

No. 3 Unit.—Following the removal of the temporary wooden floor and the clearing-up of the area below, boxing and concrete work for the foundations were commenced. Seven hundred cubic yards of concrete were placed on this work up to generator-floor level, and the steel liner of the draught-tube has yet to be grouted in place. The air-outlet duct was constructed in concrete and the necessary canopy placed over the outlet end. Holding-down bolts were placed, cable ducts and drains were built, and the machines grouted in.

Various concrete walls were constructed in the power-station, sections of the control-room floor are being poured in concrete, and the construction of cable ducts and shelves and the fitting of brackets in the cable tunnels are in hand.

Transformer foundations were built in the outdoor station, and miscellaneous general work completed.

At the surge-chamber an elevated concrete winch-platform was completed, and the placing of winches is in hand.

WAIKAREMOANA LOWER DEVELOPMENT.

Work on this scheme has been mainly confined to preliminary activities and the provision of accommodation for workmen.

A main access road from Tuai to the new station at Piripaua was first constructed, and then roads to the surge-chamber and the various tunnel-faces, camps &c., were commenced. Approximately 5½ miles of road were constructed and metalled, including the installation of necessary culverts and the erection of five small bridges.

The quarry opened at Tuai did not provide sufficient stone, but the crushing-plant has been used continuously, spalls being taken from the construction excavation, the river-bed, and the lake-shore. About 9,500 cubic yards of crushed metal were placed on the roads, and top-dressing is in progress.

Camps were established at Korora and at Piripaua, but owing to the shortage of tradesmen it was necessary to have all single huts and married men's hutments made in Napier and Gisborne. The sections were assembled on the site, and so far 100 married quarters and 100 single huts have been erected. The standard combined bath and washhouse buildings have been constructed, one for every two married quarters. Cookhouses to cater for eighty-four men each were built at both camps and are in operation. Large bathhouses, the necessary latrines, and other miscellaneous buildings were constructed.

Eight staff hutments were erected, and a Y.M.C.A. hut was practically completed.

The following buildings have been erected and are in use: Store, fitting and blacksmith shop, joiners' shop, mill, and plumber's shop. Smaller service buildings have also been erected.

Five permanent cottages, with garages, were completed at Piripaua. In Tuai Village sixteen garages were constructed, and the foundations for a new social hall are now in hand.

Excavation work is in hand on both ends of the Whakamarino Canal, the spalls obtained being set apart for the pitching of the wall in front of the recreation area.

Boring for grout-pipes for the Whakamarino Dam has been in progress, and about 100 lineal feet of pipes have been placed in position.

The tunnel-face on the eastern side of the siphon area has been opened up and shows a sound papa face. On the western face work is still in progress, and the papa exposed to date is not suitable for a face.

A party is engaged lowering the creek and opening up the necessary faces in the canyon preparatory to tunnelling.

The opening-up of the tunnel-face on the side opposite to the surge-chamber is in hand.

The face from No. 2 anchor block up to the penstock tunnels is being stripped, papa is available throughout the length, and the excavation of the area for No. 2 anchor block is well in hand.

The 7-ft. 6-in. diameter steel pipes for the penstocks are being fabricated at Tuai by the contractor for the No. 3 penstock pipes, and this work has been practically completed. The twin pipe-line will be 7 ft. 6 in. diameter throughout, and the two penstocks will make a total length of 1,820 ft. The pipes are sand-blasted after welding, and the first coat of special red-lead paint is immediately applied. Completed pipes are stored at Tuai until the pedestals are completed and field welding can be started.

The excavation of the river-diversion at Piripaua is well advanced, some 12,500 cubic yards having been removed to date. The pilot channel and berm are complete, the excavation for the drop weir being trimmed for concreting, and the final section of excavation is in progress.

Between the drop weir and the bridge, the pitched stone protection walls have been completed on both sides, and work is proceeding upstream from the bridge. Owing to the depth of the papa, much more walling has been built than was originally considered necessary, and, owing to the presence of water, continuous pumping has been required.

The permanent concrete bridge of two 30 ft. spans has been completed, the piers being poured into holes cut in the solid papa. The heavy-duty cattle-stop and the bridge approaches have been almost completed.

The 11 kV. line has been erected and livened up, and at the Siphon, Piripaua Camp, and at Piripaua power-house, site-transformers have been installed. From these, 400 volt lines have been run and 230 volt lines supply street lights, house lighting, &c. The villages have been wired and connected with the system, and the workshops, store, &c., are also supplied with power. A high-tension telephone system has been run between the power-stations.

The R.D. 6 caterpillar and the R.B. 17 shovel have been employed continuously and have given excellent service. Further plant is being assembled, and when in operation will assist towards expediting the construction programme.

The workshops have been fitted out, and the usual repairs and maintenance have been carried out.

Three factors have militated against speedy progress on the works. Firstly, the weather until late last year was extremely wet, the rainfall being 33 in. over the annual average, while the damage to the main highways and railways has had a decided effect on the progress of the work. Secondly, the lack