

up-stream to connect with the existing stop-bank, as shown. These levees will require protection at one or two points, where the set of the current impinges dangerously upon them. It is possible that further protection may be required as years go by and the points of attack shift, in common with the usual behaviour of shingle rivers. The levees should be enclosed entirely within rabbit-proof fences. The fences on the river-side should have willow, poplar, or other tenacious and quick-growing trees used in their construction, and the land between the fences and the levees should be adequately planted with similar vegetation. The levees themselves should be grassed. At the extreme lower end of the right-bank levee, where it passes over the Oamaru Borough water-race, and for 300 ft. below same down the right bank of the Waitaki, stone protection composed of fairly heavy blocks from the limestone cliffs adjacent should be placed, to guard against the erosion which is taking place where the Maerewhenua current joins that of the Waitaki.

(c.) All the river-bed, from the upper end of the works to the confluence with the Waitaki, and within the stop-banks, should be entirely cleared of vegetation, and kept in that condition.

(d.) The roads approaching the east end of the bridge from Maerewhenua and Oamaru must be led in by reasonable grades and alignment to the new bridge, and the same must be done with the road on the western side.

(e.) All the roads and railway-line no longer in use should be closed, and the money obtained from the sale of the land thereby released should be used to compensate the owners of the land which may have to be acquired by the Crown for the new road and railway.

(f.) The road leading up the Maerewhenua on the right bank, which is now flooded, must be regraded, commencing from the top of the existing stop-bank and rising from there at a grade not flatter than the average grade of the river, until it connects with the high ground a short distance up-stream. Whether this raising is carried out on the present alignment, or by removing the road over against the cliff, is a matter for investigation and decision by the engineer actually carrying out the works.

REFERENCE No. 4.

To ascertain the nature and extent of any drainage-works that may be required, and the best method of carrying out such works.

Your Commissioners do not consider that any drainage-works are required in connection with this problem.

REFERENCE No. 5.

(a.) To furnish estimates of the cost of such remedial measures as you may recommend should be taken for the effective control and improvement of the said river and its banks.

Your Commissioners estimate the cost of the works recommended above at £18,000, made up as follows:—

	£
Stop-banks	1,800
Fencing stop-banks	1,000
Clearing river-bed	400
New railway-bridge (less value of old bridge, dismantled) ..	10,000
New railway-banks, platelaying, pulling up old line, connecting track	1,300
Removal of old banks, regrading roads, and bridge approaches	600
Protection, willow-planting, and rock-work	500
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	£15,600
Cost of financing, interest, legal expenses, supervision, and contingencies, 15 per cent. (say)	2,400
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	£18,000