

Plans have been prepared for the elimination of the crossings at Porirua and Paraparaumu on the Auckland-Wellington via Taranaki Main Highway, and it is hoped to have these under construction during the forthcoming year. A further tentative programme of eliminations has been gone into with the Railway Department, and surveys and investigations are in hand for a further five schemes.

ROAD-SIGNS.

During the year the Public Works Department, under the Motor Vehicles Act, 1924, brought out regulations for cautionary signs on all roads. The Main Highways Board has decided to subsidize the cost of such signs on main highways on the basis for the time being in force for general maintenance, and has also decided to increase the subsidy on direction-signs to the same rate.

TESTING OF HIGHWAY MATERIALS.

The Petrological Laboratory has continued to carry out the standard tests on roadmaking materials. Table 6A shows the tests carried out during the year on rocks, while Table 6B shows results of abrasion tests carried out on a number of samples of gravel from different parts of the Dominion. The testing of samples of tar, bitumen, and bituminous concrete was carried out as usual by the Dominion Analyst, Wellington.

EXPERIMENTAL WORK.

During the year two special sections of experimental road were laid down—one on the Christchurch-Dunedin Main Highway a few miles south of Christchurch, and the other on the Napier-Taupo Main Highway a few miles south of Taupo Township. The former section was laid down in several classes of bituminous concrete manufactured from a variety of aggregates. The coarse aggregates used were uncrushed shingle, partially crushed shingle, and crushed quarry-stone. The second experiment consisted of the construction of approximately half a mile of oil-treated pumice road. The method used was that known in America as the "oil-mix method." Very interesting results were obtained, and it is proposed during the forthcoming year to carry out several miles of similar work on pumice roads. In addition to the above, short lengths of road have been treated with calcium chloride and with various classes of bituminous materials for the purpose of ascertaining their behaviour under traffic.

EXAMINATION OF FOREMEN AND OVERSEERS EMPLOYED ON ROAD CONSTRUCTION.

The third examination of foremen and overseers for the purpose of issuing certificates of competency was held on the 28th February, 1928. Fifty-two candidates sat for the examination, out of which six obtained a complete pass, seven completed the examination, and five obtained a partial pass. Certificates have now been issued to the following successful candidates: P. S. Finlayson, W. J. Hawkes, O. G. Hewison, J. H. Kendall, B. L. Larson, R. M. Lankshear, J. G. Mahood, O. R. Marshall, F. F. Maynard, J. G. McIvor, F. Muggeridge, H. J. L. Wotten, S. Annabell, J. W. Bean, H. V. Bond, D. E. Brown, F. Hermans, H. N. McDonald, J. V. Neill, L. Oldham, R. B. Price, S. G. H. Robinson, S. G. Stockley, J. Stringer, J. A. Williams.

PROGRESS REPORT.

The following statement shows the more important construction work carried out under the control of the Main Highways Board during the year ended 31st March, 1928:—

Whangaroa-Okaihau.—Whangaroa-Kaeo Concrete Bridge Section: Several very dangerous corners have been widened on this section.

Waiare Junction to County Boundary: 46 ch. of formation has been completed and 9 ch. of road metalled.

Kawakawa-Mangamuka.—Rangiahua-Mangamuka: The whole length of 6½ m. of deviations has now been completed. The bottom course of limestone was also laid and completely rolled during the year. In addition, approximately 1 m. of gravelling was carried out. The completion of this work provided for the first time a metalled connection between Kaitia and the rail-head at Okaihau.

Mangamuka - Te Karae.—57 ch. of this road has been formed, and 3 m. 57 ch. of bottom course has been laid and rolled.

Kohukohu - Te Karae.—2 m. 50 ch. of this main highway has been formed, and 2 m. completely metalled and rolled. The top coat of shingle has also been placed.

Waimamaku-Ohaeawai.—Taheke Deviation: On this deviation the Mangatoa Bridge has been completed and 91 ch. of new formation metalled throughout.

Hokianga County Section: A length of 2 m. at Waima has been given a top course of metal.

No. 3 Bridge, in the Pakanae Gorge, has been finished.

Kaikohu-Omapere.—1 m. of road has been formed by relief workers.

Maungatapere-Kaikohu.—Poroti-Parakao: The whole length of this section has now received its final coat of shingle.

Whangarei-Kawakawa.—Whakapara Bridge: This new bridge, consisting of three 40 ft. spans, has been completed.

Akerama-Waiomio: All the formation work on the unmetalled length in the Bay of Islands County, a distance of 6½ m., has been completed, including the erection of three bridges.

Dargaville-Maungaturoto.—Hardie's Bridge: This bridge, consisting of five 40 ft. spans, and its approaches have been completed.

Kaiwaka-Mangawai.—Approximately ½ m. of this road has been metalled during the year.

Wayby-Maungaturoto.—Mainene Bridge: This bridge, consisting of two 40 ft. spans, and its approaches have been completed.