

SESS. II.—1891.  
NEW ZEALAND.

# WESTPORT AND GREYMOUTH HARBOUR BOARDS AND THE WORKS OF THOSE HARBOURS

(CORRESPONDENCE RELATIVE TO).

*Return to an Order of the House of Representatives dated the 17th day of June, 1891.*

*Ordered, "That all correspondence and papers in connection with the reconstitution of the Westport and Greymouth Harbour Boards, and the works of those harbours, be laid before this House."—(Mr. R. H. J. REEVES.)*

MEMORANDUM for the Hon. the MINISTER for PUBLIC WORKS. Wellington.

New Zealand Government Railways,

Head Office, Wellington, 11th February, 1891.

THE Railway Commissioners have observed in the public Press that the Government contemplates making material alterations in the Harbour Boards at Westport and Greymouth.

Owing to the fact that the wharf and shipping arrangements are necessarily an integral part of the railway system, and that the railway authorities ought to be paramount in all operations affecting the working of the railway, it is manifest that great inconvenience would be likely to arise by the railway operations being made subservient to the operations of a local body in no way responsible for the working of the railway or wharves, or for their financial success.

This inconvenience is not now a matter of opinion. The position of the railways while the local Board originally existed was quite impracticable, and it was aggravated by the fact that, although the colony found the funds, the Government could not obtain the supplies needed to perform necessary works on the railways except the Harbour Board chose to permit it, and the provision intended to be made by Parliament for carrying on national works for the benefit of the colony could not be used at the will of the Government, but only at the pleasure of a local Board irresponsible for the success or failure of the railways. This position was so entirely unworkable that it resulted in the Government being induced to take control by appointing a Board of Government officers.

The position in Westport especially is now a very delicate one. The railway staiths are being extended by the Harbour Board according to the railway plans. So long as the work goes on under Government officers (under the Marine Engineer), working in accordance with the Commissioners' views, this plan of proceeding may answer, but experience has shown that a local Board with independent officers is unlikely to carry on such works as are required by the Commissioners without great friction and trouble arising.

The question of a deep-water basin for Westport, involving a new station with additional sidings and new loading accommodation, is essentially a railway and a colonial matter, and one which, both in general scope and in details of design and scheme, should be wholly dealt with under the control of the Railway Commissioners, as it must materially affect both the mechanical and financial success of the railway and harbour on which so large a sum of colonial money is already expended.

The Railway Commissioners, therefore, respectfully beg to suggest that the Government should consider the subject with a view to eliminate any control or interference with the railways and shipping arrangements by the local Harbour Boards, and to give the Railway Commissioners power to do what is necessary to provide berthage, wharfage, loading, and station accommodation for the railway traffic.

JAMES MCKERROW, Chief Commissioner.

Railway Commissioners, Wellington.

RE proposed alterations in the constitution of the Westport and Greymouth Harbour Boards: I am directed by the Minister for Public Works to acknowledge the receipt of your memorandum of yesterday's date, relative to the proposed alterations in the constitution of the Westport and

Greymouth Harbour Boards, and suggesting that the Government should consider the subject with a view to eliminate any control or interference by the Board with the railways and shipping arrangements; and also that the Railway Commissioners should be empowered to do whatever they might consider necessary to provide berthage, wharfage, loading, and station accommodation for the shipping traffic in connection with the railway, and, in reply, to state that the representations of the Commissioners on the matter will receive due consideration.

12th February, 1891.

H. J. H. BLOW,  
Assistant Under-Secretary for Public Works.

The Railway Commissioners.

RE alterations in the constitution of the Westport and Greymouth Harbour Board: Referring to my memorandum of the 12th ultimo on the above-mentioned subject, I have now the honour, by direction of the Minister for Public Works, to state that the representations of the Commissioners with regard to the elimination of any control or interference by the local Harbour Boards at Westport and Greymouth with the railways and shipping arrangements at those places have been carefully considered, with the result, however, that the Government has decided that the law must be allowed to operate in its entirety, and notice of this decision has been sent to each of the Boards accordingly.

I am further to state, that it appears to the Government that to have continued the Boards as previously constituted would have been to maintain what were really dummy Boards, and to countenance dummyism in any shape or form is both contrary to law and the policy of the Government.

In conclusion, I am to state that the contention of the Commissioners in this matter would apparently apply in greater or less degree to every harbour in the colony.

16th March, 1891.

H. J. H. BLOW,  
Assistant Under-Secretary, Public Works.

MEMORANDUM for the Hon. the MINISTER for PUBLIC WORKS in reply to the ACTING UNDER-SECRETARY'S Letter of the 16th March last.

Railway Department, Head Office, Wellington, 9th May, 1891.

NOTWITHSTANDING the decision of the Government regarding the constitution of the Westport and Greymouth Harbour Boards, the Railway Commissioners desire respectfully to add some few further remarks thereon.

The Government recently undertook an extension of the staiths at Westport according to designs supplied by the Railway Commissioners. This work, it is understood, has been handed over to the new Harbour Board to execute. The Board, the Commissioners learn, has applied to the Government to allow the work to be supplemented by sheet-piling, at a cost of £3,000. The sheet-piling is useless and unnecessary. The Commissioners respectfully protest against such an outlay, and against any departure from the railway designs without their concurrence. The staith is a railway work, and this episode illustrates the inconvenience and undesirability of having a local body concerned in its execution.

Since the new Board was set up, the Commissioners have been apprised by a deputation that the Board considers new railway works and appliances desirable, and the Board has submitted plans accordingly, the execution of which would cost several thousand pounds. The Board has really no jurisdiction over the railway wharves or staiths, and is not concerned in their working. The Railway Commissioners do not propose to sanction any works being carried out by the Board upon railway land. In future they will, by their own officers, do what is found to be needful for the traffic. The Commissioners, in the meantime, wish to direct your attention to the subject as evidencing the fact that the Board is unduly desirous to expend large sums of money provided by the colony on works which are not necessary, and which the Commissioners do not at present require.

In the conclusion of the letter of the 16th March, it is remarked the contentions of the Commissioners apply in a greater or lesser degree to every Harbour Board in the colony. There is this essential difference in the Harbour Boards under discussion from others in the colony: the colony finds the whole of the money for payment of interest, and pays largely for the extension of works properly chargeable against capital out of the current revenues of the colony. The Commissioners would also respectfully point out that there is no case in which the railways occupy wharves in any part of the colony which are, while essentially parts of and necessary for the railways, in the hands of local bodies, where more or less inconvenience and trouble has not arisen therefrom, and in every such case it would have been better and simpler to have entirely excluded all interference by local bodies.

JAMES MCKERROW, Chief Commissioner.

MEMORANDUM for the Hon. the MINISTER for PUBLIC WORKS, Wellington.

New Zealand Government Railways,

Head Office, Wellington, 15th May, 1891.

REFERRING to your suggestion as to the District Managers of Railways at Greymouth and Westport acting as members of the respective Harbour Boards at those parts, the Railway Commissioners do not see that they can consent to their officers occupying positions in the directorate of public bodies, likely as these are to be in frequent correspondence with them on works, expenditure, and other business in which there may be differences of opinion. This would prove embarrassing both to the Commissioners and the officers; they therefore respectfully decline permission for the District Railway Managers to become or continue to be members of Harbour Boards.

JAMES MCKERROW, Chief Commissioner.

SIR,—

1st June, 1891.

*Re* alterations in the constitution of the Westport and Greymouth Harbour Boards: I have the honour, by direction of the Minister for Public Works, to forward herewith, for the information of your Board, a copy of certain correspondence which has taken place with the Railway Commissioners recently on the subject of the control of or interference with the railways and shipping arrangements at Westport and Greymouth by the Harbour Boards at those places as now reconstituted.

I have, &amp;c.,

H. J. H. BLOW,

Assistant Under-Secretary for Public Works.

The Chairman, Greymouth Harbour Board, Greymouth.

SIR,—

1st June, 1891.

*Re* alterations in the constitution of the Westport and Greymouth Harbour Boards: I have the honour, by direction of the Minister for Public Works, to forward herewith, for the information of your Board, a copy of certain correspondence which has taken place with the Railway Commissioners recently on the subject of the control of or interference with the railway and shipping arrangements at Westport and Greymouth by the Harbour Boards at those places as now reconstituted.

I have, &amp;c.,

H. J. H. BLOW,

Assistant Under-Secretary for Public Works.

The Chairman, Westport Harbour Board, Westport.

SIR,—

Greymouth Harbour Board, Greymouth, 28th May, 1891.

By direction of the Greymouth Harbour Board, I have the honour to forward a copy of a resolution of the Board, and also a copy of the *Grey River Argus* containing the telegram referred to.

“*Resolved*, That the Hon. the Minister for Public Works be informed that a telegram from the Wellington correspondent of the *Grey River Argus* appeared in that paper of the 23rd instant, stating that the Railway Commissioners refused to allow the Railway Manager to be appointed a member of the Board, alleging that the Board is incompetent, and wish to construct extensive works that are not necessary, thus recklessly throwing away public money: this Board desire to know if it is true that the Railway Commissioners ever made such a statement; and, if so, would the Government furnish to this Board a copy of the correspondence on the matter.”

I have, &amp;c.,

The Hon. the Minister for Public Works, Wellington.

THOMAS ALLEN, Secretary.

SIR,—

3rd June, 1891.

I am directed by the Minister for Public Works to acknowledge the receipt of your letter of the 28th ultimo, forwarding copy of a resolution of your Board on the subject of a telegram which appeared in the *Grey River Argus* of the 23rd instant, relative to the refusal of the Railway Commissioners to allow their District Managers at Westport and Greymouth to act as members of the Harbour Boards at those places, together with a copy of the newspaper referred to, and requesting to be supplied with a copy of the correspondence (if any) relating to the matter.

In reply I am to state that the correspondence with the Railway Commissioners forwarded to your Board under cover of my letter of the 1st instant (which was despatched prior to the receipt of your letter above quoted) is probably what is referred to in the newspaper telegram to which you draw attention.

I have, &amp;c.,

H. J. H. BLOW,

Assistant Under-Secretary for Public Works.

The Chairman, Harbour Board, Greymouth.

SIR,—

Greymouth Harbour Board, Greymouth, 16th June, 1891.

In reply to the Assistant Under-Secretary for Public Works' letter, P.W. No. 89/184, dated the 1st instant, forwarding copy of correspondence with the Railway Commissioners (P.W. 91/840), I have the honour to transmit to you the following resolution, which was unanimously passed by the Greymouth Harbour Board at its meeting held on the 15th June, 1891:—

“*Resolved*, That a reply be forwarded by the Chairman to the Hon. Mr. Seddon, informing him that this Board is of opinion that the whole of the wharves in the port should be placed under the sole control of the Harbour Board without any interference by the Railway Commissioners, so that the Board can manage the same, and make such alterations and additions to the wharves as will facilitate the shipping trade of the port, especially as all works undertaken by the Board can only be made subject to the consent of the Engineer-in-Chief, and under the immediate supervision of the Board's Engineer, who is also the District Engineer.”

I have, &amp;c.,

JAMES KERR, Acting Chairman.

The Hon. R. J. Seddon, Minister for Public Works, Wellington.

SIR,—

1st July, 1891.

*Re* control of wharves, Greymouth: I am directed by the Minister for Public Works to acknowledge the receipt of your letter of the 16th ultimo, forwarding a copy of a resolution passed at a recent meeting of your Board, expressing the opinion that the whole of the wharves at the Port of Greymouth should be placed under the sole control of the Board.

In reply I am to state that the Government is powerless to give effect to the wishes of your Board in this matter, as to do so would be contrary to the provisions of section 7 of "The Greymouth Harbour Board Act, 1884."

I have &c.,

H. J. H. BLOW,

Assistant Under-Secretary for Public Works.

The Chairman, Harbour Board, Greymouth.

SIR,—

Westport Harbour Board, Westport, 8th June, 1891.

I have the honour to acknowledge with thanks the receipt of your P.W. No. 89/183, dated the 1st June, 1891, enclosing for the information of the Board correspondence from the Railway Commissioners referring to the constitution of the Westport and Greymouth Harbour Boards, and I now beg to forward comments upon these letters. The extracts are quoted, numbered, and dealt with *seriatim*.

2. This letter starts with the assumption that the shipping arrangements are necessarily an integral part of the railway system. This is not the case. The authority of the Railway Commissioners is over railways, wharves, &c., but does not extend to the rivers, harbours, or sea, nor to the construction of new works. If this is a just claim to be lords paramount on all operations affecting the working of the railway, then their authority must extend much beyond the harbours and shipping—the coal-mining, for instance, the delivery of coal by sea, &c. They would have the power arbitrarily to expend public money on works both on land and sea. The Commissioners would appear to adopt the socialists' proposal, that all instruments of production and distribution should be under the control of the State, and, like the French king, they also say, "*L'Etat c'est moi*." With regard to the inconvenience, I am not aware of any instance occurring, and I do not believe one could be shown to illustrate that insinuation. It is true that the Board is not responsible for the working of the railway, nor for the administration of its other endowments, which have been likewise placed in different hands, but unfortunately the Board's revenue suffers from every blunder committed, and not the parties who are to blame.

The inconvenience is certainly not now a matter of opinion nor of fact, but pure imagination. The Board has been in existence since 1884; can the Commissioners give one instance where "necessary works" or works of any kind have been obstructed as they state? I have shown how the Board would be affected by the success or failure of the railway. I am now tempted to add that the public convenience, the development of the coalfields, and the interests of the harbour are also of importance. The real position of the Harbour Board is clearly defined by statute. Checks have been wisely provided to regulate and direct expenditure and to prevent arbitrary and uncontrolled action. The practice before the "dummy" Board and since has been to follow closely the plans of Sir John Coode, and as the works proceed plans and specifications have been submitted to the Government for approval. The proceedings of the local Board are conducted in full view of the colony; the Press and the people have free access, and are welcome to watch and criticise. There is nothing arbitrary, underhand, or secret here. It is not likely that the local Board, being so interested in the progress of the port and all its accessories, would throw any impediment in the way of successful or effective working of the railway. Far from it; the Board being local is generally the first to be made aware of deficiencies, and at once places the matter before the proper authorities with a view to a remedy. An instance of this is to be noted in connection with the wharf extension and sheath-piling to the new staiths, of which more presently. Another instance: the case of increased rolling-stock required, for which funds have been placed at the disposal of Commissioners in October, 1889, and unused to this day. The development of the coalfields at Westport and the economic supply of coal throughout the colony is a necessity to the industry and domestic comfort of the people. This is truly a matter of great colonial interest; it is dependent upon circumstances connected with production and distribution. A very small part of this task is allotted to the Railway Commissioners—only the carriage by the railway, nearly all the appliances being found for them. The management of the traffic here is in itself a small routine matter of business. When taken with the railway system of the colony it is a sufficiently important undertaking; but the real difficulty, heavy responsibility, and the importance lie outside these functions, in the production of the coal, its distribution by sea, and construction of the Westport Harbour works.

4. A perusal of the evidence given before two Committees of the House of Representatives and a knowledge which Government have of what has taken place since, demonstrates clearly that the inducement to establish the "dummy" Board was to prolong the existence of a moribund department, and also demonstrates that the action was ill-advised. The result a public scandal and a waste of public money.

5. This paragraph is no doubt couched with the most friendly intentions in regard to the Marine Engineer and the moribund department referred to. The Commissioners now claim to take the place of Government, and their views are to be paramount. I state most unhesitatingly that the staiths are a great waste of money. They are erected contrary to Sir John Coode's harbour plan, against his advice, on a system which has been condemned and superseded at Newcastle, New South Wales, and at all the principal coal ports of the world, where preference is now given to loading by cranes. The plans themselves are defective. No better illustration could be given of the impropriety of intrusting the construction of works to persons wanting local knowledge and experience than this. In addition to the mistake of altering Sir John Coode's harbour plans, we have now a defective structure, no provision being made to prevent large stones on the river bank from rolling down under the shipping, although previous experience has shown such to be absolutely indispensable. I had the honour of discussing this omission with one of the gentlemen principally concerned, and he suggested that the stones when they fell in could be easily dredged out. Stones

are to be dredged out, one by one, as they slip from banks, 20ft. under water, into the berthages where valuable steamers lie! Is there to be a diver permanently stationed below? or how is the risk of a vessel resting upon one of these to be obviated? If that can be answered, then what will be the cost of searching for and dredging each stone? A similar mistake has already cost the colony thousands. The former staiths were erected by the Public Works Department. The same mistake was made, and for a long time the Board struggled with the difficulty. A diver was constantly employed removing stones, at enormous cost. The risk incurred by shipping, the uncertainty and recurring expenditure, necessitated sheath-piling. The Government authorised and sanctioned the work, and although done at much increased cost and with the utmost care, it has been found impossible to make a perfect job, as the old structure interfered with the regular spacing of the sheathing. All this is a matter of common notoriety here, but it seems that the Commissioners do not understand it yet. Then as to the superiority of the department and its officers. What is the experience in regard to the previous erection? The old staiths were built under the supervision of the Public Works Department. It is notorious that saplings were used instead of the timber required by the specification; the change was probably profitable to the contractors, but a great part of the work has since been rebuilt in consequence, and paid for by this Board. The present contract has been let by Government under plans and specifications approved by Government and by Commissioners. I myself proposed that the details of certain working parts of the shoots should be supplied by the Commissioners in order that the work might suit them exactly. Their reply was a request to the Board's Engineer to do the work. There is a very great want of—shall I call it?—candour about the statements made by the Commissioners in these letters. Perhaps they were not intended for perusal here. The new contract having been handed over to this Board, every care will be taken to have the work honestly performed according to the specifications.

6. This is a repetition of the claim of Commissioners to be lords paramount. Is it because they are in charge of the railway that they are to be allowed to set aside Sir John Coode's plans and substitute a plan of their own? That such a scheme has been proposed is well known, and that the Commissioners have exercised sufficient influence over the "dummy" Board to delay the progress of our harbour under the authorised and adopted scheme of Sir John Coode, which so far has been such an unqualified success. The experience at Gisborne should amply illustrate the absurdity of allowing the plans of probably the most experienced and successful harbour engineer in the world being lightly set aside. Considerable injury has already been done by this interference. This will be shown in a report upon Westport Harbour Works shortly to be addressed to the Minister of Marine. Since the Commissioners have thought proper to interfere much beyond their proper functions and endeavoured to exercise that by general misstatements, it may perhaps be excusable on my part to assert my belief that their real object was mainly their *esprit de corps* as old Civil servants, and two at least old members of the Public Works Department to assist the functionaries still remaining, and to preserve to them the control of works which for some time has served for an excuse for their retention—that object may be commendable but not public spirited. The connection of the Public Works Department with works in this part of the country has been indeed disastrous to the colony, as witness the several principal works of importance here, all by bungling and bad management showing faults in construction and consequent heavy loss to the colony. To be particular, I will enumerate the Cobden Bridge, the Brunner Railway, the Brunnerton Bridge, the Inangahua Bridge, the Lyell Bridge, the Mokihinui Bridge, the coal staiths at Westport, and a work now in hand—the Westport and Ngakawau Railway. As this is the latest edition of blundering, I will give the particulars with a view to illustrating the result of the centralising system so much recommended by the Railway Commissioners. When the proposal to construct the railway was before Parliament, the department was asked to give an estimate of the cost. The estimate given was £35,000. Plans and specifications were then all ready, and although myself and others called attention to the absurd over-estimate made, and although a *bonâ fide* offer was actually given to complete the work for £10,000 less, yet they refused to alter their estimate, and it has been proved, now the work is in hand, that it will not cost more than £22,500. Instructions were given last January by the then Government to call for tenders for the work, and proceed with it energetically. The department called for tenders in mile sections, requiring neither deposit nor security with tenders, with the result which might be expected, and probably was anticipated, that random tendering would take place, and the greater number did not take up their tenders. The work has now been let at schedule prices to a number of unemployed, and you yourself, Sir, promised that they should receive the prompt payment for work so necessary to persons circumstanced as they were. These men have done their work, but faith has been broken with them, and they have been kept seven weeks without money. Then, notwithstanding repeated remonstrance, part of the work—namely, the bridge over the Ngakawau, which must take the most time to construct, has been kept back to the last, and when tenders were called the time for its construction was fixed at eighteen months—three times the time required. It is true that, upon representations made by me to the Premier, the time for completion was altered to ten months, but no reason can be assigned for such conduct as giving a term of eighteen months, where contractors say six months would have been sufficient, except that it was so done either to illustrate official stupidity or wilfully obstruct and retard the works. In either case the Westport Harbour funds are put to considerable loss.

7. There is no necessity to eliminate control or interference in connection with the railway. As far as this Harbour Board is concerned, there is no pretence of any right to interfere with the Railway Commissioners, either, in connection with the railway or wharves. But in regard to the shipping and harbour, the Government cannot, in the opinion of this Board, do better than continue the present system under which all works in accordance with Sir John Coode's scheme are, in the first instance, submitted for the approval of the Governor in Council, and, when sanctioned, proceeded with under the fullest publicity by a carefully-selected local Board, removable, and subject

to the criticisms of the public Press. Probably if the Commissioners were constituted the Harbour Board and intrusted with its functions, with power to spend the balance of funds at its disposal, they would snub any Government, local body, or even Sir John Coode himself, did he dare even to suggest that by carrying out their opposition harbour scheme they would divert the Buller River, ruin the port, and waste balance of our authorised loan.

*Second Letter.*

2. Whatever may be the object of the Commissioners in claiming to have supplied the design of the addition to the staiths, the fact remains that there is nothing original in the design, which has been, as you will see, adapted from the first design used; and you will also see that it has been prepared at Greymouth by the officers of your department. I believe the Commissioners have the responsibility of advocating and approving the work with all its faults. The sheath-piling they now condemn as useless and unnecessary, and, I have no doubt, such is the honest conviction of those gentlemen, and this is an episode which illustrates the inconvenience and undesirability of allowing irresponsible persons, wanting practical experience, arbitrarily to interfere or have control from a distance in the execution of works which they do not understand. For the previously erected portion of the staiths similarly situated, the pile-sheathing was deemed necessary and useful by the "dummy" Board, the Government, the Engineer-in-Chief, the Governor in Council, and no doubt also by the Commissioners who are now in contradiction. But, as before explained, the piling could not be made entirely effective. No later than last month the diver had to be again employed lifting stones which had slipped out and were dangerous to shipping. An additional provision is now being made at considerable expense to close up all the openings. This Board, from experience derived from intimate acquaintance with facts and upon the reports of their officers, have forwarded plans and particulars for this work, which is recommended as necessary. I now enclose herewith copies of reports and letters, with cross-sections of the river-bank, which will enable the Government to decide whether the work shall proceed or not. In case of damage to a steamer by stones rolling off the bank into the berthage, a vessel might again be sunk, even as the s.s. "Westport" was sunk alongside the staiths. You will remember the colony paid for that, with the costs of a law suit added. In such a case the Board, not the Commissioners, would be liable. Then, would it not be culpable neglect on the Board's part to ignore the circumstances and withhold the suggestion, which after all amounts to this, that the new work requires the same protection which in practice has been found indispensable for the old?

4. The Board anticipate a considerable extension of trade and revenue from the connection of new mines with the port and the great improvement in the harbour, consequently both the railway traffic and the shipping will require greater facilities. In no way can those facilities be provided more efficiently or economically than as suggested. Before presenting the proposal for the sanction of Government the Board decided to have the plans presented to the Railway Commissioners in order that the wharf, which would when completed be handed over for working to them, might in every way meet their views. A reply to this courteous application has been sent by a letter (copy enclosed) which is worth perusal, as showing to what extent in the assumption of authority the Commissioners are prepared to go, unless a short Act be passed by Parliament to define their position. Previously the Board have been charged with obstructing the railway works; now their offence is that they wish to facilitate it; then comes the hysterical exclamation, "the Board has really no jurisdiction over the railway wharves or staiths." No one ever said that it has. It is not equally true to say that the Board is not concerned in "their working," since it has to find the money for their construction and depends upon their returns for revenue. The Commissioners might as well inform the Parliament and the people that they are not concerned in the working of the New Zealand Railways. Perhaps the Commissioners are of that opinion. It will appear to you strange, but this refers to a wharf extension, a part of Sir J. Coode's harbour plan, and included in the recommendation made by the late Marine Engineer, which you so kindly placed at the disposal of this Board. His words were: "'F' extension of railway wharf down to coal-staiths, and dredging alongside to requisite depth, also providing cranes thereon for coal-loading, as at Greymouth." The matter has been further brought under our consideration by the manifest want of sufficient berthage for vessels, illustrated lately on the occasion of a heavy flood in the Buller, accompanied by bad weather at sea. Sufficient safe moorings were not obtainable, three large vessels were moored abreast at the coal-staiths. To any one who has cognisance of this river in flood nothing further need be said. For other reasons also the Board considered the time opportune for making progress in this direction upon the accepted and established plan of works. Complaints have been numerous that the coal shipped at Westport is much injured and reduced in quality by the system of loading from the staiths, under which the coal is shot down from a height into the holds of ships. The process breaks up the coal, and reduces much of it to dust, unfit for household use. The Board have now a number of cranes at the quarries which will soon be to spare; four of these, which have cost about £6,000, could (being placed on part of the proposed wharf extension) be utilised for the shipment of household coal, and thus reduce the breakage to a minimum, and at the same time insuring quick despatch to vessels. The cranes have been tested, with the result of establishing their adaptability for the work to the extent of 120 tons each per hour, equal for the four to 3,000 tons for six hours, which is more than could be put out on the staiths, which cost £15,000. The language of this, as in previous paragraphs, is ambiguous and full of self-assertion. I would like to know whether it is meant to convey a threat of interference with harbour works. If so, it will be necessary to set that question at rest or the Commissioners may become obstructive. Our reading of the legal position is, that the authority of Commissioners extends to the railway premises, wharves, staiths, &c., but not beyond that. If we are mistaken then it becomes quite possible for the Commissioners, in an arbitrary way, to set aside the scheme adopted for this port, substituting some experi-

mental work of their own, ending in disaster and ruin to all interested. Here, again, contradiction comes in; they state that the Board is "unduly desirous of expending large sums of money." The previous letter charges us with unwillingness! Which is right? It does not matter, as both are equally untrue. In the schedule attached hereto will be found a report by Captain Leech, an officer of the highest standing, whose experience extends over twenty-three years as Harbourmaster at Westport. Other gentlemen, who represent the coal and shipping interest, have also written on the subject; copies of their letters and of the report of the Board's Engineer are also enclosed. Indeed, it may be said that all officials and experts, except the Railway Commissioners, are in favour of the proposal. The plans and particulars will now be submitted to Government in the usual way, and without the concurrence of Commissioners, when it is hoped that something like a critical examination will take place; then the Commissioners will have an excellent opportunity of showing some reasonable grounds for their extraordinary, unreasoning, and contradictory statements.

5. Here again the Commissioners made a mistake. The Westport Harbour Board, like others in the colony, depends not upon the colonial revenue, but upon the endowments granted by the Legislature.

6. This has no bearing upon this Board, as both the wharves and the railway are entirely in the hands of the Commissioners, but the inference to be drawn from this curiously-worded paragraph is that all local bodies should be abolished to obtain a better and simpler form, or, in other words, to invest the Commissioners with absolute power. A tyrant gives the most simple and effective rule, but New Zealand is not ripe for a triumvirate yet.

To summarise the whole position illustrated by this correspondence: the Railway Commissioners being in absolute possession of the railway yards, buildings, staiths, sheds, and all things necessary to perform the functions of carriers by rail, as intrusted to them by the Legislature, now seek to have their authority extended to harbour works, and to set aside, if they think proper, the plan of the works laid down by Sir John Coode, approved by the highest engineering authority, and accepted by the Government, the plan being more than half completed, and a great success. On the other hand, Parliament has established a local Board to control expenditure and supervise this work in a manner to be approved by Government, and open in every way to public criticism, subject to checks, which should insure the co-operation of local knowledge with the highest authority and responsibility.

The Government have the appointment of the local Board, but, unlike that of the Commissioners, it is easily revocable. The Board, unlike the Commissioners, are seven to three, and give their services disinterestedly and without payment of any kind. Unlike the Commissioners, they exercise no arbitrary control, and conduct their proceedings in an open manner, with the full knowledge of the responsibility of their position, and of the success of the works intrusted to them upon which hinges the prosperity of their district, and the future of themselves and their fellow residents. The result of the secret, centralised, and arbitrary system has been fairly illustrated by reference to works done, the particulars being in the Government's hands. The position of the Commissioners is emphasised by a reiterated form of expression, and by general statements, unsupported by even one illustration or valid argument, while on the other hand the veil is perhaps rudely, but effectively, torn aside in a manner to throw the fullest light upon the subject.

I have, &c.,

EUGENE O'CONNOR, Chairman, Westport Harbour Board.

The Hon. the Minister for Public Works, Wellington.

SIR,—

Harbour Board Office, Westport, 5th June, 1891.

*Re* the proposed pile facing along the front of the staiths extension: This is required in order to provide against stones rolling or sliding down the stone-protected slope of the river bank (see Sir John Coode's plan, No. MD. 1,666, and accompanying memorandum of the 12th December last), which stones, when they got into the berthages, are a serious source of danger. A loaded vessel would be very easily injured by resting on one of these stones; a hole would be made in her bottom, which would sink her, leaving the Board liable for very heavy damages. The following copy of a letter of the Harbourmaster on the subject dated the 14th December, 1889, and addressed to the Assistant Engineer, gives a further indication of the nature of this danger:—

"Stones in the berthages are expensive to deal with, as, in order to reduce the danger of their presence to a minimum, it is necessary to search the berthages at short intervals by means of a diver, and lift all stones found with a Priestman crane mounted on a barge. The cost of this process, as far as the existing staiths are concerned, was over £400 for the twelve months immediately preceding the erection of a face-piling, as shown by office records, representing a capitalised value, at 5 per cent., of £8,000; work itself only cost £1,982, so that it will more than pay for itself in five years. This saving is apart from the risk before mentioned, which is always present until the place is safely secured.

"The dredging at the existing staiths was carried out to 17ft. 6in. at low water spring tides, or 6in. less than is given on Sir John Coode's plan for dredging at the staiths extension. A month afterwards, owing to the scour under vessels' bottoms, and to the concave form of the front line of works, and the vertical wall of piling, there was an average depth throughout the work of 19ft. 5in., or 1ft. 11in. of an increase in depth, and in places there was as much as 5ft. 6in. of an increase in depth. See the copies of soundings attached, which were taken by the Harbourmaster at the time. There is at the present time an average depth of 20ft. This scouring action unsettles the stone facing. The stones will on the new work give similar trouble to that experienced on the old work, being similarly situated. (See cross-section at H attached).

"There was not on the existing staiths, until the pile facing was put in, a single bay where this trouble with stones was not a continual occurrence; and as the batter of the slopes and distances

of the toes of same vary a good deal at different places, in some bays being well back, while at others they come out beyond the raker piles, this indicates clearly that the same result may be expected wherever the conditions approach that of any bay of the existing staiths; I have accordingly drawn on one of the cross-sections of the existing staiths the average cross-section shown by Sir John Coode's for the new work, allowing for the greater depth to which experience has shown us that we must expect the river to scour—viz., 20ft. A glance at these sections will show that the position in the two cases is practically identical. The slopes drawn on at this greater depth bring the bilge of a vessel directly on to the stone work, and this allows for no differences in the range of spring tides, which vary from 8ft. to 11ft., and for no inequalities of contour which may be taken by the stone apron, and which will have to be provided for, otherwise the position will be distinctly dangerous.

"I should say, in explanation of this apron, that, with regard to the stone protection indicated by Sir John Coode, this can be hand-pitched as far as low water spring tides, but below that level it will have to be tipped at random, as was done at the back of the existing staiths; a certain portion of this stone gathers at the toe of the slope and forms an apron, which secures it. The principle of his class of protection is that as the bottom of the river-scour approaches the stone work part of the apron falls in and fills up the vacancies. If the scour goes so far as to swallow up the apron completely the stone above will begin to slip, so that if the bank-protection does its work and fulfils the purpose for which it was designed, the stones must roll out unless prevented by some obstruction such as face filing. The reason no apron appears on the cross-sections of existing staiths is that the stones have been lifted as they rolled out.

"I may point out that no retreating of the foreshore a few feet back will materially alter this position; it would have to be retreated very considerably back, and then it would still leave the commencement and the end of the new works for a considerable distance (268ft.) exposed to the danger besides entailing a departure from one of the recommendations Sir John Coode puts most strongly.

"Should this work be allowed to drift by now without being done it will cause considerable loss and inconvenience, as it will have to be put in hand when vessels commence to frequent the new berths; and with an increased output due to the opening of the northern mines, the amount of unavoidable delay will be considerable during its progress. We found it so when carrying out the original facing. The pile facing can be more efficiently constructed if carried out when the rest of work is in hand than it can if carried out when the coal-staiths extension is finished, as it has then to be placed out of line with the main piles of the structure owing to its being virtually impossible to drive piles in this line beneath the overhanging staiths (see details, cross-section); consequently there is a vacancy left between the main piles and the end face piles in each bay and each raker (see sketch below), which in some cases amounts to 4ft. Through these openings stones have continued to roll on the existing staiths up till now, and have had to be lifted and the openings blocked by means of sleepers placed across them by a diver."

In the face of these facts, I think it would be unwise to delay the work.

I have, &c.,

The Chairman, Westport Harbour Board.

JAMES WILSON, A.M.I.C.E.

SOUNDINGS shown below are reduced to Low Water Spring Tides, Westport, 20th September, 1889.

Top end				Top end					
		4 off <sup>(1)</sup>	22½ off <sup>(1)</sup>	45 off <sup>(1)</sup>			4 off <sup>(1)</sup>	22½ off <sup>(1)</sup>	54 off <sup>(1)</sup>
		Ft. in.	Ft. in.	Ft. in.			Ft. in.	Ft. in.	Ft. in.
Coal-staiths—					Coal-staiths—				
Bay No.	1	13 1	13 6	12 6	Bay No.	35	19 4	20 4	20 10
"	3	13 5	14 2	12 11	"	37	19 4	20 4	18 4
"	5	12 5	13 11	13 2	"	39	19 5	20 5	19 5
"	7	14 1	14 1	13 7	Lower pile		19 6	20 6	18 6
"	9	15 1	15 1	13 4	Below staiths		19 10	19 10	19 10
"	11	13 4	15 10	13 10	"	50ft.	18 10	19 10	18 10
"	13	17 1	15 7	14 1	"	75ft.	17 10	17 10	17 10
"	15	16 4	16 4	15 1	"	100ft.	16 4	16 10	17 10
"	17 <sup>(2)</sup>	16 1	16 1	15 1	"	125ft.	16 10	16 10	16 10
"	19	16 4	16 1	16 1	"	150ft.	16 11	16 11	15 11
"	21	16 4	17 4	17 4	"	175ft.	15 0	16 0	16 0
"	23	20 1	20 1	21 7	"	200ft. <sup>(3)</sup>	14 2	14 2	15 2
"	25	22 1	20 1	20 1	"	225ft.	14 2	15 2	15 2
"	27	23 1	21 1	19 1	"	250ft. <sup>(4)</sup>	15 8	15 2	15 8
"	29	21 3	22 3	19 3	"	<sup>(5)</sup>	19 4	19 4	15 10
"	31	19 3	23 3	21 3	"	<sup>(6)</sup>	19 4	24 4	23 4
"	33	21 4	20 4	20 4					

<sup>(1)</sup> To the south-west. <sup>(2)</sup> Has been dredged up to bay 17. <sup>(3)</sup> Opposite crane. <sup>(4)</sup> Lower side of crane-wharf. <sup>(5)</sup> Watermen's stairs. <sup>(6)</sup> Packington Street, upper pile of 3.

The Assistant-Engineer, Harbour Board.

S. A. LEACH, Harbourmaster.



## SOUNDINGS at COAL-STAIETHS reduced to Low Water Spring Tides, 28th August, 1889.

Coal-staiths—			Coal-staiths—				
	4 off Ft. in.	22 off Ft. in.	45 off Ft. in.		4 off Ft. in.	22 off Ft. in.	45 off Ft. in.
Bay No. 15 <sup>(1)</sup>	... 15 6	14 0	13 6	Bay No. 39	... 15 11	15 5	14 11
" 17 <sup>(2)</sup>	... 13 10	14 10	13 4	Lower pile	... 14 10	14 4	13 1 0
" 19	... 14 0	14 6	13 6	Below staiths 25ft.	14 4	13 10	13 10
" 21	... 13 6	15 0	13 6	" 50ft.	12 8	15 2	14 2
" 23	... 15 6	15 6	13 6	" 75ft.	14 8	14 8	14 8
" 25	... 15 0	16 6	14 6	" 100ft.	16 0	14 0	13 6
" 27	... 14 5	16 5	15 11	" 125ft.	13 11	15 5	12 11
" 29	... 14 3	17 3	16 3	" 150ft.	13 10	13 10	11 10
" 31	... 16 3	18 3	15 3	" 175ft.	12 9	13 9	11 9
" 33	... 15 3	18 3	16 3	" 200ft.	10 2	11 2	11 8
" 35	... 16 7	18 7	16 1	" <sup>(4)</sup>	9 8	13 8	12 8
" 37	... 18 0	16 0	15 0	" <sup>(5)</sup>	12 7	13 4	13 7

(<sup>1</sup>) This bay not dredged. (<sup>2</sup>) The dredge finished at bay 17. (<sup>3</sup>) Date of sounding, 29th August, 1889.  
 (<sup>4</sup>) Opposite Empire right-of-way. (<sup>5</sup>) Opposite Packington Street steps.

Since the dredging at staiths and below, as shown above, was completed on the 17th instant; we had two moderate floods.

The Engineer, Harbour Board, Westport.

S. A. LEACH, Harbourmaster.

SIR,—

Harbour Office, Westport, 14th December, 1889.

Since I wrote you on the 4th instant, informing you that the large snag, which had given so much trouble, was removed, and that a few dangerous stones had to be removed from the upper end of the coal staiths. This we commenced on the 5th, and rose 29 stones; on 6th, rose 17 stones; on 9th, 10; 11th, 20; 12th 25; 13th, 30: in all, 137 stones, several very large. One of them had paint on it rubbed off a steamer's bottom; several other smaller stones showed contact with steamers' bottoms. All the stones came out of the space between the fourth lower pile and top end of coal staiths. This job was finished on Friday, the 13th instant. At the request of Mr. Peterkin I had all the stones landed on top end of Commercial Wharf. Saturday diver fixed the clamps on damaged pile (3); we got three clamps from Mr. McKenzie's hut, on river bank, the rest being made by the Railway Department. Those stones were taken outside line of piles, a rope being stretched for the purpose, so that none were taken out too far in. The diver reports the stones very steep and shaky above the sheet piling, many of them ready to roll out first disturbance. Mr. Kelly finished the alterations of beacons on breakwater to-day.

I am, &c.,

The Assistant-Engineer, Harbour Board.

S. A. LEACH.

SIR,—

Westport Coal Company (Limited), Westport, 4th June, 1891.

In reply to your letter of this date, I have the honour to state that I consider cranes for loading household coal absolutely necessary, owing to the great and unnecessary breakage that takes place under the present system of loading. It is now difficult to distinguish the difference between screened and unscreened coal after its arrival at the port of destination on account of the rough handling it receives here, and this entails a heavy loss on the company. As to the question of sheath-piling at the staiths extension, I hardly see how it can be done without when it was found necessary at the existing staiths under exactly similar circumstances, the depth of water and the distance of the river bank from the face of the staiths being the same in both cases.

I have, &c.,

WATERS,

Managing Engineer, Westport Coal Company (Limited).

The Chairman, Westport Harbour Board.

DEAR SIR,—

Westport Coal Company (Limited), Westport, 4th June, 1891.

I beg to acknowledge receipt of your memorandum dated to-day.

Mr. Waters is replying to it, and I have nothing to add to his remarks further than that I have advised my company on the 21st ultimo of the Board's intention to construct wharves, and have cranes erected for loading household coal, and also that cranes were necessary for saving the coal from breakage, and would greatly increase our trade if we could put it ashore at the different ports in a better condition. I might also mention to you the necessity of providing more rolling-stock, as the supply is insufficient for the present trade, and when other mines are opened up and our output increased, as I anticipate it will shortly, there will be a difficulty from the want of wagons to meet the requirements. I trust the Board will give this their consideration, as otherwise time will be lost if delayed any longer.

I have, &c.,

The Secretary, Westport Harbour Board, Westport.

ADAM JAMISON, Agent.

Since the trial of the cranes for loading coal the other day, I have written the company they are suitable for that purpose, and asked that they would urge the Commissioners to consider this, seeing the cranes are the property of the Board.—A. J.

Union Steamship Company of New Zealand (Limited),  
Westport, 4th June, 1891.

SIR,—

Your memorandum of to-day's date duly to hand.

The first point you raise with regard to sheath-piling the extension of the staiths is an important one, and I should think that only an engineer's opinion would be of value. I can state, however, that before the sheath-piling of the present staiths was carried out the stones rolling out from the bank were a constant source of danger to shipping, necessitating large steamers completing loading only on a rising tide, and requiring frequent shifting to avoid resting on the stones at low water. Seeing that the extension of the staiths is principally to accommodate steamers of heavy draught, every precaution should be taken to keep the bottom clear.

With regard to extra berthage, it is evident that more is urgently required. The extension of the staiths will not give a corresponding length of berthage, as one steamer would often take up more than half the wharf in loading coal from the storage-bins. At present steamers are often obliged to lie two and even three abreast owing to insufficient accommodation.

Loading household coal by cranes would save a great deal of breakage, and as a system should, I think, supersede the staiths.

The Secretary, Westport Harbour Board.

I have, &amp;c.,

C. HOLDSWORTH.

New Zealand Government Railways,

Head Office, Wellington, 9th May, 1891.

SIR,—

In reply to the proposals made by you and Mr. Moynihan at your recent interview with the Railway Commissioners for the extension of the wharves at Westport and the erection of steam-cranes thereon, I am directed to inform you that at present the Commissioners are of opinion there is no trade justifying such an extension of accommodation, nor are the arrangements of a character which the Railway Commissioners think would be convenient.

As the traffic and the wharf arrangements are wholly in the hands of the Commissioners, they will themselves from time to time undertake any further extension of their premises on the railway which may be found necessary. The staiths extension, which the Board is now carrying out after the Commissioners' design, is calculated to allow of more than double the coal-traffic than there is at present at Westport.

The Commissioners are of opinion that the dredging of the berths at the new staiths and in the channel is all the river-work that is immediately desirable, and they think that it will be better to defer the execution of any part of the training-wall until the subject is further considered.

The Commissioners also consider that the deep-water basin mentioned by you, located as Sir John Coode has proposed, is not well adapted for the railway traffic and working.

I have, &amp;c.,

E. G. PILCHER, Secretary.

E. O'Connor, Esq., M.H.R., Chairman, Westport Harbour Board, Wellington.

SIR,—

Harbour Office, Westport, 8th June, 1890.

I have the honour to forward for information of the Board some facts which were the occasion of Messrs Blackett and Bell, M.I.C.E., recommending that sheet-piling should be put in at the old coal-staiths which were built in 1878.

It was continually occurring that stones slipped into the berthage alongside the coal-staiths, to the imminent danger of vessels visiting the port, and a diver had to be almost continually employed with the service of a Priestman's dredge and hands to remove them. Some time since, in 1887, Mr. Blackett, Marine Engineer, came to Westport, and consulted with Mr. Bell, the then Harbour Board Engineer, with the result that the sheet-piling was recommended as a preventative. After some time had elapsed, a contract for this work was let and completed, but not in a thoroughly satisfactory manner, as being impeded by the heavy superstructure of the staiths. The sheet-piles could not be driven exactly in a line, as it was found on inspection by the diver that a great many of the piles were not close enough together at bottom of river, and were somewhat in an irregular line, thus \* \* \* \* \*. I suggested, when the work was first undertaken, to Mr. Martin, the District Engineer and Chairman of Board, that a diver should be employed to place foot of piles close together when on the point of driving, but nothing was done in the matter, with the result that the diver has now to inspect the berthages at staiths after each flood. I should mention that although through the sheet-piling not having been driven straight in line, stones occasionally slip through into the fairway; still it is now infinitely better than when no sheet-piling was in existence, and has in consequence saved the Board a lot of expenditure. The cost of lifting stone in river prior to sheet-piling, from May, 1887, to May, 1888, was over £400.

I have, &amp;c.,

S. A. LEACH, Harbourmaster.

The Chairman, Westport Harbour Board.

MEMORANDUM for the Hon. the MINISTER of MARINE *re* Westport Railway station and Wharves.

New Zealand Government Railways,

Head Office, Wellington, 22nd June, 1891.

THE Railway Commissioners beg to thank you for your courtesy in allowing them to peruse the remarks of the Chairman of the Harbour Board on their letters. The Commissioners have briefly to

remark that the Harbour Board is the authority to carry out the marine works and improvements of the harbour; the Railway Commissioners are, by the 31st section of the Government Railways Act, the authority to decide on all sheds, piers, wharves, jetties, and buildings, &c., and any such works must be authorised by the Commissioners, and as workers of the railway on behalf of the colony they must necessarily decide on the necessity for them.

The Commissioners have carefully perused the remarks of the Board's Engineer, and have caused the report to be examined with the authorised plans. The plans by which the Board is bound are those submitted by the Board and approved by the Governor in Council on the 3rd February, 1891. The Board is not authorised to carry out the works, as shown on M.D.1666. If the authorised plans are being truly and faithfully executed there is no need for sheet-piling, and the expenditure now proposed thereon would be a waste of money, as the plans are arranged to dispense with it.

As regards the many allegations about the existing staiths, they were built many years before the Board was established. They were faithfully carried out, and have required no more repairs than must reasonably be expected with such timber structures. They have answered their purpose well. There is no evidence that any ship has ever been damaged from the stones. The only recorded case of damage to a ship arose from a snag deposited at the berth. Security against such deposits at the berths can only be attained by inclosing them practically by constructing a basin around them. Neither dredging, pitching, nor sheath-piling, will prevent the risk from the deposit of such snags in floods.

The statement of the Chairman of the Board that the staiths "are erected contrary to Sir John Coode's harbour plan and against his advice" is an error. The plan of the staith extension was first submitted to and was recommended by Sir John Coode to be carried out, and is being done in pursuance of his recommendation. The present staiths can load about 250,000 tons per annum; the extension now being made will increase the loading capacity to about 500,000 tons per annum. The largest year's output yet has been 180,000 tons per annum. We, therefore, thought it prudent to advise, in response to queries, that the execution of a great loading-basin, involving the construction and maintenance of a second station-yard and the working of a fresh set of loading appliances, and involving a conversion of the railway rolling-stock, which scheme from first to last is not likely to be effected for much under a quarter of a million, would be unjustifiable; and we still venture to think that if deep-water accommodation is likely to be needed in the immediate future, some more economical scheme should be sought after.

With the insinuations against the Public Works Department the Commissioners are not concerned, except to remark that they attach to those gentlemen who, for the past twenty years have occupied the positions of Engineer-in-Chief and Marine Engineer to the colony, and that all these gentlemen are either absent from the colony or dead, and are, therefore, not in a position to reply, and under such circumstances the Commissioners think the remarks are not in good taste.

I have, &c.,

JAMES MCKERROW, Chief Commissioner.

SIR,—

Westport, 29th April, 1891.

I have the honour to send in a separate parcel by this mail plans in duplicate specification, and estimates for pile-sheathing at the coal-staiths extension contract, and to ask that you will obtain the sanction of the Governor in Council for the work.

The first part of the coal staiths has been erected upon a plan similar to that adopted in the existing contract, let previous to the reconstitution of this Board. As in the former contract, there is in this no provision made to prevent large stones upon the embankment from falling into the water-way under vessels frequenting the staiths. The former omission was a source of great risk, and constant and heavy expenditure until sheath-piling was placed along the staiths. The execution of this work was attended with difficulty and delay, as it could not be done without interruption to the trade; the work itself could not be properly executed because the pre-existing structure was an obstacle to the sheath-piling being regularly and accurately placed in position. The Board have no knowledge as to how or why the omission of sheath-piling in the present contract occurs again after the very severe lesson taught by the previous omission; but the Board has come to the conclusion that it is absolutely necessary to have the work done now, although it will probably cost more than if it had formed part of the original design for the coal-staiths extension contract. Still it can be done more efficiently and at less cost than when the staiths are completed. The work being under present circumstances urgent, you will oblige by forwarding the necessary sanction as soon as possible.

I have, &c.,

The Hon. the Minister of Marine, Wellington.

EUGENE O'CONNOR, Chairman.

Marine Engineer's Office, Wellington, 6th May, 1891.

RE pile-sheathing at coal-staiths: The reason this row of sheath-piles was omitted in coal-staiths extension plans was that it is quite unnecessary. A mere glance at the plan shows that the extension of staiths now proposed is situated so far out in the river that there is very little danger of large stones rolling outside the front line of piles, and that any stones which may do so can easily be removed. Also that such stones can be removed without detriment, as there is no necessity to maintain existing slope intact along extension, as was the case along portion of staith already constructed. I therefore consider the work now proposed quite unnecessary, and that it would be simply throwing away £3,000 to expend it on such work. The proposal is, in fact, a very crude and superficial one, and I am afraid the existing system of management will lead to a good deal of this sort of thing, as the mere fact of its being possible for plans of this nature to be submitted for

approval of Governor in Council must show how little weight is given to purely engineering considerations, and to what an extent an engineer in the hands of the Board, and without a large amount of self-assertion, may get overawed by the over-ruling individuality of members of the Board and the public.

The present proposal has probably arisen from a misconception by some non-technical member of the Board, or by some amateur engineer acting upon the members of the Board, who fancied that because sheet-piles were used at the old staiths (which are close in to the stone-work) that therefore they must be used everywhere, even where the conditions are entirely different. I may also mention that I went very carefully into the designs for this extension of the coal-staiths at Westport, both in the office here and also on the ground, in conjunction with Mr. Martin, and provided for all the works which I considered to be necessary, after carefully considering the whole case, including the position of the face of the river bank.

The Assistant-Secretary, Marine Department.

C. Y. O'CONNOR.

SIR,—

2nd July, 1891.

*Re* proposed pile-sheathing at coal-staiths extension, Westport: In reply to your letter of the 29th April last, forwarding in duplicate plans, specifications, &c., for proposed pile-sheathing in connection with the extension of the coal-staiths at Westport, and requesting that the approval of His Excellency the Governor might be obtained thereto, I have now the honour, by direction of the Minister for Public Works, to state that as the Government is advised that the extension of the staiths now in progress is situated so far out in the river that there is very little danger of large stones rolling outside the front line of piles, and that any which may possibly do so can be easily removed, they do not consider that the pile-sheathing proposed is necessary.

I have, &c.,

H. J. H. BLOW,

The Chairman, Harbour Board, Westport.

Acting Under-Secretary for Public Works.

SIR,—

Westport Harbour Board, Westport, 8th June, 1891.

In accordance with a wish expressed by you that I would forward a report of the state of the works here when the present Board assumed office, I now have the honour to forward this for your information.

Soon after the first meeting of the new Board, when the Minister for Public Works had declared the intentions of Government—namely, on 23rd March, a committee was appointed to report upon the progress of works and matters incidental thereto, all members joining in a searching examination, in order that the position might be thoroughly understood. It was found that the western breakwater was advanced to the last bay, but required 58,000 tons of stone for completion. On the eastern there required still two bays and 42,000 tons of stone for completion. It was noticed that the stone then being used was of a very inferior kind, much too small and some much too soft. This was specially bad at this stage—the finishing of breakwaters—where the exposure necessitated the use of the very heaviest stone obtainable. As a consequence of using such inferior material a storm which occurred soon after took down or displaced a large portion of both breakwaters. The quarries were examined, and it was found that 250 men were working there to very great disadvantage, turning out unsuitable and inferior stone at a cost of 4s. 0½d. per ton as compared with 3s. 6¼d., the cost of stone in 1888. This was partly due to the fact that all the large and easily-obtained stone had been removed from the old workings, and that provision had not been made to open any new place. It appears that Mr. Wilson, then Assistant-Engineer, had surveyed an approach to a very suitable deposit of stone near the lighthouse, but having no authority did not proceed any further. At that time a very large amount of spoil from the quarries was being removed to waste. This might have been disposed of to great advantage by the exercise of a little foresight in making the embankments necessary to approach the new place, which was found upon examination to be the best to obtain stone from. The Board, finding that quarrying stone of an unsuitable quality and at great expense would be quite unwarrantable and a waste of money, was compelled to take the very unpleasant alternative of reducing the number of men employed. Eighty single men received notice and were accordingly retrenched, and as soon as possible a contract was let for a great portion of the embankment approach to the new place. Thus in the course of this month the work will be resumed upon the breakwaters with suitable stone.

#### *Internal Works in the Harbour.*

Nothing has been done towards the erection of training-walls except the purchase of some private land and the construction of 15 chains of railway leading to a bridge where it was apparently intended to commence the training-walls by the continuation of the railway, as at Greymouth, along the wall itself. To do this the bridge was built so low as to intercept timber floating down the river, which soon accumulated and did some damage. The owner of the island, Mr. Martin, and another island on the main-land, claim compensation. Finding this bridge to be a white elephant and likely to breed compensation-claims to a large amount, the Board ordered its partial removal to clear away the obstruction. There are no plans or papers here to show what scheme was adopted, nor have any steps been taken to protect the Board from compensation-claims likely to be made as this work proceeded by owners of the foreshore.

The operations so far would tend to show that the previous management intended to construct the inner training-walls as at Greymouth. If so, it is clear that they had adopted a most expensive way, as that plan would require the use of at least twice the stone necessary. It appears that this

work was suspended some months ago and left in its present unfinished state in consequence of a plan suggested by the Railway Commissioners, under which the course of the river would be diverted and the position of the training-wall changed.

Dredging was commenced so as to form part of the new scheme at a place where, under Sir John Coode's plan, the training-wall would be placed. This dredging has cost £1,342, and the channel cut, amounting to 40,453 yards, will require to be filled up again at a considerable cost, and the dredging repeated in the right place. I enclose herewith a plan specially coloured to illustrate these circumstances.

The dredging-plant, purchased at a cost of £12,000, was very much worn, expensive, old-fashioned, and unsuitable, and has cost £1,000 since its purchase. It consists of two steam-hopper barges, which discharge from the bottom, the lifts and pulleys being worked by manual labour. The propulsion—only five knots per hour—is much too slow for this river. The dredge is of an old-fashioned design, and in consequence of the difficulty in shifting the discharge alternately from side to side, a stoppage of twenty minutes is made at each exchange of barges. Working with such a plant involves heavy working expenses. With a proper dredge only one crew would be required, instead of three, as at present. The expenses upon the dredge have been reduced since the new Board came into office from 8d. per ton to 3·6d. per ton of dredgings, and the output increased from 12,810 tons to 28,570 tons per month. There are no records in this office to show why this dredging-plant was purchased at so high a price at a time a first-class dredge was obtainable in the colony, which would have been more economical at three times the cost of this.

The coal staiths now in use were erected in 1878. The timber used in its construction was not, as provided in the specifications, of good heart timber (kauri). Much of it was replaced in October, 1888, at a cost of £2,183, and now the structure seems fast approaching the time when another rebuilding will be necessary. The staiths are very useful for storage of coal, and for loading steam coal, but the disadvantage of this system is that the fall from the shoots breaks up the coal. The Westport coal is a pure and very brittle coal, consequently suffers more from this treatment than most other coals in use. It may be that this consideration, with others, decided Sir John Code, in his harbour plan, to provide wharves for delivering by cranes in preference. At Newcastle, New South Wales, and other coal ports, the use of the staith system has been superseded by wharves and cranes. Why the previous management decided to perpetuate the staith system here is a mystery. We have no records to throw any light upon the subject, but this has been done, and a contract let to extend the staiths 600ft., at a cost of £14,515 14s. 6d.

The structure of the first part was unprovided with any means of preventing stones from rolling down the river bank and falling under vessels at the berthage. This omission has cost the Government several thousand pounds, and finally sheath-piling was provided, but, still untaught by experience, the new design, closely following the old, shows the same omission. Some remedy must be devised sooner or later, and in the meantime the risk will continue. The new staiths being approached from the old will greatly increase the traffic upon it, and soon necessitate strengthening and renewals. The output must also be reduced by the difficulty of shunting full and empty trucks for the increased traffic upon a way already cramped. The staiths are necessarily of perishable material. If reasonable inquiry had been made, this expensive additional structure would probably not have been authorised, particularly in view of the fact that a number of valuable cranes will be available from the quarries long before the staiths can be finished. The expenditure here incurred would have sufficed to put up all the wharves required to give double the loading facilities. The harbour railway trucks, cranes, and other plant are in fair order, but now very much exceed the requirements. A list of the surplus has been prepared. (Copy enclosed.)

In regard to relief channel at Snag Falls nothing appears to have been done for some time, still it is moderately effective. The protection at the stop-bank has been neglected. I inclose a copy of the latest report upon the subject.

#### *Finances.*

The first loan, £150,000, was obtained in England at 4 per cent., with 1 per cent. sinking fund. When the proceeds came to hand, the funds were banked until required at 5 per cent. In that way a profit was realised upon the unused portion. Two hundred thousand pounds has been raised in debentures in the colony without competition at 5 per cent., so that by the latter operation the Trust loses annually £2,000. Something should be done to prevent a continuance of this loss, and to obtain the funds at the cheapest rate.

The revenue has increased, and is increasing from year to year, and it is confidently expected that next year will see the largest increase of all, for then the northern mines will be brought into connection with the port, and contribute their quota of royalty and other revenues.

I enclose herewith a table showing the annual receipts from revenue to date. I cannot conclude this without referring to the inconvenience to which the present Board and its officers have been subject in consequence of the removal by the late chairman of a number of papers, correspondence, plans, &c., the property of the Westport Harbour Board. Repeated applications have been made for their return, but to the present without avail. The records have been kept in a very complete and methodical manner. The loss of these papers causes troublesome breaks. Why they are not returned seems strange, as they cannot be of the slightest use elsewhere, except to obstruct the present action or conceal the past.

I have, &c.,

The Hon. the Minister of Marine, Wellington.

EUGENE O'CONNOR, Chairman.

NOTE.—The engineers more recently in charge of these works having left the colony they have not had the opportunity of replying hereto.



along the upper half-mile of the channel. is beginning to have effect. In 1888 there was 25 per cent. of the water in the river entering the top of the channel, there is now 35 per cent. All this is very favourable to the continuance and increase of the advantages derived from this work.

Some snags have lately lodged in the river just at the entrance to the channel; these, if allowed to remain, will have the effect of shoaling the entrance to the channel. There are also a few about five chains down the channel. It is desirable that the entrance and upper portion immediately adjacent thereto be kept free from impediments. These snags should accordingly, I think, be removed. The cost will be—

Explosives, 100lb. dynamite, caps and fuse ... ..	£	s.	d.
Labour, fifteen days at 10s. ... ..	7	10	0
Total ... ..	£15	10	0

A considerable increase to the quantity of water flowing down the channel could be effected doubtless by dredging it. There is a suitable dredge available, viz., the "Hapuka," which has been retained here in case this was decided on. The cost of this, taking the smallest amount of excavation which would be likely to be of any use, would be as under :—

Description.	Unit of Measure.	Quantity.	Rate.	Amount.
Dredging ... ..	Tons	21,780	s. d. 1 6	£ 1,631
Conveyance of plant to site ... ..	Days	150	10 0	75
Contingencies ... ..	...	...	...	270
Total ... ..	...	...	...	1,976

Besides this there is the question of dredging, between the foot of the channel and the foot of snag falls, as recommended by Sir John Coode to the consideration of local engineers, with a view of increasing the volume of the tidal compartment. The cost of this would be as under (say, £3,000) :—

Description.	Unit of Measure.	Quantity.	Rate.	Amount.
Dredging ... ..	Tons	35,940	s. d. 1 6	£ 2,695
Conveyance of plant to site ... ..	Days	60	10 0	30
Contingencies ... ..	...	...	...	272
Total ... ..	...	...	...	2,997

The expenditure required in either or both of these cases is considerable. I hardly think the present necessity of the case warrants the expenditure of such amounts, and are not prepared at present to recommend the Board to expend money in these directions.

#### Stop-bank.

Some of the crib-work at the stop-bank erected in 1886, which has stood very well and has served its purpose of conserving the foreshore to date, is now showing signs of weakness. The river has scoured away some of the stone-filling and apron, leaving the piles exposed. The piles, which are only 8ft. long, are not a sufficient distance in the ground to stand without a stone protection of this kind.

There are also some snags in the river on the opposite side from the stop-bank, which by gathering shingle-banks below themselves have a prejudicial effect, inclining to throw the river more on to the stop-bank. These should be removed also I think. The estimated cost of these works of maintenance is :—

Explosives, 200lbs dynamite, caps and fuse ... ..	£16	15	0
Labour, 25 days at 10s. ... ..	12	10	0
Repairs to apron, stone and wire (lump sum) ... ..	20	0	0
Total ... ..	£48	15	0

The foreshore in my opinion, between the end of the present crib-work and the old stop-bank, should be conserved by a facework of similar description to that already in existence (see plan attached), but with longer front piles, and having the apron in front more securely bound together by means of netting of annealed iron wire, No. 12 B.W.G. An extension of 400ft. would be sufficient, and the cost would be about the same as the cost of original work which was done—£827 10s. If this work is carried out it should be retreated back 30ft. from the line of the present work (as shown in green) so as to get into shallow water, as the erosion of the river has been allowed to go too far to make it any longer advisable to continue the work in same line. Such a course would now only cause considerably more expense without any corresponding benefit.

I would also advise you in connection with the matter of conserving the foreshore and surface at the stop-bank, that there is an adequate supply of stone of suitable size to place this place beyond the reach of danger at the point on Nine-mile Road (indicated on plan attached), which could be connected with the stop-bank by a line of horse-tramway 70 chains in length. The stone would then be available for any purposes of protection, and could be quarried and deposited whenever it seemed necessary to do so. By a yearly expenditure no larger than the present average yearly expenditure for maintenance, the whole of this place could be gradually placed beyond danger, as any work that was done with larger stone would be permanent. The cost of such a tramway would approximately be £400.

It might be well, perhaps, to ascertain what sort of terms could be obtained from landholders for a tramway through the sections shown on plan and run trial lines where indicated. I have to report that the present arrangements for maintaining the boundary fencing is not satisfactory. On my visits to this place I continually find cattle inside it, and as considerable portions of the fence will in any case have shortly to be renewed I think a man should be put there to do this, and also to carry out further planting, as the season for that work is now approaching. What planting has been done—viz., willows, gorse, blue-gum, and brambles, has served its purpose well in binding the top surface together, and would have acted still better if it had not been interfered with by cattle.

If the surface and foreshore of the overflow is maintained intact, and with the relief-channel also acting satisfactorily, no danger need be anticipated from this direction. It is particularly necessary to maintain the foreshore, as there is 15ft. of fall between the Nine-mile Road and to the overflow, a distance of 37 chains, so that on an average for every chain that is lost of the foreshore 5in. is lost in height.

The Chairman, Westport Harbour Board.

I have, &c.,

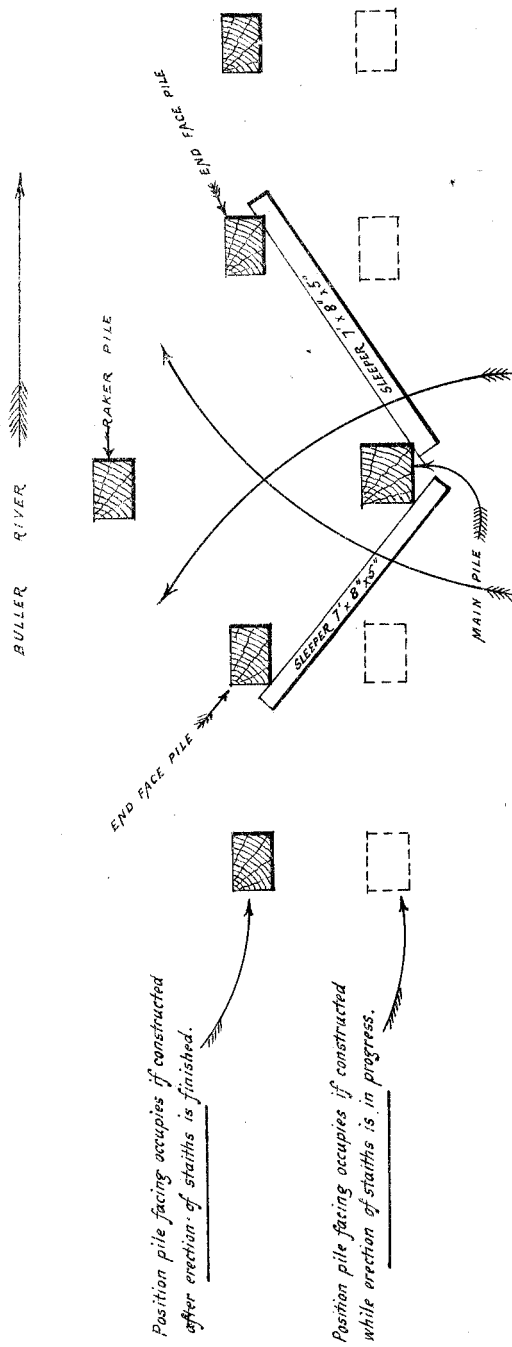
J. A. WILSON, Jun.

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The arrows indicate the way in which stones roll through if pile facing is constructed after erection of staitis is finished.  
The sleepers show the means at present taken to block these openings, which in some cases the diver reports amount to four feet, this is owing to the piles working out of line where they enter the ground when being driven on the sloping framework.





