

should be erected on the site of the present Te Puke – Netherton Ferry, and that on the western side of the new cut a road be made out of the material to be excavated from the cuts and forming the stop-bank for that portion of the river.

Upper Waihou stop-banks —Survey Waihou-Awaiti-Piako watershed.

The Commissioners are emphatic in their advice that from Ngararahi up to Mangaiti such stop-banks should be erected as may be necessary to effectually prevent the Upper Waihou from overflowing in times of freshes, and from joining its waters to those of the Piako watershed, and they advise that a careful hydrographic survey should be made by a competent engineer of the district lying between the Awaiti, Piako, and Waihou Rivers, with a view to determining what works, if any, are necessary, in addition to those recommended by this Commission, to prevent any risk of either river breaking through to the other. The Commissioners believe that this study should be made not only as regards the existing levels, but with regard to the probable lowering of the ground-surfaces owing to the gradual drainage and settlement of the lands, and with regard to the artificial works being carried out by the Lands Department in the Piako district.

Suction dredge, plant, and appliances.

For the purpose of the construction of the Ngararahi-Opukeko cuts, and the erection of stop-banks, and for the dredging of the beds of the rivers, the Commissioners recommend that there should be purchased two suction dredges, each capable of lifting 500 tons of sand per hour, and of delivering the material dredged to an elevation of 20 feet above low water, and to a distance of 2,000 feet, and provided with all necessary punts, barges, and appliances for the proper discharge and distribution of the dredgings on the stop-banks. A small steam-tug would be required, with oil-launches; also a barge provided with powerful steam-winches and log-hauling gear for use in snagging the river and in removing the trunks and branches of the willows.

Scour of light sands, Upper Waihou.—Logs.

Specific powers should be given to the River Board to prevent, by the erection of flood-gates and protective works, all undue scour from the flat pumiceous lands in the Upper Waihou, and to make a charge of the cost of same against the lands drained; and also to recover from the owners of logs the cost of removing them from the bed of the river.

Ring-barking willows.

The Commission recommends that the willows on the river-banks be ring-barked and treated so as to be killed; that all the branches and twigs be thoroughly removed and disposed of; that, at any rate, for the first few years, the stumps of the willow-trees be left in the soil, so as to assist in retaining the banks and to prevent denudation; and that all roots, stumps, branches, and twigs of willows be thoroughly removed from the bed of all the rivers and tributaries.

REFERENCE CLAUSE 4.

Finance of recommendations.

4. The fourth reference made to the Commission is to determine what proportion of the cost of carrying out its recommendations should be a charge against the revenue derived by the local bodies from the mines interested in the use of the watercourses.

Half-cost to be borne by gold duty.

The Commissioners are of opinion that one-half of the annual cost of carrying out its recommendations, including interest and sinking fund on the loan-moneys employed and for maintenance, should be a charge upon the gold duty of the district.