

36. In moderately rough weather, then, the "Australia" could not lie at the end of the pier at low water?—That is so.

37. *Mr. Ross.*] That is, at the end of the extension?—Yes; my arguments are based on the extension.

38. Does the harbour shoal at all?—It does not shoal rapidly, because at the present time we have about 12ft. close at the end of the pier.

39. At the end of the extension you get a depth of 13½ft., and at the present end you have a depth of 12ft.: that will be variation of 15in. for the whole extension of 1,160ft.?—The depth of 12ft. is to the bottom. The river has scoured right out to the end of the present work.

40. Is the scour of the river likely to continue as you go further out?—Yes; but it will diminish slowly as you go out.

41. Is this depth of 12ft. at high water?—Yes.

42. At low water what depth have you?—At low water we have about 6ft. where we are now.

43. *The Chairman.*] Then there is a difference in 1,000ft. of 7ft. I think it would be necessary to tell us how far up that pier this 13½ft. would run?—One point may be remarked: the depth of 13½ft. was the sounding taken in 1885.

44. *Mr. R. Thompson.*] In rough weather, I understood you to say, a vessel could not lie at the end of the pier, but would have to be at least 200ft. in from the pier?—I did not say so. I would not say that, because I was allowing 4ft. more water than the vessel draws, on account of the send of the sea.

45. Supposing a steamer was caught in a south-easter, would not the captain clear out to Wise Head?—Yes.

46. Have you got any statistics about the south-easterly wind? How often does it blow in the year?—I have in Gisborne; not here. I reckoned in my report to the Board that for 250 days in the year a vessel drawing 13ft. 6in. could lie alongside the pier—that is, you know, at dead low water.

47. Is there any other wind which blows there?—There is only one particular wind that brings in any heavy sea at all. There is no continual roll, as in other harbours.

48. *The Chairman.*] In fine weather would a ship take any hurt if it lay in the sand?—No, not the slightest. There is another thing: at high water there is a depth of 18ft. 3in. at the end of the extension. The tide does not rise or fall very much within the two hours before and after the full. Instead of calling it 18ft. 3in., call it 16ft. A vessel, then, drawing 16ft. could lie alongside the pier for four hours.

49. *Mr. Allen.*] Who is responsible for the alternative plan?—I advised on the subject, and submitted the matter to Government.

50. The Government are not responsible for the alternative plan?—They approved of it.

51. As Harbour Engineer you advised that plan?—Yes. It was submitted to Government, and Government approved.

52. What is the main difference between the present and the original plans?—Sir John Coode was told there was a current of sand running along the beach in an easterly direction. We found no current of sand going that way. Another reason why the present point was chosen is that there is a reef of rocks to the eastward of the present line of pier. This reef of rocks acts as a breakwater to the present pier, and breaks heavy seas, so that vessels could lie alongside this pier in safety when they could not lie alongside an exposed pier like Napier.

53. *Mr. Whyte.*] Am I right in understanding that Sir John Coode's plan would be absolutely useless unless completed entirely?—It would be of some use without these two arms. Sir John Coode, I may say, had no opportunity of making a thorough inspection. He was only in the place an hour or so.

54. *Mr. Tanner.*] Mr. Ormond says that, had Sir John Coode's plan been carried out, vessels of sufficient tonnage would be able to lie alongside to be of use to the whole of the settlers. Do you think so?—Yes; there is about the same depth as at the outer end of authorised plan.

55. What is the extreme length of Sir John Coode's pier?—2,300ft.

56. You propose to go out 1,160ft.?—Yes.

57. *Mr. Ross.*] Your design is what is known as the Stony Point scheme?—Yes.

58. Did the reefs extend, under that plan, further out than in Sir John Coode's plan?—Sir John Coode's plan and the Stony Point plan include the reef of rocks.

59. Did the Stony Point reef of rocks extend further out than Sir John Coode's?—Yes. [Witness indicated the positions on the map.]

60. What induced you to draw the Stony Point plan?—Because the Stony Point work would be in deeper water than Sir John Coode's work.

61. *Mr. Whyte.*] Whereabouts will this work begin to be of use?—It will be of use when we get 6ft. at dead low water. By spending £300,000 in continuing the present line of work we would get 30ft. at low water, and would get 36ft. at high water: you would get a harbour of refuge for any vessel.

63. Is Sir John Coode's plan a complete plan?—You could not extend it any further on account of these wings. In the present work, if you want to get more than 20ft. or 21ft. all you have to do is to extend it. There is one important point I would like to mention: that vessels of large draught would be able to lie alongside the pier for four hours at high water; and I would also like to point out the increase of depth of water since the soundings of 1885, the increase varying from 1ft. to 2ft.

64. *The Chairman.*] The construction of the work so far, you mean to say, has had the effect of deepening the water?—Yes. [Witness produced a sketch-plan showing the varyings in depth.]