

and to enable treatment of the sewage to be carried out. Following this, in the year 1928 a Committee of Inquiry was appointed by the Department of Health to consider questions arising from the discharge of sewage into the Manukau Harbour as well as the Waitemata Harbour. The inclusion of the Manukau Harbour in the scope of the Committee's inquiry is significant as indicating a realization of the necessity of considering the drainage of the Auckland Isthmus as a whole. The Committee decided that there was "undoubted necessity to take in hand the question of pollution of both Waitemata and Manukau Harbours," and it recommended that there should be co-ordination of control in respect of drainage matters on the Manukau side of the isthmus similar to that brought about by the Auckland and Suburban Drainage Act, 1908, for the Waitemata side. It considered that it would be a mistake to set up a separate Board for the Manukau area, and it therefore recommended an extension of the drainage district constituted by that Act. A further recommendation was made that the Engineer to the Drainage Board should be sent overseas to investigate sewage treatment and disposal systems and problems.

13. The Drainage Board adopted this recommendation and instructed its Engineer (Mr. H. H. Watkins) to visit the United States of America, Canada, Great Britain, and other parts of Europe and Australia in order to make a full investigation of all matters relating to the administration, design, construction, and operation of drainage systems and also of the systems of treating and disposing of sewage. Mr. Watkins was engaged in this task for several months during the years 1929 and 1930, and on his return to New Zealand he prepared a comprehensive report on his investigations and also formulated proposals for sewerage and sewage treatment and disposal schemes for an extended drainage district. The report and proposals were submitted to the Drainage Board in December, 1931, and will be referred to hereafter as the 1931 proposals. The 1931 proposals provided for the extended district to be divided into two areas, a northern area comprising the Boroughs of Devonport, Takapuna, Northcote, and Birkenhead, and a southern area comprising the City of Auckland and also the districts of the other local authorities situated on the Auckland Isthmus.

The position with regard to the northern area will be dealt with in Part V of this report, which deals with the drainage of the North Shore boroughs, and it is unnecessary to make any further reference to it at this stage.

So far as the southern area was concerned, it is sufficient to state that the 1931 proposals provided for a main sewerage scheme for the isthmus with treatment-works at Motukorea (or Brown's Island), situated on the Waitemata Harbour, and an outfall in the Motukorea Channel. The proposed treatment-works included a pumping-station, plain sedimentation tanks, and sludge-drying beds at Motukorea and facilities for conveying wet sludge to the open sea.

14. It has already been mentioned that, although the action taken by the Auckland Harbour Board in the year 1927 arose from the inadequacy of the Auckland and Suburban Drainage Board's system and the outfall at Orakei, it was found advisable to give consideration as well to the pollution of the Manukau Harbour that was taking place. Pollution of the waters of the Waitemata Harbour was being caused at that time not only by the Orakei outfall, but also by outfalls from the North Shore boroughs, which were discharging crude sewage and septic-tank effluent. Pollution of the Manukau Harbour was being caused by outfalls from the sewerage systems of the Mount Roskill road districts and the boroughs of Onehunga, Otahuhu, and New Lynn, which were also discharging crude sewage or septic-tank effluent. The pollution caused by the discharge into harbour waters from the outfalls on both sides of the isthmus which have been mentioned was increased by the discharge of trade wastes into tidal waters, and of sewage from ships using the harbours, and by various other sources of pollution. It should be observed that all sources of pollution which existed in the year 1931 still exist and that not only has no effective action been taken to abate the serious nuisance caused,