus for this new light has been received and landed at the site. Suitable arrangements have been made for the land and access road, and a commencement with the work of erection is to be put in hand immediately. This light will serve a twofold purpose. Owing to the shifting of the East Coast lighthouse from the island to the mainland. There is a small dark section to the northward. The new light at Matakaoa Point will be of great assistance to shipmasters coming from the north for turning the Matakaoa Point before they come actually within the range of East Cape light; secondly, it will act as a port light in connection with the port of Hicks Bay, where a new wharf is now being constructed by the Hicks Bay Harbour Board.

Cape Palliser.—A new water-supply has been provided for this station. The original provision consisted of rain-water tanks only. Considerable storage is required here, and, as the existing tanks required renewal, it was decided to provide a concrete reservoir fed by pumping from a nearby spring and providing a gravity supply to the various cottages and utilities.

Cape Foulwind.—Orders have been placed for the supply of the necessary apparatus for the conversion of this light from a watched oil-burning light to an automatic flashing gas light. Portion of the apparatus has been already received, and the remainder, consisting of the lens and lantern, is expected very shortly. Immediately the whole outfit is received the construction of the tower will be put in hand. This lighthouse will be the first one in this country to be equipped with the Dalen incandescent acetylene burner with automatic mantle-exchanger. The operation of this light will be wholly automatic, including the changing of the incandescent mantles in case of breakage, and it will be the most powerful unattended light so far installed on the New Zealand coast. The annual saving as a result of its use will amount to several hundreds of pounds per annum.

Puyssegur Point.—Additions have been carried out to the buildings at this station, and work in connection with the installation of a radio transmitting and receiving outfit will be put in hand shortly to obviate the present difficulties of communication.

Dog Island.—An examination of the optical and illuminating apparatus of this lighthouse has been made, and it has been decided to dismantle the existing light system and replace it with a standard second-order dioptric lens and incandescent oil-burner. This plant is now in stock, and the alterations will be put in hand shortly. The present apparatus, the only one of its kind in New Zealand, has been in continuous use since 1868.