

N W.—is the lee wall, making the entrance dangerous. Looking at the matter in this light, anything that is calculated to direct the current more towards the west breakwater we should avail ourselves, of and this, I think, the form Mr Bell proposes for the west training-wall below the lagoon would be likely to effect, so that I think it should be followed. *Re* the east training-bank, shown in both plans, I understood from Mr Bell and from Mr Reynolds that they did not consider this an urgent matter. I would accordingly advise that no steps be taken at present with regard to it.

*Cost of Walls.*—Looking into the cost of the works proposed, I have deducted the cost of the extension he proposes from Mr Reynolds's estimate for purposes of comparison, and find that, taking his alternative line below the Buller Bridge, which differs only slightly from Mr Bell's, the respective costs of the works, according to each gentleman's estimate, stand as follows. Mr Bell's scheme, £27,500, Mr Reynolds's scheme, £30,000. I think Mr Reynolds provided for a wall 10ft. wide on top, while, I believe, Mr Bell reckoned on a 9ft. wall as being sufficient to carry the roadway, which will probably account for some of the difference.

*Approaches.*—Examining the several approaches suggested, there is practically no difference of opinion with regard to them. The approaches to the upper walls are recommended to be a right-hand curve, from the west end of the Buller Bridge to the river, at the upstream side of the bridge, where a back-shunt would be put in with siding-room for trucks, and by the approach at the head of Martin's Island, which is to take the form of staging when it arrives at high-water spring-tide mark. The approach considered advisable to the west training-wall, below the lagoon, curves off the Cape Foulwind railway about 10 chains before reaching the west breakwater, and runs over the sandhills, curving round by the signal-station on to the wall. Here Mr Reynolds prefers a solid approach, with the view of preventing the lagoon finding its way out on the west side of the training-wall, while Mr Bell adopts an open staging, trusting to deepening the mouth of the lagoon by dredging to take its drainage through the proper channel. Mr Reynolds also shows the approach he would recommend to the east training-wall, but Mr Bell does not mention this point.

*Dredging.*—The estimates for dredging approach each other in their total cost, though arrived at in different ways. Mr Bell's dredging estimate is based on a cut to be made 150ft. wide, allowing nothing for scour, but considering the whole as solid dredging while Mr Reynolds has estimated for a cut 300ft. wide, about one-half of which he allows might be effected by scour. The width of the channel we are dredging at present, at the upper end of the fairway, is 150ft. I should be inclined not to widen it beyond this, unless hereafter found necessary.

*Floating-basin.*—I would advise that no proposal for amending the position of the floating-basin be definitely decided on, as there is no necessity to be precipitate in that matter. Both are valuable, and should be carefully studied, so that when the time comes to act the Board may be prepared to do so, secure that they are working on the best lines.

*Miscellaneous.*—Mr Reynolds having noticed that our dredging operations here would lend themselves well to a system of harrowing the bar, as the hopper-barges are continually crossing it, makes a valuable suggestion on that point, and I would recommend that a trial be given to his proposal. Mr Reynolds also thinks that the river-bank above the half-tide wall, on the east side of the river, should be advanced to the front line of Sir John Coode's works. This, in my opinion, should be done, but, if wharves are in the future to be erected there, it could be effected conveniently then.

*Summary of the Foregoing Suggestions.*—First, the training-walls and approaches on west side of river should be constructed where there is any difference between the two proposals on lines laid down by Mr Bell. Second, the bank-protection advocated by Mr Reynolds should be kept in view, and undertaken if it at any time becomes necessary. Third, Mr Reynolds's proposal *re* harrowing the bar should be tested in connection with the dredging operations.

In conclusion, I may say that both reports herein treated on are of considerable value, as the investigations therein have been patiently pursued on sound engineering principles, and an examination of them will show that, though independently framed, very much the same conclusions have been deduced, and that there is nothing antagonistic in the reports, differences being on minor points only.

I have, &c.,

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