

P A P E R S

RELATING TO

THE CONSTRUCTION OF RAILWAYS,
SOUTH ISLAND.

III. REPORTS AND CORRESPONDENCE.

PRESENTED TO BOTH HOUSES OF THE GENERAL ASSEMBLY, BY COMMAND OF
HIS EXCELLENCY.

WELLINGTON.

—
1871.

SCHEDULE OF CORRESPONDENCE.

NELSON.

I.—NELSON TO FOXHILL.

No.	Date.	From.	To.	Subject.
1	1870. Sept. 6	Superintendent, Nelson	Hon. Colonial Secretary	A preliminary survey of proposed railway, Nelson to Cobden, 220 miles, was executed in 1867-68, and the first twelve miles to Wairoa a year or two previously.
2	Sept. 21 1871.	Hon. Colonial Secretary	Superintendent, Nelson	Receipt of information acknowledged.
3	April 13	Superintendent, Nelson	Hon. Colonial Secretary	Will forward plan of survey, Nelson to Foxhill, and requests that if the information supplied is insufficient, Government will remedy it before Assembly meets.
4	April 14	Hon. Colonial Secretary	Superintendent, Nelson	Anticipating concurrence of Provincial Council, directions will be at once given to have deficiency supplied in the Cobden and Foxhill Lines.
5	April 22	Mr. Knowles ...	Mr. Blackett ...	To take steps for parliamentary survey of best line, Nelson to Foxhill.
6	July 7	Superintendent, Nelson	Hon. Colonial Secretary	Forwards three resolutions of Provincial Council recommending railways—(1) Nelson to Foxhill, (2) Cobden to Brunner Coal Mine, and (3) Westport to Mount Rochfort Coal Mine, and expresses his concurrence therein.
7	July 29	Hon. Colonial Secretary	Superintendent, Nelson	Acknowledging receipt. A survey is now being made from Nelson to Foxhill.

II.—GREY COAL MINES TO A SHIPPING PORT.

8	1870. Oct. 26	Superintendent, Nelson	Hon. Colonial Secretary	Provincial Government propose borrowing £60,000, of which £30,000 will be devoted to construction of a railway from Brunner Coal Mine (Grey River) to Port of Cobden; requests information as to whether Government will recommend the loan to the Assembly.
9	1871. Jan. 3	Superintendent, Nelson	Hon. Colonial Secretary	Requesting to know whether the above letter has yet received the attention of the Government.
10	Jan. 10	Hon. Colonial Secretary	Superintendent, Nelson	Government regard proposed railway, Brunner to Cobden, as one of general Colonial interest, which they will gladly promote, and, on certain conditions, will lend their aid to obtaining the sanction of the Assembly.
11	April 13	Superintendent, Nelson	Hon. Colonial Secretary	In reference to the above, trusts the Government will take measures to effect the object with the least possible delay, as a matter affecting the interests of all parts of the Colony.
12	April 14	Hon. Colonial Secretary	Superintendent, Nelson	As it will be necessary to make careful inquiries as to the best course of a railway to connect the Grey River Coal Mines with a shipping port, Dr. Hector and Mr. Blackett will be appointed a Board of Inquiry for that purpose.
13	April 22	Mr. Knowles ...	Mr. Blackett ...	Forwarding instructions to Mr. Blackett accordingly.
14	April 22	Mr. Knowles ...	Dr. Hector ...	Forwarding instructions to Dr. Hector accordingly.
15	May 4	Dr. Hector ...	Mr. Knowles ...	Acknowledging receipt. Will require to be furnished with plans.
16	May 1	Hon. Colonial Secretary	Superintendents Canterbury and Nelson, and Chairman of County Council, Westland	Requesting plans relating to Grey Coal Mines may be supplied to Dr. Hector and Mr. Blackett.
17	July 21	Mr. Blackett and Dr. Hector	Hon. Colonial Secretary	Reporting the results of their examination of Port Curtis and Grey River, and recommending (1) A light bridge over Coal Gorge, (2) The adoption of the line on the south side of the river, and (3) The improvement of the wharfage at Greymouth. Sundry estimates, &c., from Mr. Dobson, Mr. O'Connor, Mr. Balfour, Mr. Woods, and Borough Council.
18	Aug. 11	Hon. Colonial Secretary	Chairman of County Council	Forwarding copy of Mr. Blackett's and Dr. Hector's report.

PLANS.

Plans Nos. 1, 2, and 3, illustrating Mr. Blackett and Dr. Hector's joint report on line of railway to connect Grey coal mines with a shipping port No. 17.
 Sketch accompanying Mr. Wood's report on bay north of Point Elizabeth No. 17, Enclosure 6.

III.—WESTPORT TO MOUNT ROCHFORD COAL FIELD.

No.	Date.	From.	To.	Subject.
19	1871. July 7	Superintendent, Nelson	Hon. Colonial Secretary	Importance of proposed line from Westport to Mount Rochford Coal Field. Thinks its survey should be preceded by a careful examination of the field by the officers of the Geological Department.
20	July 29	Hon. Colonial Secretary	Superintendent, Nelson	Government concurs in the opinion that an exploration is necessary, but the summer is the only season in which it can be successfully undertaken.

IV.—TRAMWAY AND RAILWAY TO GREY COAL MINES BY LOCAL COMPANIES.

21	1871. April 29	Borough Council ...	Hon. Colonial Secretary	Forwards resolution that no permission be granted to occupy certain lands available for railway purposes until the direction of the Brunner Coal Mine Line is decided.
22	May 19	Grey Valley Tramway Company (Limited)	Hon. Colonial Secretary	This Company has commenced formation of a tramway to coal fields.
23	May 29	Mr. Blackett ...	Hon. Colonial Secretary	Chairman County Council states that Tramway Company have not complied with conditions under which protection was given them, nor are they likely to do so.
24	April 10	Mr. Harrison, M.H.R...	Hon. Colonial Secretary	Relating to the formation of a local railway company to Grey Coal Mines.
25	June 5	Mr. Blackett ...	Mr. Knowles ...	Has seen Mr. Harrison, and recommended the consideration of his letter should stand over until report of Mr. Blackett and Dr. Hector is sent in.
26	June 5	Messrs. Kilgour and Perotti	Hon. Colonial Secretary	Submitting proposal for the formation of the local company mentioned in No. 24.

MARLBOROUGH.

27	1870. Sept. 6	Superintendent of Marlborough	Hon. Colonial Secretary	If the Picton and Blenheim Railway is economically constructed, the Province will, under the present financial proposals, be able to guarantee interest on its outlay.
28	Sept. 21	Hon. Colonial Secretary	Superintendent of Marlborough	Acknowledges receipt.
29	Oct. 20	Superintendent of Marlborough	Hon. Colonial Secretary	Understands that a company is likely to be formed in Australia to construct railways in New Zealand. If so, will Government authorize the construction of the Picton and Blenheim Railway.
30	Nov. 4	Hon. Colonial Secretary	Superintendent of Marlborough	Government prepared to consider proposal if based on guarantee principle.
31	1871. Jan. 19	Superintendent of Marlborough	Hon. Colonial Secretary	As plans are complete, wishes to know whether Government will advertise for tenders to construct the railway.
32	Feb. 10	Hon. Colonial Secretary	Superintendent of Marlborough	Government will, if possible, arrange with Captain Coote for construction on the guarantee principle.
33	Feb. 17	Superintendent of Marlborough	Hon. Colonial Secretary	Will assist Government in forwarding this matter.
34	March 1	Hon. Colonial Secretary	Superintendent of Marlborough	Negotiations with Captain Coote are suspended pending a reference to England.

CANTERBURY.

I.—CORRESPONDENCE RELATING TO THE COMMENCEMENT OF WORKS.

35	August 18	The Superintendent of Canterbury	Hon. J. Vogel ...	Forwarding information relative to railways in Canterbury.
36	August 18	The Superintendent of Canterbury	Hon. J. Vogel ...	Proposed extension of the railway system in Canterbury.
37	August 20	The Superintendent of Canterbury	Hon. J. Vogel ...	Forwards letter from Mr. Selby Tancred, relative to traffic on Canterbury railways.
38	Sept. 9	The Superintendent of Canterbury	Hon. J. Vogel ...	Wishes for information as to intentions of Government, to lay before Provincial Council.
39	Sept. 12	The Superintendent of Canterbury	Hon. J. Vogel ...	Wishes to be informed whether, if the Provincial Government progresses with the railway works, the Government will take the works over when the sale of the loan is effected.
40	Sept. 13	Hon. J. Vogel ...	The Superintendent of Canterbury	Without making a pledge, Government will be prepared to consider, when in funds, the propriety of taking over the Canterbury Railways.
41	Nov. 10	The Superintendent of Canterbury	Hon. Colonial Secretary	Forwards resolutions of the Provincial Council, suggesting lines of railway not authorized by the Act.
42	Feb. 17	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Blackett has left for Canterbury, and will consult His Honor.

I.—CORRESPONDENCE RELATING TO THE COMMENCEMENT OF THE WORKS—continued.

No.	Date.	From.	To.	Subject.
43	1870. Dec. 24	The Superintendent of Canterbury	Hon. J. Vogel ...	As to the various courses open in reference to the continuance of the railway works. The Provincial Government would prefer to execute the works under the direction of the Colonial Government, and to have the cost refunded when funds accrue.
44	Dec. 28	Hon. Colonial Secretary	The Superintendent of Canterbury	Government will agree to proposals, provided the resident engineer is appointed and removable by the Governor. Whom does His Honor recommend as Resident Engineer?
45	Dec. 29	The Superintendent of Canterbury	Hon. Colonial Secretary	Recommends Mr. W. B. Bray as Resident Engineer. He will take up the plans to Wellington; meanwhile is there any objection to calling for tenders for fencing, &c?
46	Dec. 30	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Bray will be appointed. If Superintendent is satisfied with arrangement, the risk of calling for tenders will not be great.
47	1871. Feb. 21	The Superintendent of Canterbury	—	Memorandum of interview between the Provincial Government, the Minister for Public Works, the Hon. F. D. Bell, and Mr. Blackett on the general question of public works.
48	March 10	Mr. Blackett ...	The Superintendent of Canterbury	Suggesting that the surveys should be carried on under the supervision of the District Engineer.
49	March 13	Mr. Blackett ...	Hon. Colonial Secretary	Enclosing a memorandum from the Superintendent, with reference to the order in which it is wished the contemplated survey of railway lines should be carried out.
50	April 21	The Superintendent of Canterbury	Hon. Colonial Secretary	Notwithstanding previous arrangement, no survey except that of the Northern Railway is being carried out.
51	April 27	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Blackett instructed to cause surveys to be proceeded with without delay.
52	April 29	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Bray instructed to have surveys put in hand at once. Surveys were directed to be made before Mr. Blackett left Christchurch.
53	April 28	Mr. Blackett ...	Mr. Bray ...	Superintendent complains that only the Northern Line is being proceeded with. Push the others on.
54	April 28	Mr. Bray ...	Mr. Blackett ...	Explaining the delay.

II.—CHRISTCHURCH TO RANGIORA.

55	1871. Feb. 21	Mr. Blackett ...	Hon. Colonial Secretary	Has examined plans, &c., of Great Northern Railway, and approved them. Encloses a statement of the work in progress.
56	Feb. 23	Mr. Blackett ...	Hon. Colonial Secretary	Authorized Government of Canterbury to order iron work for forty goods waggons.
57	Feb. 28	Mr. Blackett ...	The Superintendent of Canterbury	Style of rail approved. Order for Northern Line can therefore be sent.
58	March 1	The Superintendent of Canterbury	Hon. Colonial Secretary	Forwards copy of order for rails, &c., for Northern Railway, about to be sent to London. Requests that the Hon. Mr. Vogel may be informed, with a view to his providing the necessary funds, so that the expense of drawing on the Province may be saved.
59	March 1	The Superintendent of Canterbury	Hon. F. D. Bell ...	As Hon. Mr. Gisborne is absent, will Hon. Mr. Bell give his consideration to purport of letter No. 58.
60	March 9	Hon. F. D. Bell ...	The Superintendent of Canterbury	Forwards copy of memorandum addressed to Hon. Mr. Sewell (No. 61).
61	March 8	Hon. F. D. Bell ...	Hon. H. Sewell ...	Memorandum of arrangement as to provision of funds for Canterbury Railway orders, sent and to be sent to London.
62	March 16	Hon. F. D. Bell ...	Hon. Colonial Secretary	Memorandum of arrangement with Superintendent of Canterbury as to provision of funds by Hon. Mr. Vogel for railway plant.
63	June 2	Hon. Colonial Secretary	Agent-General, London	Forwarding the correspondence relating to the purchase of plant for the Canterbury Railways.
64	July 26	Hon. Colonial Secretary	The Superintendent of Canterbury	Forwards reply of Hon. Mr. Vogel, relative to the provision of funds for Canterbury Railways.

III.—ASHLEY RIVER.

65	March 9	Mr. Blackett ...	Mr. Bray ...	Instructing him to make sectional and plan surveys of Ashley River Crossing.
66	July 4	Mr. Blackett ...	Hon. Colonial Secretary	Report on the Ashley River Crossing. Of the three alternative lines, the parliamentary is the best.
67	July 6	Hon. Colonial Secretary	Mr. Blackett ...	Could the main line be laid out so as to touch the township of Rangiora and join the Cam Mill Line? Cost of a branch line to township of Rangiora.
68	July 7	Mr. Blackett ...	Hon. Colonial Secretary	No reason why the main line should not be laid out as suggested. Estimate of cost.
69	July 8	Hon. Colonial Secretary	The Superintendent of Canterbury.	Forwards Mr. Blackett's report No. 66.
70	July 20	The Superintendent of Canterbury	Hon. Colonial Secretary	Acknowledges receipt.

III.—ASHLEY RIVER—continued.

No.	Date.	From.	To.	Subject.
71	1871. August 5	The Superintendent of Canterbury	Hon. Colonial Secretary	Forwards a resolution of Provincial Council; line suggested by Mr. Blackett, in No. 66, is the best.
72	July 12	The Superintendent of Canterbury	Hon. Colonial Secretary	Forwards a memorial to His Excellency the Governor, with reference to the River Ashley crossing.
73	August 2	Hon. Colonial Secretary	The Superintendent of Canterbury	Acknowledges receipt.

IV.—SELWYN TO RAKAIA.

74	March 13	Mr. Blackett ...	Mr. Thornton ...	Requesting to be furnished with statement showing approximate amount for rails, &c., for extension of line from Selwyn to Rakaia.
75	March 14	The Superintendent of Canterbury	Hon. F. D. Bell ...	Estimate for permanent way of line, Selwyn to Rakaia, amounts to £10,066, to be tendered for in London if the Hon. Mr. Vogel can provide funds.
76	March 15	The Superintendent of Canterbury	Mr. Ottywell ...	Decision has been arrived at in reference to form of rail for Southern Railway. Consult with Hon. Mr. Vogel as to calling for tenders.

V.—RAKAIA TO TEMUKA AND TIMARU TO TEMUKA.

77	1871. May 5	Mr. Blackett ...	Hon. Colonial Secretary	Tender for survey, Rakaia to the Temuka Station, has been accepted.
78	1870. Sept. 12	Hon. E. W. Stafford ...	Hon. J. Vogel ...	Forwards resolution passed by Timaru and Gladstone Board of Works, relative to Rangitata Bridge and proposed line from Timaru to Temuka.
79	Oct. 18	Hon. Colonial Secretary	Hon. E. W. Stafford ...	Acknowledging receipt.
80	Oct. 8	Timaru and Gladstone Boards of Works	Hon. Colonial Secretary	Requesting that a competent engineer may be employed for survey, to be paid out of vote of Provincial Council.
81	Dec. 25	Timaru and Gladstone Board of Works	Hon. Colonial Secretary	Inquiry as to decision arrived at.
82	1871. Jan. 7	Mr. Cooper ...	Timaru and Gladstone Board of Works	A meeting has been arranged for between Messrs. Bray, Babington, and Tancred, as to survey of line.
83	Feb. 15	Timaru and Gladstone Board of Works	Hon. Colonial Secretary	Drawing attention to position of the Board of Works as to the salary of Mr. Babington, the Engineer engaged for survey of railway line; encloses correspondence with Superintendent thereon.
84	Mar. 23	Mr. Blackett ...	Hon. Colonial Secretary	Mr. Tancred will survey line to the Washdyke, Mr. Babington's other engagements preventing his undertaking any portion of the survey now required.
85	July 18	Mr. Knowles ...	Mr. Tancred ...	Requesting him to make arrangements for the purchase of the lands along the entire length of the line.
86	April 21	The Superintendent of Canterbury	Hon. Colonial Secretary	As to a bridge over the Temuka, on the Timaru and Temuka Railway, for which £1,000 has been voted.
87	July 10	Hon. Colonial Secretary	The Superintendent of Canterbury	Borings having been taken, it is found that the cost of the bridge would be from £3,300 to £6,270.

Note.—For further correspondence arising incidentally out of the Timaru and Temuka Railway Line, see Section VII. of the Canterbury series below, viz., "Transfer of Canterbury Railways to Colonial Government."

VI.—BRANCH LINES: MALVERN HILLS. OXFORD LINE *via* MOERAKI DOWNS AND WAIMATE TO WAITAKI.

88	1871. June 1	Mr. Blackett ...	Hon. Colonial Secretary	Branch lines are requested to be surveyed to Malvern Hills and to Oxford by Moeraki Downs.
89	June 2	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Bray has been instructed to survey above lines.
90	June 29	Mr. Bray ...	Mr. Blackett ...	As to various lines of survey to Malvern Hills.
91	July 12	Mr. Blackett ...	Mr. Bray ...	No. 3 Line to be surveyed.
92	July 3	Mr. Knowles ...	Mr. Bray ...	Requesting his attention to a southern branch, Waimate towards Waitaki.
93	July 7	Mr. Bray ...	Mr. Knowles ...	Forwards tracing of proposed branch.

PLAN.

Sketch illustrating Waimate Branch No. 93.

VII.—TRANSFER OF CANTERBURY RAILWAYS TO COLONIAL GOVERNMENT.

Note.—For commencement of Timaru and Temuka correspondence, see Section V. of the Canterbury series above.

94	April 21	The Superintendent of Canterbury	Hon. Colonial Secretary	Desirable that no misunderstanding should take place in reference to initiation of works on Timaru and Temuka Line, as to whether Provincial or Colonial Government is to do so.
95	June 10	The Superintendent of Canterbury	Hon. Colonial Secretary	Calling attention to above letter.
96	July 11	Hon. Colonial Secretary	The Superintendent of Canterbury	Government is prepared to assume control of present lines and further works, on recommendation of Superintendent and Provincial Council.
97	July 18	The Superintendent of Canterbury	Hon. Colonial Secretary	Pending submission of above letter to Provincial Council, tenders should be invited for ballasting, &c.
98	July 18	Hon. Colonial Secretary	The Superintendent of Canterbury	Sanctioning tenders being called for.
99	Aug. 5	The Superintendent of Canterbury	Hon. Colonial Secretary	Forwarding resolution of Provincial Council relative to transfer of railway lines.

VII.—TRANSFER OF CANTERBURY RAILWAYS TO COLONIAL GOVERNMENT—continued.

No.	Date.	From.	To.	Subject.
100	1871. Aug. 9	The Superintendent of Canterbury	Hon. Colonial Secretary	Asking what proposals are intended to be made by Government to give effect to Provincial Council resolutions.
101	Aug. 15	Hon. Colonial Secretary	The Superintendent of Canterbury	Mr. Bray will be instructed to place himself in communication with Provincial Government. 1st of October next is proposed as date of transfer.

OTAGO.

I.—DUNEDIN AND CLUTHA.

102	1870. Dec. 21	Mr. Blair ...	Hon. J. Vogel ...	Original and modified estimates relative to the construction of the Otago and Southern Trunk Railway.
103	Dec. 28	Mr. Blair ...	Hon. Colonial Secretary	Recommends section from Dunedin to Caversham to be contracted for.
104	Dec. 30	Hon. Colonial Secretary	Mr. Blair ...	Call for tenders for construction from Dunedin to Caversham.
105	Dec. 30	Hon. Colonial Secretary	The Superintendent of Otago	Mr. Blair has been instructed to call for tenders as above, and prepare plans for greater length.
106	1871. Jan. 21	Mr. Blair ...	Hon. Colonial Secretary	Plans, &c., completed and open for inspection of contractors.
107	March 28	Mr. Blackett ...	Hon. Colonial Secretary	Has carefully examined the plans of the Dunedin contract; some modifications proposed.
108	March 30	Mr. Blackett ...	Hon. Colonial Secretary	Sections Nos. 2 and 3 can be advertised. No. 1 section let to Mr. Chaplin for £4,325 15s. [Note.—Mr. J. Smyth's tender for £21,000 accepted for sections Nos. 2 and 3.]
109	May 27	Mr. Blair ...	Mr. Blackett ...	Reporting progress during May.
110	June 26	Mr. Blair ...	Mr. Blackett ...	Reporting progress during June. Field work for contract at Clutha end nearly finished.
111	July 21	Mr. Blair ...	Mr. Blackett ...	Reporting progress during July. Clutha contract advertised.
112	June 15	Mayor of Balclutha ...	Hon. F. D. Bell ...	Although the prayer has been anticipated by the action of Government, yet forwards a memorial praying that the railway works may be begun at the Clutha end as well as at Dunedin.
113	July 3	Mr. Knowles ...	Mayor of Balclutha ...	Acknowledges receipt. Government are anxious to go on with the work as speedily as possible.
114	April 26	Mr. Blackett ...	Hon. Colonial Secretary	Plant and rolling stock required to be ordered from England.
115	May 27	Hon. Colonial Secretary	Agent-General, London	Ordering plant and rolling stock. Requests certain information with a view to building the carriages for the future in the Colony.

II.—WAITAKI TO MOERAKI.

116	1870. Nov. 8	Hon. Col. Secretary ...	The Superintendent of Otago	Requesting recommendation of Engineer to survey Waitaki to Moeraki line.
117	Nov. 24	Mr. Millar ...	The Superintendent of Otago	Has formed his field staff, and will proceed at once with the survey.
118	Nov. 26	Hon. Colonial Secretary	Mr. Millar ...	Instructions as to survey.
119	Dec. 7	Mr. Millar ...	Hon. Colonial Secretary	When should plans be ready?
120	Dec. 16	Hon. Colonial Secretary	Mr. Millar ...	By May next.
121	1871. March 23	Mr. Blackett ...	Hon. Colonial Secretary	Has examined line now being surveyed. Although there are difficulties in some places, has no doubt a good practicable line will be found for the whole distance.
122	May 13	Mr. Blackett ...	Hon. Colonial Secretary	Line is turning out much better than expected.
123	June 16	Mr. Steward, M.H.R.	Hon. Colonial Secretary	Forwards resolutions passed at a public meeting respecting a proposed line—Oamaru, through Cave Waiareka and Awamako Valleys, to Maerewhenua.
124	July 6	Hon. Colonial Secretary	Mr. Steward, M.H.R.	Line mentioned will receive consideration, and suggesting that landowners along the line should communicate to the Government their willingness to give the land free.
125	July 7	Hon. Colonial Secretary	The Superintendent of Otago	Forwarding correspondence with Mr. Steward, M.H.R.

III.—INVERCARGILL TO MATAURA.

126	1870. Aug. 22	The Superintendent of Southland	Hon. J. Vogel ...	Calling attention to importance of a railway between the Mataura River and Invercargill.
127	Nov. 8	Hon. Colonial Secretary	The Superintendent of Otago	Will His Honor recommend an Engineer to survey line?
128	Nov. 26	Hon. Colonial Secretary	Mr. Brunton ...	Instructions for survey.
129	Dec. 7	Mr. Brunton ...	Hon. Colonial Secretary	Will lose no time in completing plans, &c.
130	Dec. 26	Mr. Brunton ...	Hon. Colonial Secretary	Report on alternative lines—requesting instructions.
131	1871. Jan. 9	Hon. Colonial Secretary	Mr. Brunton ...	The blue line is authorized.
132	Feb. 28	Mr. Brunton ...	Hon. Colonial Secretary	Forwards plan, section, and estimate of line. Estimates cost at £2,500 per mile.
133	June 14	Mr. Harvey ...	Hon. Colonial Secretary	Forwards report of a public meeting held to urge Government to commence Invercargill and Mataura Railway as soon as possible.

III.—INVERCARGILL TO MATAURA—*continued.*

No.	Date.	From.	To.	Subject.
	1871.			
134	July 3	Mr. Knowles ...	Mr. Harvey ...	Acknowledges receipt.
135	July 3	Hon. Colonial Secretary	The Superintendent of Otago	Forwarding correspondence with Mr. Harvey, as above.
136	July 10	The Superintendent of Otago	Hon. Colonial Secretary	Acknowledges receipt.

IV.—MATAURA TO CLUTHA.

137	March 10	Hon. W. Gisborne ...	The Superintendent of Otago	Has accepted Mr. Brunton's offer to survey line between Mataura and Balclutha.
138	April 8	Mr. Blackett ...	Hon. Colonial Secretary	Has seen line proposed. It is probable a comparatively level line may be secured by careful selection.
139	May 16	Mr. Brunton ...	Hon. Colonial Secretary	Expects his estimate will not exceed £3,500 per mile.
140	May 29	Hon. Colonial Secretary	The Superintendent of Otago	Inviting the opinion of the Provincial Council on the lines to be submitted to the Assembly.
141	July 6	Mr. Brunton ...	Hon. Colonial Secretary	Forwarding plan, section, and estimate of Longford and Clutha Line.

V.—ATHOL TO KINGSTON.

	1871.			
142	May 5	Mr. Blackett ...	Hon. Colonial Secretary	Submitting a proposal for the completion of the survey of the Athol to Kingston Line.
143	May 5	Mr. Blackett ...	Hon. Colonial Secretary	Has accepted tender for completing above survey.
144	June 3	Mr. Brunton ...	Hon. Colonial Secretary	His staff proceeds at once on survey. Should the levels be extended to Winton from Athol?
145	June 12	Mr. Blackett ...	Mr. Knowles ...	Levels between Athol and Winton not required. All necessary information is in Mr. Blair's possession.
146	June 15	Hon. Colonial Secretary	Hon. F. D. Bell ...	Mr. Brunton to be informed that it is not necessary to survey Athol to Winton.
147	July 5	Mr. Blackett ...	Mr. Brunton ...	Hon. Mr. Holmes reports that Winton and Kingston Line can be taken up the east bank of the Oreti, and great saving effected in bridges.
148	July 5	Mr. Brunton ...	Mr. Blackett ...	Cannot say what saving would be effected until levels are taken.
149	July 6	Mr. Blair ...	Mr. Blackett ...	Only two bridges on line between Winton and Athol, cost of which would be more than balanced by increased length and heavy cuttings on east side.

VI.—TUAPEKA BRANCH.

150	May 20	The Superintendent of Otago	Hon. Colonial Secretary	A line from Tokomairiro to Tuapeka is needed.
151	June 6	Hon. Colonial Secretary	The Superintendent of Otago	Will be glad to do what is necessary.
152	June 12	Mr. Blair ...	Hon. F. D. Bell ...	Can prepare plans with little further work.
153	June 15	Hon. Colonial Secretary	Hon. F. D. Bell ...	Survey left to Provincial Engineer. Mr. Blair to prepare plans.

VII.—CORRESPONDENCE RELATING TO THE ADMINISTRATION OF PUBLIC WORKS.

	1870.			
154	Dec. 22	The Superintendent of Otago	Hon. J. Vogel ...	Forwards memorial from settlers, requesting sundry public works may be proceeded with.
155	Dec. 22	Hon. J. Vogel ...	The Superintendent of Otago	Acknowledges receipt. Anxious to carry out wishes of memorialists, and regrets action of the Provincial Council.
	1871.			
156	Feb. 23	The Superintendent of Otago	Hon. Colonial Secretary	Forwards further memorial to same effect as No. 154.
157	May 15	The Superintendent of Otago	Hon. Colonial Secretary	Intimating wish of Provincial Government to act in harmony with General Government. Requesting that in the administration of the public works, Otago should be placed on same footing as Canterbury.
158	May 29	Hon. Colonial Secretary	The Superintendent of Otago	Reciprocating the wish of the Provincial Government in reference to the co-operation of the two Governments, so far as the responsibility imposed on the General Government by the Assembly will permit, and explaining why Otago cannot be placed on same footing as Canterbury.
159	June 22	The Superintendent of Otago	Hon. Colonial Secretary	Acknowledging receipt, and enclosing a message sent by His Honor to the Provincial Council, and of a resolution defining the railways it is desired should be undertaken.
160	July 24	The Superintendent of Otago	Hon. Colonial Secretary	Encloses further resolutions of Provincial Council relative to railways to be undertaken, together with a memorial from settlers relating thereto.

PLANS.

Sketches 1, 2, 3, 4, and 5, locomotive, carriages, rail, &c., for Dunedin and Clutha Railway	...	...	No. 114.
Sketch illustrating Mr. Brunton's report on survey of line, Invercargill to Mataura	...	...	No. 150.

PAPERS RELATING TO THE CONSTRUCTION OF RAILWAYS.

NELSON.

I. NELSON TO FOXHILL.

No. 1.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

SIR,—

Wellington, 6th September, 1870.

I have the honor to state, for the information of the Government, that a preliminary survey of the proposed line of railway from Nelson to Westport and Cobden, 220 miles in length, was executed by Mr. Henry Wrigg, C.E., in the years 1867-8; and that plans of the whole line upon a large scale, were at the same time prepared by that gentleman, together with a full report upon the general character of the line, and of the country through which it passes, which was published in the Nelson Provincial *Gazette*, No. 20, of the 23rd April, 1868.

The line from the town of Nelson to the Wairoa River forming the first twelve miles of the through line to Cobden, had been surveyed a year or two previously by Mr FitzGibbon, C.E., whose plans I have with me in Wellington.

I have, &c.,

The Hon. the Colonial Secretary, Wellington.

OSWALD CURTIS.

No. 2.

The Hon. W. GISBORNE to His Honor OSWALD CURTIS.

SIR,—

Colonial Secretary's Office,

Wellington, 21st September, 1870.

I have the honor to acknowledge the receipt of your letter of the 6th instant, with reference to the proposed line of railway from Nelson to Westport and Cobden, and to thank your Honor for the information on the subject contained therein.

I have, &c.,

His Honor the Superintendent, Nelson.

W. GISBORNE.

No. 3.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

SIR,—

Wellington, 13th April, 1871.

I forward herewith a plan showing the line lately surveyed, from the Brunner coal mine to Cobden by the Provincial District Engineer, and on my return to Nelson I will furnish the Government with reports and plans of such surveys as have been made of that from Nelson to Foxhill, and of the intervening portion between Nelson, Westport, and Cobden.

Should it appear to you that the surveys already made of the lines from Nelson to Foxhill, and from the Brunner mine to Cobden, are insufficient for the information of the General Assembly, I would request that the deficiency may be at once supplied by the Colonial Government, so that no delay may occur from the want of the necessary details being laid before Parliament when it next assembles.

I have, &c.,

The Hon. the Colonial Secretary, Wellington.

OSWALD CURTIS.

No. 4.

The Hon. W. GISBORNE to his Honor OSWALD CURTIS.

SIR,—

Colonial Secretary's Office,

Wellington, 14th April, 1871.

Anticipating that the Provincial Council will concur with your Honor in recommending that the lines from the Brunner to Cobden, and from Nelson to Foxhill, respectively, should be authorised by the General Assembly to be constructed independently of the remainder of the line from Nelson to

PAPERS RELATIVE TO THE

Cobden, the Government will take steps under the Public Works and Immigration Act, 1870, to have such surveys of those lines made, if the existing surveys are not sufficient, as will enable the question of their construction to be determined in the next session of the General Assembly.

His Honor the Superintendent of Nelson.

I have, &c.,
W. GISBORNE.

No. 5.

Mr. KNOWLES to Mr. BLACKETT.

SIR,—
Public Works Office,
Wellington, 22nd April, 1871.

You are also requested to take steps to have a Parliamentary survey made of the best line of railway from Nelson to Foxhill.

John Blackett, Esq., Engineer in Chief, Dunedin.

I have, &c.,
JOHN KNOWLES,
Under Secretary.

No. 6.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

SIR,—
Superintendent's Office,
Nelson, 7th July, 1871.
I have the honor to transmit herewith copies of three resolutions passed by the Provincial Council of Nelson, recommending that the following works should be executed under the provisions of the Immigration and Public Works Act, 1870.

A railway from Nelson to Foxhill.

A railway from Cobden to the Brunner coal mine.

A railway from Westport to the Mount Rochfort coalfield.

In my letter to you of the 13th April last, I have already expressed my concurrence with the Provincial Council, as regards the two first named undertakings, and as the necessary surveys are now in course of execution, by order of the Hon. Minister for Public Works, it would be superfluous to add to what I have already written on the subject.

I have, &c.,
OSWALD CURTIS.

Enclosure 1 in No. 6.

Resolutions passed by the Provincial Council of Nelson on Tuesday, 2nd May, 1871.

1. That in the opinion of this Council, it is highly desirable that the line of railway from Cobden to the Brunner coal mine should be constructed without delay.

2. That in the opinion of this Council it is highly desirable that the line of railway from Nelson to Foxhill should be constructed without delay.

Enclosure 2 in No. 6.

Resolution passed by the Provincial Council of Nelson, on Friday, 26th May, 1871.

THAT in the opinion of this Council, it is highly desirable that a line of railway from Westport to the Mount Rochfort coal field, should be constructed under the authority of, and in the manner provided by the Public Works and Immigration Act.

No. 7.

The Hon. W. GISBORNE to His Honor OSWALD CURTIS.

SIR,—
Colonial Secretary's Office,
Wellington, 29th July, 1871.
I have the honor to accept the receipt of your letter of the 7th instant, in which you transmit copies of three resolutions passed by the Provincial Council of the Province of Nelson, recommending certain railway works to be executed under the provisions of the Immigration and Public Works Act.

A survey is now being made of a line of railway from Nelson to Foxhill.

His Honor the Superintendent of Nelson.

I have, &c.,
W. GISBORNE.

II. GREY COAL MINES TO A SHIPPING PORT.

No. 8.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

Superintendent's Office,

Nelson, 26th October, 1870.

SIR,—

The Provincial Government of Nelson is desirous to obtain a loan of the sum of £60,000 for the following purposes:—

Construction of a railway from the Brunner Coal Mine, Grey River, to the Port of Cobden	...	£30,000	0	0
Construction of Gasworks in the City of Nelson	...	15,000	0	0
Extension of Waterworks in the City of Nelson	...	15,000	0	0
				£60,000 0 0

The importance in a Colonial as well as a Provincial point of view, of providing means for the cheap transport of coals, which the Chief Engineer at Woolwich Dockyard has shewn to be far superior to any of the Australian coal, and which he has pronounced to be equal to the average of the North of England coals supplied for the use of Her Majesty's Navy, is, I venture to think, sufficiently apparent.

The construction of Gasworks and the extension of water supply in the town of Nelson, are objects of a local character, and it is the intention of the Provincial Government ultimately to place these works under municipal management.

In the meantime, both works are of an immediately and directly remunerative character, and there can scarcely be a doubt but that the rates which will be levied for gas and water supply, will relieve the Province and the Colony from all charges for interest and sinking fund.

You are aware that this Province has always been exceptionally reluctant to involve itself in liabilities, and I think I may on that account appeal with the more confidence to the Colonial Government and the General Assembly for their assent to the moderate proposal which the Provincial Government now think it their duty to submit for your consideration.

In order that no time may be lost in taking the preliminary steps required by the Standing Orders relative to Private Bills, I have the honor to request that you will be so good as to inform me at an early date if the Government will be prepared to recommend the raising of a loan of £60,000 for the above mentioned purposes, to the favourable consideration of the General Assembly.

I have, &c.,

OSWALD CURTIS,
Superintendent.

The Hon. Colonial Secretary, Wellington.

No 9.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

Superintendent's Office,

Nelson, 3rd January, 1871.

SIR,—

I shall feel obliged by your informing me if my letter of the 26th October last, requesting the support of the Government to a proposed loan for this Province to the extent of £60,000, for purposes therein specified, has yet received the attention of the Government.

The contract recently concluded by the Hon. the Postmaster General for a permanent line of mail steamers between this Colony and San Francisco, affords an additional argument in favor of taking measures to render available for the use of those steamers the valuable seams of steam coal in the valley of the Grey.

The success of the Nelson waterworks, and the invaluable results which have ensued to the town from their construction, will be held, I trust, to fully justify the Provincial Government in asking for a loan for a further sum to enable them to extend the benefit of a supply of pure water to all parts of the town. And, as regards both the extension of the waterworks and the introduction of gas, the interest upon the sums applied to those purposes will be fully met by the special rates, as is already the case with the loan for £20,000 expended upon the existing waterworks.

As I have already intimated, it is the intention of the Provincial Government that both the waterworks and the gasworks shall be placed under the control of the Municipal body, as soon as the inhabitants of Nelson think it desirable to avail themselves of the provisions of the "Municipal Corporations Act, 1867."

I have, &c.,

OSWALD CURTIS,
Superintendent.

The Hon. Colonial Secretary, Wellington.

No. 10.

The Hon. W. GISBORNE to His Honor OSWALD CURTIS.

Colonial Secretary's Office,

Wellington, 10th January, 1871.

SIR,—

The Government have considered your letter of the 26th October, ultimo, in which you request to be informed if the Government will be prepared to recommend the raising of a loan of £60,000 for the purpose of providing for the following objects:—

Construction of a railway from the Brunner Coal Mine, Grey River, to the Port of Cobden,
£30,000

Construction of gasworks in the City of Nelson, £15,000

Extension of waterworks in the City of Nelson, £15,000.

With regard to the construction of gasworks and waterworks, however desirous the Government may be to promote these objects, it would be inconsistent with the general policy adopted, as regards works of that nature, to allow money to be borrowed for their construction on the security of the public revenue.

The objects are in their nature purely municipal, and provision should be made for them either by private enterprise or municipal rates, or money borrowed on the credit thereof. The Government will readily assist the Provincial Council or the municipality of Nelson in obtaining the assent of the General Assembly to an act or acts authorising a loan to be raised for the purposes referred to, upon the credit of municipal or local rates, but not on the security of the public revenue.

As regards the loan of £30,000 proposed to be raised for the construction of a railway from the Brunner Coal Fields to the Port of Cobden, the Government regard the object as one of general colonial interest, and which they will gladly promote. If, however, it is proposed to raise the required funds upon the security of the public revenue, the Government are of opinion that the works should be placed within the category of public works, to be executed under the authority of, and in the manner provided by the Public Works and Immigration Act of last session. Should this plan meet the views of the Provincial Government of Nelson, the Government will very gladly lend them aid towards giving effect to it by obtaining the sanction of the General Assembly.

I have &c.,

His Honor the Superintendent, Nelson.

W. GISBORNE.

No. 11.

His Honor OSWALD CURTIS, to the Hon. W. GISBORNE.

SIR,—

Wellington, 13th April, 1871.

In reference to my letter of the 26th October, 1870, asking the assent of the Government to a loan of £60,000, for the purposes therein specified, to your reply of the 10th January last, and to the conversations I have had with you upon the subject, I have the honor to submit the following proposals:—

That the Government consent to recommend to the favorable consideration of the General Assembly a bill to be introduced in the coming session, authorising the Provincial Government of Nelson to raise a loan of £30,000 for the extension of waterworks, and the construction of gasworks in the city of Nelson; provided that such loan shall not be secured upon the public revenue, but upon the rates to be collected for the supply of water and gas, and upon the ordinary rates levied by the Board of Works, under authority of the Nelson Town Improvement Act. Clauses to be inserted in the bill, empowering the Supreme Court, in case of default in payment of interest or principal, to appoint a receiver of the rates above mentioned.

With respect to the other portion of the loan, to which I have solicited your sanction, namely, the £30,000 for a railway from the Brunner coal mine to the port of Cobden. I understand from you that the Government adheres to the view expressed in your letter of 10th January, that if it is proposed to raise the required funds upon the security of the public revenue, the work should be placed within the category of the Public Works and Immigration Act of last session.

But under the provisions of the Railways Act of the same session, this short line, by recent survey less than six miles in length, forms part of the line from Nelson to Cobden and Westport, and the proviso to Section 10 of that Act, appears to preclude the Governor from entering into any contract other than one for the construction of the whole line—some 220 miles in length.

Looking to the undeniable importance to the whole Colony, as well as to the Province, of the speedy and effective development of the invaluable deposits of coal on the banks of the Grey River, I trust that the Government, if they are not prepared to sanction the pledging of the Provincial Revenue for the purpose, will take measures to effect the same object, with the least possible delay, as a matter largely affecting the interests of all parts of the Colony.

At the meeting of the Provincial Council, which will take place in a few days, it is my intention, also, to propose to them to recommend in the terms of the 6th Section of the Public Works and Immigration Act, the construction of the line from Nelson to Foxhill, for which imperfect, if not impracticable, provision was made in the Railways Act of last session, from the proceeds of the loan authorized for railway purposes, as the amount required will be moderate, and the interest would not be more than the revenue of the Province could firmly bear.

As regards the remainder of the line between Nelson, Cobden, and Westport, I shall propose that it remain to be dealt with in manner provided in the 9th and succeeding sections of the Railways Act, 1870.

I forward, herewith, a plan, showing the line lately surveyed, from the Brunner coal mine to Cobden, by the Provincial District Engineer, and on my return to Nelson I will furnish the Government with reports and plans of such surveys as have been made of that from Nelson to Foxhill, and of the intervening portion between Nelson, Westport, and Cobden.

Should it appear to you that the surveys already made of the lines from Nelson to Foxhill, and from the Brunner mine to Cobden, are insufficient for the information of the General Assembly, I would request that the deficiency may be at once supplied by the Colonial Government, so that no delay may occur from want of the necessary details being laid before Parliament, when it next assembles.

I beg leave to mention, for the information of the Government, that Mr. Blackett is thoroughly acquainted with the country through which the proposed lines would pass, and that Dr. Hector, independently of his scientific and practical knowledge of the value and extent of the coal measures of the Grey, has also given much attention during his visits to that part of the country, to the question of the construction of a line of railway through the heart of the Province of Nelson, and to the route which it would be most advisable to adopt.

The Hon. the Colonial Secretary, Wellington.

I have, &c.,

OSWALD CURTIS.

No. 12.

The Hon. W. GISBORNE to His Honor OSWALD CURTIS, Nelson.

Colonial Secretary's Office.

Wellington, 14th April, 1871.

SIR,—

I have to acknowledge the receipt of your Honor's letter of the 13th instant, submitting certain proposals in reference to your letter of the 26th October last, and to my reply of the 10th January, relative to the raising of a loan of £60,000 for the Province of Nelson, for certain specified purposes.

The Government will be prepared to recommend to the General Assembly a bill authorising the Provincial Government of Nelson to raise a loan of thirty thousand pounds for the extension of waterworks, and the construction of gasworks in the city of Nelson, provided that such loan shall not be secured upon public revenue, but upon the rates to be collected for the supply of water and gas, and upon the ordinary rates levied by the Board of Works, under the Nelson Town Improvement Act.

Anticipating that the Provincial Council will concur with your Honor in recommending that the lines from the Brunner to Cobden, and from Nelson to Foxhill, respectively, should be authorised by the General Assembly to be constructed independently of the remainder of the line from Nelson to Cobden, the Government will take steps under the Public Works and Immigration Act, 1870, to have such surveys of those lines made, if the existing surveys are not sufficient, as will enable the question of their construction to be determined in the next session of the General Assembly.

In the case of the proposed Brunner and Cobden line, it will be necessary first to make careful enquiries as to the best course of a railway to connect the coal mines on the Grey River with a shipping port, and to submit the result of those enquiries for the consideration of the legislature; and the Government will appoint Dr. Hector, the Government Geologist, and Mr. Blackett, Acting Chief Engineer of Public Works, to be a Board of Enquiry for that purpose.

I have, &c.,

His Honor the Superintendent,
Nelson.

W. GISBORNE,

No. 13.

Mr. KNOWLES to Mr. BLACKETT.

Public Works Office,

Wellington, 22nd April, 1871.

SIR,—

I have the honor, by direction of Mr. Gisborne, to enclose herewith an extract from a letter from the Hon. the Colonial Secretary to His Honor the Superintendent of Nelson, and to request you to make careful enquiries, in conjunction with Dr. Hector, and, after personal inspection, to report on the best course of a railway to connect the coal mines on the Grey River with a shipping port, with a view to promoting public interests to the greatest extent, and to securing the greatest development of the coal field, and the best paying line. You are also requested to take steps to have a Parliamentary survey made of the best line of railway from Nelson to Foxhill; and after the line from the Grey River coal mines to a shipping port is decided on, a similar survey will have to be made under your direction.

I have, &c.,

John Blackett, Esq.,
Acting Engineer-in-Chief, Dunedin.

JOHN KNOWLES,
Under Secretary.

No. 14.

Mr. KNOWLES to Dr. HECTOR.

Public Works Office,

Wellington, 22nd April, 1871.

SIR,—

I have the honor, by direction of Mr. Gisborne, to enclose herewith an extract from a letter from the Hon. the Colonial Secretary to His Honor the Superintendent of Nelson, and to request you to make careful enquiries, in conjunction with Mr. Blackett, and, after personal inspection, to report on the best course of a railway to connect the coal mines on the Grey River with a shipping port, with a view to promoting public interests to the greatest extent, and to securing the greatest development of the coal fields, and the best paying line.

I have, &c.,

Dr. Hector, Wellington.

JOHN KNOWLES,
Under Secretary.

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No. 15.

Dr. HECTOR to Mr. KNOWLES.

Geological Survey,
Wellington, 4th May, 1871.

SIR,—

I have the honor to acknowledge the receipt of your letter of the 22nd ult., requesting me, in conjunction with Mr. Blackett, to make careful enquiries, and after personal inspection, to report on the best course of a railway to connect the coal mines on the Grey River with a shipping port; and, in reply, I beg to inform you that I will confer with Mr. Blackett on the subject immediately on his return, with the view of making the required report with the least possible delay.

I would suggest that it is desirable that we should be furnished with copies of plans and sections of the different lines which have already been proposed and surveyed.

I have, &c.,

The Under Secretary,
Public Works Department.

JAMES HECTOR.

No. 16.

The Hon. W. GISBORNE to His Honor W. RÖLLESTON.

Colonial Secretary's Office,
Wellington, 1st May, 1871.

SIR,—

I have the honor to inform you that Mr. Blackett and Dr. Hector have been appointed personally to inspect and report on the best course of a railway to connect the coal mines on the Grey River with a shipping port; and to request that, with a view to facilitate their enquiries, any surveys or other information in the possession of your Honor's Government, may be forwarded to this office for the use of those gentlemen at your early convenience.

I have, &c.,

His Honor the Superintendent, Canterbury.

W. GISBORNE.

NOTE—Similar letters were written to the Superintendent of Nelson and the Chairman County Council, Westland.

No. 17.

Messrs. BLACKETT and HECTOR to Hon. W. GISBORNE.

Wellington, 21st July, 1871.

SIR,—

We have the honor to make the following report, in compliance with your instructions of 22nd April, "That we should, after careful enquiries and personal inspection, report on the best course for a railway, to connect the coal mines on the Grey River with a shipping port, with a view to promoting public interests to the greatest extent, and to securing the greatest development of the coal field, and the best paying line."

We arrived at Greymouth on 22nd May, and spent six days in making the necessary investigations, in which we were cordially and ably assisted by Mr. O'Connor, Chief Engineer, and Mr. Muller, Chief Surveyor, for the County of Westland, who had been directed by the County Chairman to furnish us with all the information relative to the south side of the river, required from their respective departments, and by Mr. A. D. Dobson, Provincial Engineer, who, in like manner, represented the Province of Nelson.

The distance of the coal mines from the coast is only about 6 miles; but the full consideration of the subject required that we should extend our examination for a distance of 25 miles up the valley of the River Grey, and also northwards along the coast, for about 10 miles.

PORT CURTIS.

The latter trip was for the purpose of judging of the capabilities of the Bay north of Point Elizabeth, for the construction of an artificial port, a suggestion that has been frequently made, and was even favorably reported on by the late Mr. Balfour (Report of the Marine Department, 1868). Mr. Balfour's opinion, however, appears to have been founded upon a report and chart, furnished by the Marine Surveyor (hereto appended), which contemplates rather the construction of a harbour of refuge, capable of holding 3 or 4 vessels, than a port adapted for trading purposes.

Point Elizabeth is a promontory composed of limestone rocks, and is prolonged by a chain of rocky islets and a reef, in a northerly direction, for about a mile, whilst the general trend of the coast is about 20 degrees to the east of north. A shallow bay is thus enclosed, having a shelving, sandy beach quite open to the heavy sea that frequently rolls in from the north and west. There is no doubt that with a large expenditure it would be possible to close the gaps between the islands by a sea-wall, and, by carrying it forward in a curve, afford a certain amount of protection from the above directions; or, what might be still better, to construct an independent wall within the shelter of the natural reef, and by this means form a harbour of limited extent. The objections to the formation of such works, however, would be, in the first place, the enormous expense. This would be greatly increased by the want of proper material, there being no stone within reach at all adapted for the construction of marine works, that would be exposed to heavy seas. The limestone at the point, which has been suggested as available, is totally unsuitable; its resistance to the encroachment of the sea at that place being entirely due to the manner in which the strata are naturally placed, presenting a hard surface, dipping at an angle of 37 degrees to the westward, from which direction the heaviest swell rolls in. Secondly, the construction of a sea-wall between, or within, the islands and reef would not fail, in a short time, to

lead to the filling up of the bay, by preventing the scour which, at the present time, takes place through the passages, there being no large river entering the bay, or other means of maintaining a counteraction to the great accumulation of drift, which tends to obliterate the irregularities in the coast line.

These considerations appeared to be so conclusive against our recommending any expenditure for works as this place, that we did not think it necessary to require any exact surveys or soundings to be made.

GREY RIVER.

The selection of a port is therefore limited to the Grey River, and the choice between either bank as the best terminus of the railway line is necessarily determined by the relative natural facilities which they afford for the construction of wharfage, which will form part of a scheme for the conservation of the channel and outlet of the river, with a maximum depth of water on the bar. The works which require to be undertaken involve, therefore, not only considerations affecting the proposed railway, but, also, harbour works; and with this in view, it becomes necessary to enquire, in the first place, into the changes that the river channel has undergone since the first surveys were made, and especially to show the effect which the protective works, already constructed, have exercised.

These changes have been combined in plan No. 1 attached hereto from an inspection of which it is at once evident that, during the last six years, the form of the channel of the river, between the Lime Stone Gorge and its mouth, a distance of one and a quarter mile, has undergone but little change, and that the south bank has been at all times the one which is best adapted for affording the greatest extent of permanent wharf frontage. The reason for this is obvious, when we consider that at the Lime Stone Gorge the river is rock-bound from side to side, so that its channel is there absolutely fixed. From this point to the sea, there is only sufficient distance for it to make one sweep or curve to reach its mouth, and, from the nature of the banks, this curve will always have its convexity towards the south or left hand side of the river. The projection of Point Elizabeth beyond the general trend of the coast line, has caused the accumulation of the coarse shingle, brought down the river, that would otherwise have travelled to the northward, thus causing the river to discharge into deeper water than it otherwise would have done. But this accumulation has now reached its maximum, the additions to it being at once carried beyond the point, so that the distance between the Gorge and the mouth of the river, may be looked upon also as fixed. If, therefore, the tendency which the curve of the river between the Gorge and its mouth has to become lengthened by overflowing and undermining the low land on the south side, be controlled by suitable works, the channel of the river may be rendered permanent, and its whole volume directed to deepen the bar.

The remarkable influence which Point Elizabeth exercises in giving stability to the character and position of the mouth of the Grey River, may be gathered from the attached plan, No. 2, showing the formation of this part of the coast, and we are of opinion that it is rarely that any bar harbour presents such favourable conditions for the successful construction of permanent harbour works. The works required would not be expensive in proportion to the advantages to be gained, and a good deal has been already done in the right direction.

Thus the south bank from the Gorge to the sea, forms the frontage of the town of Greymouth, a distance of seventy or eighty chains, forty-four chains of which have been faced by wharfage and protective works, at a cost of £12,580. A great part of these works, will, no doubt, have to be replaced by more solid structures, and they will require to be extended much further down the river.

The land to the south of the river is low-lying, and occupied by tidal lagoons and swampy patches, which are inundated by the river during floods. So that, unless restrained for nearly the whole distance to the point of the South Spit, the river will always tend to overflow in that direction, and the scouring power of the freshets on the bar will be thereby greatly diminished.

On the north side of the river the only deep water close to the shore at the present time is from ten to twelve chains at the Gorge, the remainder of the reach having on that side a flat shingle bank, which tends to advance and force the main channel toward to the south shore. There has, at one time, been a deep channel along the north side, now represented by a narrow lagoon, but there is no probability of the river resuming this course as its channel is now established at a lower level and follows a well shaped curve, which, for the reasons we have already stated, is the only direction that can be permanently maintained by engineering works.

Having in view an extensive development of the coal trade, it is, therefore, clear to us that the chief wharves will have to be on the south or Greymouth side of the river.

RAILWAY LINES.

For the purpose of ascertaining accurately the difference in the expense of constructing a railway from the coal mine gorge to the port on the north and south sides of the river, preliminary surveys were made, and estimates framed on a schedule of prices previously agreed to by the engineers representing the rival interests. Plans and estimates are attached, and although they represent the cost as considerably above what would be required in either case, the schedule prices being higher than necessary, they are relatively correct, and afford a safe basis for comparison.

Plan and section No. 3 shew the best line on the north bank of the river from Brunner Town to Cobden, a distance of six miles, and the estimate shows that its cost would be £19,662.

Plans Nos. 4 and 5, shew the best line on the south side from the Canterbury (or Westland) mine to Greymouth, with a length of six miles seventy-three chains, and with an estimated cost of £21,376.

These lines are equally favorable for working and maintenance, the heavier gradients on the north line being counterbalanced by the increased length of the south line in this particular case where all the heavy loads will be down hill.

The coal mines which are most immediately available, are on the north side of the river, but when facilities for carriage are afforded by the railway, there is no doubt that the seams on the south side will be also opened up and worked.

The question of bridging the river at the Upper Gorge, has, therefore, to be considered as part of a complete scheme, which ever side of the river might be adopted for the lower terminus.

Plans Nos. 6 and 7, shew the features of the Gorge for a distance of thirty chains, and the line A.B. indicates the site which we recommend as the best adapted for a bridge. The clear span at this point is 250 feet, with side spans averaging ninety feet each; and as the ground is favorable, the whole structure might be of comparatively light and inexpensive character, especially if it should be considered sufficient to provide only for the crossing of the coal-mine waggons, as in that case a combined suspension and truss bridge would answer the purpose, and probably cost not more than £3,000.

A bridge adapted for very heavy traffic at this point would, however, be a very costly work, as the centre span is long and cannot safely be divided.

In the event of the north line being selected, there is no doubt that it would be found necessary to cross the river to the south side by a bridge at the Lower Gorge. Careful sectional surveys were therefore made, and plan No. 8 shews the features that have to be considered, and the lines on which the sections were taken as probable sites for a bridge.

The clear span at the upper site is 900 feet, the full length of the bridge being 947 feet, and at the lower 780 feet, with a full length of 852 feet.

Considerable difficulty would be experienced here in erecting a bridge on either site from the nature of the river, which is subject to frequent heavy freshets, and from the character of the river bed which does not present favorable features for fixing the piers.

Without having gone into estimates in detail we may state that a substantial and serviceable bridge for railway purposes could not be erected here for less than £13,000

A favorable approach could be got from the north side, but only at the expense of rock cutting, and without going to much additional expense for sidings, shunts, &c., it would not be easy to make the line serviceable for both sides of the river.

There is no doubt that a bridge crossing the river at this point, especially if adapted for mixed traffic, might be considered of great general utility, but as the construction of such an expensive work is not absolutely necessary for the development of the coal trade, it may be dismissed from present consideration.

Influenced by the foregoing considerations, we recommend the following as the line which is best adapted to further the public interests.

First, that a light bridge on the plan suggested should be thrown across the Coal Gorge, adapted for curving the small waggons that are used in the coal mines, and also for foot and horse traffic.

Secondly, that the line on the south side of the river should be adopted.

Thirdly, that the wharfage at Greymouth should be improved in such a manner that while it affords facilities for shipping coal, it will also render permanent the channel of the river, and increase the depth of water on the bar.

In adopting the line on the south side of the river, there is another but remote consideration that should be taken into account, and that is the future extension of the line of railway up the valley of the Grey River. From our acquaintance with the features of the country, we are of opinion that such an extension must follow along the south side of the valley, whether it be considered as a line leading direct to Nelson, or as a branch line to connect with a main line from Nelson to the east side of the mountains by the head waters of Wai-au or Hurunui.

At the present time, however, no requirement for any such extension exists, as the Grey River affords facilities for lighterage at a rate of freights that it would be difficult for a railway to compete with, unless the trade were extended by some unforeseen cause.

In making the foregoing report we have been guided by general considerations, and have avoided entering on details such as are required for indicating the exact position and nature of the works necessary. These, however, can be furnished when the more general question has been decided on; the surveys which have been made being quite sufficient for the purpose.

The following is a statement of the relative cost, advantages and disadvantages of the lines which have been mentioned.

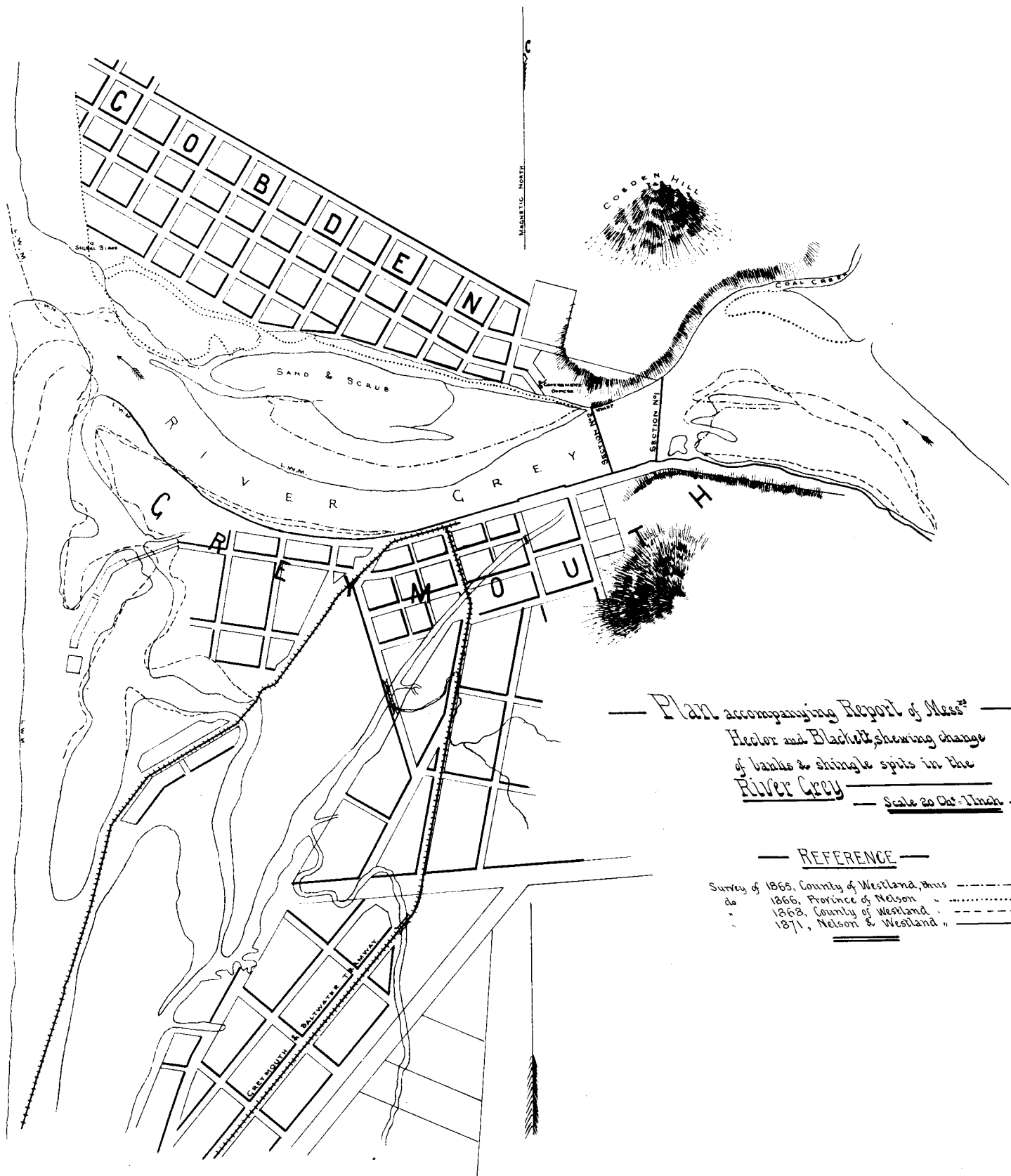
First. The line recommended, or south line.

To connect the mines on both sides of the river with Greymouth as the port; cost of line, 6 miles, 73 chains	£21,376	0	0
Bridge across the Gorge	3,000	0	0
Extra sidings at Greymouth	1,000	0	0
Wharf improvement—Protective works, say 12 chains, at present	5,000	0	0
Total	£30,376	0	0

The chief advantage of this line is found in the small expense of the works compared with the complete manner in which it fulfils all the requirements of the case.

Second. North Line.

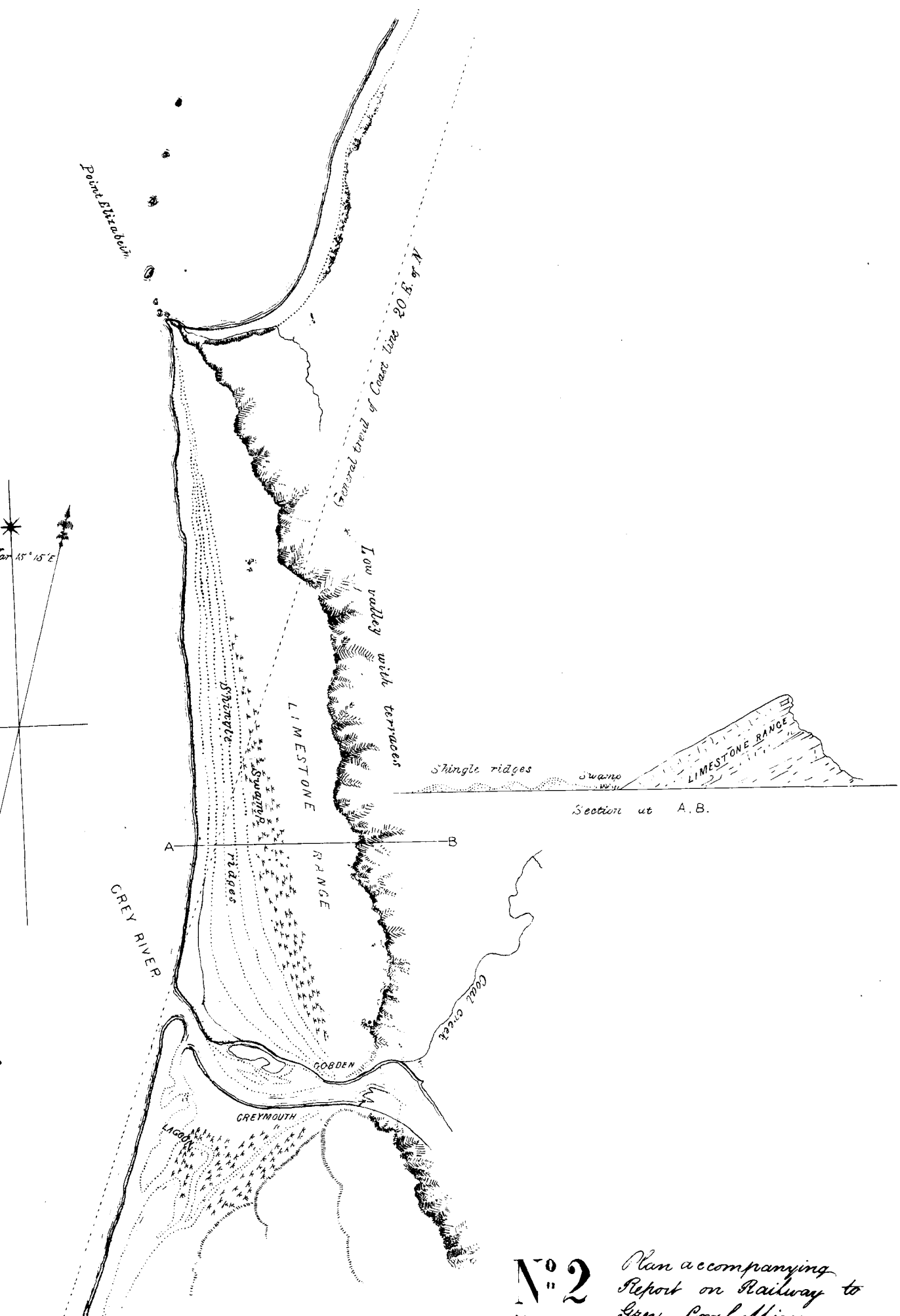
To connect the mines on both sides of the river with Cobden—			
Cost of line	£19,662	0	0
Erection of wharf	4,250	0	0
Bridge at the Upper Gorge	3,000	0	0
Extra-sidings	775	0	0
Total	£27,687	0	0



— Plan accompanying Report of Mess^{rs} —
 Hector and Blackett, shewing change
 of banks & shingle spits in the
 River Grey — Scale 20 Oct. 1868 —

— REFERENCE —

Survey of 1865, County of Westland, thus	----- L.W.M.
do 1866, Province of Nelson "
do 1868, County of Westland	----- "
do 1871, Nelson & Westland	----- "



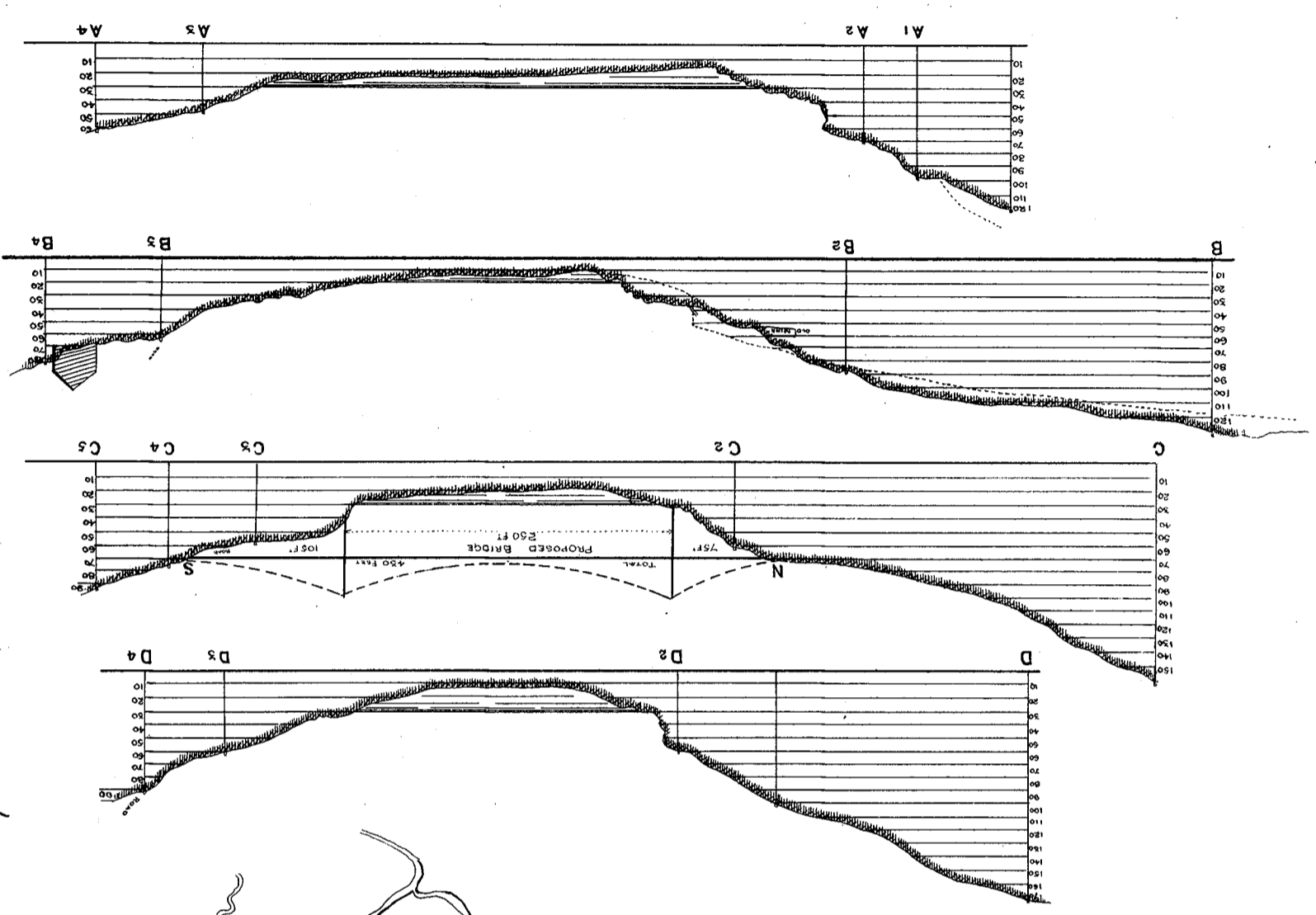
N^o 2

Plan accompanying Report on Railway to Grey Coal Mines.

PLAN

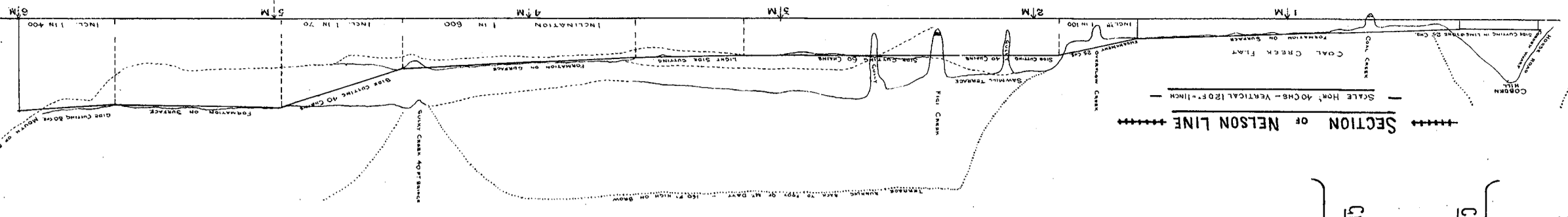
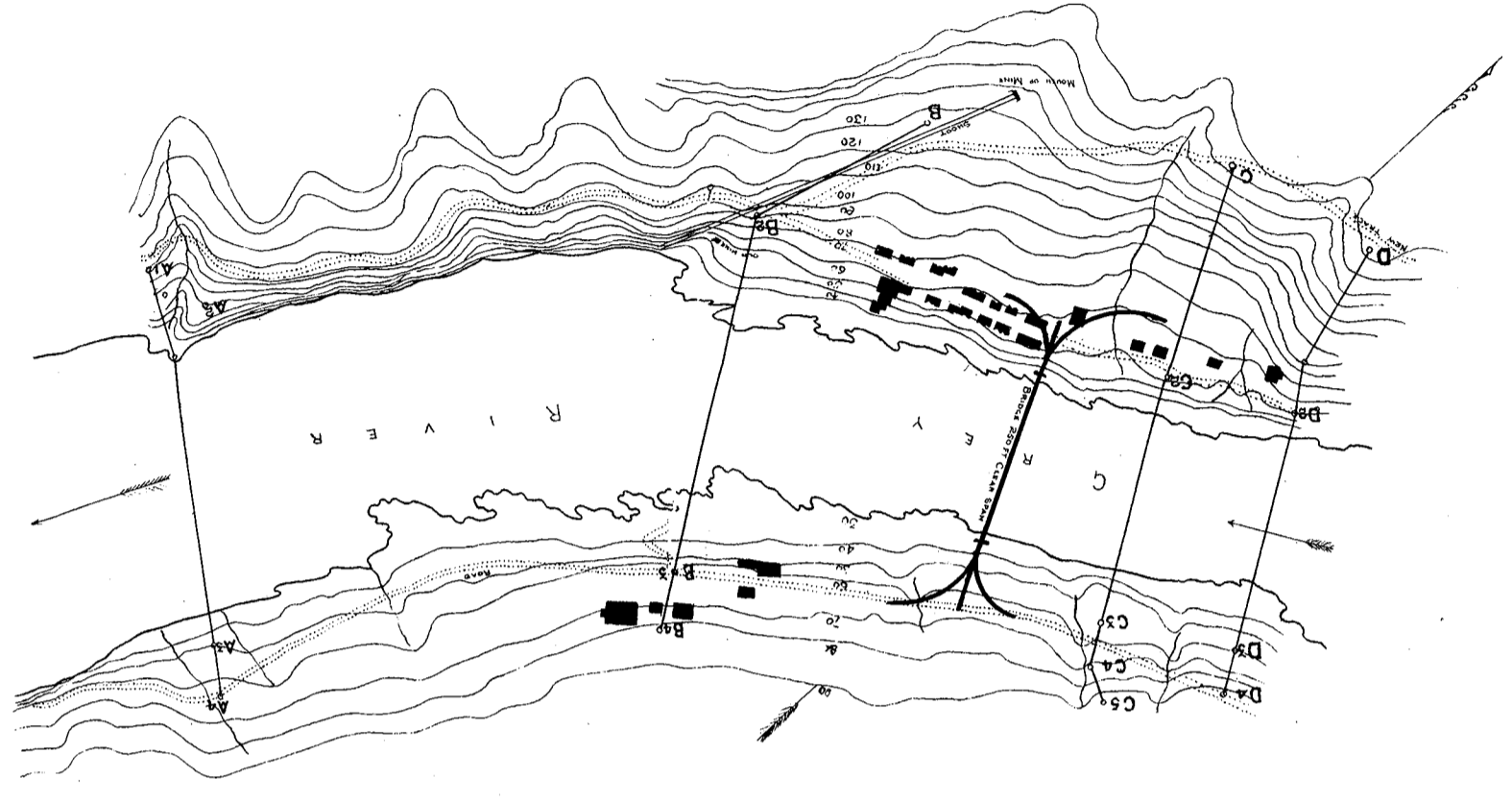
By Messrs Hector & Blackett

SHOWING FORMATION OF COAST BETWEEN GREYMOUTH AND POINT ELIZABETH.

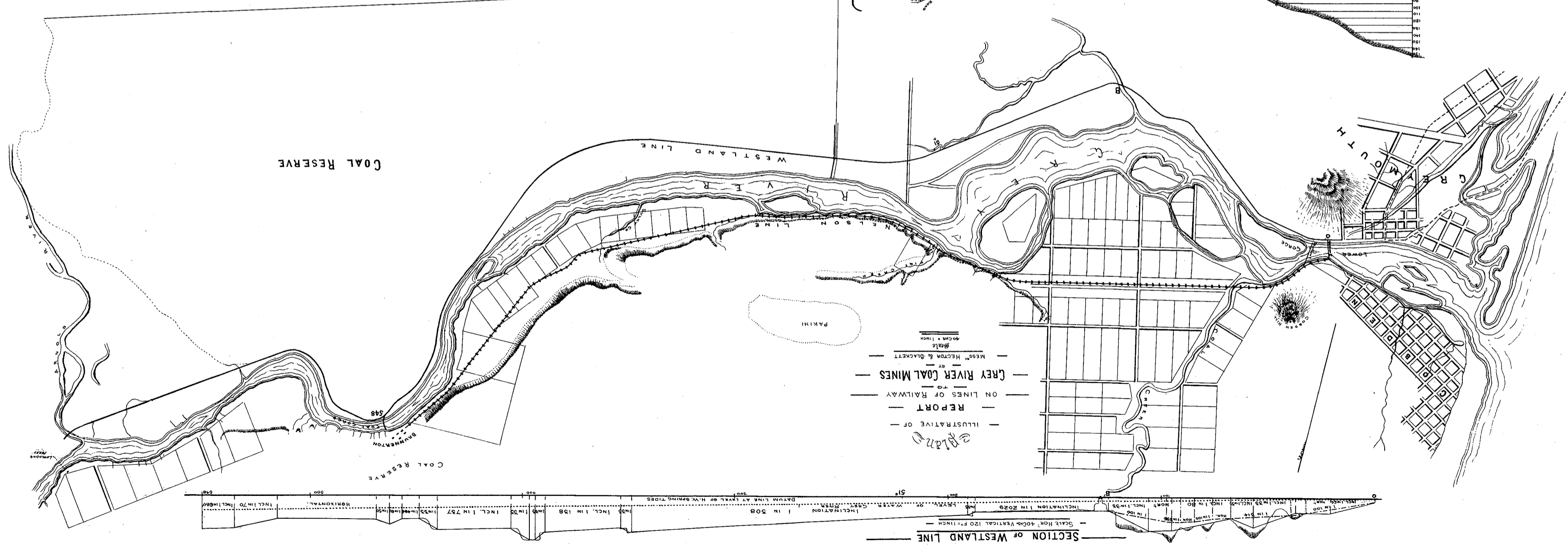


CROSS SECTIONS FOR RAILWAY BRIDGE

GREY RIVER COAL GORGE PLAN TO ACCOMPANY CROSS SECTIONS FOR RAILWAY BRIDGE

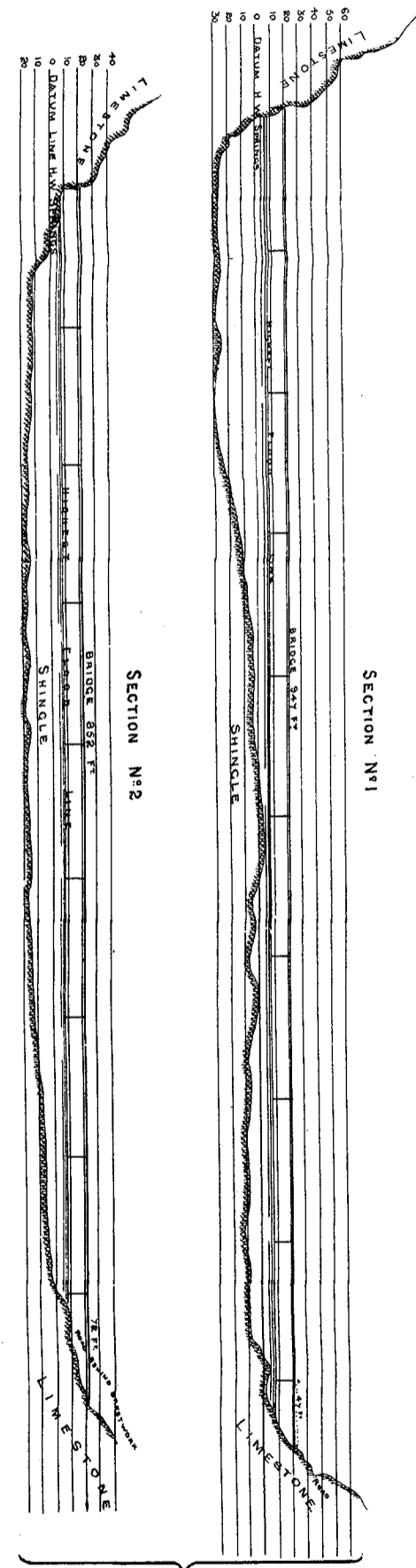


SECTION OF NELSON LINE



SECTION OF WESTLAND LINE

— ILLUSTRATIVE OF —
 REPORT
 ON LINES OF RAILWAY
 GREY RIVER COAL MINES
 BY
 MESSRS HECTOR & DIACKETT
 ENGINEERS
 1908



SECTIONS OF THE GREY RIVER LOWER GORGE



PAPERS RELATIVE TO THE

	Brought forward...	...	...	...	...	£19,402 0 0
Culverts, 33 at £3 say	...	...	...	...	...	100 0 0
Catch water drains, 160 chains at £1 per chain	...	...	...	...	...	160 0 0
Total of Line—Mine to Port						£19,662 0 0
Stone Wharf, 5 chains at £500 per chain, and 7 chains at £250 per chain	...	...	...	...	...	4,250 0 0
40 chains permanent way for sidings, with 1,000 sleepers at 2s. 6d. each	...	...	...	...	...	775 0 0
Total of Line and Wharf ready for use, less rolling stock, contingencies and supervision						£24,687 0 0

Enclosure 2 in No. 17.

GREY AND COAL PITS RAILWAY.

Estimate (South side) for a line with minimum gradient of 1 in 100; the total distance of said gradient being 122 chains.

Extract from detail estimate :—

O to B'—Blue Line, 130 chains	...	...	...	...	£8,050 7 0
B' to 51—Red Line, 95 chains	...	...	...	...	3,075 1 6
0					
51 to Coals—Blue Line, 328 chains	...	...	...	...	10,251 2 9
1					
Total—6 miles, 73 chains					£21,376 11 3
Providing siding accommodation and shoots at Greymouth					1000 0 0
Bridge over coal gorge for trucks only					2000 0 0
Total, including contingencies as above					24,376 11 3

Westland 30th May, 1871.

Examined and verified,

Nelson, 30th May, 1871.

CHARLES Y. O'CONNOR,
County Engineer.

A. DUDLEY DOBSON,
Provincial Engineer.

Sub-Enclosure to Enclosure No. 2 in No. 17.

GREY AND COAL PITS RAILWAY—SOUTH SIDE.

Section.		Description of Work.	Amount.	Amount of Section.	—
From.	To.				
0	B'	Clearing	£ 290 0 0	8,050 7 0	Blue Line.
		Earthwork	4,261 12 0		
		Drains...	174 0 0		
		Formation	4 10 0		
		Ballasting	429 0 0		
		Sleepers	568 15 0		
		Bridges	210 0 0		
		Permanent way	2,112 10 0		
B'	51 — 0	Clearing	63 10 0	3,075 1 6	Red Line.
		Earthwork	8 4 0		
		Drains	222 0 0		
		Formation	73 0 0		
		Ballasting	209 0 0		
		Sleepers	395 12 6		
		Bridges	560 0 0		
		Permanent way	1,543 15 0		
51 — 0	Coal Pits.	Clearing	934 0 0	10,251 2 9	Blue Line.
		Earthwork	1,163 9 6		
		Drains	564 0 0		
		Formation	72 0 0		
		Ballasting	721 12 0		
		Sleepers	1,054 1 3		
		Bridges	390 0 0		
		Permanent way	5,330 0 0		
Total			£21,376 11 3		

C. Y. O'CONNOR.

Enclosure 3 in No. 17.

Memo. by Mr. Dobson, respecting inland traffic—Grey Valley.

Goods are now taken up the river from Greymouth in boats carrying from 3 to 5 tons—3 ton boats require 4 men and 2 horses; 5 ton boats, 4 men and 3 horses. Freight to Ahaura, 25 miles, £5 per ton; Junction, 30 miles, £6 10s per ton.

Three trips a week made in fair weather, to either place. A 3 ton boat will, therefore, make per week, when in full work, £45, for 4 men and 2 horses; a 5 ton boat will make £75 per week, for 4 men and 3 horses, taking goods to the Ahaura.

This price could well fall 50 per cent., and then admit a high rate of wages to the men, and a good share for the boat,

Goods are conveyed from Greymouth to Reefton, on the Inanghua, 70 miles from Greymouth, for £20 per ton.

Large quantities of hay and potatoes are now grown in the Upper Grey; and before long, wheat will be raised and ground, so that the amount of imported goods will probably decrease considerably in future. The boats charge passengers £1 for going up, and 10s. for the down trip.

Horse hire to and from the Ahaura is at the same rates.

A. DUDLEY DOBSON,
Provincial Engineer.

Enclosure 4 in No. 17.

Mr. WHALL to Mr. O'CONNOR.

Borough Council,
Greymouth, 26th May, 1871.

SIR,—

I have the honor to enclose the statement of expenditure of the Council upon river works and streets; together with a statement of the assessed valuation of the holdings within the limits of the Borough of Greymouth.

C. Y. O'Conner, Esq.,
County Engineer, Greymouth.

I have, &c.,
JOHN A. WHALL,
Town Clerk.

STATEMENT of amount expended by the Council of the Borough of Greymouth upon river works, from September, 1868, to 30th April, 1871	...	£7,027 9 3
Statement of amount expended by the Grey Road Board upon river works, previous to the town being declared a Borough under the Municipal Corporations Act, 1867	... ..	2,373 1 4
		£9,400 10 7
Expended previously, by Canterbury Government	... ..	3,180 1 10
Total	... ..	£12,580 12 5

STATEMENT of amount expended making streets and bridges, since the town of Greymouth was proclaimed a Borough under the Municipal Corporations Act, 1867	... ..	£1,315 17 3
Amount expended by the Grey Road Board, previous to the town being proclaimed a Borough	... ..	30 3 6
		£1,346 0 9

STATEMENT of the annual rental value of the holdings within the Borough of Greymouth, on 24th February, 1871, numbering 537 rateable properties, valued, under sworn declaration, at a rental value, per annum, to be	£27,643
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Enclosure 5 in No. 17.

Mr. O'CONNOR to Messrs. BLACKETT and HECTOR.

Greymouth, 1st June, 1871.

BRUNNER COAL MINE RAILWAY.

GENTLEMEN,—

In connection with the above question, I have the honor to furnish the following maps and papers, showing conditions on southern side of Grey River.

1. Plan 10, chain scale, showing line of proposed railway, with alternative routes, from Greymouth to Arnuld; also, gradients along red and blue lines.
2. Plan, 3 chain scale, showing details of alternative routes, Greymouth to Kaiata reserve.
3. Plan, 1 chain scale showing details of coal gorge.
4. Section, 30 feet scale, showing levels across river at do.
5. Estimates showing probable cost of different sections red line; also, same for blue line.
6. Statistics of population, &c, Greymouth.

Messrs. Blackett and Hector,
Commissioners.

I have, &c.,
CHARLES Y. O'CONNOR,
County Engineer, Westland.

Sub-enclosure to Enclosure 5 in No. 17.

STATISTICS OF POPULATION, &c.. OF GREYMOUTH.

1. Population of the town of Greymouth	2,181
2. Rental value of house property	£27,643
3. Length of wharf, in good condition, and having 19 feet of water at 6 feet from face at low water	14 chains.
4. Length of wharf, in indifferent condition, and having six feet of water 6 feet from face at low water	7 "
5. Length of face protection, having 19 feet of water, at 6 feet from face at low water	19 "
6. Length of face protection, having 6 feet of water at 6 feet from face at low water	4 "
Total	44 chains.
7. Cost of construction of wharf and protective works... ..	£12,580
8. Cost of construction of streets	1,346
9. Goods traffic between Greymouth, and the Grey and Arnold valleys, per week	60 to 70 tons
10. Width of Grey River at punt rope	800 feet.

Greymouth, 1st June, 1871.

C. Y. O'CONNOR,
County Engineer,

Enclosure No. 6 in No. 17.

EXTRACT from Report of MARINE SURVEYOR.

I ALSO forward herewith a small sketch of "Port Curtis," being the bay formed by Point Elizabeth a few miles to the north of Greymouth. Mr. Woods was instructed to procure a few soundings in the bay, on the first available opportunity, and this sketch is the result.

The soundings shew that there is an area of probably not less than a quarter of a square mile already partially sheltered, and with a depth at low water of two fathoms and upwards. Seeing that there is an ample supply of hard limestone on the spot, very fairly adapted for the construction of a breakwater, and that this bay is of perfectly easy access from the Grey coal fields, its future importance as a harbour will be sufficiently obvious; indeed it is the only place on the West Coast which I am acquainted with where there are both natural facilities and abundant material for constructing a barless commercial harbour of very considerable dimensions, in direct and easy communication with very valuable coal fields. I hope during the present year to procure a careful survey of Port Curtis on a large scale.

J. M. BALFOUR.

Enclosure 7 in No. 17.

G. A. WOODS to JAMES M. BALFOUR, C.E.

Surveying Steam Sloop "St. Kilda,"

SIR,—

27th June, 1868.

I have the honor to forward the following Report on the bay formed by Point Elizabeth.

The indentations of the coast line between Point Elizabeth and the Cliffs, to the Northward, form a small bay, which is partially protected by an island lying immediately off the point, and one or two islets and rocks that stretch across nearly to the main land on the North side.

The passage between the first-named island (*a*) and the islet (*b*) is clear of rocks and shoals, with a depth of from four to six fathoms, but immediately after passing this line the water shoals rapidly, and in the centre of the bight breaks with considerable violence; half way across, between this break and the point, and under lee of the island, a depth of from three to four fathoms was found, but the bottom is uneven, requiring a careful survey and opportunities for observing the effect of Northerly and North-west winds upon the space of water lying between the point and the mid-bay shoal before any definite report can be made as to its capabilities for shipping.

If a rubble breakwater could be constructed from the inner side of the mid-bay reef towards island (*a*), and the passage closed between the Point and (*a*), then a small harbour would be formed, capable of holding three or four vessels. Presuming, however, that this expenditure would be undertaken mainly with the view of making it a small harbour of refuge, it is necessary to make sure that the sea does not break across the entrance from (*a*) to (*b*) in seaward gales, as that would be fatal to any vessel attempting to enter between (*a*) and the end of the breakwater.

I have, &c.,

James M. Balfour, Esq., C.E.,
Colonial Marine Engineer, Wellington.G. A. WOODS,
Chief Marine Surveyor.

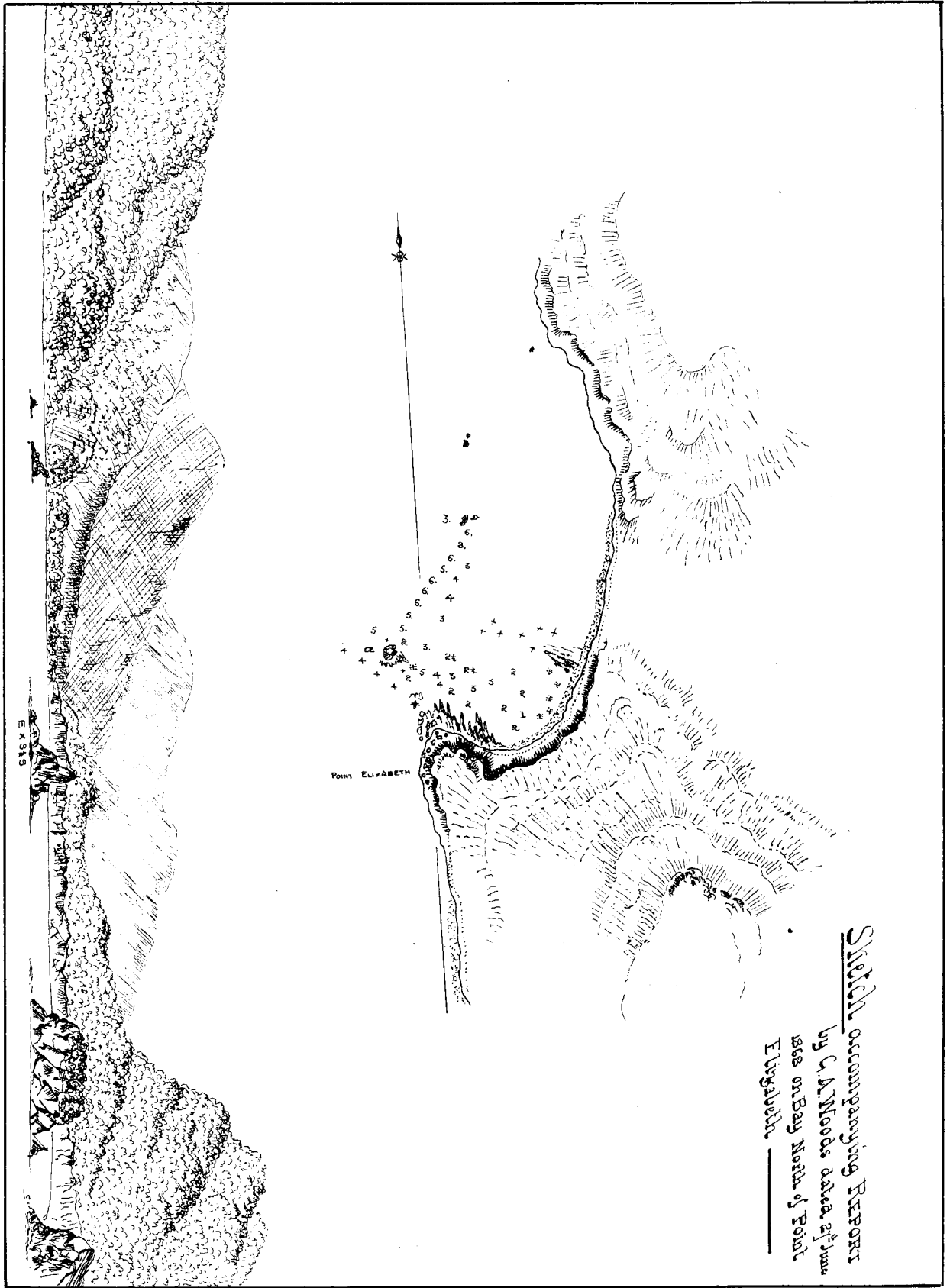
No. 18.

Hon. W. GISBORNE to the CHAIRMAN of the COUNTY COUNCIL, Hokitika.
Colonial Secretary's Office,

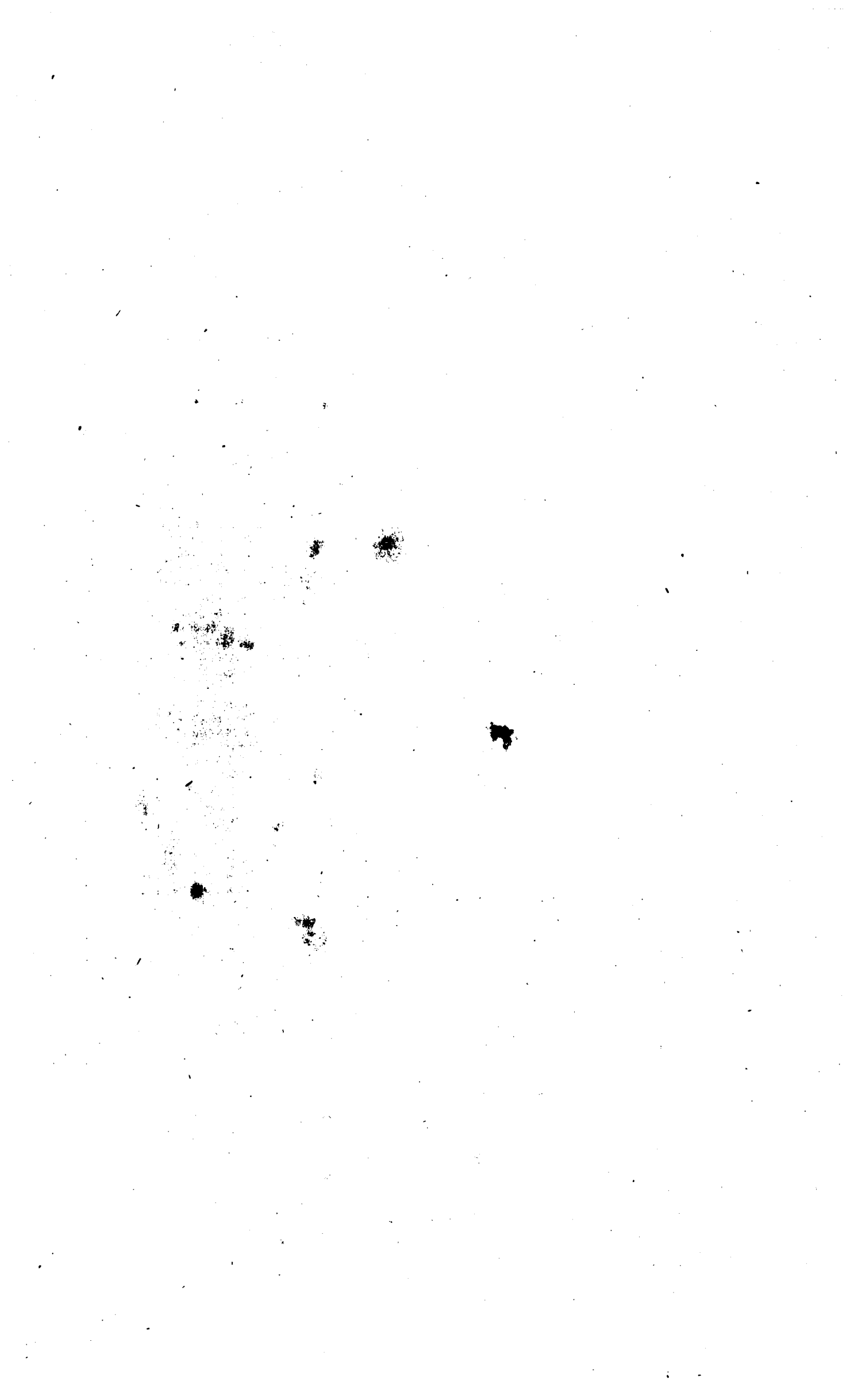
SIR,—

Wellington, 11th August, 1871.

Adverting to my letter, No. 226, of the 1st May last, I have the honor to enclose a copy of the report of Dr. Hector and Mr. Blackett, on the best course for a railway to connect the coal mines on the Grey river with a shipping port.



Sketch accompanying REPORT
by C. M. Woods dated 27th June
1868 on Bay North of Point
Elizabeth —————



I also transmit copies of the plans and other documents which accompany that report.

The Government concur in the recommendation made by Dr. Hector and Mr. Blackett, but of course, the question of the adoption of one or other of the alternative lines will be submitted for decision of the General Assembly.

The Chairman of the County Council, Hokitika.

I have, &c.,

W. GISBORNE.

NOTE.—A letter similar to the above was also forwarded to his Honor the Superintendent of Nelson.

III. WESTPORT TO MOUNT ROCHFORD COAL FIELD.

No. 19.

His Honor OSWALD CURTIS to the Hon. W. GISBORNE.

Superintendent's Office,

Nelson, 7th July, 1871.

SIR,—

*

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*

With reference to the proposed line from Westport to the Mount Rochfort coal field, I forward, for your information, a copy of a report by Mr. Henry Wrigg, of a hasty examination of the country by him in 1868, and I further refer you to the same gentleman's report upon the proposed line from Nelson to Cobden and Westport, of which I also furnish you with a copy.*

By the accompanying copy of the report of the Select Committee, upon which the resolution of the Council, in favor of the construction of a railway from Westport to Mount Rochfort was founded, you will observe that the impression appears to have prevailed in the mind of the Council, that, on more complete exploration, a less expensive route than that indicated by Mr. Wrigg may be discovered and, also, that by the adoption of the wire tramway, or other less costly means of conveying the coal to the port, a large reduction may be made from Mr. Wrigg's estimate, which, including rolling stock, amounts to about £120,000.

I think, also, that some further and more complete scientific exploration of the Mount Rochfort coal field would be desirable before the precise route and terminus of the line are decided upon, as it appears to be not improbable that workable seams of coal may be discovered in a more accessible position than those hitherto examined, and that the cost of the line might thereby be brought largely under the sum estimated by Mr. Wrigg.

I have, therefore, to suggest that in the event of the Colonial Government and the Assembly consenting to the execution of this work, its actual construction should be preceded, not only by additional exploration and survey beyond that made by Mr. Wrigg, but by a careful examination of the Mount Rochfort coal field itself, by the officers of the Colonial Geological Department.

I have, &c.,

OSWALD CURTIS,

Superintendent.

The Hon. the Colonial Secretary Wellington,

* *Nelson Gazette*, No. 20, of 23rd April, 1868.

Enclosure 1 in No. 19.

Resolutions passed by the Provincial Council of Nelson on Tuesday, 2nd May, 1871.

1. That in the opinion of this Council, it is highly desirable that the line of railway from Cobden to the Brunner coal mine should be constructed without delay.

2. That in the opinion of this Council it is highly desirable that the line of railway from Nelson to Foxhill should be constructed without delay.

Resolution passed by the Provincial Council of Nelson, on Friday, 26th May, 1871.

THAT in the opinion of this Council it is highly desirable that a line of railway from Westport to the Mount Rochfort coal field, should be constructed under the authority of, and in the manner provided by the Public Works and Immigration Act.

Enclosure 2 in No. 19.

REPORT of the Select Committee of the Nelson Provincial Council on the best means of developing the Mount Rochfort Coal Field.

YOUR Committee, in dealing with the subject submitted to them for enquiry, have done so with an eminent sense of the extent and value of the enquiries which have already been made in connection with the same subject by Select committees of the Council, and by scientific men, who, at different periods, were specially selected for the purpose by the Provincial Government.

A acquaintance with the recommendations of these several committees and commissioners considerably relieved your committee from the necessity for carrying out any close inquiry as to the characteristics of the coal field, or as to the description of works best calculated to promote its development. According to all the reports furnished to the Council, and according to the now very generally distributed information on the subject, the coal field in question is quite exceptional in the Colony by its vast extent, and by the superior quality of the coal; and the one desideratum in connection with its development seems to be the construction of a line of railway from the most conveniently

approached point of the field—first to the port of Westport, and ultimately to any main line of rail laid down between the two Provincial termini, Nelson and Cobden.

The obstacles which have hitherto existed in the way of such a work being undertaken, have been the high, and your committee are disposed to believe, exaggerated estimate formed as to the cost of constructing a sufficiently suitable railway from Mount Rochfort to Westport, and the absence of adequate encouragement, by guaranteed interest or otherwise, to any company of capitalists who might be prepared to undertake that work solely, without reference to the general proposal of a railway from Nelson to the West Coast.

Your committee consider that a further and close examination of the country, undertaken with a view to the construction of the lighter forms of railway, or wire tramway, now so generally recommended as the works most suitable for similar situations, would result in demonstrating that sufficient facilities for the conveyance of coal from the mine to Westport, might be furnished at a much lower cost than that indicated in existing estimates. Though they have no actual evidence before them that such would be the case, they feel justified in coming to that conclusion by their partial knowledge of the situation, and by a comparison of the results in similar situations where the more modern systems of railway construction have been adopted. They are further justified in doing so by the statement contained in Mr. Wrigg's report, that in the actual construction of the proposed railway, the discovery of coal in closer proximity to Westport is a highly probable contingency.

And with regard to the best means of encouraging the construction of such works, and thereby developing this valuable coal field, your committee consider that ample primary provision for that purpose is made by two measures, passed during the last session of the General Assembly, the Public Works and Immigration Act, 1870; and they venture to consider that, if advantage is to be taken of those Acts, (*sic*) with a proper regard for the general interest of the Province, and with an equal regard for the development of a portion of the public estate, which is of the highest value to the Colony as a whole, the construction of a railway from the Rochfort coal field to the port of Westport, either as a separate line, or as an integral and essential portion of the Nelson and West Coast railway, is one of the works which should be specially recommended by the Council to his Excellency the Governor.

The committee are, therefore, of opinion that, with a view to promote the early execution of the proposed work, His Honor the Superintendent should be empowered to take, in this case, as in the case of the proposed Brunner and Foxhill railways, the steps necessary to bring it under the notice of the Governor, and they beg to submit for the adoption of the Council, the following resolution:—

“That in the opinion of this Council, it is highly desirable that a line of railway from Westport to the Mount Rochfort coal field should be constructed under the authority of, and in the manner provided by the Public Works and Immigration Act, 1870.”

ALEXANDER REID,
Chairman.

No. 20.

The Hon. W. GISBORNE to His Honor OSWALD CURTIS.

Colonial Secretary's Office,
Wellington, 29th July, 1871.

SIR,—

I have the honor to acknowledge the receipt of your letter of the 7th instant, in which you transmit copies of three resolutions passed by the Provincial Council of the Province of Nelson, recommending certain railway works to be executed under the provisions of the Immigration and Public Works Act.

A survey is now being made of a line of railway from Nelson to Foxhill, and I hope to be able to furnish you shortly with a copy of Messrs. Blackett and Hector's report on the best line between the coal fields on the Grey and the shipping port.

With respect to the line from Westport to Mount Rochfort Coal Field, you express an opinion that some further and more complete scientific exploration would be desirable before the precise route and terminus of the line are decided upon.

The Government concur in this opinion of your Honor; but I need scarcely inform you that such an exploration cannot be conducted at this season, the summer being the only one in which it can be successfully undertaken.

His Honor the Superintendent, Nelson.

I have, &c.,
W. GISBORNE.

No. 21.

Mr. WHALL to the Hon. W. GISBORNE.

Borough Council,
Greymouth, 29th April, 1871.

SIR,—

I have the honor to forward the attached copy of a resolution passed by the Council of the Borough of Greymouth, *in re* applications received by the Council requesting permission to be allowed to construct a line of tram and railway from the North-east boundary of the Borough to Mawhera Quay.

I have, &c.,
JOHN A. WHALL,
Town Clerk.

The Hon. W. Gisborne, Colonial Secretary,
Wellington.

Enclosure in No. 21.

COPY of RESOLUTION moved by Councillor NICHOLL, seconded by Councillor PURCELL.

THAT no permission to occupy that portion of the roadway within the Borough of Greymouth, available for railway purposes, be granted until the settlement of the subject at present being discussed by the Nelson Government, as to which side of the Grey River the railway from the Brunner mine shall be constructed.

Also, that a copy of this resolution be communicated to the General Government, and likewise to His Honor the Superintendent of the Province of Nelson and the Chairman of the County Council.

Carried unanimously.

28th April, 1871.

E. WICKS,
Mayor.

IV. TRAMWAY AND RAILWAY TO GREY COAL MINES BY LOCAL COMPANIES.

No. 22.

MR. WYLDE to the HON. W. GISBORNE.
THE GREY VALLEY TRAMWAY COMPANY, LIMITED.

Greymouth, West Coast,
New Zealand, May 19, 1871.

SIR,—

The Directors of this Company having learnt that the General Government proposes to make a railway from the coal mines on the Grey to the port, have instructed me to lay the following facts before you.

This Company, having procured the sanction of the Governor's delegate, and having purchased the necessary land, have commenced the formation of a tramway on the south side of the river, from Greymouth to the Coal Gorge, with the intention of continuing it up the Grey Valley. From their intimate knowledge of the district, the directors are convinced that a tramway, which can be used also as a horse, cattle and foot track, will supply all the local requirements for some time to come, and will have a greater tendency to promote settlement than a railway; but should the Government be of opinion that a locomotive line is more desirable, they are prepared to increase their capital, lay down iron rails, and work the line with engines.

With the present plan, which provides for heavy wooden rails, (8½ inches by 4 inches) they will be prepared, in addition to the ordinary goods and passenger traffic, to bring down all the coal for which there can be a demand until the port is improved, or they will undertake to maintain a stock of 1,000 tons at the port. Should the cost of coal at the mines be so reduced, and the facilities of shipping so increased as to lead to a very much larger demand for coal, it would probably be desirable to add iron rails and work the lines with engines, which they will be prepared to do, the line being formed with easy gradients and curves suitable for a railway.

The line will pass the entrance to the mine on the south side of the river, and the directors propose to convey the coal from the Brunner mine on to their line by means of a wire tramway across the river, thus doing away with the necessity of a costly bridge.

The gauge of the tramway is 2 feet, 6 inches, but the directors are willing to increase it to 3 feet 6 inches should the Government desire it, and are prepared to submit their plans and specifications for the approval of the Government Engineer.

The directors are of opinion that their line will supply all the requirements of the local trade, but, at the same time, they have no wish to place any obstacles in the way of a more costly line to be paid for by Government funds. Should they, therefore, learn from you that the Government positively intends to form a competing line, they may consider it desirable to stop their works before further expenditure is incurred.

The amount already expended and liabilities incurred by them is £2,059, and they have called for tenders for further portions of the work.

I enclose a prospectus of the company.

I have, &c.,
JAMES WYLDE,
Engineer and Secretary.

The Hon. the Colonial Secretary, Wellington.

No. 23.

MR. BLACKETT to the HON. W. GISBORNE.

Greymouth, May 29, 1871.

(Telegram).

SIR,—

Enquired as to the claims of Tramway Company, and received following from Chairman County Council: "Grey Valley Tramway Company has received promise of protection, if certain conditions are complied with, this has not been done, nor is it likely to be done. H. H. Lahmann."

I have, &c.,

JOHN BLACKETT,
Acting Engineer-in-Chief.

The Hon. W. Gisborne, Wellington.

Mr. HARRISON, M.G.A., to the Hon. W. GISBORNE.

SIR,—

Greymouth, 10th April, 1871.

I had the honor, on the 24th ult., to forward a telegram to the Government, enquiring if the Government had made arrangements with the Provincial Government of Nelson for the commencement of a line of railway from Cobden to the Brunner coal mine, and intimating that a strong local company was in course of formation in Greymouth, for the purpose of constructing a locomotive railway on the south side of the river, from Greymouth to the Coal Reserve. I had the honor to receive a reply to the effect that the Government had not yet made any arrangements for commencing the construction of a railway from Cobden to the Brunner mine.

I have now the honor to submit, for the consideration of the Government a statement of the circumstances in relation to the formation of a local company here, for the purpose of constructing a locomotive railway from Greymouth to the Grey coal mine, on the Westland side of the river, and of working the coal mine on that reserve. In doing so, I shall have to enter into some explanations of the whole subject of the working of the Grey coal field, in order that the Government may be able fully to appreciate the present condition of the question, and the obstacles that appear to present themselves in the way of public enterprise, undertaking the proper development of these rich coal deposits.

First. With regard to the Brunner mine, which has now been worked on a small scale, and in an irregular manner, for the last six years.

This mine was in the first instance worked under license, by a small firm, Batty & Co., who contented themselves by winning in an unsystematic manner, the most easily available coal, without any regard to future contingencies. Some time in 1866 (I think), the mine was leased to a company (the Nelson Coal Mining Company), which was composed chiefly of shareholders in Ballarat, Victoria.

This company carried on its operations upon a slightly larger scale than the previous licensees, but also on an unscientific plan, the effect of which was to seriously damage the mine. This company was bound by one of its covenants to construct a railway from Cobden to the mine, and to produce, annually, a certain quantity of coal.

It failed to comply with these conditions, and, ultimately, their lease was cancelled, and the mine has since, for two or three years, been worked by the Nelson Government. There are many conflicting opinions as to the method upon which the mine is being worked—a very general one being, that a false and improvident system is being followed; and others to the contrary. One thing, however, is certain, that, during the whole time the mine has been in the hands of the Provincial Government, nothing has been done to develop or extend the trade in coal. The coal is still being produced in small quantities, and the supply is very irregular and unreliable.

It is still conveyed by the primitive means of barges down the river, a means of transit which is continually being interrupted by floods and droughts alternately.

The price is still maintained at a figure which effectually precludes vessels from loading coal as return freight to Australia, or colonial ports, except in a very few instances. Added to the high price, the uncertainty and difficulty of obtaining a cargo of coal at all, is at times so great that ship-masters prefer to load ballast. There are four or five large crafts owned by local firms engaged in the Australian trade, constantly voyaging between this port and Melbourne, and almost every trip they have to leave here in ballast for Newcastle, N.S.W., there to load coal for the Melbourne market; nor is it unfrequently the case that the coasting steamers, which depend upon this port for their coals, have to leave with half their proper supply, and in some cases without any whatever. But, even at their present high price and over demand, the Brunner mine is worked at a loss by the Provincial Government. This state of things cannot be expected to be amended until better means of conveying the coal to port is provided, *i.e.*, a locomotive railway.

The Nelson Government propose (I understand) to construct a railway from the mine to Cobden, a place entirely without wharfage accommodation, and where the line must terminate; the work of bridging the Grey River at that point, being one that, even if practicable for a railway, would cost an enormous amount of money.

With regard to that portion of the Grey Coal Field on the Westland side of the river, I may state that it is situated exactly opposite to the Brunner mine, the river, in fact, having cut the mine in two at this point. The seam on this (the South) side is understood to dip, whilst that on the Nelson side rises from the river, and is worked level free. Very little has been done to test the seam on the South side. In 1867 the reserve was leased by the Superintendent of Canterbury to a public company—"The Grey Coal Mining Company," composed entirely of shareholders in Christchurch, and managed by a directory there. By the terms of the Ordinance ("The Grey Coal Reserve Ordinance, 1866,") the Company was bound to produce, and bring down to Greymouth, 5,000 tons of coal, "by rail or tramway," but the Company utterly failed to carry out its purpose. The reserve was opened to a small extent on an out-crop, close to the river, and probably further operations in prospecting the ground would have been carried out but for the fact that as soon as the Company began to send coal down to the Greymouth market the Nelson Government reduced its price, and, by selling coal at a loss, effectually stopped the competition. The Company made a survey for a railway, but from various causes, principally arising from there being no directory on the spot, the Company was wound up and the lease cancelled. The reserve is now lying idle.

The leading merchants, and other residents of Greymouth and district, have long regarded with peculiar interest and anxiety the subject of developing this rich coal field, knowing so well as they do its enormous value as a source of industry and commerce, if only properly worked. They would long ago have taken up the matter themselves but for two serious obstacles. First, to their forming a company to work the Brunner mine, the condition always insisted on by the Nelson Government of making a railway upon the North side of the river. Local capitalists would not invest money in so uneconomical a manner when a line at equal cost could be made on the South side, which would not

only bring the coal down direct to the ships' berths at the wharves, but would secure a highly remunerative return freight in goods and passengers to the up-river gold fields. They have been similarly deterred from opening the coal reserve on the South side. Firstly, because of the lease to the Canterbury Company and its impossible conditions, and, secondly, because of the unfair competition of the Nelson Government. Latterly, and now that the reserve on the south side is open to disposal anew, and in the belief and hopes that the Government will assist and encourage public enterprise, they are making the attempt to develop the Grey Coal Field on a large and important scale, and with ample capital.

The objects they have in view are to obtain a lease of the Brunner mine from the Nelson Government, and a lease of the whole or a portion of the reserve on the south side; to construct an iron locomotive railway from Greymouth to the coal field, with probable extension up the river to the gold fields, and south to Hokitika to connect the two coal mines by a wire tramway or bridge across the river.

I may state that several meetings of the most influential residents have been held, and I am assured, that if proper facilities are afforded by the respective Governments, the necessary capital will be forthcoming. The nucleus of a company has been formed, and it is proposed to raise a capital of £60,000 with power to increase.

But the successful construction of the company depends entirely upon the encouragement which may be offered by the Governments at Nelson and Wellington. I may mention some of the considerations that would interfere with the obtaining of capital.

First, if the Government constructed a railway from the Brunner mine to Cobden, it would prevent private or public enterprise in the construction of a railway on the south side, as two lines could not possibly pay.

Second, if the Nelson Government should refuse to lease the Brunner mine except upon condition of making a railway to Cobden.

It is also exceedingly desirable that the Government should authorise the promoters of the company to prospect the coal reserve on the south side for a certain period, to enable them to put in trial shafts to ascertain the nature and direction of the seam. It is believed that the coal on this side can be worked much more easily than the trials hitherto made would show, and that, probably, the coal being deeper, would be more compact and valuable. A thorough examination would, however, entail a heavy expense which might be entirely lost. The promoters would, therefore, require authority to occupy the reserve for this purpose for a certain period, and some assurance of their being allowed a priority of the right of leasing should their examination justify them in undertaking to work the mine.

I have been requested, as the representative of the district, to bring the subject under the notice of the Government, and shall feel greatly obliged if the Government would state whether it is disposed to facilitate the object I have mentioned by using its influence to obtain an amalgamation of the two coal mines, as far as regards their administration, and by giving authority to the promoters of the company to test and prospect the Grey coal reserve, Westland.

I may mention that a proposition to this latter effect was submitted to and approved by the County Council of Westland; but that the administration of the reserve having been placed under the Governor, the County Chairman has stated his inability to move in the matter.

I am also desired to inform the Government that in the event of the Government being disposed to encourage the undertaking I have referred to, a deputation of the promoters will wait upon the Government at Wellington, and lay the matter more fully and completely before them.

In conclusion, I ought to state that the chief promoters of the Company are Messrs. Kilgour, and Perotti, of Greymouth, the proprietors of the Greymouth and Saltwater Tramway, and it was their application to test the coal reserve which the County Council recommended.

I have, &c.,

The Hon. Colonial Secretary, Wellington.

W. H. HARRISON, M.G.A.

No. 25.

Mr. BLACKETT to Mr. KNOWLES.

(Telegram).

Hokitika, 5th June, 1871.

I HAVE seen Mr. Harrison, and have informed him that we have recommended that the consideration of his letter of application affecting reserve should be postponed until our report is sent in.

John Knowles, Esq.,

JOHN BLACKETT.

Public Works Office, Wellington.

No. 26.

Messrs. KILGOUR and PEROTTI to the Hon. W. GISBORNE.

SIR,—

Greymouth, 5th June, 1871.

The favorable view expressed by the Government in your telegram, in answer to Mr. Harrison's letter on behalf of a committee embodying overtures for a proposition to form a company for efficiently working the coal mines at Brunner, on the Grey River, and constructing a railway thereto, from the Port of Greymouth, induces us, the undersigned, as members of such committee, and individually, as principal promoters of the scheme, to submit to the Government a proposal in a more definite form.

You will have perceived that the scheme of the proposed company, is to work the coal mines systematically, and on a large scale, in conjunction with a railway to be constructed, and we may here add that, in order to insure success to the undertaking, we are compelled to associate the two branches

of business, and to make the grant of the lease of the Brunner Coal Mine, and of the Coal Reserve, on the south side of the river, a condition indispensable to the safety of the investment of the large capital required for the construction of the iron locomotive line.

To persons at a distance, or not well acquainted with the present limited traffic resources of the Grey Valley, the demand may seem to have a tendency to an important acquisition of monopoly; but we shall here try to prove that the demand is strictly a necessity, due mainly to the circumscribed development of all branches of traffic arising from the early stage of the settlement, its comparatively sparse population, and its fluctuating character, and that the chance of monopoly would be checked on the railway by the schedule of tolls fixed by the Government, and in the coal trade, by the commercial value of the article, regulated by competitive imports from other countries, and the produce of other mines in these islands.

Being well aware of the profits accruing to the barge carriers by the present system of carriage, and its price up the Grey Valley, we can infer that abatements can still be effected with safety upon the price of water carriage, sufficient to enable boats to compete with the railway; as far, at least, as regards goods to be carried higher up the river. Such competition would also be facilitated by the disadvantage of loading, unloading, and reloading all goods going by rail beyond the terminus, and the natural reluctance of the merchants to have their goods so often handled. We can, therefore, safely assert that the construction of the railway line to the coal pits will place in the hands of the company but little of the goods traffic for places beyond the line, and very little of the passenger traffic down the river; but even if the whole of the traffic were to be monopolised by the line, its returns would not be sufficient, considering the amount of capital invested in its construction.

The company would, therefore, have to look for profits out of the carriage of coals, and we may ask "what margin of profit will there be upon the carriage of 15,000 tons of coals per annum," such being the highest coal traffic of the port at present.

Now, allowing that the company may, by modification of price, increase the traffic (immediately after the opening of the line) to 24,000, or even to 30,000 tons, annually, is there room on such traffic for extraordinary profits?

It is true, that were the entrance to this port improved by artificial means, the company might, in a distant future, look for a trade perhaps threefold larger than that; but such chance is by far too remote and problematical to induce present investment of capital. What the company has to look to at once, is the extent of the immediate traffic, and the profits to be realised out of it; and, even allowing that the line may absorb the whole, or even increase it, the margin for profit is too limited to allow a chance of competition to threaten its future. Such competition would always be imminent, if either the Brunner mine or the South Coal Reserve were allowed to stand separate from the operations of the company proposed to be launched, the consequence would be that, should either mine be worked by another company, and such company should be able through unforeseen causes to produce coal cheaper than the railway company, or wish to divert sources of profit from a competing company, they could always, having the chance of water-carriage, divert from the traffic of the line part of the coal carriage, and merely exact from the line the conveyance of such quantities as could not be profitably brought down through the occasional shallowness or flooded state of the river.

Grounding, therefore, our assertion upon a six years' knowledge of the traffic of this port, we submit that only the monopoly of the whole of the trade would warrant the investment of the capital required for the proper working of the mines, and the construction of the railway, and that in order to insure a permanent prospect of future prosperity to the company to be formed, it is vitally essential and incumbent that all chance of the diversion of the traffic from the Brunner Coal Mine, and from the South Coal Reserve should be obviated leaving the chances of competition against the company to indirect sources.

The knowledge and consideration of such facts have convinced us of the necessity of obtaining the lease of the two coal mines as the sole reliable guarantee for the safe investment of the large capital required for the construction of the railway line, and we trust that accurate information, added to the consideration of our arguments, will convince you of the reasonableness of our demands, and induce you to grant to us.

1st. The lease of the Brunner Coal Mine and of the Coal Reserve on the south side of the river, at a royalty of four pence per ton, under reasonable conditions; the plant of the Brunner Mine to be taken at a valuation made by arbitrators.

2nd. The lease of the necessary ground, and the right to construct on the south side of the river a line of iron railroad for steam locomotive traffic from the coal mines to Greymouth. The two banks of the river to be connected by a wire tramway bridge at the coal mines.

3rd. The lease of the Government reserves on the Native township, Mawhera Quay, Greymouth, or the site of a terminus and depôt.

Leases to be for the greatest number of years possible, or for such periods as usually allowed by Governments to undertakings of a similar class.

Should we obtain the above grants on reasonable conditions, we are prepared to give to the Government the necessary guarantees for completing the works within two years.

To the Hon. the Colonial Secretary.

We have, &c.,

JOSEPH KILGOUR.
GERALD PEROTTI.

MARLBOROUGH.

No. 27.

His Honor A. P. SEYMOUR to the Hon. W. GISBORNE.

SIR,—

September 6th, 1870.

In the matter of the Picton and Blenheim Railway Bill, I desire to point out to you that ever since the year 1861, the construction of a railway between the above towns has been considered highly desirable. That, on two occasions, the Legislature has passed acts authorising the construction of the same, and, on one occasion, has passed a Loan Act for raising the necessary funds.

The effect of such a railway would be to give the larger and more settled part of the Province access to a good, and safe, and convenient harbor, inferior to none in New Zealand.

The harbor of Port Underwood is unsuitable, as the only communication with it for the conveyance of goods is through small coasting vessels, by way of the Wairau River, which has a bar entrance, and, except in times of flood, will only admit vessels drawing about 5 feet water. The proposed railway would carry our wool, and flax, and agricultural produce to the place of shipment; and, in addition, the line passes through a timbered country, suitable for settlement; and this part supplies nearly all the timber, fencing, and firewood consumed in the central portion of the Province.

There are now, in the office of the Colonial Secretary, full plans and sections of the proposed line, executed by one of the principal engineers of the Queensland Railway.

A similar communication with Port Underwood, although the line is not so long, would cost far more money to make, from the great engineering difficulties presented on that route, and would not pass through any timbered country, nor through a district suitable for settlement. I have no hesitation in saying that if the Picton and Blenheim railway is carefully and economically constructed, the Province will be able, under the present financial proposals, to guarantee interest on the outlay without loss to its future revenues.

The Hon. Colonial Secretary, Wellington.

I have, &c.,

A. P. SEYMOUR,
Superintendent.

No. 28.

The Hon. W. GISBORNE to His Honor A. P. SEYMOUR.
Colonial Secretary's Office,

Wellington, 21st September, 1870.

SIR,—

I have the honor to acknowledge the receipt of your letter of the 6th inst., on the advisability of constructing a railway between Picton and Blenheim, and to thank your Honor for the suggestion contained therein.

His Honor the Superintendent, Marlborough.

I have, &c.,

W. GISBORNE.

No. 29.

His Honor A. P. SEYMOUR to the Hon. W. GISBORNE.

Picton, October 20th, 1870.

SIR,—

In the matter of the Picton and Blenheim railway, I am given to understand that there is a probability of certain persons in Australia forming themselves into a company to construct the above works in accordance with the provisions of the Railways Act, 1870. May I ask if, in the event of this taking place, the General Government would authorise the construction of the same in manner provided in the Act.

I have, &c.,

A. P. SEYMOUR,
Superintendent.

The Hon. Colonial Secretary, Wellington.

No. 30.

The Hon. W. GISBORNE to His Honor A. P. SEYMOUR.

Colonial Secretary's Office,

4th November, 1870.

SIR,—

I have the honor to acknowledge the receipt of your letter of the 20th ult., in which your Honor informs me that you are given to understand that there is a probability of a company being formed in Australia to construct the Picton and Blenheim railway in accordance with the provisions of the Railways Act, 1870.

In reply, I beg to inform your Honor that the Government will be prepared to consider a proposal for the formation of the railway in question, if based on the guarantee principle.

His Honor the Superintendent, Marlborough.

I have, &c.,

W. GISBORNE.

PAPERS RELATING TO THE

No. 31.

His Honor A. P. SEYMOUR to the Hon. W. GISBORNE.

SIR,—

Picton, 19th January, 1871.

As I am desirous that some steps should be taken, with a view of setting on foot the construction of the Picton and Blenheim railway, I should be much obliged if you would give me any information which might assist in forwarding this matter. I am given to understand that lines of railway in the North Island are to be surveyed under your authority, and plans to be made of the same, in order to have the undertaking placed before capitalists at as short a date as possible, and that such plans will be first submitted to the principal engineer of your department for his approval. I would then suggest that the plans and sections of the proposed Picton and Blenheim railway, which are complete, and are now lying in the office of the Honorable the Colonial Secretary, be submitted to the Engineer for his approval; after which, I should be glad to learn whether the General Government would consent to advertise for tenders for the construction of the said railway, as I understand it is intended so to do with other lines.

Would you also be so kind as to inform me whether a portion of the railway plant, which I understand has been sent for, can be made available for this railway.

I trust it is unnecessary for me now to enter upon the question of the merits of this undertaking, as it is placed in the first schedule to the Railways Act, 1870; but I may observe that it presents no engineering difficulties of moment, and as it will provide the Marlborough Province with a good and accessible seaport, for the want of which we suffer much, it promises to be as remunerative as any of lines of railway authorised to be constructed under the Act.

I have, &c.,

A. P. SEYMOUR,
Superintendent.

The Hon. the Minister for Public Works, Wellington.

No. 32.

The Hon. W. GISBORNE to His Honor A. P. SEYMOUR.

SIR,—

Colonial Secretary's Office,
Wellington, 10th February, 1871.

I have the honor to acknowledge the receipt of your letter of the 19th ultimo, with respect to the construction of the Picton and Blenheim railway, and to inform your Honor that the Government will, if possible, arrange with Captain Coote for its construction on the guarantee principle.

I have, &c.,

His Honor the Superintendent, Marlborough.

W. GISBORNE.

No. 33.

His Honor A. P. SEYMOUR to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office,
Blenheim, 17th February, 1871.

I have the honor to acknowledge the receipt of your letter of the 10th February, in which you inform me that the Government will, if possible, arrange with Captain Coote for the construction of the Picton and Blenheim railway, on the guarantee principle. In reply, I beg to tender you my thanks for that assurance, and to add that I shall at all times hold myself in readiness to assist the Government in forwarding this matter as far as lies in my power.

I have, &c.,

The Hon. the Colonial Secretary, Wellington.

A. P. SEYMOUR,
Superintendent.

No. 34.

Hon. W. Fox to His Honor A. P. SEYMOUR.

SIR,—

Colonial Secretary's Office,
Wellington, 1st March, 1871.

Adverting to your Honor's letter of the 17th ultimo, I have the honor to inform you that negotiations with Captain Coote are suspended for the present, pending reference to England.

I have, &c.,

His Honor the Superintendent of Marlborough.

WILLIAM FOX,
In the absence of Mr. Gisborne.

CANTERBURY.

I.—CORRESPONDENCE RELATING TO THE COMMENCEMENT OF WORKS.

No. 35.

His Honor W. ROLLESTON to the Hon. J. VOGEL.

SIR,—

Legislative Buildings, Wellington, 18th August, 1870.

The House of Representatives having now passed the Immigration and Public Works Bill, I beg leave to place before you the grounds on which, in connection with other Representatives from the Province of Canterbury, I have on several occasions pressed upon your attention the claim which that Province appears to have for consideration, in the apportionment of funds which may be raised during the current year under the proposals of the Government.

The Bill in question provides that railways shall not be commenced under its authority until a further special authority is given by the General Assembly, it being provided that during the recess surveys should be made and plans prepared, to afford full information to the Legislature on the nature and probable cost of any railway works which may be proposed to it.

In the case, however, of certain railways in progress and in contemplation in the Province of Canterbury, I beg to point out that the required information already exists, and can be laid before the Assembly at once. I trust, therefore, that the Government will consider itself justified in recommending the General Assembly, in accordance with the terms of the Bill to which I have referred, to take the case into its immediate consideration.

It is, I trust, unnecessary for me to point out how undesirable it is that the progress of works of this character, for which all the preliminaries are complete, and which from their connections with existing railways will prove immediately remunerative, should be postponed for another twelve months, when no good ground exists for the delay.

I beg leave to forward herewith a map of the Province, showing the railways already completed and those proposed to be constructed, together with plans and estimates of cost for that portion of the proposed lines with which it is desirable to proceed at once. I also annex a memorandum and other documents, furnishing full particulars with regard to those works. They are as follows:—

- (1.) The portion of the Great Northern Line of Railway between the Addington Station on the Southern Railway and the Town of Rangiora, a distance of nearly nineteen miles.
- (2.) The portion of the Great Southern Railway which lies between the present terminus of the line now in work and the River Rakaita, over which a bridge is now in course of construction. The length which I would suggest should be proceeded with, is a distance of about 11 miles 10 chains.
- (4.) The portion of the Southern Trunk Line between Timaru and Temuka, commencing from the former place, which is the port of a very considerable agricultural district, a distance of about twelve miles.

The total estimated cost, as shown in the memorandum, will be as follows:—

No. 1, say	...	£92,500
No. 2, say	...	48,000
No. 3, say	...	60,000
		£200,500

I hope the information contained in these plans and papers will be deemed sufficiently ample to enable the Government to submit to the Assembly during its present Session proposals for proceeding with the works enumerated, to the extent above indicated. If, however, you should require further information, it will give me much pleasure to supply the same.

In conclusion, it may be desirable that I should state for your information, that the Provincial Government has made arrangements by which, in addition to a ship recently arrived, and another which sailed on the 29th May, four ships with immigrants have left or will leave London between the months of July and November for Canterbury; and accordingly the undertaking of these works is not likely to interfere prejudicially with the ordinary industrial occupations of the country.

I have, &c.,

W. ROLLESTON,

Superintendent of Canterbury.

The Hon. the Colonial Treasurer, Wellington.

No. 36.

MEMORANDUM by His Honor W. ROLLESTON.

THE map which I have forwarded for the information of the Hon. the Colonial Treasurer shows the length and direction of the railways completed, authorized, and projected, in the Province of Canterbury, indicated by different colours, as stated on the face of the map.

The extension of the railway system to which I have referred in my letter is proposed to be carried on in three parts of the Province during the present year.

First, The railway to the northern part of the Province, which has been authorized by a special 18 miles 70 chains. enactment of the General Assembly during the present Session, and detailed plans and estimates of

Enclosure No. 1. which are forwarded herewith. These estimates show that the line, including bridges, six in number, and the necessary stations, may be completed at a cost not exceeding £4,900 per mile. The line forms part of what must eventually be the main trunk line through the Island, and passes through a rich and settled district. The rails and the ironwork for the bridges are already ordered in London. It is not considered that during the current year it will be possible to carry the line further than Rangiora; but it is hoped that it may be proceeded with continuously, so as to reach the River Kowai in about two years.

There is every reason to believe that the traffic on this line will immediately be greater than that on the Southern Line, which is already a remunerative work, and which exhibits a yearly increasing traffic, as shown in the tables I have already laid before the Government. The increase in the traffic in the three years during which the Southern Line has been at work is shown in the following table of gross proceeds for the first five months in each year, viz. :—

		£	s.	d.
1868	...	5,832	2	4
1869	...	8,384	6	8
1870	...	10,619	17	7

11 miles 10 chains. *Second*, The Southern Railway, from Christchurch to the Rakaia, was authorized by an Act of the General Assembly in 1864. It has already been completed to the Selwyn, a distance of twenty-three and a half miles, and the traffic, as shown above, is very satisfactory. The continuation of this line to the Rakaia is surveyed, as shown in the plan in the Private Bill Office (copy herewith), and it runs for the whole distance over land which has been reserved for the purpose, and which, from its absolutely level character, presents unusual facilities for the construction of a railway. This extension is not only desirable as forming part of the main line of communication between the northern and southern extremities of the Island, but as rendering easily accessible a valuable tract of country hitherto unalienated by the Crown, chiefly on account of its distance from a market for produce. The cost of this line will not, as will be seen from the estimate contained in the attached letter from Mr. Thornton, materially exceed £4,000 per mile.

12 miles. *Third*, The line between Timaru and Wallingford (or Temuka) is also part of the trunk line through the Middle Island, and runs for the most part over level ground. It has already been carefully surveyed, and, with the exception of a small strip, the land required for the railway has been reserved. The plans are not at present in Wellington, but, if required, they can be obtained from Canterbury.

There are in the possession of the Government papers giving an estimate of the traffic which may be anticipated on this line, furnished by the Board of Works, to which I beg to invite your attention.

18th August, 1870.

WM. ROLLESTON.

Enclosure 1 in No. 36.

DETAILS of Estimate of Cost of Construction of the Great Northern Railway, from Addington Junction to 18 miles 70 chains.

[Note.—The estimate is in detail in original; the following is an abstract.]

	Total.			Cost per Mile.		
	£	s.	d.	£	s.	d.
Earthwork	6,774	16	9	359	0	0
Road crossings	389	9	0	20	13	4
Road diversions	315	10	0	16	13	4
Bridges	10,192	8	0	540	0	0
Culverts	567	12	0	31	6	8
Ballasting	7,315	0	0	384	0	0
Permanent way	56,857	0	0	3,012	0	0
Fencing	5,972	17	0	315	6	8
Gates	1,158	10	0	61	6	8
Station buildings	3,000	0	0	160	0	0
	<u>£92,543</u>	<u>2</u>	<u>9</u>	<u>£4,900</u>	<u>6</u>	<u>8</u>

N.B.—The estimate of £91,350 18s. submitted to the Government is increased as above by the amount of £1,192 8s., being the cost of carriage and driving of the piles in bridges, which was found to have been omitted after the amount had been forwarded to the Secretary for Public Works.

The price put down in the estimate for rails, viz. £12 per ton, will be ample to compensate for the difference.

8th June, 1870.

G. THORNTON,
Railway Engineer.

Enclosure 2 in No. 36.

Mr. THORNTON to the SECRETARY for PUBLIC WORKS, Canterbury.

SIR,—

Railway Engineer's Office, Christchurch, 10th August, 1870.

In accordance with your instructions, I have the honor to forward the enclosed detailed estimate of the cost of constructing the Northern Railway.

No detailed estimate has been prepared of the cost of the South Line extension to the Rakaia; but a fair approximate of the cost may be ascertained by comparison with the Northern, in which it is found that no material difference occurs in the earthwork; and as the cost of permanent way, ballasting, fencing, &c., will be the same per mile in both cases (assuming the same description of rail be used), the cost of the one will form a good basis for the other, by excluding the bridges, none being required on the Southern. The estimate may therefore be taken as follows:—

Northern line per mile, as per detailed estimate	... ..	£4,900
Deduct bridges	... ..	540
		£4,360

Estimate for South Line per mile, or 11 miles 10 chains @ £4,360	
per mile	£48,505

This might possibly, in practice, be reduced to £4,000, as fewer culverts, gates, &c., would be required than on the Northern, which runs through a more populous district.

I have, &c.,
G. THORNTON,
Railway Engineer.

The Secretary for Public Works.

No. 37.

MEMORANDUM by His Honor W. ROLLESTON.

20th August, 1870.

THE attached letter by Mr Selby Tancred, C.E., gives in a compendious form a comparative view of the existing traffic on the Southern Railway, and that which may be anticipated on the Northern Railway. The actual returns on the Southern Line are in your possession.

The anticipated returns on the Northern Line would, in accordance with this estimate give a net profit of £7,181 per annum, on an expenditure, as estimated by Mr. Tancred, of £119,700. I would only observe in explanation, that "White's Bridge" is that over the Waimakariri, at a distance of eleven miles from Christchurch, on the Northern Line; and that the traffic returns over this bridge, which is the only means of crossing the river, were taken by the Provincial Government.

Mr. Tancred's letter will repay perusal on other grounds.

The Hon. J. Vogel.

W. ROLLESTON.

Enclosure 1 in No. 37.

EXTRACT from Letter, Mr. SELBY TANCRED, A.I.C.E., to His Honor the SUPERINTENDENT, Canterbury.

SIR,— Christchurch, 19th October, 1869.

In the case of the Northern Railway, the first point would be to convince, if they are not already convinced, the inhabitants of the district traversed by the line of the advantage of such to themselves, and of the slight liability they incurred. To this end inquiry must be directed—

1. To the anticipated traffic.
2. To the anticipated cost.
3. To the system of contract for the line.
4. Their combined effect upon the ratepayers.

By comparing the populations of the districts severally affected by those railways now in existence, and the projected line, with the areas affected by each, we shall arrive at a tolerably accurate idea of the amount of traffic to be anticipated.

We find in the Ellesmere, Halswell, Templeton, Springs, Lincoln, Spreydon, and Courtenay districts—

Under grain crops	... ..	42,395 acres
Otherwise cultivated	... ..	48,963 „

which contribute to the present traffic.

In the Mandeville, Rangiora, Oxford, Riccarton, Avon, Cust, and Kowai, we find

Under grain crops	... ..	23,000 acres
Otherwise cultivated	... ..	42,000 „

Thus we have the acreage under grain standing in the ratio of 43 to 23.

The electoral rolls show the following results:—

North District	... ..	9,928
Christchurch District	... ..	18,926
South District	... ..	3,974

The traffic over White's Bridge, for one month, compared with traffic over the railways for the same month (February, 1869), bears a striking analogy to the above.

		Number of Persons.
Traffic—Passengers over White's Bridge	... ..	5,857
Lyttelton and Christchurch Railway	... ..	9,658
Great Southern Railway	... ..	2,420

Assuming that at least as many persons would travel by the line between Christchurch and the North as now pass over White's Bridge, and allowing half the number (or 4,830) passing over the Lyttelton and Christchurch Railway to travel only from Kaiapoi, there would remain 1,000 persons per month from stations beyond Kaiapoi. We should have the return from passenger traffic monthly—

Christchurch and Kaiapoi, £542, reckoning at the average rate per mile on the Lyttelton and Christchurch Line.

Beyond Kaiapoi, £120, reckoning at the average rate per mile on the Great South Railway; or total passenger traffic, £662 per month.

Taking the merchandise traffic in the same manner we should have—

Kaiapoi and Christchurch	...	...	...	...	...	£1,200
Beyond Kaiapoi	...	...	...	...	...	740
Total goods traffic	...	...	...	...	...	£1,940

Though the proportion of grain traffic might be less, as shown by the acreage of lands under crop, the returns from this source are but small, and would be balanced by the increase in the cost of timber carriage.

In the month of February the returns were at the rate of £44,000 per annum, whereas the actual return will exceed £48,000.

Taking, however, the above figures as a fair estimate, we should have the total income= (£662 + £1,940) 12 = £31,224, from which working expenses being deducted at 75 per cent. and 2 per cent. sinking fund, the net profit would be £7,181 per annum, or 6 per cent. upon a capital of £119,700. The length of the line proper being taken at nineteen miles, the cost would be made up as follows:—

21 miles, forming surface, at £400 per mile	...	...	...	...	£8,400
40 miles fencing, at £75 per mile	...	...	...	...	3,000
21 miles single line, 75 lb. rails, £8 10s per ton	...	...	...	...	21,030
Fish-plates, bolts, &c., 240 tons, £15 per ton	...	...	...	...	3,600
21 miles, laying permanent way	...	...	...	...	3,600
Culverts	...	...	...	...	1,000
Ballasting	...	...	...	...	14,000
Road crossings on the level	...	...	...	...	3,000
Sleepers	...	...	...	...	10,900
Bridges, at £10 per foot run	...	...	...	...	15,000
Stations	...	...	...	...	7,000
Total works	...	...	...	...	£90,530
Rolling stock	...	...	...	...	15,000
Contingencies and engineering, including commission	...	...	...	...	15,000
Land	...	...	...	...	10,000
Total	...	...	...	...	£130,530

I have, &c.,
T. SELBY TANCRED.

Enclosure 2 in No. 37.

RAILWAYS.—Traffic Returns, January 1868 to April 1870.—Comparative Statement.

LYTTELTON AND CHRISTCHURCH RAILWAY.

	Passengers.			Goods.			Totals.		
	1868.	1869.	1870.	1868.	1869.	1870.	1868.	1869.	1870.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	1183 0 0	956 15 7	1185 6 2	1500 6 5	1466 8 0	1686 12 7	2683 6 5	2423 3 7	2871 18 9
February	698 3 5	671 9 3	572 15 9	1221 12 9	1595 9 11	1690 8 0	1919 16 2	2266 19 2	2263 3 9
March	877 9 7	903 8 6	913 1 1	1932 6 3	2168 13 6	4128 12 10	2809 15 10	3072 2 0	5041 13 11
April	813 0 8	1138 1 11	714 16 9	1967 8 6	1555 14 5	2726 11 11	2780 9 2	2693 16 4	3441 8 8
May	727 16 2	862 12 0	664 18 1	1668 10 10	3029 18 10	3122 4 0	2396 7 0	3892 10 10	3787 2 1
June	573 1 6	533 9 11	...	1609 9 9	2573 2 2	...	2182 11 3	3106 12 1	...
July	194 5 5	477 15 3	...	828 19 0	1767 8 0	...	1023 4 5	2245 3 3	...
August	785 3 10	570 9 2	...	1290 14 1	1653 4 3	...	2075 17 11	2223 13 5	...
Sept.	607 13 8	489 0 4	...	1662 10 6	1309 16 3	...	2270 4 2	1798 16 7	...
October	592 7 1	507 16 0	...	1603 0 8	1920 3 7	...	2195 7 9	2427 19 7	...
Nov.	775 6 1	671 11 4	...	1677 12 3	1920 3 1	...	2452 18 4	2591 14 5	...
Dec.	736 14 2	622 14 4	...	1383 9 1	1627 2 8	...	2120 3 3	2249 17 0	...
Totals	8564 1 7	8405 3 7	...	18346 0 1	22587 4 8	...	26910 1 8	30992 8 3	...

CONSTRUCTION OF RAILWAYS.

27 D.—No. 6B.

GREAT SOUTHERN RAILWAY.

	Passengers.			Goods.			Totals.		
	1868.	1869.	1870.	1868.	1869.	1870.	1868.	1869.	1870.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	534 18 5	581 4 4	641 17 0	435 2 11	869 0 9	860 16 11	970 1 4	1450 5 1	1502 13 11
February	328 15 8	365 4 5	449 13 6	471 10 5	1059 4 4	895 6 7	800 6 1	1424 8 9	1345 0 1
March	348 17 9	484 4 7	653 0 5	996 8 10	2021 9 1	2468 19 10	1345 6 7	2505 13 8	3122 0 3
April ...	346 9 6	548 16 9	536 10 9	1167 12 9	933 3 6	1641 15 0	1514 2 3	1482 0 3	2178 5 9
May ...	365 15 7	469 2 6	648 15 6	836 10 6	1052 16 5	1823 2 1	1202 6 1	1521 18 11	2471 17 7
June ...	297 16 11	367 1 0	...	410 0 3	281 11 8	...	707 17 2	648 12 8	...
July ...	248 12 10	295 11 6	...	242 14 6	240 4 4	...	491 7 4	535 15 10	...
August	259 14 6	358 17 0	...	381 5 6	266 5 2	...	641 0 0	625 2 2	...
Sept.	233 7 3	304 15 3	...	335 18 5	234 18 11	...	569 5 8	539 14 2	...
October	231 9 3	323 2 5	...	217 5 1	251 8 8	...	451 14 4	574 11 1	...
Nov. ...	334 6 1	420 4 2	...	364 1 0	266 16 1	...	698 7 1	687 0 3	...
Dec. ...	298 19 11	373 4 3	...	417 1 2	585 7 7	...	716 1 1	958 11 10	...
Totals	3832 3 8	4891 8 2	...	6275 11 4	8062 6 6	...	10107 15 0	12953 14 8	...

Enclosure 3 in No. 37.

MEMORANDUM—Great Southern Line.

Present Annual Income, and Estimated Expenditure.

Income—Year ending 30th April, 1870 :	£ s. d.
Passengers	5,192 19 9
Goods	8,885 14 2
	<u>£14,078 13 11</u>
Expenditure—	
Salaries, Station Masters and others	1,196 18 0
Maintenance	4,433 19 6
Gatekeepers and Police	664 12 6
Proportion of Expenses, Locomotive Depôt, Christchurch Station, and General Expenses	4,818 0 0
	<u>£11,113 10 0</u>
Balance, Profit	<u>£2,965 3 11</u>

10th June, 1871.

JOHN MARSHMAN,
General Manager.

Enclosure 4 in No. 37.

A.—Estimate of Traffic, Northern Railway.

If the line stops at Rangiora, the greater part of the produce of the districts north of the Ashley will be shipped at the Saltwater Creek—that is, when the navigation of the creek is open; and in that case the goods traffic going over the North Line may be estimated at—

Wheat	170,000 bushels = 4,700 tons
Oats	130,000 " = 2,300 "
Barley	72,000 " = 1,500 "
Other Goods	" = 4,000 "
Wool	3,500 bales.

If the line is taken on about three miles beyond Rangiora to the south bank of the Ashley, it would take the traffic that now goes to the Saltwater Creek, and in that case the annual tonnage would be—

Wheat	220,000 bushels = 6,000 tons
Oats	195,000 " = 3,500 "
Barley	95,000 " = 2,000 "
Other Goods	" = 5,600 "
Wool	7,500 bales.

The gross income, including passengers, if the line stops at Rangiora, may be estimated at from £9,000 to £10,000 per annum; if taken to the Ashley, £13,000 to £14,000 per annum.

This estimate is based on the existing traffic of both passengers and goods as ascertained, and does not take into account the accession of traffic, whatever it may be, which the railway may create for itself.

23rd August, 1870.

JOHN MARSHMAN.

No. 38.

His Honor W. ROLLESTON to the Hon. J. VOGEL.

SIR,—

House of Representatives, Wellington, 9th September, 1870.

The termination of the financial year of the Province of Canterbury on the 30th instant, and the consequent cessation of appropriations for the public service, have rendered it necessary that I should call the Provincial Council together on that day. I am therefore reluctantly obliged to trespass upon your time, before leaving Wellington, to request you to afford me such information as you are able on those points in which the action of the Provincial Council will be dependent upon or affected by the proposals of the Government which have received the sanction of the Legislature.

The first matter to which I would call your attention is that of the Canterbury Northern Railway, for which you are aware engagements have already been entered into and liabilities incurred on account of rails and bridges, and for which, in respect of fencing and some other matters, tenders have already been invited and every preparation made for proceeding with the work.

As stated to you in a previous letter, the Provincial Government has entered into engagements, presuming upon the uninterrupted progress of the work, under which engagements immigrants will arrive at certain intervals during the next four months; and the Government will no doubt recognize on other grounds that it is desirable that no interruption to the work should occur. I presume, therefore, that the Government will be desirous of arranging to take over the construction of the line without delay; and I shall feel much obliged if you can inform me how soon the Government will be prepared to commence the working out of their plans in respect of this as well as the other lines in Canterbury. The question is specially important in regard to the Northern Railway, where the interruption of the progress of the works would be productive of great inconvenience. I presume that the engagements in respect of rails, bridges, &c., which have been made up to the present time, will be adopted by the Government; and as the action to be taken by the Provincial Government depends so largely on the future intentions of the Colonial Government, I shall esteem it a favour if you will inform me whether the Province will be indemnified for such further expenditure as may be incurred in the promotion of the railway works pending the time when the Colonial Government has matured its arrangements.

No actual expenditure is being incurred in respect of any of the lines except the Northern Railway, but it would be very satisfactory to the Provincial Council if I were enabled to acquaint them with the intentions of the Government as to the time and manner of proceeding with those lines; and I may state that no effort will be wanting on my part to promote the wishes of the Government in any action which may be determined upon.

Another point on which I should feel obliged to you for your guidance is as to the action which should be suggested to the Provincial Council under section 6 of the Immigration and Public Works Act. The Act appears to me to contemplate an indication on the part of the Government of the points on which the recommendation of the Provincial Council should be given. In the case of Canterbury, the principal question which occurs to me is, whether the Government would entertain proposals for other lines than the main trunk line North and South. I may state that there are lines of considerable importance projected, as shown on the map I have had the honor to lay before you, to the Malvern Hills, Oxford, and Leeston. On this, and any other points you may desire it, I shall be glad to give you every information in my power.

I have addressed you in a separate letter on the subject of the existing arrangements with regard to immigration in the Province.

The Hon. the Colonial Treasurer.

I have, &c.,
W. ROLLESTON.

No. 39.

His Honor W. ROLLESTON to the Hon. J. VOGEL.

SIR,—

House of Representatives, 12th September, 1870.

Understanding from you that, under existing circumstances, having regard to the intelligence which has recently arrived from Europe, it is improbable that the Government will proceed with railways, under the authority of the Acts of this Session, in the present state of the money market, I shall be glad if the Government would inform me whether it is prepared to enter into any arrangement with the Province of Canterbury by which, in the event of the Provincial Government being able to proceed with any of the railways indicated in my previous letters, the Colonial Government would take the works over whenever it considered that the altered state of the money market justified it in raising funds under the Loan Act; and whether the Colonial Government would then reimburse the Province for its outlay, provided such outlay, together with the cost of finishing the works if incomplete, did not exceed the cost authorized by the provisions of the Railway Act.

As I previously pointed out in my letter of the 9th instant, the matter is one of considerable urgency in respect of the Northern Railway, the bridges and portion of the rails for which are already ordered in England; and the monthly arrival of immigrants during the ensuing summer renders the proceeding with public works very desirable on other grounds.

The Hon. the Colonial Treasurer, Wellington.

I have, &c.,
W. ROLLESTON,
Superintendent.

No. 40.

The Hon. J. VOGEL to His Honor W. ROLLESTON.

Wellington, 13th September, 1870.

SIR,—

In reply to your letter of yesterday's date, in which you ask whether, having regard to the intelligence which has recently arrived from Europe, the Government is prepared to enter into any arrangements with the Province of Canterbury, by which, in the event of the Provincial Government being able to proceed with any of the railways indicated in your previous letter, the Colonial Government would take the works over, whenever it considered that the altered state of the money market justified it in raising funds under the Loan Act; and whether the Colonial Government would then reimburse the Province for its outlay, provided such outlay, together with the cost of finishing the works, if incomplete, did not exceed the cost authorized by the provisions of the Railways Act.

I have the honor to reply that I have no time before your departure from Wellington for bringing your letter under the careful consideration of the Cabinet, and that therefore the only answer I can give to your question is the following:—

It will be matter for much regret to the Government if the state of the money market is such as to preclude them from going on with the railways authorized by the Railways Act of this Session; but if you have command of ready money, and can, without fastening any liability upon the Colony, see your way to proceed with the construction of any line or lines authorized by the Act, I am sure the Government will, when they are able to do so, entertain the idea of taking over the works, as authorized by the Act, provided they approve of those works.

If this meets your views, obviously it will be better that you should enable the Government to form an opinion upon the nature of the works and the form of the contract which you propose, and that you should embody in the contract a clause enabling the General Government to take over the works.

You must understand that it is impossible the Government can at present give you any pledge, inasmuch as they have not had your plans approved of by their own Engineer, and inasmuch as if the Government were now to give a pledge they might as well take charge of the works at once. In any case, the result would much depend upon whether or not the money was to be obtained at a reasonable rate of interest.

If there is any further information I can give you, I shall be most happy to do so.

His Honor W. Rolleston, Superintendent, Canterbury.

I have, &c.,

JULIUS VOGEL.

No. 41.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

Superintendent's Office,

Christchurch, Canterbury, 10th November, 1870.

SIR,—

I have the honor herewith to enclose copy of resolutions passed by the Provincial Council recommending the construction of certain railways in this Province, in addition to the railways authorized by "The Railways Act, 1870."

I have, &c.,

W. ROLLESTON,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

Enclosure in No. 41.

RESOLUTIONS passed.

1. That, in view of the proposed extension of railway communication throughout the Colony, under the provisions of "The Immigration and Public Works Act, 1870," this Council is of opinion that in the Province of Canterbury, in addition to the railways authorized by "The Railways Act, 1870," the following lines should be undertaken—viz., the extension of the Southern Line from the Rakaia to the Temuka, and from Timaru to the Waitaki, and the extension of the Northern Line to the River Hurunui.

2. That at the above works the following sections should be proceeded with so as to be completed, within two years from the present date—viz., the extension of the Northern Line to the River Waipara and of the Southern Line from the Rakaia to the River Ashburton, including a railway bridge across that river, and from Temuka to the Orari.

3. That it is desirable the branch railway from the Rolleston Station, on the Southern Line, to Southbridge, should be proceeded with as speedily as possible, under the provisions of the Immigration and Public Works Act, and that the sum of £7,000 should be contributed out of the Provincial chest towards the cost of this work.

4. That lines of tramway or railway to branch from the Northern and Southern Trunk Lines respectively should be constructed, under the provisions of the above Act, to the coal deposits in the Malvern Hills and to Oxford.

5. That information regarding the above lines of railway, the country to be traversed by them, and the probable traffic receipts, be forwarded, together with a copy of these resolutions, to the Colonial Government, through His Honor the Superintendent, requesting that the necessary surveys, plans, and estimates of cost may be proceeded with without delay.

6. That inasmuch as the sum of £7,000 has already been provided by the Province towards the construction of the railway between Timaru and Temuka, it is expedient, in the event of any delay taking place in the raising of funds for railway purposes by the Colonial Government, that the above sum should be made use of for the immediate prosecution of the necessary detailed surveys on this line, and for the commencement of the work in the neighbourhood of Timaru.

Provincial Council Chambers, 2nd November, 1870.

No. 42.

The Hon. W. GISBOERNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 17th February, 1871.

RE your Honor's letter No. 447, of 10th November, Mr. Blackett left here in the "Luna" last night for Lyttelton, and will wait on you with a view to action on the resolutions as to railways.

His Honor the Superintendent, Canterbury.

W. GISBOERNE.

No. 43.

His Honor W. ROLLESTON to the Hon. J. VOGEL.

SIR,—

Christchurch, Canterbury, New Zealand, 24th December, 1870.

At the interview which the Provincial Government had the honor of holding with you to-day on the subject of the immediate prosecution of railway works in this Province, three possible courses were mentioned, out of which it might be open to make a choice: First, that the General Government should provide the funds, and carry out the proposed works. In default of this course, which was understood to be one which, for the present, was dependent on circumstances outside the Colony, two others were suggested—namely, that the Provincial Government should carry out the works on their own responsibility without any interference on the part of the General Government, and that, when the latter was ready to take the works over, the terms and conditions should then be settled between the two Governments as to such transfer; or, that the Provincial Government should carry out the works subject to such control on the part of the General Government as the latter might deem necessary, to enable it to undertake that, when it is in possession of funds, the General Government will take over the works, and refund to the Province their cost, provided that it does not exceed that sanctioned by the General Assembly—the Colonial Government further undertaking that it will make the refund in question as soon as it is in funds.

The Provincial Government think that the latter course would be the best, and most in conformity with the views of the Provincial Council; and would further suggest the following conditions under which the said course should be adopted, which it believes would be mutually satisfactory to the General Government and to the Province:—

1. The works to be carried out under the direction of a Resident Engineer nominated by the General Government. In the case of the Northern Railway, the present Consulting Engineer of that line might be nominated; and as regards the question of deviation of the present line near Rangiora, it would be referred for decision to the Colonial Engineer, Mr. Blackett.
2. Plans and specifications of proposed railway works, together with a statement of the way in which it is proposed to let the contracts for the same, to be forwarded to the Minister for Public Works for his approval.
3. The Province to be entitled to the above refund upon the certificate of the Resident Engineer to the effect that the works for which payment is required have been carried out in accordance with the plans and specifications approved of by the Minister for Public Works.
4. This course, with the prescribed conditions, if adopted, to apply to the three lines of railway within the Province already sanctioned by Act of the General Assembly, and in so far as the Province is able to provide funds for the purpose of proceeding with the works necessary for their construction.
5. A clause to be inserted in all contracts entered into by the Provincial Government providing for the transfer of the same to the General Government.
6. In the event of the Provincial Government constructing the bridge now in progress across the River Rakaia, and a bridge across the River Ashburton, in such place and manner as to fit them for railway traffic, the General Government to undertake that when the said bridges shall be used for railway purposes, or part of the Southern Railway, to recommend that their cost shall be refunded by the General Government to the Province on the same terms as in the case of the railways herein mentioned.

I have, &c.,

W. ROLLESTON,
Superintendent.

The Hon. the Colonial Treasurer.

No. 44.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 28th December, 1870.

GOVERNMENT will agree to the proposals in your letter of the 24th instant to the Colonial Treasurer, as embodied in sub-clauses 1 to 5, on the understanding that the Resident Engineer is to be appointed and to be removable by the Governor, and to act under the instructions of the Chief Engineer.

The works to be taken over by the General Government as soon as funds for the purpose of constructing them are raised under Loan Act.

Sub-clause 6 agreed to; the recommendation to be to the General Assembly. Send up plans at once. Some one representing the Provincial Government should accompany them. Whom do you recommend as Resident Engineer?

W. GISBORNE.

No. 45.

His Honor W. ROLLESTON to the Hon. the W. GISBORNE.

(Telegram.)

Christchurch, 29th December, 1870.

I HAVE already recommended Mr. William Bayley Bray, who has hitherto been acting as Consulting Engineer for the office of Resident Engineer. He goes to meet Messrs. Babington and Tancred at Timaru on Monday, and Mr. Millar at the Waitaki on Wednesday. On his return, if you approve, he will go to Wellington with some members of Government and take the plans with him; meanwhile, I presume, we can proceed with calling for tenders for the next eight miles to the south of the Waimakiriri for the fencing, earth and other works, so as to be ready when the rails and iron girders arrive from England, subject to approval of Resident Engineer, as soon as you have appointed him, in terms of your telegram.

The Hon. the Colonial Secretary.

W. ROLLESTON.

No. 46.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 30th December, 1870.

MR. W. B. BRAY will be appointed Resident Engineer under Public Works Act in Province of Canterbury. He should come to Wellington and bring plans. I think Mr. Blackett will be back here in about a fortnight. All plans and specifications having to be approved of by Mr. Blackett, anything you do in the meantime will be on your own responsibility. If you are satisfied, the risk, I imagine, about calling for the tenders you speak of will not be much.

His Honor the Superintendent, Christchurch.

W. GISBORNE.

No. 47.

MEMORANDUM of Interview between the Provincial Government of Canterbury and the Minister for Public Works with the Hon. Mr. Bell and Mr. Blackett.—21st February, 1871.

Questions put and Replies thereto.

1. Whether the Hon. Minister for Public Works would approve generally of the division of the contracts on the Northern Line and the conduct of the construction on the plan now adopted, and specifically of the orders sent and to be sent to England for bridges, rails, and other material, including waggons, necessary to carry on the line to Rangiora, provided the whole cost comes within the sum specified in the Act?—The General Government will approve, upon the recommendation of their Engineer, Mr. Blackett.

2. Would he authorize the continuation of the surveys of the lines of railway prescribed by the resolutions of the Provincial Council, including the branch lines, and instruct Mr. Blackett to put them in hand?—Mr. Gisborne would direct Mr. Blackett to submit a plan for the immediate prosecution of the surveys as laid down in the resolutions.

3. Would he approve of the Rakaia Bridge as a railway bridge, so as to bring it within the terms of my letter of 24th December, on the approval by the Engineer of the plan?—Yes.

4. Would he authorize the commencement of the Timaru and Temuka Railway, under Mr. Blackett's direction, to the extent of the funds which the Province could provide?—Yes.

5. Would he authorize rails for the Southern Line as far as the Rakaia to be ordered, so that tenders for the work might be invited as soon as it was known that the Government was in funds?—We might instruct Mr. Ottywell to order the rails, subject to his being informed in London that the Government was in funds, the Colonial Government undertaking to pay the contractor.

6. Would he authorize Mr. Blackett to determine the question of the position of the Selwyn Bridge, on the Rolleston and Southbridge Line, with the view to a railway bridge, and to make the necessary surveys?—Yes.

7. It was understood that Mr. Bray was to be Resident Engineer for the whole Province for the present, and that Mr. Tancred should be employed in the preparation of plans and sections for the Timaru and Temuka Railway; the plans to be forwarded through Mr. Bray.

8. As to the question of Immigration, Mr. Gisborne stated that it was the intention of the Government to work through the Provincial Agency for the present.

9. Waitaki Bridge.—Mr. Gisborne expressed his desire that as soon as the joint report on the subject had been considered the work should be tendered for.

The views of the Provincial Government were expressed as agreeing with this intention.

W. ROLLESTON.

PAPERS RELATING TO THE

No. 48.

MEMORANDUM by Mr. BLACKETT.

IN reference to the proposed extension of surveys in Canterbury Province, of which I have received particulars from His Honor the Superintendent, I have to suggest that although they will be carried out under the supervision of the District Engineer, and paid for by the General Government, the actual work should be done under the direction and control of the Railway Engineers, as other works are now being done,—all rates of pay and payments to be approved and certified to by the District Engineer. In this way much information may be made useful already existing in the Provincial Engineer's Office, and the work will, I think, be done cheaper than if a distinct set of surveyors was employed by the General Government direct, who must necessarily apply to the Provincial Engineer for copies of plans required to enable them to proceed with their work.

Christchurch, 10th March, 1871.

JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 49.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Christchurch, 13th March, 1871.

I have the honor to forward for your information a memorandum from the Superintendent of Canterbury as to the order in which he considers it desirable that the contemplated surveys of railway lines should be carried out; also, a memorandum from me as to the manner in which such surveys should be made (not yet approved by His Honor).

Also, copy of letter from me to the Resident Engineer, requesting him to proceed with the surveys in the order indicated.

I have, &c.,

The Hon. W. Gisborne, Minister of Public Works,
Wellington.JOHN BLACKETT,
Acting Engineer-in-Chief.

Enclosure 1 in No. 49.

MEMORANDUM for Mr. BLACKETT from His Honor W. ROLLESTON.

Survey of Lines of Railway in the Province of Canterbury.

THE Provincial Government is desirous that the survey of the lines of railway, as indicated in the resolution of the Provincial Council, should proceed,—

On the Main Lines north and south immediately and simultaneously—

On the Northern Line to the Waipara.

On the Southern Line between Timaru and Temuka, and, so far as any survey is necessary, from the Selwyn to the Ashburton.

Branch Lines—

The Rolleston and Southbridge Line to be at once surveyed, at any rate so far as is necessary to determine the crossing of the Selwyn for a railway bridge.

The next in importance being the Malvern Hills Line and the Oxford Line.

The surveys, in the order indicated, to be ready, as far as is practicable, before the next meeting of the General Assembly.

2nd March, 1871.

W. ROLLESTON,
Superintendent.

Enclosure 2 in No. 49.

Mr. BLACKETT to Mr. BRAY.

SIR,—

Public Works Office, Christchurch, 9th March, 1871.

In reference to the surveys required for lines of railway in the Province of Canterbury, I have the honor to forward for your information a copy of a memorandum by His Honor the Superintendent, indicating the order in which he should prefer those surveys to be carried out, he having already obtained from the Hon. the Minister for Works his sanction for the prosecution of the surveys.

With the exception of the line between Timaru and Temuka, for which working plans will be required (as also between Selwyn and Rakaia), the surveys will be of the character of Parliamentary surveys, to be ready for the next meeting of the General Assembly, and should therefore be proceeded with at once. You will therefore please to engage a sufficient number of competent surveyors for this work, either by contract or day-work, as in your opinion will be best suited to the particular work.

I also enclose for your information a copy of a set of conditions under which railway works may be carried out in Canterbury, laid by the Superintendent before the Minister for Works, and approved by him.—(P.W., 70, 432.)

I have, &c.,

W. B. Bray, Esq., C.E., District Engineer,
Christchurch.JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 50.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

21st April, 1871.

SIR,— Under the terms of the Memorandum of the 8th March last, addressed to the Hon. Mr. Sewell by the Hon. Mr. Dillon Bell, it is intimated that Mr. Blackett would be directed to submit a plan for the immediate prosecution of the surveys of the lines prescribed in the resolutions of the Provincial Council, copies of which have been forwarded to you. See No. 61 of these Papers.

Mr. Blackett, in a memorandum dated 10th March, 1871, suggested that the surveys should be carried on under the supervision of the District Engineer, the actual work being done under the direction and control of the Railway Engineer, as the other works are now being done,—all rates of pay and payments to be approved and certified by the District Engineer.

I have instructed the Provincial Engineer to give the District Engineer all the aid that lies in his power in the furtherance of these surveys.

In view of the probable meeting of the General Assembly at no distant date, I venture to call your attention to the fact that, with the exception of the survey of the Northern Railway, no surveys of lines prescribed in the resolutions of the Provincial Council are, so far as I am aware, being carried on; and as it is understood that these surveys will be required at the meeting of the General Assembly, I trust that no time will be lost in pressing them forward.

As I have stated above, every assistance will be rendered by the Provincial Government that lies in its power.

The Hon. the Minister for Public Works,
Wellington.

I have, &c.,
W. ROLLESTON,
Superintendent.

No. 51.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 27th April, 1871.

RE your letter of 21st April, prosecution of survey railway lines. In reply thereto, I beg to inform you that Mr. Blackett will be at Christchurch overland from Dunedin in a few days, and that I have telegraphed to him to communicate with you, and to cause steps to be taken to have surveys made without delay.

His Honor W. Rolleston, Christchurch.

W. GISBORNE.

No. 52.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 29th April, 1871.

RE Railway Surveys.—With reference to my telegram of 27th, No. 111, Mr. Blackett informs me he instructed them to be commenced before he left Christchurch. He telegraphs to Mr. Bray to have them put in hand at once.

His Honor W. Rolleston, Christchurch.

W. GISBORNE.

No. 53.

MR. BLACKETT to MR. BRAY.

(Telegram.)

Dunedin, 28th April, 1871.

SURVEYS in Canterbury Province prescribed by Provincial Council, and of which I left you memorandum, should be proceeded with at once. Superintendent complains that only the Northern Line is being proceeded with. Please put the others in hand.

W. B. Bray, Esq., C.E., Christchurch.

JOHN BLACKETT.

No. 54.

MR. BRAY to MR. BLACKETT.

(Telegram.)

Christchurch, 28th April, 1871.

YOUR memorandum respecting railway survey was virtually set aside by the Executive on the 30th March. Hence delay in obtaining funds from Wellington and authority to pay. The Superintendent and Provincial Secretary agreed this morning to postpone surveys till you came, as Mr. Gisborne telegraphs you will be here in a few days, but I am going on with the Waipara Line beyond Sefton.

J. Blackett, Esq., Dunedin.

W. B. BRAY.

II.—CHRISTCHURCH TO RANGIORA.

No. 55.

MR. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Christchurch, 21st February, 1871.

I have the honor to report, that I have examined the plans and specifications for sections No. 1, No. 2, and No. 3 of the Great Northern Railway from Christchurch, extending for a distance of 11

miles $12\frac{1}{2}$ chains; also that I have seen the tenders received for the completion of No. 2 and 3 sections, No. 1 being nearly completed. I have approved of the plans and specifications, and have authorized the acceptance of the lowest tenders for sections 2 and 3, at sums respectively of £1,149 12s. and £2,787, both considerably below the estimated cost.

I have also examined the drawings and specifications for the bridges and culverts proposed to be constructed on the above length, and approved of them, and have authorized the calling for tenders for their construction at once. I enclose copy of letter to His Honor the Superintendent, in which I have informed him of my approval of the plans and specifications, and the manner in which the contracts are being let, and authorizing the construction of the bridges according to the plans as prepared. I also enclose a statement of the work in progress, which describes the above works in detail.

The Hon. W. Gisborne, Minister for Works,
Wellington.

I have, &c.,
JOHN BLACKETT.

Enclosure 1 in No. 55.

Mr. BLACKETT to His Honor W. ROLLESTON.

SIR,—

Railway Engineer's Office, Christchurch, 21st February, 1871.

I have the honor to state that I have examined the drawings and specifications for sections Nos. 1, 2, and 3, extending as far as the north bank of the south branch of the River Waimakariri, a distance of 11 miles $12\frac{1}{2}$ chains, and that I have also seen the tenders for sections Nos. 2 and 3.

I beg to signify to your Honor my approval of the same, and the mode in which the Government are constructing the work, including the ordering of the permanent way, materials and girders for bridges.

I have therefore authorized the acceptance of tenders for sections 2 and 3, at sums respectively of £1,149 12s. and £2,787,—No. 1 section being nearly completed, under contract already accepted and of which I approve.

I have also examined the drawings and specifications of bridges and culverts proposed to be constructed on the above length, and have the honor to report that I approve of the general design and construction, and would approve of tenders being called at once for their construction.

I have, &c.,

JOHN BLACKETT,
Acting Engineer-in-Chief.

His Honor the Superintendent, Christchurch.

Enclosure 2 in No. 55.

NORTHERN RAILWAY.

Section No. 1, from Addington to 2 miles 61 chains.

Completed.—Fencing, farm crossing gates, and accommodation road gates.

Earthwork and drains.

In Progress.—Culverts and three minor bridges (culverts completed).

Not Let.—Avon bridges (3), and some minor bridges; road through Dean's estate, &c., with culverts for same.

Section No. 2, from 2 miles 61 chains to 5 miles $51\frac{1}{2}$ chains.

Contracted for.—Fencing, farm crossing gates, accommodation road gates, earthwork and drains, £1,149 12s.

Not Let.—Styx Viaduct, for which plans are prepared.

Section No. 3, from to

Contracted for.—Fencing, farm and road (occupation) gates, earthwork and drains, £2,787.

Not Let.—Bridge over south branch of Waimakariri, for which plans are prepared.

Section No. 4, from to

Plans, sections, &c., in progress.

Viaduct over north branch of Waimakariri. Plans in progress, and will be ready for advertising in about a fortnight's time.

N.B.—The iron girders for the above bridges are expected to arrive about the middle of March.

20th February, 1871.

G. THORNTON.

No. 56.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Christchurch, 23rd February, 1871.

I have the honor to inform you that I have authorized the Provincial Government of Canterbury to order wheels, axles, and ironwork for forty goods waggons for the Great Northern Railway, the waggons themselves to be constructed on the railway premises here.

A statement in detail by the General Manager of the railway shows that, if made in this way, they will cost £89 16s. 1d., and if imported complete, ready made, £101 8s. 10d., a difference in favour of the former method of £11 12s. 9d. on each waggon.

I have to request that you will approve of the above authorizations, as it is necessary to have the waggons ordered in time for the completion of the Northern Line.

I have, &c.,

The Hon. W. Gisborne, Minister for Works,
Wellington.

JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 57.

Mr. BLACKETT to His Honor W. ROLLESTON.

SIR,—

Public Works Office, Christchurch, 28th February, 1871.

I have the honor to inform you that the Hon. the Minister for Works has confirmed my approval of the adoption of the same style of rail for the Northern Line as far as Rangiora.

The order for the portions yet required to complete the line to that point may therefore be despatched by the next English Mail.

I have, &c.,

JOHN BLACKETT,
Acting Engineer-in-Chief.

His Honor the Superintendent, Canterbury.

No. 58.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Christchurch, 1st March, 1871.

At the interview which, on the occasion of your recent visit to Christchurch, I had with yourself, the Hon. Mr. Bell, and Mr. Blackett, on the subject of the prosecution of surveys and of the railways authorized to be constructed during the last Session of the General Assembly, it was understood that on the approval of Mr. Blackett of orders for rails and other material for the Northern Railway, as authorized by "The Railways Act, 1870," the Minister for Public Works would give his approval of such orders, so as to bring the expenditure within the terms of my letter of 24th December, as to the refund by the General Government to the Province of the funds provided by it.

I have now the honor to forward copies of orders for rails, ironwork, for waggons, and tarpaulins, which will be required for the Northern Railway, of which Mr. Blackett has given his approval, and to which I shall instruct our Agent by the outgoing mail to give effect. I enclose copy of a letter I have received from Mr. Blackett on this subject.

Should the Colonial Government be in funds in London at the time that payment on account of this order falls due, the transaction would be simplified if the Agent-General would provide the funds, and thus obviate the cost incurred by our Agent having to draw upon the Province to meet the payment.

It was further understood that on the approval of Mr. Blackett as to the character of the order, the Provincial Government might instruct its Agent in London to obtain rails for the Southern Railway, as authorized by "The Railways Act, 1870," subject to his learning from the Colonial Treasurer or the Agent-General of the Colony that the Government was in funds to make the payments for the rails, and that the Government would undertake that on its being in funds it would make provision for the execution in London of this order, as approved in the Colony.

I regret that I am unable to forward this order by the outgoing mail, as the question of the form of rail on the Southern Line will require further consideration by the Engineer of the Colonial Government.

The former order, however—that for the rails for the Northern Railway—will be carried out by our Agent; and the Provincial Government will find the funds in London, unless the Colonial Government would provide them, should they be able to do so.

I shall be glad if you will inform Mr. Vogel of the arrangement which has been made, in order that, if possible, the expense of drawing upon the Province may be saved.

I have, &c.,

W. ROLLESTON,
Superintendent.

The Hon. the Minister of Public Works, Wellington.

No. 59.

His Honor W. ROLLESTON to the Hon. F. D. BELL.

SIR,—

Superintendent's Office, Christchurch, 1st March, 1871.

As Mr. Gisborne is absent, will you look at my letter of to-day to the Minister for Public Works. You heard what passed the other day at our interview with Mr. Gisborne, and will understand what is wanted. It is briefly this:—

Mr. Ottywell will be instructed by to-morrow's mail to order the remaining quantity of rails necessary for the Northern Line, as far as it is now authorized. Twelve miles of rails are already ordered, and some shipped. The present order is for the balance necessary to complete the line to Rangiora. He will draw on us for payment unless the General Government will find payment in London. If they will, of course it will make a saving. We shall order them, as the previous lot, under Hemans' inspection. Will you see that there is no hitch about this? The only question now open about this order is the provision of funds in London.

The order for the Southern Line cannot be sent by this mail, as Mr. Blackett is in doubt about the form of rail, that on the Southern Line being the flat-footed rail. I enclose a copy of notes of what passed at our interview. They should, I think, be recorded.

I have, &c.,

W. ROLLESTON.

The Hon. F. D. Bell.

PAPERS RELATING TO THE

Enclosure 1 in No. 59.

NORTHERN RAILWAY.

LIST of Permanent Way Materials required to complete the Line to 18 miles 70 chains, with 1 mile 20 chains added for Sidings; making a total length of 20 miles 10 chains. (Copy forwarded to Secretary for Public Works, Christchurch, 1st December, 1870).

Rails.—21-foot lengths, joints to be drilled for fish-plates, weight and pattern to be in accordance with directions for previous order, 670 tons.

Note.—100 of the above to be 2 inches shorter for inside curves.

Ordinary Chairs.—No. 25,000 (22 lbs. each, 245 tons, in accordance with previous pattern.

Fish-plates.—With screw bolts, nuts, and washers to suit, 42½ tons. The fish-plates to fit rails, half with square and half with round holes.

Spikes.—6 inches long to underside of head, cupped heads, and to fit accurately in chair, 26½ tons.

Keys.—Compressed oak or other approved wood, number 25,000.

G. THORNTON,

Railway Engineer.

MEMORANDUM.—Above order approved by me and confirmed by the Hon. the Minister for Public Works, 27th February, 1871.—JOHN BLACKETT, C.E.

Enclosure 2 in No. 59.

CANTERBURY RAILWAYS.—NORTHERN LINE.

STATEMENT of Cost of Works let and paid for on Section No. 1 (2 miles 61 chains):—

	£	s.	d.
Posts and rails	262	3	0
Straining posts	16	16	0
Struts	14	0	0
Fencing wire	144	7	6
Gates, brackets, hoop-iron, &c.,	193	13	9
Labour on fencing, gates, &c.,	280	9	0
Formation, drains, &c.,	889	12	0
Culverts, &c.,	419	0	0
	£2,220	1	3
Deduct fencing continued beyond 2 miles 61 chains, included in above 66½ chains post and rail fencing	£91	15	0
19½ chains wire ditto included in formation, length of Section 2	26	1	6
	£2,102	4	9
Or equivalent to per mile	£761	0	0
Add as per estimate submitted to the General Government to complete Section No. 1,—			
Permanent way per mile	3,012	0	0
Ballast	384	0	0
Bridges	540	0	0
Public road gates	61	6	8
Stations	160	0	0
	£4,918	6	8

As against estimate of £4,900 per mile.

G. THORNTON,
Railway Engineer.

Enclosure 3 in No. 59.

MEMORANDUM.

SUNDRIES for Railway Waggons, &c., to be obtained from England.

From Metropolitan Carriage Company, Saltley, Birmingham.—Thirty-four waggon wheels and axles; axle-boxes, bearing springs, buffers, couplings, and mountings complete for open goods; waggons, about 2 feet 3 inches high on the sides; gauge, 5 feet 3 inches. Tires of wheels Bessemer steel, and to be attached to inner ring by clips and not by rivets. Six sets of same, similar in every particular, excepting that the buffers are to be omitted. Value, landed at Lyttelton, about £2,600.

From some first-class maker—Fifty railway tarpaulins, 22 feet by 16 feet, undressed; 100 gallons dressing; two dozen brushes for laying on dressing; value, landed at Lyttelton, about £175.

JOHN MARSHMAN,
General Manager.

28th February, 1871.

MEMORANDUM—28th February, 1871.—I have already made a Memorandum approving of this order, and have acquainted Mr. Gisborne of the fact. The tarpaulins were not included, but I think they should be.

JOHN BLACKETT, C.E.

No. 60.

The Hon. F. D. BELL to His Honor W. ROLLESTON.

SIR,—

Colonial Secretary's Office, Wellington, 9th March, 1871.

I have the honor to acknowledge the receipt of your Honor's letter of the 1st instant, covering copies of orders for rails, ironwork, for waggons and tarpaulins, for the Great Northern Railway, which had been approved of by Mr. Blackett, and to which you had instructed the Agent of the Canterbury Province in London to give effect by the then out-going mail.

Your Honor requests that the Colonial Government, if in funds in London when payment or the order becomes due, would, to simplify the transaction and save expenses of exchange, provide the sum necessary to meet the order. You request that the same course may be adopted with regard to the plant required for the Southern Railway, on the approval by Mr. Blackett of the order; and you ask the Government to communicate with the Hon. Mr. Vogel on the subject.

In reply, I have the honor to inform you that the Government have communicated with the Colonial Treasurer by the last mail, requesting him to make provision for payment of the order transmitted by your Honor for materials for the Great Northern Railway.

I transmit for your Honor's information the copy of a minute I have addressed this day to the Hon. Mr. Sewell, Acting Colonial Treasurer, upon the subject.

I would suggest to your Honor that you should instruct Mr. Ottywell to wait upon Mr. Vogel in London for the purpose of making the necessary arrangements as to dates of payment, and generally of settling the necessary details.

With reference to the Southern Line, I have to invite your Honor to submit, as early as may be convenient, an estimate of the probable cost of the order for material referred to in your letter under reply.

His Honor the Superintendent, Canterbury.

I have, &c.,
F. D. BELL.

No. 61.

MEMORANDUM by the Hon. F. D. BELL for the Hon. H. SEWELL.

MR. SEWELL,—

Adverting to the Superintendent of Canterbury's request that we should provide in London funds to the amount of about £11,000 for the order transmitted by him to the Canterbury Agent (Mr. Ottywell) by the last Californian Mail, for certain plant for the Great Northern Railway, it may be as well to send Mr. Vogel a minute on the present state of the arrangements between Mr. Rolleston and ourselves, in explanation of your letter to him desiring that the money should be provided; which letter, by reason of my not receiving a reply to my telegram to His Honor asking for the amount wanted, had to be sent by the mail without any particulars for Mr. Vogel's information.

The Treasurer will remember that at an interview he had with Mr. Rolleston at Christchurch on the 24th December, 1870, an arrangement was come to as to the extent to which the General Government would give effect to the resolutions of the Provincial Council passed on the 2nd of November, which declared the desire of the Council to go on with certain railway works in accordance with the Immigration and Public Works and Railways Acts of the General Assembly.

Among these works were the extension of the Northern Line to the River Waipara, and that of the Southern Line from the River Rakaia to the Ashburton.

The arrangement made by Mr. Vogel with Mr. Rolleston was in substance as follows:—1. Works to be under direction of General Government Engineer. 2. Plans and specifications to be approved by Minister of Public Works. 3. Province to be entitled to refund of moneys expended by it, on certificates that works executed in accordance with approved plans and specifications. 4. These conditions to apply to the three lines sanctioned by the General Assembly. 5. Clause to be inserted in all contracts providing for transfer of works to General Government. 6. General Government to recommend to Assembly refund to Province of moneys expended on Rakaia and Ashburton Bridges.

In pursuance of this arrangement the Provincial Government made considerable progress in the works, and as respects the Northern Line orders were sent Home for rails and rolling stock; all that was done being duly under inspection and recommendation of Mr. Blackett (our Engineer), and approval of Mr. Gisborne, as Minister for Public Works.

On the 21st February Mr. Gisborne and I met the Provincial Executive at Christchurch, and certain points were further arranged. In substance they were as follows:—

1. We undertook generally to approve of the contracts on the Northern Line as those adopted on Mr. Blackett's approval, and specifically of the orders sent and to be sent under his recommendation to England for bridges, rails, and other plant (including rolling stock) to carry the line to Rangiora; provided total came within amount allowed by the Act.
2. We directed Mr. Blackett to submit a plan for the immediate prosecution of the surveys of the lines prescribed in the resolutions of the Provincial Council.
3. We agreed to approve (on Mr. Blackett's certificate) of the present Rakaia Bridge as a railway bridge.
4. We authorized the commencement of the Timaru and Temuka Railway, under Mr. Blackett's direction, to the extent of the funds which the Province should provide.
5. We authorized the Provincial Government to authorize their Agent, Mr. Ottywell, to order rails for the Southern Line as far as the Rakaia, subject to his being informed in London that the Government was in funds there.
6. We authorized Mr. Blackett to determine the question of the site of Selwyn Bridge, on the Rolleston and Southbridge Line.

7. We arranged certain details as to the mode in which the Canterbury Engineers should communicate with Mr. Blackett.
8. We informed the Superintendent that in matters of immigration, it was the intention of the General Government to work for the present through the Provincial Agency.
9. On the question of the Waitaki Bridge, we expressed our desire and intention that the work should be tendered for as soon as the site had been determined by the Engineers and approved by General Government. Since our interview the site has been fixed, and we are awaiting the reports.

Immediately after this interview, the Provincial Government submitted to Mr. Blackett orders for the completion of the rails, &c., necessary for the Northern Line as far as Rangiora, and Mr. Blackett telegraphed his confirmation of the order. The following is the material required for the permanent way: say, 670 tons of rails; 245 tons of chairs; 42 tons of fish-plates; 26 tons of spikes; 25,000 compressed oak keys. For rolling stock, certain waggons, tarpaulins, &c. The total cost of this order would approximately be as follows:—

For rails £6,720, and freight about £1,500	£8,220
For rolling stock	3,000
Total	£11,220

Mr. Gisborne approved Mr. Blackett's recommendation of the order, it being understood that the Provincial Government would provide the necessary funds.

On the 1st March the Superintendent wrote to the Minister for Public Works, enclosing the order as approved by Mr. Blackett, and informing us that Mr. Ottywell was being instructed by the then outgoing San Francisco Mail to execute the order without delay in London. Mr. Rolleston stated that the Provincial Government would find the funds in London, unless the General Government should itself be in funds and be able to make the payment; pointing out that, if this could be done, the expense would be saved of Mr. Ottywell drawing from England on the Provincial Treasury, and the amount could be replaced to the General Treasury out here.

The Cabinet considered this matter, and decided, as the English Mail was closing here on the day we received the Superintendent's letter, not to run the risk of any inconvenience by delaying the provision of the money. Mr. Sewell accordingly addressed Mr. Vogel, requesting him to provide the money for executing the order; and the Agent, Mr. Ottywell, must be instructed by the Superintendent to see Mr. Vogel, give him full particulars as to the dates when the various materials will be shipped, and make such other arrangements as may be necessary about the actual payment. Looking to the extent of the order and the amount of tonnage for shipment, some time will elapse before there will be any large sum to pay.

Mr. Vogel's attention should also be drawn to the fact that, in addition to the above order for materials for the Rangiora Line, there will presently be an order for rails for the Canterbury Southern Railway, as authorized by "The Railways Act, 1870;" and that we have undertaken, if we are in funds in London at the time, to make provision for the execution of this order in London, so as to save, in the same way, exchange on drafts drawn upon the Provincial Treasury. This order also would have probably been sent home by the last mail; but the question of the shape of the rail has yet to be further considered. I will request the Superintendent to submit, in anticipation of this point being decided, an estimate of the probable cost of the Southern Line rails, &c., to be sent for, in order that by the earliest mail Mr. Vogel may be made aware of the total amount which he may be asked to provide in London on account of the Canterbury railways.

A copy of this minute will be sent to Mr. Rolleston.

Wellington, 8th March, 1871.

F. D. BELL.

No. 62.

MEMORANDUM by the Hon. F. D. BELL for the Hon. W. GISBORNE.

ADVERTING to the interview which took place between yourself and His Honor the Superintendent of Canterbury here, on the 21st February (while on your way to Dunedin), I annex a minute I made for Mr. Sewell, for Mr. Vogel's information, in order that Mr. Vogel might have his attention directed to the circumstances that followed the arrangement made between himself and the Superintendent last December. I also annex Mr. Rolleston's minute of what passed at the above-mentioned interview.

It seems necessary, to avoid any misapprehension of what is meant by the request of the Superintendent that if the General Government is in funds they should provide the money to pay for the orders for railway plant sent home by the last San Francisco and present Suez Mail.

1. Rangiora Line.

The material for this line having been estimated for by the Provincial Engineer and approved by Mr. Blackett, was to be paid for by the Province in the first instance; and to this effect a credit was established in London in favour of Mr. Ottywell (Canterbury Agent) to extent of £11,000, against which, if necessary, Mr. Ottywell would draw on the Provincial Treasury. But the Superintendent requested, in order to save exchange, that if the General Government should be in funds at the time the order reached London, the money should be provided by Mr. Vogel instead of the above credit being operated upon. And the Cabinet, having considered the matter, communicated with the Treasurer with the view of carrying the request into effect. Thus the matter stands in this way: the Rangiora Line material is to be procured by Mr. Ottywell, whether or not the General Government provide the funds. If Mr. Vogel is in funds, he will provide the money and so save the exchange.

2. Material for Southern Line.

This matter is on a different footing. The Superintendent had requested the sanction of the

Minister of Public Works to the pushing forward of this line, as part of the general arrangement for taking over the railways; and it was necessary that the permanent way stuff should be ordered without delay. The order would have accompanied the previous order for the Rangiora plant, only that a question remained to be decided as to the form and weight of the rails to be used. A meeting took place the other day between His Honor and the Secretary for Public Works and Mr. Marshman, on the one hand, and Mr. Blackett, Mr. Bray, and myself on the part of the Colony. After a long discussion, we decided the form and weight of the rail to the satisfaction of every one present: thereupon the Provincial Engineer was directed to prepare estimate, and this estimate was approved by Mr. Blackett.

But the execution of the order depended from the first upon the question whether the General Government would be in funds, and prepared to make payment as the order itself and freight became due. This remains entirely subject to Mr. Vogel's arrangements. If he has not money at command, the order will be adjourned. But if he has, then it is proposed the order should be executed by Mr. Ottywell and paid for by the Colony, as part of the arrangement for taking over the railways. The question of the Rakaia Bridge is connected with the extension of the line from Selwyn to Rakaia. The sanction of the Minister of Public Works being given to the adoption of the wooden bridge over the Rakaia (with the alterations and extensions required by Mr. Blackett) as a railway bridge, the Provincial Government will proceed with the work; and it becomes of great importance that the Southern Line extension from Selwyn to Rakaia should also be gone on with.

As to the question of funds, assuming even that there were no question of arrangement as between the Colony and the Province about taking over the railways, the same reasons would operate to induce us to execute this order for the Selwyn-Rakaia extension as have led us to commence the Clutha Line. In both cases the General Government is in fact anticipating the completion of the financial arrangements necessary to carry out the policy of last Session; in both cases the Guaranteed Loan, were there no other means available, would legitimately and naturally be used to carry at any rate into effect the Rakaia and Clutha Lines.

16th March, 1871.

F. D. BELL.

No. 63.

The Hon. W. GISBORNE to the AGENT-GENERAL.

SIR,—

Colonial Secretary's Office, Wellington, 2nd June, 1871.

You are aware that prior to your departure from New Zealand it had been found necessary to send home orders for plant and rolling stock in connection with the two lines of railway running respectively North from Christchurch to Rangiora, and South from Christchurch to Rakaia. In order that you may have under your own eye these orders, the complete fulfilment of which will extend into a period long subsequent to the assumption of your own duties in London, I transmit to you herewith copies of the papers relating to them.

The Agent-General for New Zealand.

I have, &c.,
W. GISBORNE.

No. 64.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

SIR,—

Colonial Secretary's Office, Wellington, 26th July, 1871.

I have the honor to forward to your Honor copy of a letter from the Hon. Mr. Vogel, received this day, in reference to the purchase of railway and other material for works in progress within the Province of Canterbury.

His Honor the Superintendent, Canterbury.

I have, &c.,
W. GISBORNE.

Enclosure in No. 64.

The Hon. J. VOGEL to the Hon. W. GISBORNE.

SIR,—

Charing Cross Hotel, London, 1st June, 1871.

I have the honor to acknowledge the receipt of various letters referring to the construction of railways in Canterbury, requesting me to authorize Mr. Ottywell to obtain certain materials, and myself to arrange to provide the money to pay for the same, and also of a letter requesting me to procure the materials required for the construction of the Waitaki Bridge.

In reply, I have the honor to state that I have authorized Mr. Ottywell to obtain the specified materials for the Canterbury railways.

As regards the Northern Railway, tenders for carriages and rails have been received, but those tenders are not the result of open competition.

I have stated to Mr. Ottywell, that if Mr. Hemans, who is the Consulting Engineer recommended by the Superintendent of Canterbury, and himself, again recommend me to accept the tenders received, I will do so; but I have asked them to reconsider the question whether it is not desirable to call for competitive tenders instead of accepting those which have been directly invited from a single firm.

Mr. Hemans has made a tracing of the rail required for the Selwyn Line. He will immediately prepare specifications, and tenders for the necessary quantity of rail will then be at once called for.

I have directed Mr. Ottywell to instruct Mr. Hemans to prepare specifications for the Waitaki Bridge materials, and tenders will be called for without delay.

I may add, that I have informed Mr. Ottywell that I considered 2½ per cent. and expenses, which Mr. Hemans proposed to charge the Canterbury Government, was much too heavy, and that Mr. Hemans has consented to accept 2 per cent. inclusive of all expenses.

It is possible I may be able to induce him to make a further reduction; but in the meanwhile I have no doubt the Government will be gratified at the reduction to which he has already consented.

The Hon. Minister for Public Works, New Zealand.

I have, &c.,
JULIUS VOGEL.

III.—ASHLEY RIVER.

No. 65.

Mr. BLACKETT to Mr. BRAY.

SIR,—

Public Works Office, Christchurch, 9th March, 1871.

I have the honor to request that, in order to make my report on the crossing of the Ashley River clear and intelligible, you will cause to be made correct sectional and plan surveys of the two lines of railway crossing the Ashley at the points marked by me on the ground; and that you will furnish me with a copy or tracing of the plans, with an approximate estimate of the cost of the two lines, including all bridges, culverts, &c. The Ashley to be bridged with spans of not less than forty feet each, and the Saltwater Creek with spans of not less than twenty feet each, all with iron girders, the former with iron piers, the latter with wooden piers. The survey to extend from the end of the present survey at Rangiora to where the lines will enter the Railway Reserve beyond Sefton.

Due provision to be made in height of bridges and embankments for the highest floods, as already verbally explained.

These surveys might be intrusted to the same individual as selected for the survey of the Northern Line to Waipara.

I have, &c.,

JOHN BLACKETT,

Acting Engineer-in-Chief.

W. B. Bray, Esq., C.E., District Engineer,
Christchurch.

No. 66.

Mr. BLACKETT to the Hon. W. GISBOERNE.

SIR,—

Public Works Office, Wellington, 4th July, 1871.

I have the honor to forward for your information a report relative to the crossing of the Ashley River, in the Province of Canterbury, by the proposed Northern Line of Railway, in accordance with your instructions founded on the arrangements between the General and Provincial Governments that the selection of the site for the bridge over that river should be reported on by the Colonial Engineer.

Provided with a plan of the district showing the levels of the various points, and assisted by the District Engineer, I proceeded to make a close inspection of the river banks on both sides, and of the land adjoining, as far as necessary. This inspection occupied nearly six days, during which occurred one of the heaviest floods on record, excepting that of 1868, which appears to have been quite exceptional in its height and in its effect on the surrounding country.

I was, before entering on this examination, made aware that a very strong feeling existed as to the probable decision of the important point in question, and therefore, to avoid any prejudgment of the question, carefully abstained from reading any former report on the subject, or from asking any question which might lead to a knowledge of any previous conclusion which might have been arrived at, either generally or professionally, on the subject.

In this way I entered on the inquiry perfectly unbiassed, and directed my attention solely to the strict facts of the case. The occurrence of the flood before mentioned tended materially to assist my observations as to the actual conditions under which any bridge and railway should be constructed, and, by creating an immediate interest at the time, was the means of my gaining much valuable information from the various settlers in the vicinity of the river. My inquiries extended from the present Ashley Bridge upwards to Ashley Bank or township, a distance of about four and a half miles.

The south bank of the river offers few difficulties for consideration; but the northern bank, in the whole of that distance, presents but two sites on which a bridge could be erected, and approached by a railway, with any degree of safety. A short description of the north river bank will show how this conclusion has been arrived at.

With the exception of a few chains at the upper end of the township, where the first of the sites is situated, the river bank for about a mile and a half downwards is very low, and presents in ordinary floods a succession of overflows to the north; and over this space, in the flood of 1868, the water swept in great volume, carrying an enormous amount of drift and trees of all sizes up to 5 feet through, which were after the flood found packed and wedged together in a solid mass on the low lying land. Below this the banks are a little higher, but still subject to the influence of floods—say for half a mile further; then commences a terrace gradually rising in level and receding from the river, extending say for a mile downwards, with low flax land lying between it and the river. This terrace at one point appears to offer a likely place for bridging the river, but the span here would be very

wide, as it would embrace part of the flax land between the terrace and the river, and also an overflow channel and island between it and the main river bed.

This terrace is there broken through (near Mr. Macfarlane's house), but gradually forms again and approaches the river bed at the termination of the overflow channel, which here re-enters the main river bed.

At this point the terrace now forming the main river bank is higher than at any other point, and forms the second site below described; this is never flooded in the highest floods. This formation continues for a few chains, the bank then gradually lowers and becomes liable to overflow in high floods; this liability increasing gradually all the way down to the site of the present bridge, offering no chance of a safe crossing below the point just described, notwithstanding the great temptation offered to select one by the extreme narrowness of the river at a point about a mile below, but where the capacity of the channel, there confined between high clay banks, is totally inadequate to carry off the flood water.

Sites.

The first of the sites mentioned is at Ashley township, where for a few chains along the bank we have choices of a crossing-place nearly opposite the road leading from Rangiora, and passing near the schoolhouse in Ashley township. From this the railway would be carried on a descending gradient nearly parallel with the Upper Sefton Road, and contouring the termination of the low spurs of the downs, across which the road now runs; this line would join the line of the Railway Reserve between sections 8,755 and 2,420.

The ground between the end of the present surveyed line near Rangiora and the Ashley would present no difficulties; the bridge at this site would be about 3,432 feet long (52 chains).

The second site is about $1\frac{1}{2}$ mile above the present bridge, where the river bed is about 25 chains wide. Between this and the end of the surveyed line at Rangiora there are no difficulties, the ground being dry and flat, and proceeding northwards there is a fair stretch of regular even ground to Saltwater Creek, and across the upper part of the old Sefton township, clear of swamps, joining the first-described line a short distance before entering the line of the Railway Reserve.

The peculiar features of the two sites, and their connecting lines, may be described as follows:—

The approach on the south side to the upper site is tolerably even but rather low, requiring embankments. The section of the river bed is very irregular, the water flowing in three main channels, with high stretches of shingle between, the stream impinging forcibly against the north bank and evidently destroying it, not only on the probable line of bridge, but for some distance below and above, where the line of bank is very irregular and broken, and would evidently require protective works in the event of a bridge being built.

The banks are too low in themselves to receive a bridge, and would require embanking, say for a few chains, to reach the inclined ground on which the road lies.

The railway line then would, as before described, follow generally the direction of the line of road and the contour of the hilly ground for about five miles, in which provision should be made for the escape of the numerous streams flowing from the downs, amounting, on the road line, to ten bridges, varying from 6 to 20 feet, and 12 culverts, 2 to 3 feet. The number of these latter might be reduced, say one-half, in the construction of a railway, but the bridges would be increased materially in length in order to cross, in workable curves, the heads of the swamps which penetrate at intervals into the hilly ground.

Some of the spurs would require heavy cuttings to reduce the sharpness of the curves. It will thus be seen that in this portion of the line would be a number of curves, bridges, culverts, and cuttings with a generally descending gradient. The level of the bridge would be about 64 feet above that of the termination of the surveyed railway line at Rangiora.

The approach to the lower or second site would, on the south bank, be by regularly falling ground to a good safe high bank, needing very little embankment. The river bed here is of regular basin-like shape, with sloping banks, not being destroyed.

The north bank, as before described, is high and dry above the reach of any flood, requiring little or no embankment; and the line beyond would traverse gradually falling even ground to Saltwater Creek, which would require bridging to a considerable extent with a succession of small spans at a good elevation, to receive the natural flow of the creek, with that, in addition, which in high floods escapes from the upper part of the Ashley. The upper part of Sefton township could be crossed on level firm ground, and the land beyond, to the junction with the Railway Reserve, is of the same character. The whole distance from the Ashley to the reserve would require a moderate amount of embankment.

The question relating to drift timber, which may only be expected in very high floods, will affect the two sites in a different manner: the upper one will be in most danger from this cause, as all the drift timber must pass through it; whereas it has been shown that a very large proportion of it is discharged into the side overflows and lodged there, leaving a comparatively small amount to pass the lower site. On this account, therefore, I should say that the upper site would require wider spans than the lower, possibly in the proportion of 60 or 70 feet to 40 or 50 feet at the lower site, and consequently at an increased cost.

As regards the future safety of the two sites, I have already stated that the upper one will require protection, which the lower one at present does not appear to require; and the upper one will be in most danger from drift timber. The lower site, it may be averred, is in danger of being left altogether by the river changing its bed above the site and discharging itself into Saltwater Creek. I cannot think this is at all probable, as the overflow takes place over such a large extent of low land, and is not confined to one or two narrow outlets, but is spread in a comparatively thin sheet of water over a large area, doing very little damage to the surface. It is true that provision must be made to allow for the passage of this increased flow of water in Saltwater Creek, as before described; but with this provision, I should have no fears for the safety of this line.

I may now state that the result of the examination recorded above was to impress me with a con-

viction of the general superiority and cheapness of the lower site for a bridge, and of the lower line connected therewith for a railway. It yet remained to be proved by actual survey and estimates whether this conviction would be borne out by figures.

The result of the survey (superintended by Mr. Bray, District Engineer, and the estimate prepared by him) will be found below; it is illustrated by tracings showing the direction of the lines and their respective levels. The upper line is called the "Ashley Township Line," the lower is called the "Parliamentary Line," and an alternative line lying between these two on the south side of the Ashley is called the "Cam Mill Line."

Parliamentary Line	Chains. 597½	Cam Mill Line	Chains. 605	Ashley Township Line	Chains. 680
Ashley Bridge	£ 9,900	Ashley Bridge	£ 9,900	Ashley Bridge	£ 20,590
Other bridges and culverts	3,290	Other bridges and culverts	3,320	Other bridges and culverts	4,525
Earthwork	1,525	Earthwork	1,775	Earthwork	2,650
Railway @ £22	13,135	Railway	13,310	Railway	14,960
	<u>£27,850</u>		<u>£28,305</u>		<u>£42,725</u>

These totals are exclusive of fencing and land purchase.

From this it will be seen that the estimate for the Parliamentary Line is nearly £15,000 lower than that for the Ashley Township Line, and that the distance is more than a mile shorter. It will also be seen by the plans that the section of the former line is much more favourable, and that it rises from the common starting point at Rangiora to a summit height of 16½ feet, while the latter rises 64 feet, or four times as much, and giving a difference of 47½ feet. Thus, by the latter line all goods would be carried more than a mile further, and would require to be lifted over this extra elevation. This would materially increase the cost of maintenance as well as the working expenses of this part of the line.

We have therefore the items of length, cost, levels, and working expenses all against the upper line, and on these grounds I should recommend the adoption of the Parliamentary Line.

It may be said that I have neglected to consider in the above report the wants of small communities already settled, more especially that of Rangiora township, which would have been brought within say a quarter of a mile of the railway had the Ashley Township Line been adopted. (On this subject a memorial has been received from the Ashley Road Board, of which I have seen a copy.) By the adoption of the Parliamentary Line, the township will be passed within one mile and a half; but in the event of the proposed Oxford Tramway being constructed, it will be on the actual line of the tramway, so that its special interests will be thus thoroughly served; and it must be borne in mind that the adoption of the Parliamentary Line leaves us with a saving of £15,000, which might be applied to the construction of the tramway.

I may here state my opinion on this subject generally, that as no amount of distortion of the main trunk lines can possibly serve the interests of all parts of each and every district, it will be better, in the true interests of the country, to adopt short straight main lines between places of real importance, or places which must necessarily be passed, such as the best crossings of rivers, &c., with a view to reduce the mileage and the consequent cost of maintenance, as well as the permanent working expenses; and that the wants of any district, say, as in the present case, of sufficient importance as regards population, produce, and general traffic, either present or prospective, will be sufficiently served by laying down a tramway, or rather a light railway, of the cheapest form of construction, which might be worked in the first instance with horses.

Such railways would of course be only worked at such times and in such manner as would suit the real wants of each district, and we should save the expense of drawing main trains constantly over a long length of line to pick up possibly a very uncertain amount of traffic, and probably quite disproportioned to the extra mileage run over.

Hon. W. Gisborne, Minister for Public Works,
Wellington.

I have, &c.,
JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 67.

The Hon. W. GISBORNE to Mr. BLACKETT.

MR. BLACKETT,—

Public Works Office, Wellington, 6th July, 1871.

Adverting to your report of the 4th instant as to the selection of the best crossing-place over the Ashley for the line of the Northern Railway in Canterbury, I shall feel obliged by your furnishing, so far as you can, additional information on the following points:—

1. Could the main line be laid out so as to touch the township of Rangiora and join the Cam Mill Line, which merges into the Parliamentary Line?
2. What would be the difference of cost between this plan and the one recommended in your report, involving the adoption of the Parliamentary Line and the construction of a light branch railway (say one mile and a half) to Rangiora township?

W. GISBORNE.

No. 68.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Wellington, 7th July, 1871.

In reference to your questions relative to certain alterations in the line recommended by me

in my report on the best line for crossing the Ashley River by a railway, I have the honor to submit the following remarks :—

1. I know of no reason why the main line of railway should not be laid out so as to pass near to the township of Rangiora, and from thence join the Cam Mill Line.
2. This plan would require (between two points common to both lines) five miles of main line, which, estimated at the same rate per mile as the Cam Mill Line, would amount to, say, 5 miles at £3,740=£18,700.

The Parliamentary Line between the same points would require

4½ miles, at £3,728	...	...	...	£15,844	0	0
To which add 1½ miles of light railway, say at £1,800	...	...	...	2,400	0	0
				£18,244	0	0

The Hon. W. Gisborne,
Minister for Public Works, Wellington.

I have, &c.,
JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 69.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

SIR,—
Colonial Secretary's Office, Wellington, 8th July, 1871.
I have the honor to enclose a copy of report, dated 4th instant, of the Acting Engineer-in-Chief of the Public Works Department, relative to the crossing of the proposed Northern Line of Railway over the Ashley River. I further enclose copies of my Memorandum of the 6th instant to that officer, and of his reply, conveying additional information on certain points connected with that subject.

In terms of the 6th section of "The Immigration and Public Works Act, 1870," I invite the expression of the opinion of your Honor and of the Provincial Council of Canterbury relative to the line in question, in order that such opinion may be submitted to the consideration of the General Assembly in its next Session.

I have, in order to save time, forwarded the plan accompanying Mr. Blackett's report in original, and I shall feel obliged if your Honor would cause a copy to be made under Mr. Bray's directions for record with this letter, and the original to be returned to this office.

His Honor the Superintendent, Canterbury.

I have, &c.,
W. GISBORNE.

No. 70.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,—
Superintendent's Office, Christchurch,
Canterbury, 20th July, 1871.
I have the honor to acknowledge the receipt of your letter of the 8th July, enclosing copy of the report of the Acting Engineer-in-Chief of the Public Works Department relative to the crossing of the proposed line of railway over the Ashley River. I have caused the report to be laid before the Provincial Council. The plans shall be copied and returned.

The Hon. the Colonial Secretary.

I have, &c.,
W. ROLLESTON,
Superintendent.

No. 71.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,—
Superintendent's Office, Christchurch, 5th August, 1871.
I have the honor to forward herewith copies of a resolution passed by the Provincial Council, referring to the crossing-place of the River Ashley of the Northern Railway.

The Hon. the Colonial Secretary.

I have, &c.,
W. ROLLESTON,
Superintendent.

Enclosure in No. 71.

RESOLUTION.

Resolved, That the line called in the report of the Acting Engineer-in-Chief of the Colonial Government the Ashley Township Line, is the one, of the three lines therein reported on, best calculated to serve the best interests of this Province.

No. 72.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Christchurch, 12th July, 1871.

I have the honor to forward herewith a memorial on the subject of the route of the Great Northern Railway in this Province, and to request that you will be good enough to lay the same before His Excellency the Governor, in compliance with the wishes of the memorialists.

The Hon. Colonial Secretary, Wellington.

I have, &c.,
W. ROLLESTON.

Enclosure in No. 72.

MEMORIAL to His Excellency Sir GEORGE F. BOWEN, G.C.M.G., Governor of New Zealand, in Council. *The humble Petition of the undersigned Residents or Ratepayers in the Ashley and Kowai Road Districts, in the Province of Canterbury :*

SHOWETH,—

That a public meeting was held in the Ashley Bank Schoolroom on the 29th of April last, called by the Ashley Road Board on requisition, "To consider the route of the Northern Railway, and the steps necessary to take in the present emergency."

That nearly 200 persons met, all solemnly impressed with the importance of the occasion.

That the following resolutions were passed unanimously, there not being a single dissentient voice:—

1. That this meeting recognizes with thankfulness the action taken by His Honor the Superintendent and his Executive, in having a line of railway surveyed, in accordance with a memorial from the Ashley Road Board, across the Ashley River, opposite Rangiora.

2. That this meeting would have left the matter as it is, in the hands of the Government, did they not know that another route has been surveyed and recommended by the Provincial Engineer; a route so utterly at variance with the interests of the population on both sides of the river, that, should it be carried out, this meeting can but denounce it as a gross misappropriation of public money.

3. That this meeting believes that a railway, properly laid out, to the North will prove an immense benefit to the district, and that the receipts from traffic will far counterbalance any possible additional cost of construction; whilst the route advised by the Provincial Engineer mysteriously leaves population and cultivation, diverging from the straight course at a right angle at Mr. Justice Gresson's corner, and passing for the most part through a grazing district in no way depending upon it.

4. That this meeting cannot, in justice to their own convictions, their own interests and the interests of their families, stand by and allow in silence so unreasonable an act to be perpetrated, by which this district will be entirely deprived of all railway communication, whilst the hardships and losses entailed by fording the Ashley River where nature compels them to cross remain, and which have already driven so many settlers from the district, and under which they too must ultimately succumb.

5. That the line surveyed by direction of Mr. Blackett, the Colonial Engineer, through Rangiora and across the river near the Ashley township, is the only route that meets the necessities of this meeting; and that the adoption of this route be urged upon the Provincial and General Governments in every possible way.

6. That apart from the important benefits conferred on the district by the adoption of the Ashley Township route, this meeting, in view of the overflow of the Ashley (just below the desired place of crossing) into the Sefton Swamp, in every considerable freshet, and the probability of the whole stream ere long leaving its present bed, firmly believes this route to be the only safe one for the railway.

7. That the Ashley Road Board, assisted by Mr. Thomson, be a committee to draw up a respectful memorial to His Honor the Superintendent, and a petition to the General Government, embodying the above resolutions.

Your Petitioners dutifully lay these resolutions before your Excellency, believing them to be right and true, and their object no man's injury, but the benefit of the whole community. Your Petitioners further pray that should any doubt be entertained by your Excellency and your Honorable Council as to the wisdom of adopting the route herein proposed, your petitioners may be permitted to lay their whole case more completely before your Excellency.

And your petitioners as in duty bound will ever pray.

A. H. CUNNINGHAM, J.P.,
Chairman of Meeting.
HENRY BLACKETT,
A. G. SAND,
and 162 others.

The foregoing names are those of residents or ratepayers north of the Ashley River, in the Ashley and part of the Kowai Road Districts.

A. H. CUNNINGHAM, J.P.

No. 73.

Hon. W. GISBORNE to His Honor W. ROLLESTON.

SIR,—

Colonial Secretary's Office, 2nd August, 1871.

I have the honor to acknowledge the receipt of your letter of the 12th ultimo, covering a memorial to His Excellency the Governor on the subject of the route of the Great Northern Railway.

in the Canterbury Province, and I shall be obliged by your informing the memorialists that their memorial shall be duly submitted to His Excellency.

I take this opportunity of stating that the report on this subject by the Acting Engineer-in-Chief was forwarded to your Honor in my letter of the 8th ultimo, which probably had not reached you when your letter was written.

His Honor the Superintendent, Canterbury.

I have, &c.,
W. GISBORNE.

IV.—SELWYN TO RAKAIA.

No. 74.

Mr. BLACKETT to Mr. THORNTON.

SIR,—

Christchurch, 13th March, 1871.

I have the honor to request that you will furnish me with a statement showing the amount, approximately, of the rails, fish-plates, bolts, spikes, switches, points, crossings, &c., complete, that will be required for the extension of the railway from the Selwyn to the Rakaia. The rails to be of the flat-footed pattern 56 lbs. to the yard, and the head of the rail to be curved to correspond with the double-headed rails in use on the Lyttelton and Christchurch Line.

On approval of this order by the Minister for Works, the materials may be ordered by next mail to England.

Geo. Thornton, Esq., Railway Engineer,
Christchurch.

I have, &c.,
JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 75.

MEMORANDUM by His Honor W. ROLLESTON for the Hon. F. D. BELL.

Christchurch, 14th March, 1871.

THE attached memorandum, signed by the Railway Engineer (Mr. Thornton), gives an estimate amounting to £10,066 of the cost of permanent way required from the Selwyn River to the Rakaia for the Southern Railway.

It is understood that the order for this material will be forwarded by the outgoing mail to our Agent (Mr. Ottywell) in London, with instructions at once to place himself in communication with the Hon. Mr. Vogel, and on learning from him that Government will provide the necessary funds to meet payments on account of the order as they fall due, he will at once have the order executed. He will confer with Mr. Hemans, the Consulting Engineer of the Province in London, as to the form in which tenders will be called for, and will obtain from him the necessary specifications for the purpose. On tenders being received, he will obtain the approval of the Agent-General of the Colony for the tender which may be agreed to be the most advantageous, and will act under his instructions for concluding the contract both for the material and shipment. Tenders will, as in the case of the Northern Railway plant, be invited for the shipment as well as for the material.

I have, &c.,
W. ROLLESTON,
Superintendent.

Enclosure in No. 75.

GREAT SOUTHERN RAILWAY.

ESTIMATE of Cost of Permanent Way required for the Southern Line, from the Selwyn to the South Bank of the Rakaia, with one mile added for sidings (rails 56 lbs. per yard), 13 miles:—

Rails, 1,144 tons @ £7 15s.	... ..	£8,866	0	0
Fish-plates and bolts, 54 tons @ £10	... ..	540	0	0
Bolts for rails, 41 tons @ £10	... ..	410	0	0
10 sets of switches, with switch-boxes and crossings complete, @ £25	... ..	250	0	0
		£10,066	0	0

13th March, 1871.

G. THORNTON,
Railway Engineer.

No. 76.

His Honor W. ROLLESTON to Mr. OTTYWELL.

SIR,—

Superintendent's Office, Christchurch, 15th March, 1871.

Since my letter of the 1st of March was posted, a decision has been arrived at with regard to the form of rail to be ordered for the Southern Railway between the Selwyn and the Rakaia.

It has been determined to continue the flat-footed rail, as previously used, as far as the Selwyn, but the form of the head of the rail is to be altered, so as to correspond in shape with that in use on the Lyttelton Line. This alteration is, as you are aware, chiefly on account of the injurious effect of the present rail upon the wheels of the locomotive.

I enclose the order for rails, fish-plates, bolts, switches, &c., as estimated for by Mr. Thornton.

You will be good enough at once to see Mr. Vogel, and learn from him whether the Government will find funds for the payments which will be necessary in London for the materials, freight, &c.

This order is not to be executed unless the Colonial Government can provide the funds. If Mr. Vogel states that the Government will provide the money, you will proceed to have the order executed, as in the case of the Northern Railway, after conferring with Mr. Hemans, the Consulting Engineer of the Province, as to the form in which the tenders should be called for. He will, of course, prepare the necessary specifications within the terms of Mr. Blackett's letter of 13th March, of which I enclose a copy.

Should any difficulty arise, you will refer to the Colonial Treasurer (or to Dr. Featherston on his arrival); and on tenders being received, you will submit for his approval the tender which may be deemed the most advantageous, and make arrangements with him for the payments as they fall due.

You will understand that the order sent by the last mail, for the rails for the Northern Railway will be immediately executed by you, whether the General Government finds funds or not; but that the order for the Southern Railway is contingent upon funds being provided in London by the General Government.

I forward copies of the memoranda which have passed between myself and the Hon. Mr. Bell upon this subject; also of a letter from Mr. Bell, with memorandum enclosed, addressed to Mr. Sewell.

A copy of a letter instructing the Bank to establish a credit for the Northern Railway plant, to be operated upon if necessary, is also enclosed.

A. Ottywell, Esq., London.

I have, &c.,
W. ROLLESTON.

Enclosure 1 in No. 76.

His Honor W. ROLLESTON to the MANAGER, Bank of Australasia, Christchurch.

SIR,—

Superintendent's office, Christchurch, 15th March, 1871.

Orders were sent to the Emigration Agent in London by the last mail for a further supply of railway metals, rolling stock, material, and sundries, value about £11,000. It is possible that the Colonial Treasurer, now in London, may supply funds to pay for these materials, and the Emigration Agent has been instructed to apply to the Colonial Treasurer in the matter before incurring the expense. But in case the Colonial Treasurer should not supply these funds it will be necessary that Mr. Ottywell should be put in credit. Will you be good enough therefore to establish a credit with your London office in favour of Mr. Ottywell for £11,000, to be used, if it should become necessary to use it, for purposes already mentioned.

I have, &c.,
W. ROLLESTON,
Superintendent.

The Manager of the Bank of Australasia, Christchurch.

Enclosure 2 in No. 76.

MEMORANDUM for His Honor W. ROLLESTON by the Hon. F. D. BELL.

Christchurch, 14th March, 1871.

ADVERTING to your Honor's minute of this date respecting the order for the material required to extend the line of railway from Selwyn to Rakaia, I have communicated to the Minister of Public Works Mr. Blackett's approval of the estimate furnished by your Engineer, Mr. Thornton; and Mr. Gisborne having signified his concurrence, I have to convey to you, on his behalf, the necessary formal approval of the order.

I have communicated by telegram, with the Treasury at Wellington, in order that the requisite steps may be taken for providing in London the funds necessary to execute this order, and meanwhile I have requested Mr. Gisborne to acquaint Mr. Vogel by the mail now leaving Dunedin (*via* Suez) of what has been done, so that he may be prepared to receive Mr. Ottywell on the subject so soon as the latter receives the order.

I have, &c.,
F. D. BELL
(in the absence Mr. Gisborne).

His Honor the Superintendent, Christchurch.

V.—RAKAIA TO TEMUKA AND TIMARU TO TEMUKA.

I.—RAKAIA TO TEMUKA.

No. 77.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Dunedin, 5th May, 1871.

I have the honor to forward for your information, three telegrams having reference to proposed reconnaissance surveys in Canterbury, one from the Rakaia to the Temuka Station and to state that I have been instructed by the Hon. F. D. Bell to accept the tender for the work on the terms proposed.

The surveys will be proceeded with at once.

Hon. W. Gisborne, Minister for Works,
Wellington.

I have, &c.,

JOHN BLACKETT,
Acting Engineer-in-Chief.

II.—TIMARU TO TEMUKA.

No. 78.

The Hon. E. W. STAFFORD to the Hon. J. VOGEL.

SIR,—

Wellington, 12th September, 1870.

I do myself the honor to transmit copies of certain resolutions passed by the Timaru and Gladstone Board of Works, relative to the Rangitata Bridge, and to the proposed line of railway between Timaru and Temuka, for which I request the favourable consideration of the Government.

The Hon. Julius Vogel.

I have, &c.,

E. W. STAFFORD.

Enclosure in No. 78.

Resolved, That the Board of Works views with great satisfaction the promise of the General Government to aid in or undertake the construction of a line of railway between Timaru and Temuka. That the Board of Works would however respectfully urge upon the attention of the General Government and His Honor the Superintendent the necessity of an immediate commencement of the line, as much loss and inconvenience has this year been occasioned to the general public for want of better and surer means of communication, such as the proposed line would afford. The Board further desires to suggest to the General Government and His Honor the Superintendent, that the contemplated line be constructed on the gauge which is to be adopted for all future railways outside the Canterbury Plains, as the undulating nature of the country in and around Timaru will otherwise necessitate considerable additional outlay in constructing lines of railway on the Canterbury system, over and above what it would cost to construct lines on the General Government narrow-gauge system. That the Rangitata Bridge is also adapted to carry a light line. That the General Government be respectfully requested to proceed at once with the preliminary survey, or to instruct the Board of Works to do so. That copies of the foregoing resolutions be forwarded to the General Government, to His Honor the Superintendent, and the Members representing this District in the General Assembly.

Resolved, That the Board see no reason to alter the present bridge over the Rangitata, as it has been calculated by the late Mr. Paterson to carry a narrow-gauge railway.

No. 79.

The Hon. W. GISBORNE to the Hon. E. W. STAFFORD.

SIR,—

Public Works Office, Wellington, 18th October, 1870.

I have the honor to acknowledge the receipt of your letter of the 12th ultimo, addressed to the Hon. J. Vogel, transmitting resolutions passed by the Timaru and Gladstone Board of Works relative to the Rangitata Bridge, and the proposed line of railway between Timaru and Temuka, and to inform you that these resolutions will be carefully considered by the Government.

The Hon. E. W. Stafford, Nelson.

I have, &c.,

W. GISBORNE.

No. 80.

Mr. HORTON to the Hon. W. GISBORNE.

SIR,—

Timaru, 8th October, 1870.

I have the honor, by direction of the Timaru and Gladstone Board of Works, to forward you the enclosed copy of a resolution passed at a meeting of the Board on Thursday, in reference to the proposed line of railway between Timaru and Temuka.

I have, &c.,

A. G. HORTON,
Secretary.

The Hon. the Colonial Secretary.

PAPERS RELATING TO THE

Enclosure in No. 80.

RESOLUTION.

Resolved, As the Board is in a position to command the services of a competent Engineer, it would request the General Government to sanction his employment in the immediate survey of the Timaru and Temuka Railway, the cost of such survey being provided for by a vote of the Provincial Council of Canterbury.

A. G. HORTON,
Secretary.

No. 81.

Mr. HORTON to the Hon. W. GISBORNE.

SIR,—

Timaru, 25th December, 1870.

I have the honor, by direction of the Timaru and Gladstone Board of Works, to inquire whether the Government has yet come to a decision as to whether it will grant permission to the Board to undertake the survey of the proposed line of railway between Timaru and Temuka, as referred to in my letter of the 8th October last. I am directed by the Board of Works to represent the very urgent necessity that exists for the construction of the line.

I have, &c.,
A. G. HORTON,
Secretary.

Hon. Mr. Gisborne.

No. 82.

Mr. COOPER to Mr. HORTON.

SIR,—

Colonial Secretary's Office, Wellington, 7th January, 1871.

I have the honor, by direction of Mr. Gisborne, to acknowledge the receipt of your letter of 25th December last, asking if the Government have decided as to survey of proposed line of railway between Timaru and Temuka, and, in reply, to inform you that arrangements have been made with the Superintendent of Canterbury for a meeting between Messrs. Bray, Babington, and Tancred, to consult on the above subject.

This arrangement would have been intimated to you earlier, had not Mr. Gisborne been under the impression that the Provincial Government of Canterbury had kept you fully informed of the steps taken by the Government.

I have, &c.,
G. S. COOPER,
Under Secretary.

A. G. Horton, Esq., Secretary to Timaru and
Gladstone Board of Works, Timaru.

No. 83.

Mr. HORTON to the Hon. W. GISBORNE.

SIR,—

Timaru, New Zealand, 15th February, 1871.

I have the honor, by direction of the Timaru and Gladstone Board of Works, to forward you the enclosed copies of letters from the Provincial Government of Canterbury, in reference to the contemplated line of railway between Timaru and Temuka, and also a copy of resolution passed unanimously at the last meeting of the Board.

I have also the honor to draw the attention of the Government to the position of the Board of Works in this matter, and to explain the reasons which induced the Board to hesitate in making any recommendation regarding the payment of its Engineer (Mr. G. M. Babington) for surveying the line in connection with Mr. Bray and Mr. Tancred. The Board was authorized (letter marked 491, from Superintendent of Canterbury,) to take up the work, and subsequently, in a letter of the 6th January, 1870 (copy enclosed), was guaranteed any preliminary expenses in the matter.

On the strength of this authority, and believing that the work would be under its immediate control, the Board determined to appoint an Engineer at an annual salary, and to pay such salary wholly or in part out of the funds set apart for the purpose of the railway. Now the Board is unable to do this, and desires to ask the Government, under these circumstances, whether it will pay the Board such salary for the professional services of Mr. Babington as is usually paid to professional men?

I am instructed by the Board to ask for a reply at as early a date as is convenient to the Government.

I have, &c.,
A. G. HORTON,
Secretary, Timaru and Gladstone Board of Works.

The Hon. W. Gisborne.

Enclosure 1 in No. 83.

His Honor W. ROLLESTON to the CHAIRMAN, Timaru and Gladstone Board of Works.

Superintendent's Office,

SIR,—

Christchurch, Canterbury, 6th November, 1869.

I have the honor to forward you herewith a copy of a resolution passed by the Provincial Council in reference to the construction of a tramway from Timaru to Temuka.

I shall be glad if you will bring the subject under the consideration of the Board of Works at an early date, with a view to its taking the necessary steps to promote the undertaking. Upon a satisfactory tender being obtained, I shall be prepared to give effect to the resolution of the Provincial Council.

The Chairman, Timaru and Gladstone
Board of Works.

I have, &c.,
W. ROLLESTON,
Superintendent.

Sub-Enclosure to Enclosure 1 in No. 83.

RESOLUTION.

Provincial Council Chambers, 29th October, 1869.

MOTION was granted, "That, in the opinion of this Council, it is desirable that the sum of £7,500, voted towards the construction of a tramway or railway between Timaru and Temuka, should be handed over to the Timaru and Gladstone Board of Works in instalments, as required by the terms of the contract which may be entered into. And that the Chairman of the Board shall transmit to His Honor the Superintendent for his approval a tender for the construction of the work which the Board deems it expedient to accept,—to be accompanied by satisfactory guarantees for the execution of the contract, to be entered into by the parties furnishing such tenders.

H. B. QUIN,
Clerk of Council.

Enclosure 2 in No. 83.

His Honor W. ROLLESTON to the CHAIRMAN, Timaru and Gladstone Board of Works.

Public Works Office, Christchurch,
Canterbury, New Zealand, 6th January, 1870.

SIR,—

In answer to your letter of the 29th ultimo, inquiring whether the Provincial Government will reimburse the Timaru and Gladstone Board of Works for outlay in certain preliminary expenses in the matter of the Timaru and Temuka Railway, I have the honor to inform you that the Government have decided that such sums as you certify to be a proper expenditure in furtherance of the object shall be paid out of the vote for the purpose.

I have also to state that the tracing of the unreserved land along the line, and the names of the owners, which you ask to have furnished to the Board, will be forwarded as soon as completed.

The Chairman, Timaru and Gladstone
Board of Works.

I have, &c.,
W. ROLLESTON
(for Secretary for Public Works).

Enclosure 3 in No. 83.

RESOLUTION of Board of Works.

Resolved,—That the correspondence with the Provincial Government relative to the Timaru and Temuka Railway be forwarded to the General Government.

That the position of the Engineer with the Board to be as follows:—That the Board guarantee him a certain salary, expecting to recoup themselves partly out of any payment made for works by the General or Provincial Government; that they would not otherwise have engaged an Engineer; and asking them whether they would be prepared to pay the Board at the rate usually paid to professional men.

A. G. HORTON,
Secretary.

No. 84.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Dunedin, 23rd March, 1871.

I have the honor to forward for your information correspondence relative to the survey of the Timaru and Temuka Railway Line as far as the Washdyke, a distance of about three miles.* I have not yet received a reply to my letter to Mr. Babington, although he has informed Mr. Tancred that his other engagements will prevent his undertaking any part of the survey now required.

The Hon. W. Gisborne, Wellington.

I have, &c.,
JOHN BLACKETT.

No. 85.

Mr. KNOWLES to Mr. TANCRED.

SIR,—

Public Works Office, 18th July, 1871.

It being necessary that the purchase of the land on the Timaru and Temuka Line of Railway should be proceeded with at once, I am directed by Mr. Gisborne to forward to you a memorandum of Mr. Blackett's drawn up for your guidance, and to request that you will take such steps as may be requisite to secure to the Crown the whole of the lands belonging to private parties required along the entire length of the line.

* * * * *

Thos. S. Tancred, Esq., Timaru.

I have, &c.,
JOHN KNOWLES.

* The correspondence is merely formal, in which Mr. Tancred offers to survey the line from Timaru to the Washdyke, and his offer is accepted.

PAPERS RELATING TO THE

No. 86.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

Superintendent's Office,

SIR,—

Christchurch, Canterbury, New Zealand, 21st April, 1871.

At its recent Session a sum of £1,000 was voted by the Provincial Council for the purpose of constructing a bridge across the River Temuka, on the Timaru and Temuka Railway Line, on the same terms and conditions as have been arranged in the case of the Rakaia Bridge—viz., that the bridge should be available for both railway and ordinary traffic, and that the General Government would refund the amount expended on the bridge when they took it for railway traffic.

I shall be glad to be informed whether the General Government will sanction the construction of a bridge across the River Temuka, at the point above mentioned, which will serve as both a railway and ordinary traffic bridge, with the view of the work being at once proceeded with by the Provincial Government, on the understanding that the amount thus expended will be refunded, on the bridge in question being used as a railway bridge.

I have, &c.,

W. ROLLESTON,

Superintendent.

The Hon. the Minister of Public Works, Wellington.

No. 87.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

SIR,—

Colonial Secretary's Office, 10th July, 1871.

At your request sections have been taken by Mr. Selby Tancred of the Opihi and Temuka Rivers, with a view to estimate the probable cost of bridging those rivers; and I am informed that the former river requires 19 chains of bridging, which at £5 per foot would cost £6,270, and that the latter requires at least 10 chains of bridging, while possibly 19 chains may be needed, so that £3,300 is the smallest estimate.

As it is probable that a good site can be found just below the junction of the Opihi and Temuka Rivers, not more than 15 chains long, care will be taken to fix the best site when the railway line is laid off.

I have, &c.,

W. GISBORNE.

His Honor the Superintendent, Canterbury.

Note.—For further correspondence arising incidentally out of the Timaru and Temuka Railway Line, see Section VII. of the Canterbury series—"Transfer of Canterbury Railways to the Colonial Government."

VI.—BRANCH LINES.

MALVERN HILLS, OXFORD LINE *via* MOERAKI DOWNS, AND WAIMATE TO WAITAKE.

No. 88.

Mr. BLACKETT to the Hon. W. GISBORNE.

(Telegram.)

Greymouth, 1st June, 1871.

THE Superintendent of Canterbury telegraphs that Provincial Government is desirous that the northern branch of the line to the Malvern Hills should be surveyed simultaneously with the one now under survey, and asks that instructions may be given to Mr. Bray to have it done; not having plans, and not knowing the country, I cannot advise. Similar request is made for survey of alternative line of the Oxford Tramway, by way of the reserve, to south of Moeraki Downs. Cannot advise on this for same reason.

Hon. W. Gisborne, Wellington.

J. BLACKETT.

No. 89.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 2nd June, 1871.

MR. BRAY has been instructed to survey the northern branch of line to Malvern Hills simultaneously with the one now under survey; also the alternative line of Oxford Tramway, by way of the reserve, to South Moeraki Downs, as requested by Provincial Government.

His Honor W. Rolleston, Christchurch.

W. GISBORNE.

No. 90.

Mr. BRAY to Mr. BLACKETT.


SIR,—

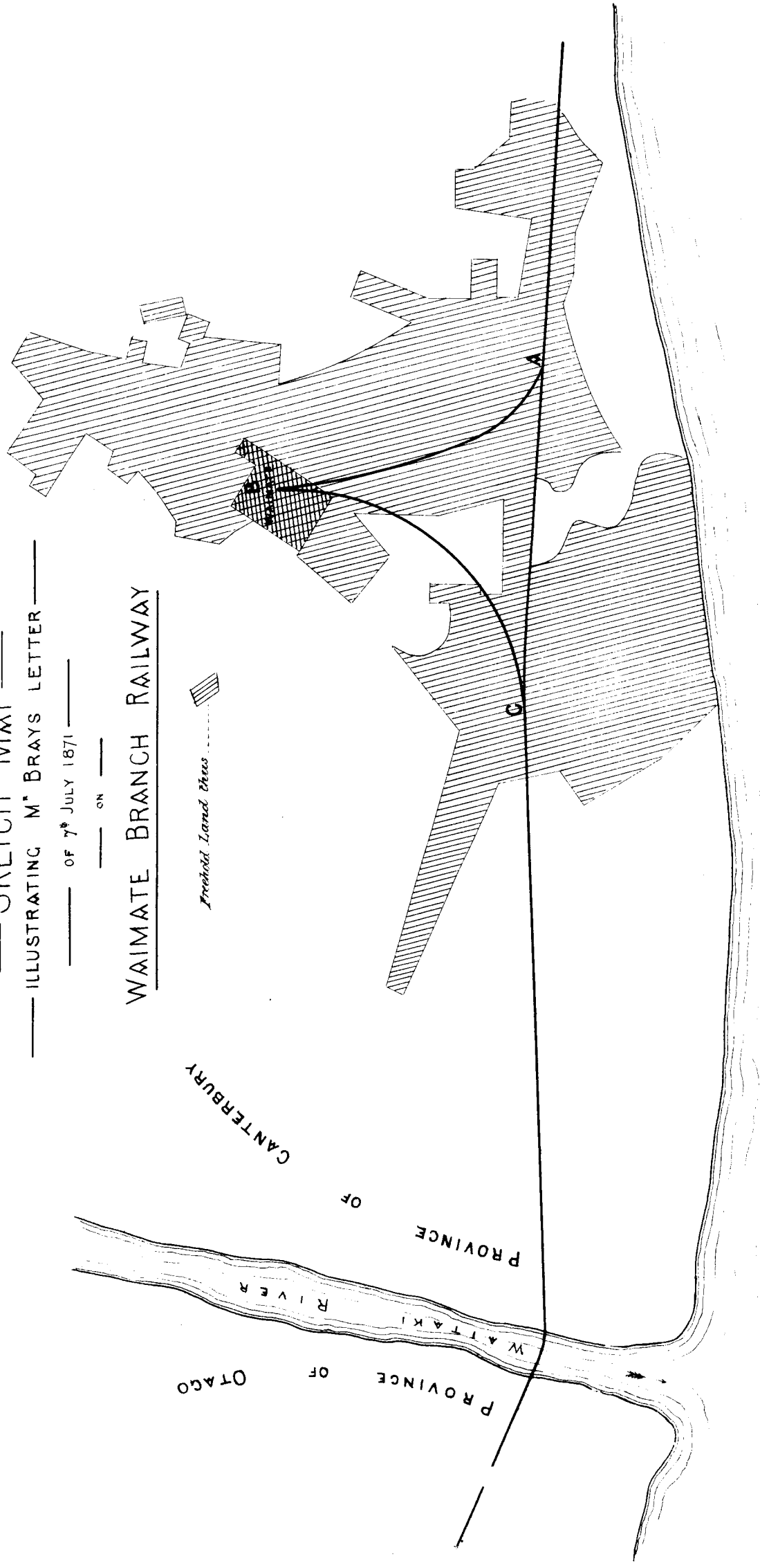
Christchurch, 29th June, 1871.

A line of railway having been surveyed from the Rolleston Station to the River Selwyn, where, according to the report of Dr. Haast, the most abundant supply of coal is to be found, and where, from the analyses published, the coal contains much less ash than at the northerly workings, the Government was requested to have the northerly coal line to the Kowai also surveyed. Both these

— SKETCH MAP —
— ILLUSTRATING M^r BRAYS LETTER —
— OF 7th JULY 1871 —

ON —
WAIMATE BRANCH RAILWAY

Preceded Land thus 



lines have been surveyed, and in the first of the annexed plans and sections the general direction and levels are indicated, and contour lines are shown in blue. It is clear that both these lines are self-acting inclines, taking the coal to the Rolleston Station by gravitation alone, requiring power only to take the empty waggons back to the pits.

I am informed (unofficially) that a meeting has been held this day to support a line as shown in the second plan, running from Colonel Brett's, B, to Racecourse Hill, X, thence branching North, X E F, and South, X C D, to the Selwyn coal. As this suggestion has been made in total ignorance or disregard of the levels of the country, and a mail is leaving to-morrow for Wellington, I feel it my duty to forward you the approximate section on this line.

By this you will see that the coal from the Selwyn pits (best and most abundant) will not descend by gravitation to Christchurch. On the second section there is a descending gradient from D to C, thence an ascent of about 100 feet to X, which must prove a serious obstacle to the conveyance of coal from the Selwyn. I think if the Government wished to meet the desires of the residents about Racecourse Hill, it would be done more effectually by the third plan. Taking the whole of the line originally surveyed to the Selwyn, in lieu of branching off at B, continue to O on the Hawkins, whence a line may be carried along the banks of the river past X at Racecourse Hill, and thence to E and F as per second plan. On this line there is a descent to Christchurch from both lines, and the length of railway required is only one mile more than by the second plan. The Selwyn coal descends by the line D C B A, and Jebson's by the line F E O B A.

The line of railway to the Selwyn is not continued to the pits, as three district lines would be required, and all may supply coal to the line at D by colliery lines.

The approximate position of the coal deposits is shown, with the name of the party interested in them written. The plan is but rough, having been got up after 4 p.m. this afternoon.

I am not aware what steps will be taken respecting this line, but information concerning it could not have been sent by telegraph; hence this report.

J. Blackett, Esq.

I have, &c.,

W. B. BRAY.

30th.—The reported meeting was held, and intended to memorialize the Assembly for Plan No. 2. I have pointed out the natural difficulty, and they will probably petition for Plan 3, which saves five miles of line in reaching both N. and S. fields, being five miles shorter than the reserved lines ordered to be surveyed.

No. 91.

Mr. BLACKETT to Mr. BRAY.

(Telegram.)

No. 3 Line to Coal, Malvern.—Survey authorized east of Racecourse Hill, to avoid private land.

W. B. Bray, Esq., Christchurch.

Wellington, 12th July, 1871.

JOHN BLACKETT.

No. 92.

Mr. KNOWLES to Mr. BRAY.

SIR,—

Public Works Office, Wellington, 3rd July, 1871.

With reference to the telegrams that have passed between Mr. Blackett and yourself as to the reserves for the railway line north and south of the Waitaki, I am directed to inform you that Mr. Tancred suggests the desirability of reserving, so far as it is possible, a second branch from the Waimate to Waitaki, because, as the present line trends northwards, he thinks it very probable that the Government may desire to connect Waimate with the South before the line is made through from Timaru, and may wish to avoid the necessity of making the two sides of the triangle first.

Will you be good enough to explain by sketch and otherwise the proposition which Mr. Tancred has suggested, that I may submit it for the consideration of the Hon. the Minister for Public Works.

I have, &c.,

JOHN KNOWLES,

Under Secretary.

W. B. Bray, Esq., District Engineer, Christchurch.

No. 93.

Mr. BRAY to Mr. KNOWLES.

SIR,—

Christchurch, 7th July, 1871.

In consequence of your favour of the 3rd instant respecting reserving another branch to Waimate, the sketch annexed shows the line of railway across the Waitaki, and the branch A B laid out to Waimate. This line is laid out through freehold land, and is not reserved from A to B. The branch line suggested by Mr. Tancred would be about as shown on sketch annexed by line B C. The line A B is on level ground, and the branch B C crosses some downs of 30 to 50 feet elevation, portion of the line being along the edge of a tortuous river. Out of four and a half miles of branch, three and a quarter miles would be through freehold land, but on one mile and a quarter the line might be reserved, if the most favourable line were first surveyed. By this means the purchase of 10 or 12 acres of land might possibly be avoided, though from the inferior quality it is less likely to be sold. But the present cost of survey would probably amount to as much or more than the purchase of so much of the above-named 10 or 12 acres as may be sold. Mr. Tancred having gone South, I have

obtained my information from the Land Office, and a surveyor who has been twelve months in those parts.

John Knowles, Esq., Under Secretary, Wellington.

I have, &c.,
W. B. BRAY,
District Engineer.

MEMORANDUM.—It does not, on Mr. Bray's showing, seem to be worth while making the survey for the reserve, as there is so much freehold land. I therefore cannot now recommend it to be done.
13th July, 1871.

JOHN BLACKETT.

VII.—TRANSFER OF CANTERBURY RAILWAYS TO THE COLONIAL GOVERNMENT.

[*Note.*—To avoid repetition, the early letters having reference to the transfer of railways are not reprinted under this sectional heading, but will be found in Section I., "Correspondence relating to the Commencement of Works."]]

No. 94.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,— Superintendent's Office, Christchurch, Canterbury, 21st April, 1871.

With a view to the immediate prosecution of the work on the Timaru and Temuka Railway, the Provincial Government wish to ascertain whether it is understood that they are to proceed with the purchase of the land required for the line, and further to arrange for contracts for works as far as the £7,000 now in the hands of the Provincial Government will permit.

The Memorandum addressed to the Hon. Mr. Sewell by the Hon. Mr. Dillon Bell, dated 8th March, 1871, authorizes the commencement of the works under the direction of Mr. Blackett, to the extent of the funds which the Province should provide, but does not definitely prescribe whether the work is to be so initiated by the Provincial Government, as in the case of the Northern Railway, or by the General Government.

It is desirable that there should be no misunderstanding on this point, as it is understood that the surveys are in a forward state, permitting the commencement of the works at an early date.

I have, &c.,
W. ROLLESTON,
Superintendent.

The Hon. W. Gisborne, Wellington.

No. 95.

Mr. KENNAWAY to the Hon. W. GISBORNE.

SIR,— Superintendent's Office, Christchurch,
Canterbury, New Zealand, 10th June, 1871.

I have the honor to enclose herewith the "Book of Reference" for the Timaru and Temuka Railway, as requested in your telegram of yesterday.

The reserve specified as "100 feet above high water" is a General Government Reserve, generally called the "Beach Reserve."

As soon as the line is proclaimed, I shall be glad to learn from you what steps (if any) the Provincial Government is expected to take towards the purchase of the land required for the railway; and with reference to this I have the honor to draw your attention to a letter addressed to yourself by His Honor the Superintendent, dated 21st April last, to which no reply has as yet been received.

I have, &c.,
WALTER KENNAWAY,
Provincial Secretary

The Hon. Mr. Gisborne, Wellington.

(in the absence of the Superintendent).

No. 96.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

SIR,— Colonial Secretary's Office, 11th July, 1871.

The Government have had under their careful consideration the subject of your Honor's letter of 10th ultimo, in which you ask what steps your Government is expected to take towards the acquisition of the land required for the Timaru and Temuka Line. It appears to them that the larger question is raised, whether the time has not come to determine the provisional arrangements hitherto subsisting between the General Government and the Provincial Government of Canterbury, in connection with the works of the Canterbury railways. It will perhaps be convenient if I briefly notice those arrangements.

The Railways Act of last Session authorized the construction of the Northern Line as far as Rangiora at a cost of £92,000; of the Southern Line between Selwyn and Rakaia at a cost of £48,000; and of the Timaru and Temuka Line at a cost of £67,000.

In the month of December last, it was arranged between the two Governments, as stated in my telegram to your Honor dated 23rd December, 1870, that the Provincial Government of Canterbury should proceed with these works out of its own funds, subject to proper control by the General Government, the latter undertaking to take over the works and refund to the Province the amount expended by it, so soon as funds for the purpose of constructing the railways should have been raised

under the Loan Act. In accordance with this undertaking, your Honor's Government took steps to commence the works, and they have since been actively prosecuted under special conditions agreed on from time to time between the Colonial and Provincial authorities, pending the time when they should be finally taken over. I desire to record my acknowledgment of the cordial manner in which your Honor and the Provincial Government have co-operated with the General Government in every step which it has been necessary to take, and my thanks for the assistance which has been given to the Colonial officers by those in the service of the Province.

The Government consider that it is now advisable that the Province of Canterbury should be relieved from the burden of providing the money for carrying on these railways, and that the works already in progress should be taken over and the Provincial advances refunded. The Government are in possession of funds under the Loan Act.

The Timaru and Temuka surveys are completed, and there is nothing to prevent the first contracts being immediately let; and it would hardly be convenient that the Province should now commence to make payments on account of that work only to be immediately repaid.

Moreover, as regards the chief part of the plant and rolling stock already ordered, arrangements were made in compliance with your Honor's wishes for the payment of the orders by the Colonial Agent-General in London, so that there will be no need for payments to be made out of the Provincial Treasury on that account. I have accordingly, in terms of our provisional agreement, to invite your Honor's concurrence in the following propositions:—

First, That from the present time the works already in progress on the three lines should be taken over by the Colonial Government, and the existing provisional arrangements between the two Governments be terminated.

Secondly, That an account be taken of all sums expended on these works out of the Provincial Treasury, and the amount thereof be forthwith repaid by the Colonial Government; also, that due provision be made by this Government for the fulfilment of any liabilities outstanding in connection therewith.

The General Government will then at once assume the entire control of the construction of these lines, as well as of the further works which, on the recommendation of your Honor and the Provincial Council, may be authorized by the General Assembly. But I need hardly add that it will be my earnest wish to act in every instance in concert with your Government; and I cannot doubt that the same hearty co-operation on your part will continue which has already enabled the first steps to be taken with so much advantage to the public interests.

His Honor the Superintendent, Canterbury.

I have, &c.,
W. GISBORNE.

No. 97.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

(Telegram.)

18th July, 1871.

PENDING submission to Council of your letter as to transfer of works, no time should be lost in pressing on works. Tenders should at once be invited for ballasting and laying rails, which are now here and shortly to come. Will you authorize this?

W. ROLLESTON.

No. 98.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 18th July, 1871.

UNTIL arrangements are completed for transfer of railway works to General Government, your Honor is authorized to call for tenders for ballasting and laying rails, as suggested in your telegram of to-day. Please do so at once.

His Honor the Superintendent, Canterbury.

W. GISBORNE.

No. 99.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Christchurch, 5th August, 1871.

I have the honor to forward herewith copies of resolutions passed by the Provincial Council, referring respectively to the transfer of railways to the Colonial Government.

I have, &c.,

W. ROLLESTON,
Superintendent.

The Hon. the Colonial Secretary.

Enclosure 1 in No. 99.

RESOLUTIONS.

1. That this Council having before it the correspondence between the Colonial Government and the Provincial Government of Canterbury, on the subject of the provisional arrangement under which the railway works in this Province are now being carried on, begs to express its approval of such provisional arrangement having been entered into by the Provincial Government.

2. That this Council concurs in the proposal contained in the letter from the Colonial Secretary of the 11th July, 1871, that such railway works shall now be taken over by the Colonial Government,

the amount of money already expended thereon by the Provincial Government being refunded to it in accordance with the terms of the arrangement above referred to.

3. That this concurrence is expressed in the confident hope that the commencement of the railway between the Rakaia and the Selwyn, and between Temuka and Timaru, as well as the continuation of the Northern Line from Kaiapoi to Southbrook, for which works the plans and specifications are all but complete, will suffer no delay from the proposed transfer.

4. That with a view of promoting the early construction of tramways within the Province, this Council, will be prepared to appropriate the following sums in aid of such works out of moneys to be refunded by the Colonial Government, viz. :—

Tramway to Oxford	...	...	...	...	...	...	£10,000
„ Eyreton	...	...	...	...	...	...	5,000
„ Malvern	...	...	...	...	...	...	10,000
„ Ellesmere District, including the expenditure on the Selwyn Bridge	...	...	...	...	...	...	12,000

Such tramways to be constructed by the Provincial Government, subject to such control on the part of the Colonial Government, in respect of the description of the work and the direction of the lines, as will enable the Colonial Government to undertake the continuance of these tramways when it may be in a position to set apart the necessary funds for that purpose.

No. 100.

His Honor W. ROLLESTON to the Hon. W. GISBORNE.

(Telegram.)

Christchurch, 9th August, 1871.

IN reference to the resolution forwarded to you as to transfer of Railway Works, will you state what proposals you will make to give effect to them? I shall be glad to give you every assistance. I am of opinion that, as suggested by you, provisional arrangements should terminate.

The Hon. the Minister for Public Works.

WM. ROLLESTON.

No. 101.

The Hon. W. GISBORNE to His Honor W. ROLLESTON.

(Telegram.)

Wellington, 15th August, 1871.

MR. BRAY will be instructed to place himself in communication with Provincial Government and suggest arrangements as to future staff when transfer is made. I hope, if we take over any Provincial officers, you will agree to give us always access to maps and other information.

It is understood you can give office accommodation.

I propose date of transfer to be 1st October next. Please get ready account of moneys claimed to be refunded up to that date.

His Honor the Superintendent, Christchurch.

W. GISBORNE.

O T A G O .

I.—DUNEDIN AND CLUTHA.

No. 102.

Mr. BLAIR to the Hon. J. VOGEL.

SIR,—

Dunedin, 21st December, 1870.

I have the honor to inform you that, in accordance with your instructions, I have considered the whole subject of the construction of the Otago Southern Trunk Railway, with a view to a reduction of the cost. The result of my investigation is contained in the accompanying plans, specifications, and estimates; and, in laying them before you, I wish to give a general explanation of the manner in which the reductions are affected, and some additional information that may be useful to the Government in considering the scheme.

Hitherto, the estimates have been framed for a 4 feet 8½ inch line, constructed within the powers of the Otago Southern Trunk Railway Acts. My estimate is for a 3 feet 6 inch line, deviating from the Parliamentary plans to a greater extent than is allowed by Standing Orders of the General Assembly, but keeping the steepest gradients the same.

The following table shows how the reduction has been made on the principal works:—

FORMER ESTIMATES.	PRESENT ESTIMATES.
<i>Fencing.</i>	
Lines to be double fenced throughout, at a cost of from £320 to £240 per mile.	No fencing through swamps and along margin of lakes and rivers, and present fencing to remain. Cost, £180 per mile.
<i>Earthwork.</i>	
Formation width, 17 and 14 feet slopes of ordinary cuttings, and embankments 1½ to 1; cuttings from 2s. 6d. to 4s. per cubic yard; side ditches, 2s.	Formation width of cuttings 12 feet, and embankments not less than 10 feet 6 inches; slope of ordinary cutting, 1 to 1; lowest price for cutting, 1s. 1d. per cubic yard; side ditches, 1s.; ordinary cuttings, 1s. 3d. to 1s. 6d.; Rock, 2s. 3d. to 4s.
<i>Tunnels.</i>	
Calculated to have 18 inches brick lining throughout.	Caversham Tunnel only to be roofed with brick-work; area considerably reduced.
<i>Public Roads.</i>	
Bridges under railway constructed of masonry or ironwork. Bridges over railway, masonry abutments and timber superstructure. Level crossings provided with cottages for keepers, value £200 each.	Three bridges only retained, and their dimensions reduced. Those over line solely of timber. Gatekeepers' cottages to cost £100 each.
<i>Viaducts and River Bridges</i>	
	Reduced generally, and parapets, handrails, &c., done away with.
<i>Ballasting and Permanent Way.</i>	
	Rails and fastenings to remain the same, ballasting and sleepers reduced. Price of rails in Dunedin, £8 10s. per ton.

My estimate for the whole railway as amended, and including stations and rolling stock, is £257,500—i.e., an average of £5,000 per mile. The prices for works on main line are all a little in advance of those at present ruling in this Province, and I have no doubt they can be done under my figures if the Government will make cash payments, so as to allow them to be let in small contracts.

The prices for plant and rolling stock are also an advance on that already paid on other railways in the Colony. The rails for the Oreti Railway were delivered, F.O.B., at Liverpool, for £6 6s per ton. This railway offers peculiar facilities for being cheaply and expeditiously constructed. Timber for all purposes can be got at Dunedin, the Taieri, and the Clutha, the supply at the latter place being the best in the Province. Building stone is found on the ground, at the site of the Abbotsford Viaduct and other places, where it is required. There is a scarcity of gravel for ballasting on the first half of the line, but a good substitute is to be found in an inferior bluestone that exists in large quantities. Another important feature is that the imported materials can be conveyed by water direct from the ship at Port Chalmers to several points on the railway. Three-fourths of the plant can thus be deposited at the Taieri and Clutha Rivers, and the bridge materials will be landed on the spot where they are to be erected.

Although I have not taken notice of it, in the specifications and estimate an alteration of the line is shown at the Clutha River. Instead of proceeding along the banks of the river from the island to the township on the north side, I propose to cross the river at the former point. The railway will ultimately extend southward, and a mile of very heavy works would be avoided by crossing here.

The settlers at West Taieri are very anxious that the line should be diverted so as to afford them better accommodation. I think the subject is worth while considering by the Government, and therefore bring it under your notice. I have entered fully into it in the evidence given before a Committee of the Provincial Council (extracts from which are appended), and the accompanying tracing shows the deviation I proposed.

The "evidence" above alluded to gives other information about the railway, which may be of use to the Government, so I have given the extracts at length.

Herewith are forwarded plans and specifications of the altered line, and the following documents are appended:—

1. Abstract Estimate of Railway in accordance with plans and specifications sent to Mr. William Carr Young, 3rd December, 1867.
2. Estimate for Light Railway in accordance with conditions prepared for Provincial Government, 15th December, 1868.
3. Estimate for altered Line, in accordance with plans and specifications now forwarded.
4. Extracts from Evidence given before Select Committee of Provincial Council.

I have, &c.,

The Hon. the Colonial Treasurer, Wellington.

W. N. BLAIR.

Enclosure 1 in No. 102.

ABSTRACT ESTIMATE for Railway from Dunedin to Balclutha, in length 51 miles 3 furlongs 145 yards or thereby.—Dunedin, 3rd December, 1867.

	Division No. 1, length 8 miles 1 fur. 105 yds.	Division No. 2, length 15 miles.	Division No. 3, length 13 miles 6 fur.	Division No. 4, length 14 miles 4 fur. 40 yds.	Total length 51 miles 3 fur. 145 yds.	Average per Mile.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Fencing ...	2,400 0 0	4,800 0 0	4,400 0 0	4,640 0 0	16,240 0 0	315 12 0
Cuttings, side-cuttings, and embankments on line ...	37,875 0 0	20,275 0 0	15,337 10 0	33,912 10 0	107,400 0 0	2,087 3 3
Pitching slopes ...	260 0 0	...	840 0 0	1,500 0 0	2,600 0 0	50 10 6
Retaining walls, &c. ...	2,000 0 0	...	...	...	2,000 0 0	38 17 4
Tunnels ...	59,800 0 0	...	...	...	59,800 0 0	1,162 2 6
Public road alterations ...	822 10 0	185 0 0	877 10 0	1,052 10 0	2,937 10 0	57 1 9
Stream diversions ...	750 0 0	...	...	...	750 0 0	14 11 6
Public road level crossings ...	370 0 0	1,090 0 0	1,060 0 0	340 0 0	2,860 0 0	55 11 8
Viaducts and river bridges ...	5,705 0 0	13,609 12 0	1,087 13 0	1,504 12 0	21,906 17 0	425 14 6
Public road bridges ...	2,717 0 0	...	1,238 9 0	2,439 2 0	6,394 11 0	124 5 5
Stream bridges and large culverts ...	1,890 0 0	250 0 0	...	600 0 0	2,740 0 0	53 5 0
Private and occupation works ...	1,600 0 0	750 0 0	687 10 0	725 0 0	3,762 10 0	73 2 4
Small culverts and drains ...	800 0 0	1,500 0 0	1,375 0 0	1,450 0 0	5,125 0 0	99 12 0
Ballasting and permanent way ...	19,377 3 0	36,240 0 0	32,188 15 0	34,702 1 0	122,507 19 0	2,380 15 3
Total for works on main line ...	136,366 13 0	78,699 12 0	59,092 7 0	82,865 15 0	357,024 7 0	6,938 5 0
Contingencies, 5 per cent. ...	...	...	...	...	17,855 13 0	347 0 0
Stations and rolling stock ...	...	...	...	...	374,880 0 0	7,285 5 0
Total for railway com- plete ...	...	...	...	...	40,000 0 0	777 6 10
	...	...	...	...	414,880 0 0	8,062 11 10

In accordance with plans and specifications sent to Mr. William Carr Young.

W.N.B.

Enclosure 2 in No. 102.

ABSTRACT AMENDED ESTIMATE for a Light Railway constructed within the powers of "The Otago Southern Trunk Railway Act, 1866," and "The Otago Southern Trunk Railway Amendment Act, 1867."—15th December, 1868.

	Division No. 1, length 8 miles 1 fur. 105 yds.	Division No. 2, length 15 miles.	Division No. 3, length 13 miles 6 fur.	Division No. 4, length 14 miles 4 fur. 40 yds.	Total length 51 miles 3 fur. 145 yards	Average per Mile.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Fencing	1,800 0 0	3,600 0 0	3,300 0 0	3,480 0 0	12,180 0 0	236 14 0
Cuttings, side-cuttings, and embankments on line ...	34,800 0 0	16,100 0 0	11,000 0 0	28,150 0 0	90,050 0 0	1,749 19 8
Pitching slopes ...	260 0 0	...	800 0 0	1,500 0 0	2,560 0 0	49 15 0
Retaining walls, &c. ...	1,000 0 0	...	...	...	1,000 0 0	19 8 8
Tunnels	55,460 0 0	...	...	...	55,460 0 0	1,077 15 9
Public road, alterations, bridges, and level cross- ings	2,520 0 0	1,000 0 0	1,510 0 0	1,800 0 0	6,830 0 0	132 14 8
Stream diversions, bridges, and large culverts ...	1,840 0 0	200 0 0	...	600 0 0	2,640 0 0	51 6 1
Viaducts and river bridges	5,000 0 0	10,300 0 0	800 0 0	1,200 0 0	17,300 0 0	336 4 0
Private and occupation works, small culverts, and drains	1,600 0 0	1,500 0 0	1,375 0 0	1,740 0 0	6,215 0 0	120 15 7
Ballasting and permanent way	17,056 16 7	27,450 0 0	25,145 0 0	26,576 11 10	96,228 8 5	1,870 1 3
	121,336 16 7	60,150 0 0	43,930 0 0	65,046 11 10	290,463 8 5	5,644 14 8
Contingencies ...	6,073 3 5	3,010 0 0	2,200 0 0	3,253 8 2	14,536 11 7	282 10 0
Total for works on main line	127,410 0 0	63,160 0 0	46,130 0 0	68,300 0 0	305,000 0 0	5,927 4 8
Stations and rolling stock ... ..	...	...	...	...	40,000 0 0	777 6 10
Total for railway com- plete ... ..	...	...	...	...	345,000 0 0	6,704 11 6

In accordance with conditions prepared for Provincial Government of Otago.

W.N.B.

Enclosure 3 in No. 102.

ABSTRACT ESTIMATE for a Light Railway constructed in accordance with accompanying Plans and Sections. Total length of line, 51 miles 4 furlongs.

	Division No. 1, Dunedin to Taieri Plains, length 8 miles 2 furlongs.	Division No. 2, North Taieri to Waihola River, length 15 miles.	Division No. 3, Waihola River to South Toko River, length 13 miles 6 fur.	Division No. 4, South Toko River to Balclutha, length 14 miles 4 furlongs.	Total Dunedin to Balclutha, length 51 miles 4 furlongs.	Average per Mile.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Fencing	1,170 0 0	740 0 0	1,890 0 0	1,350 0 0	5,150 0 0	100 0 0
Cuttings, side-cuttings and embankments	19,260 0 0	8,380 0 0	5,810 0 0	16,410 0 0	49,860 0 0	968 3 2
Pitching slopes ...	160 0 0	...	700 0 0	160 0 0	1,020 0 0	19 16 2
Retaining walls ...	1,000 0 0	...	...	...	1,000 0 0	19 8 4
Tunnels	43,500 0 0	...	...	...	43,500 0 0	844 13 3
Public road alterations, bridges, and level cross- ings	1,650 0 0	660 0 0	780 0 0	860 0 0	3,950 0 0	76 13 11
Stream diversions, bridges, and large culverts ...	1,500 0 0	150 0 0	...	450 0 0	2,100 0 0	40 15 6
Viaducts and river bridges	3,250 0 0	8,500 0 0	660 0 0	1,000 0 0	13,410 0 0	260 7 9
Private and occupation works and small cul- verts	850 0 0	1,200 0 0	1,100 0 0	1,450 0 0	4,600 0 0	89 6 5
Ballasting and permanent way	13,280 0 0	21,300 0 0	19,530 0 0	20,590 0 0	74,700 0 0	1,450 9 8
	85,620 0 0	40,930 0 0	30,470 0 0	42,270 0 0	199,290 0 0	3,869 14 2
Contingencies ...	9,380 0 0	4,070 0 0	3,530 0 0	3,730 0 0	20,710 0 0	402 2 9
Total for works on main line	95,000 0 0	45,000 0 0	34,000 0 0	46,000 0 0	220,000 0 0	4,271 16 11
Stations and rolling stock ... ..	...	...	...	...	37,500 0 0	728 3 1
Total for railway com- plete ... ..	...	...	...	...	257,500 0 0	5,000 0 0

Dunedin, 4th December, 1870.

W. N. BLAIR,
Engineer.

Enclosure 4 in No. 102.

EXTRACTS from Evidence given before Select Committee of Provincial Council on the Otago Southern Trunk Railway.

Dunedin, 14th May, 1870.

WITH reference to the various routes suggested for leaving Dunedin, I believe that five different lines have at various times been proposed and examined. They comprise—

1. A line round the coast from Forbury to Green Island.
2. The Parliamentary Line of 1866, *via* Sidey's Gully.
3. The amended Parliamentary Line of 1867, through Lookout Point.
4. A line leaving the Port Chalmers Railway at Pelichet Bay, proceeding up the Water of Leith, and down the Kaikorai Valley to Green Island; and
5. A line going up the Water of Leith like the last, but instead of turning into the Kaikorai Valley it would keep further west, pass through the Half-way Bush, and at a high level proceed towards the Chain Hills along the face of the ranges.

I have not examined the whole of the line along the coast, but understand that on account of the height and the precipitous nature of the cliffs it is almost impracticable; besides, the point where the coast could be left is a very inconvenient one for beginning the ascent of the ranges, and the upper portion of the Green Island district would be completely shut out if this line were adopted.

The reasons for selecting the present Parliamentary Line in preference to that of 1866 are given fully in Mr. Paterson's letter of the 15th December, 1868, addressed to the Provincial Secretary. This letter was laid before the Provincial Council at its last meeting, so will be in the Committee's possession; it is therefore unnecessary for me to repeat those reasons here.

As to the route up the Water of Leith and down the Kaikorai Valley, I find that the saddle at Balmacewan is about 380 feet above sea level; the distance of this point from Pelichet Bay is under two and a quarter miles, so a gradient of 1 in 32 would require to be adopted, to obviate tunnelling at the summit. The valley continues tolerably level to the Half-way Bush Road, so any tunnel made would be of a great length. Another serious objection is that nearly the whole of the line along the Leith and Ross Creek would require to be cut out of solid bluestone rock. A railway in this direction would be two and a quarter miles longer than the Parliamentary Line, independent of 50 chains of the Port Chalmers Railway made available.

The object in adopting the fifth route would be to do away with both the Lookout Point and Chain Hill Tunnels. There is a very convenient gully leading from Ross Creek to the Half-way Bush, but my impression is, though the utmost advantage were taken of it, a tunnel would still be required at the saddle.

In keeping along the face of the range, numerous gullies would be crossed at a high level, entailing heavy embankments; and after getting over the Chain Hills, it would be necessary to run out the gradient to Riccarton or Spring Bank before the level of the plain was reached. Numerous sections have been taken at the Chain Hills, with the view of shortening the tunnel or doing away with it altogether, but they were all abandoned in favour of the present Parliamentary Line. Any high level line passing through the Green Island district would be quite inaccessible to the coal pits, the mills, and other places from which a considerable traffic may be expected. Taking this line in its entirety, it is the most objectionable of the five, whether as regards engineering features or accommodation afforded.

From my acquaintance with the country and the numerous lines proposed and tried, I have no hesitation in stating as my candid opinion, that the present Parliamentary Line from Dunedin to Taieri Plain is in every respect the best that can be got for the money, and that no cheaper line can be made consistent with public safety, and the present and future requirements of the country. Of course numerous minor improvements could be made when staking out the line; but as these would all be within the statutory powers, they cannot be called deviations. I have considered the desirability of diverting the railway through the Taieri Plains, so as to give increased accommodation to the settlers on the north and west sides. My attention has been directed to three proposals—

- 1st. A branch line from the present Parliamentary Line to Outram.
- 2nd. A deviation from the present line at the Chain Hills, passing near the Outram and Waipori townships, keeping on the west side of the Lakes, and rejoining at the Waihola Gorge.
- 3rd. A deviation leaving the present line as above, but going down the centre of the plain and rejoining near the Waihola River.

The best place for the commencement of a branch line to Outram is somewhere near Mr. Milne's property. Assuming it to go almost straight across, the length would be about four miles, and the cost, including a bridge across the Taieri, about £20,000.

The second alternative provides for a complete change in the line from the Chain Hills to the Waihola Gorge. The increased length of this route would be about three and a half miles, at a cost of about £19,000; the saving effected by avoiding the Waihola River is more than compensated for by the rough country on the west side of the Lakes. Another objection is that this line would make the Otakia and Coast districts more isolated than the West Taieri districts are made by the Parliamentary one.

With the view of affording equal accommodation to both sides of the plain, I have laid down on the accompanying map a deviation leaving the present line at the Chain Hills, passing to the north of Mossgiel, proceeding down the middle of the plain to within half a mile of the Waipori Lake; and thence in a direct line to the Waihola River, near the present crossing. The following table shows the distances from principal places on the plain to each of the two lines.

	Parliamentary Line.	Proposed Line.
Mossgiel	$\frac{7}{8}$ miles	$\frac{5}{8}$ miles
Riccarton	$\frac{1}{2}$ "	$2\frac{1}{2}$ "
Greytown	Passes through.	$1\frac{3}{4}$ "
Outram	$3\frac{3}{4}$ miles	2 "
Maungatua, foot of range	$3\frac{1}{2}$ "	$1\frac{1}{2}$ "
Otokia	$\frac{1}{8}$ "	2 "
Waipori Township	$3\frac{1}{2}$ "	2 "
Taieri Ferry	$\frac{5}{8}$ "	$\frac{3}{4}$ "

This deviation would add about one mile and three-quarters to the length of the railway, and about £9,500 to the cost, or about £7,000 on the reduced basis. In laying it down I have availed myself as much as possible of existing road lines, so as to avoid the intersection of valuable property.

The only portion injuriously affected is that between the Chain Hills and the main road. The plan shows approximately the best positions for the principal stations on the plain; the first is situated at the junction of four or five roads, and commands the whole of the North Taieri traffic; the second is on the main road between Greytown and Outram. The bridge over the Taieri could be made to serve as a road and railway bridge, so this station would accommodate both sides of the river.

In the event of any deviation being decided on, I would recommend the line last described, as affording the greatest accommodation at the least cost.

The next subject to which my attention has been directed is the construction of the railway across the Taieri swamps. Trial pits put down between the Waipori Lake and the Taieri River show the strata to be as follows:—Vegetable matter and silt, 1 to 2 feet; soft blue clay, 5 to 6 feet; beyond this depth stiff yellow clay. At the Reliance crossing a stratum of soft sand and silt, 22 feet thick, overlies the clay. As may be observed at the sides of ordinary drains throughout the plain, the soft blue clay above noticed becomes quite hard after being a short time exposed to the action of the sun, and in the vicinity of such drains the swamp is soon transformed into an arable field. The intention was to carry the railway through the swamp on an embankment 5 or 6 feet high, the materials for which were to be taken out along the line in the form of large ditches.

The levels of the railway through the lower part of the plains were fixed in reference to the flood of 1861; but so liberal was the allowance made, that the heavier flood of 1868 did not come within six inches of the rail level. A flood considerably higher than any hitherto recorded would not interrupt the traffic for a single hour.

I understand that the floods at the lower end of the plain are chiefly caused by backwater, and that the current is scarcely perceptible; in which case little or no damage would be done to the embankments or culverts. As to the possibility of railway works damming up the flood-waters to the injury of property, I am clearly of opinion that they would have no such effect, but would rather tend to relieve the lands inundated; and further, I believe that the construction of a line of railway through these swamps would, by draining the land, enhance the value of the adjoining properties to an extent almost equivalent to the extra cost of constructing it.

The last question submitted to me refers to "Fairlie's Bogie Engine and Railway Construction." The subject embraces such a wide field that I can only allude to it in general terms. The system of light railways and rolling stock advocated by Fairlie is admitted by the best authorities to be a great step towards providing railway communication to districts hitherto supposed to be beyond such influences, and it is impossible to calculate the amount of good likely to result from its general adoption.

However, the country from Dunedin to the Taieri is by no means suited for a very steep railway; for instance, almost any gradient might be run up from the plain to the top of the Chain Hills, but nothing would be gained by so doing, as there is no corresponding slope on the east side for a down gradient. In the event of a railway being made north from Dunedin, steep gradients can be adopted to the greatest advantage.

W. N. BLAIR,
Civil Engineer.

No. 103.

Mr. BLAIR to the Hon. W. GISBORNE.

(Telegram.)

Dunedin, 28th December, 1870.

THE detailed plans already prepared are for a heavier and more costly line than now proposed. Recommend section from Dunedin to Caversham. Cost, exclusive of permanent way, £3,500; length, one mile and three quarters. Tenders can be called for immediately. Plans ready in fortnight or sooner.

* * * * *
Hon. W. Gisborne, Wellington.

* * * * *
W. N. BLAIR.

No. 104.

The Hon. W. GISBORNE to Mr. BLAIR.

(Telegram.)

Wellington, 30th December, 1870.

CALL at once for tenders for construction of railway from Dunedin to Caversham. Give a month or six weeks for tenders to come in. Make it a condition that the Government are not bound to accept the lowest or any of the tenders. Prepare working plans for (say) about fifteen miles.
W. N. Blair, Esq., Dunedin.

W. GISBORNE.

PAPERS RELATING TO THE

No. 105.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

(Telegram.)

Wellington, 30th December, 1870.

I HAVE instructed Mr. Blair to call at once for tenders for railway from Dunedin to Caversham, the only piece for which working drawings are ready. He has also been directed to prepare working plans for a greater length.

W. GISBORNE.

His Honor J. Macandrew, Dunedin.

No. 106.

Mr. BLAIR to the Hon. W. GISBORNE.

SIR,—

Dunedin, 21st January, 1871.

I have the honor to inform you that the drawings and specifications for Section No. 1 of the Otago Southern Trunk Railway, which I have called "The Dunedin Contract," are completed, and open for the inspection of contractors.

The section commences at Jetty Street, and terminates at the boundary of Mr. George Gray Russell's property in Caversham, its length being 2,926 yards. There are two bridges in this contract, one over the Main South Road, and another over the railway. The former is to be constructed with masonry abutments and iron girders. The Provincial Government has agreed to give the girders for it at cost price. The latter will be solely of timber.

I have given four months as the time in which the works are to be completed.

I will prepare a detailed estimate of this section, and forward it to you before the tenders are in.

I have, &c.,

The Hon. the Minister for Public Works, Wellington.

W. N. BLAIR.

No. 107.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, 28th March, 1871.

I have the honor to report, for your information, that I have carefully examined the plans and specifications for the Dunedin Contract, Section No. 1, on the Dunedin and Clutha Railway, and that I have also examined the ground over which the contract extends.

The plans and specifications have been most carefully prepared, but there are a few items in which I think a change might be made with advantage. They are as follows, viz.:—Cuttings are specified to be 12 feet wide on formation level; this I propose to increase to 14 feet, to give more room for ballast and for water tables at each side. Embankments are specified to be 10½ feet wide on formation level; this I should increase to 11½ feet, to give more room for ballast and for the workmen when packing up the line.

Formation line is shown raised or crowned in the centre; this I should make quite flat or level. The ballast will then have less tendency to escape from under the ends of the sleepers, and the sleepers themselves will be less liable to be broken across in the centre by reason of resting on the crowned-up part, as the ends are pressed down by the weight of the trains.

Stone piers of bridge over main road near Dunedin: the distance of the piers apart from each other is shown to be 17½ feet, and has been complained about. It appears that new girders will have to be obtained for this bridge; this distance can therefore be easily increased, and I should recommend it to be 21 feet instead of 17½ feet, as there is a large amount of traffic, and that part of the road is on a slope.

The above alterations will not add materially to the cost of the line, and I think the cost may be saved in other parts of the line by judicious alterations.

I have considered all these matters in conjunction with Mr. Blair, who, I believe, will be found to agree with the proposed modifications.

I have, &c.,

The Hon. W. Gisborne, Minister for Works,
Wellington.JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 108.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Dunedin, 30th March, 1871.

I have the honor to submit for your consideration the following memorandum in reference to the extension of the works on the Dunedin and Clutha Railway.

The most obvious way of proceeding with the work is by letting it in sections, in connection with that already in hand, gradually extending the line southwards.

Plans and specifications could be prepared in a short time for two more sections (2 and 3), each two miles in length, making a total of five and three-quarter miles; a station to be established at five miles. This would open communication with the coal districts, fellmongeries, corn mills, and meat preserving works, and would doubtless absorb a large proportion of passenger traffic to and from Taieri. The estimated cost of forming the above sections, the first of which would include the first tunnel, is about £26,000. No. 1 Section being already let to Mr. Chaplin for £4,325 15s., these sums do not include ballast and permanent way.

Advertisements might at once be issued, giving notice that the plans and specifications will be ready for inspection on the 24th April, and be on view say till end of May.

The Hon. W. Gisborne, Minister for Works, Wellington, I have, &c., JOHN BLACKETT, Acting Engineer-in-Chief.

30th March, 1871.—Approved. Advertisement to be issued at once.*

W. GISBORNE.

No. 109.

Mr. BLAIR to Mr. BLACKETT.

SIR,— I have the honor to forward the following report on the various works on which I have been engaged since you left Dunedin :— Dunedin, 27th May, 1871.

I visited Tokomairiro during the second week of the month with Mr. Calcutt, and he succeeded in making satisfactory arrangements with many of the landowners. I have already explained to you the proposal to divert the line through the Tokomairiro Plain, so as to bring it nearer the township. The Mayor brought the subject again before me, and Mr. Calcutt and myself estimated the extra cost of land, fencing, and crossings at £1,500, which is altogether too much to expend in reducing the distance between the main street and the line from 35 to 15 chains.

If the Parliamentary Line is adhered to, Mr. James Elder Brown and other landowners offer to open a new road diagonally from the centre of the township to the station, which arrangement will be accepted by the Mayor and Corporation. We have therefore considered the question settled, and bought the land on the Parliamentary Line.

The works on the Dunedin Contract are progressing satisfactorily. The first cutting is nearly completed, and the large one is well opened up. The north abutment of bridge over the Main South Road is about half finished, and the foundations of the south one are laid. The proportions of the mortar are in every instance determined by actual measurement, which will insure uniformity in the character of the work. There is no appearance of irregular subsidence in the foundations of the large culvert.

* * * * *

The survey of the Clutha contract is now in progress, and I hope to have the drawings ready in good time.

The Colonial Engineer, Wellington. I have, &c., W. N. BLAIR.

No. 110.

Mr. BLAIR to Mr. BLACKETT.

SIR,— I have the honor to forward you the following report on the various works under my direction during the present month :— Dunedin, 26th June, 1871.

The works on the Dunedin Contract are progressing satisfactorily. The first cutting is completed, and the embankment across the Harbour is ready for the pitching ; but I do not intend to proceed further with this portion of the work till the Crawford Street question is decided. The last cutting is advancing as rapidly as its width will allow ; it is out to peg $\frac{1}{4}$, where the depth is 28 feet, the material being clay of various colours and consistency with occasional thin layers of sand.

The south abutment of bridge over main road is within three feet of its full height, but nothing has been done to the north one since my last report. On 31st ultimo I granted Mr. Smyth the progress certificate (No. 2) for £650, which increases the total amount certified to £1,500.

The tender for Sections 2 and 3 was accepted by the Hon. Dillon Bell on the 3rd instant, and the contract was at once completed and the works begun. I have been over the whole line to-day, and I find that every cutting is opened out, and a considerable amount of work executed. The cutting at the south end of the tunnel will probably be finished in ten days. The material in the cuttings at Green Island is very easily worked, being similar to that in the large cut, No. 1 Contract.

The cutting at north end of tunnel yields large flat boulders, suitable for building purposes. As already telegraphed to you, the result of the tenders for Contracts 2 and 3 places my estimate for £5,000 per mile for the whole line beyond all doubt. There being £12,000 to spare on the six miles now under way. I have prepared a drawing and specifications for the 33 feet malleable iron girders, and called for tenders for their construction, a copy of the advertisement being enclosed. I had to alter the designs a little to suit the material in the market, but they are essentially the same as the girders imported for the Canterbury railways. Mr. Bray has sent me the specifications for sleepers, so I can advertise for them at any time. I propose taking delivery at Dunedin, the Taieri, and the Clutha.

The field work for the Clutha Contract is nearly finished, and the drawings are well advanced. The following is a list of the gradient so far as laid down :—

Level	...	...	8 chains.
Descending	1 in 60	...	60 "
"	1 in 98	...	22 "
"	1 in 79	...	30 "
"	1 in 119	...	45 "
"	1 in 231	...	35 "
"	1 in 264	...	40 "
Level	...	...	360 "

* Mr. J. Smyth's tender for Sections 2 and 3, £21,000, was accepted.

I intend using sod fences in some places on the line. I observe several in the district that have been standing five or six years, and are now as good as ever, the sod being very well adapted for the work. The swamps at the Tuakitoto Lake are very much improved since the original surveys were made. Many places that used to have 3 feet of water on them are now quite dry and firm. I intend telegraphing to you to-morrow, to ask your opinion as to whether it would be advisable to make solid embankments with ordinary culverts and floodgates outside, or leave large openings for the free passage of the water. The highest floods in the lake are caused by back-water from the Clutha River, and often occur when there is no rain in the district to raise the swamps themselves. I am therefore inclined to adopt the former plan. I have had several discussions with the Hon. Dillon Bell on the subject of assistance, and I enclose you a copy of a letter I addressed him with reference to it, but nothing decided has yet been done. I understand that the Provincial Government does not wish to take any active part in carrying out the railways, so I think the course I have indicated in this letter will be the most economical and satisfactory one. The Hon. Dillon Bell has requested me to bring the subject of plant for the other portions of the line under your notice: the understanding at first was that the line would be opened whenever finished to Green Island; but now that we are commencing at the Clutha end, the whole subject will require to be reconsidered.

The Colonial Engineer, Wellington.

I have, &c.,
W. N. BLAIR,
District Engineer.

No. 111.

MR. BLAIR TO MR. BLACKETT.

SIR,—

Public Works Office, Dunedin, 21st July, 1871.

I have the honor to inform you that since my last report, the works on the three first sections of the Otago Southern Trunk Railway are progressing favourably, the weather being remarkably fine.

The larger cutting on Section No. 1 is in to a depth of nearly 40 feet, and the embankment at the south end is within 3 chains of the bridge; the material in the cutting is clay and sand in alternate layers.

The embankment through the harbour is all but finished, but I do not intend proceeding with the pitching till we decide whether more land is to be reclaimed. Eight of the culverts in Sections 2 and 3 are completed, and the earthwork is now advancing as rapidly as possible.

The open cutting at the south end of the tunnel is in to its full length, but wants about 15 feet of the depth between the road and tunnel entrance. The contractor has three shifts of men on this portion of the work, working night and day. From present appearances, I expect the tunnel will be perfectly dry.

I had the Clutha Contract drawings finished within a day or two of the advertised time. I commenced the section at Tokomairiro so as to have it in the same direction as the others. The length is 10 miles 55 chains. I have altered the line a little in several places to better ground, and was therefore able to dispense with seven curves shown in the original plans, with the exception of the first, which has been altered from 1 in 66 to 1 in 60; all the gradients have been improved. The following is a table of the gradients:—

Level	...	...	9 chains.	Level	...	...	5 chains.
Descending 1 in 60	...	...	60	Descending 1 in 66	...	...	25
" 1 in 97	...	...	22	Level	...	...	5
" 1 in 79	...	...	30	Ascending 1 in 66	...	...	25
" 1 in 119	...	...	45	Level	...	...	5
" 1 in 231	...	...	35	Descending 1 in 79	...	...	30
" 1 in 264	...	...	40	Level	...	...	80
Level	...	...	295	Ascending 1 in 91	...	...	65
Ascending 1 in 189	...	...	15	Level	...	...	10
" 1 in 55	...	...	25	Descending 1 in 82	...	...	30

There are two stream bridges on the section piles, piles and beams of the usual type, each of them having three openings; 12 feet span. The overhead bridges, of which there are four, are the same as on the sections already let. I have adopted three kinds of culverts, two of brick, on concrete foundations; one of stone, and the fourth of timber. I am also using earthenware pipes instead of box drains for the small watercourses. The line is all cleared, and trial pits have been sunk at several places. The total cost of the survey and plans, including my own time, office expenses, and everything else connected with the work, did not exceed £25 per mile.

I am taking out the quantities to give contractors, which is, I understand, in accordance with your wishes.

I will at once attend to your instructions with reference to the reclamation at the south end of Dunedin, the plant to be ordered, and other matters.

I called on His Honor the Superintendent on the subject of the Tuapeka survey, and on his recommendation have laid the matters formally before the Provincial Government. As yet I have received no reply.

I intend going over the Winton and Athol Line again, to note culverts, &c., before sending in my estimates. Perhaps I may also take a section at the river crossing. This is rendered necessary on account of an agitation that is made to keep the line altogether on the east side of the Oreti. I will require to be able to report clearly on both routes. In accordance with the authority sent by telegram, I have arranged with Mr. Usher, authorized surveyor, to prepare land plans through Caversham. On account of other engagements, he was only able to do a few of the most urgent, so I have sent Mr. Johnston to complete the work.

I propose diverting the railway for a mile through the Kaikorai Valley, to avoid Messrs. Cargill and Langsieur's fellmongery. The works will not be increased thereby, rather decreased; but the line will leave the old district road, and entail fresh arrangements with adjoining proprietors. The Hon. Mr. Bell knows the particulars of the affair. I presume I can keep Mr. Johnston to do this work.

Will you kindly ask the Government to authorize Mr. Calcutt to make the fresh arrangements about land above referred to?

There is a good deal of field work, such as checking levels and curves, required on the section in progress. Do you authorize me to get it done by Mr. Johnston, under present arrangements?

I have, &c.,

W. N. BLAIR,
District Engineer.

The Colonial Engineer, Wellington.

No. 112.

Mr. McNEILL to the Hon. F. D. BELL.

SIR,—

Balclutha, 15th June, 1871.

In obedience to the wish of settlers in the Clutha district, I have the honor to enclose you memorial respecting the commencement of earthworks at the Balclutha end of the Clutha Railway.

Seeing that the Government has anticipated the prayer of the petitioners, I have thought it unnecessary to leave the lists any longer open for signatures; otherwise, had it been thought that the Government still desired the memorial fully signed, the signatures of the whole district would readily have been attached.

The memorial, as you will observe, is addressed to the Hon. the Colonial Secretary. May I ask that you will be kind enough to present or forward it, as you may deem best?

Trusting that you will shortly be enabled to pay a visit to this district,

I have, &c.,

JOHN McNEILL,
Mayor.

The Hon F. D. Bell.

Enclosure 1 in No. 112.

To the Hon. the COLONIAL SECRETARY,

The humble Memorial of the Settlers and others residing near Tokomairiro and Clutha:

HUMBLY SHOWETH,—

Your memorialists observe with pleasure that the railway between Dunedin and Balclutha has already been commenced, and that a contract has been taken for the construction of the road as far as Caversham, and that tenders have been invited for the further construction of the road to Look-out Point—thus, in carrying out such work, affording important assistance to the settlers in the vicinity.

Your memorialists would therefore earnestly draw your attention to the expediency of enabling the settlers at Tokomairiro and the Clutha to participate, during the present depressed state of the Province, in the public works undertaken by the Government.

Your memorialists would point out that, by beginning at Tokomairiro and working both towards Dunedin and Balclutha, and from Balclutha towards Tokomairiro, a great and much needed assistance would be afforded, and eventually the iron rails could be cheaply transhipped at Port Chalmers and landed at Balclutha.

Your memorialists would further point out, that when the railway was originally designed it was always considered that it would commence simultaneously at both ends; and they urge that the justice of such a course is clearly manifest, for it is evident that this neighbourhood, remote from a port, and from the large demands of the local markets at Dunedin, requires a full participation in any measure which may be adopted for assisting the Province in its depressed condition.

Your memorialists, confidently relying upon the fairness of their claim, which involves no additional expense, pray that it may receive early attention, by tenders being invited for the formation of the necessary earthworks in the direction above pointed out; and your memorialists, as in duty bound, will ever pray.

J. RICHARDSON,
JAS. MAITLAND,
JAMES PETRIE,
PETER BELL,
and 211 others.

No. 113.

Mr. KNOWLES to Mr. McNEILL.

SIR,—

Public Works Office, Wellington, 3rd July, 1871.

I beg to acknowledge the receipt of your letter of the 15th June, addressed to the Hon. Dillon Bell, in which you enclose a memorial respecting the commencement of earthworks at the Balclutha end of the Dunedin and Clutha Railway.

As you are already aware, the Government have anticipated the prayer of the memorial, and I am now directed by Mr. Gisborne to state, for the information of the memorialists, that the Government are anxious to go on with the work as speedily as possible.

John McNeill, Esq., Mayor, Balclutha.

I have, &c.,
JOHN KNOWLES.

No. 114.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Dunedin, 26th April, 1871.

I have the honor to inform you that I have had under consideration, along with W. N. Blair, Esq., C.E., the subject of rails and rolling stock for the Dunedin and Clutha Railway, and to state that in recommending certain forms of each we have been guided by such examples of railway practice as appear to have been successfully carried out and worked in Europe and Australia.

Acting on the principle that no greater loads shall be carried on one pair of wheels than five or six tons, we find that we may adopt a rail not exceeding 40 lbs. per yard in weight, and have chosen the ordinary flat-footed or Vignole's patterns in preference to others, as being simple in form, easily laid and kept in repair, and as having no complicated fittings of any kind.

Its peculiar form and size also insure that the materials of which it is composed shall be thoroughly worked during the process of manufacture, and thus insure a sound and durable article.

In deciding on the form of engine to be used, the character of the line must be taken into consideration. The total length is about fifty-one miles, the first eight miles of which out of Dunedin are the most difficult. In this section are two summits to be reached on each side with gradients of 1 in 50 and 1 in 66, alternating with easier gradients and level portions. The longest gradient of 1 in 50 is 68 chains long. The remaining forty-three miles are of a comparatively level character; one gradient of 1 in 66, one of 1 in 80, but generally very favourable and level. I enclose tracings showing plan and sections of the line.

The features of the line might at first sight point to the use of two kinds of engines, *i.e.*, one of a light character for the further portion, and one of a heavier and more powerful type for the nearer and more difficult portions, as in use in other railways with varying sets of gradients—say, in the first case, engines weighing 15 tons, with four wheels of 3 feet diameter coupled, and two leading wheels of 2 feet diameter, capable of drawing gross loads of 100 tons at twenty miles an hour. In the second instance, engines to draw the same load over the gradient above described, say 20 tons weight, with six driving wheels all coupled 3 feet diameter, and two leading wheels 2 feet diameter.

Looking, however, to the amount of traffic likely to be dealt with on the line in question, and the probability that it will be very moderate both as regards passengers and goods, except perhaps, for a short time during each year when grain and wool will be carried, it does not seem advisable to provide two classes of engines, for many reasons.

One, that it will be much more economical to run the same engine right through, and thus avoid having two engines under steam for the same journey; another, that looking forward to repairs, one kind of duplicates will be sufficient to keep in store, and render repairs more easy and less expensive than if two sets were to be kept on hand.

Under these considerations, therefore, we propose that a medium form of engine shall be adopted capable of dealing with all the traffic that may be expected on the line for a long time to come, and at the same time not too heavy for general work and through trips.

The tank-engine form to be selected as a means of utilizing the weight of coal and water carried for the use of the engine, instead of allowing these to form part of the gross load to be drawn by the engine, as is the case where tenders are used.

The engine need not carry a full supply for the fifty-one miles, but replenish the store of water and coal at one or two intermediate stations. With a further view of economizing all the available weight, we should dispense with the small leading wheels, give a slightly increased length of driving-wheel base, and couple all the wheels together, so that the whole weight of the engine and its load will be available for traction. Also, as the curves on this line are not unfavourable, the sharpest being from 10 to 12 chains radius, we do not recommend the use of any special appliances for passing round curves, such as Bissel bogie-frames or radial axle-boxes, both of which would indeed be inapplicable in the case of coupled wheels.

The only provision we think necessary to assist the engine to pass easily round the curves, would be to construct the hind or tracting wheels to a slightly narrower gauge between the flanges than the two other pair of wheels, say $\frac{1}{8}$ inch to $\frac{1}{4}$ inch.

Thus the engine will be of as simple a form as possible, an undoubted advantage in the Colonies where the appliances for repairs are not so accessible as in the home country.

The forms and general sizes of the engines are depicted and described in the specifications attached to this, the general descriptions being as follows:—Weight, loaded, to be about 17 tons; cylinders to be 10 $\frac{1}{2}$ inches diameter with 18-inch stroke; wheels, six in number, 3 feet diameter, all coupled; length of wheel-base, 10 feet 6 inches; pressure of steam to be about 120 lbs.

Carriages and Waggon.

In determining the size of passenger carriages, we have endeavoured to arrive at such a proportion as will insure the greatest amount of accommodation with the least amount of dead weight that may be carried on four wheels. By making the carriages very small, we increase the proportion of non-paying weight; and by making them very large, we are obliged to use six wheels, which will not pass round curves so easily as four, their wheel base being so much greater, or we must use bogie-frames under each end of the carriage, each frame having four wheels, thus again increasing the weight of wheels and carriages, both objectionable unless we could insure full loads constantly, which is not to

be expected in a thinly populated country. As traffic increases, or on special occasions, the number of carriages may be increased to meet the emergency.

The carriages therefore we propose to be constructed to carry 32 persons, and to be divided into four compartments, and capable of holding eight, *i.e.* four on each seat, the seat to be across the carriages. Number of wheels to be four, each 2 feet diameter, with a wheel base of $10\frac{1}{2}$ feet.

The carriages to be all fitted up as second-class, with seats stuffed and covered with leather, a portion of each carriage to be marked first-class, and the remainder to be marked second-class. The length of the carriages will be about 21 feet, breadth about 6 feet 8 inches, height about 6 feet 3 inches above the floor.

The bodies to be neatly but plainly wrought, and well varnished outside and painted inside.

Waggon.

The same remarks will to a great extent apply to the waggons, which, with a moderate, probably a small local traffic, should be kept as small as possible. I have assumed a length of body of about 15 feet by $6\frac{1}{2}$ feet wide, with four wheels of 2 feet diameter and about $7\frac{1}{2}$ feet apart. Much of the traffic on all railways consists of certain loads despatched to certain stations, not enough perhaps to fill a waggon entirely, but too much to permit of the train being stopped to unload on the way. In these cases the waggons are detached and left at the different stations, and it is clear that smaller waggons will meet this kind of traffic better than large ones.

The drawing and buffing gear should be arranged to be in or near the centre line of the carriages, so that the same relative distances may be preserved between them in passing round curves; the point of attachment being placed as close up to the centre line of the wheel axles as it is possible.

With this I forward a list of rails and fittings for the first six miles, also a list of rolling stock, the quantities in which, though greater than will be needed for the above distance (six miles), will ultimately be required as the line becomes gradually completed.

I have also prepared, and enclose with this, rough sketches of the engines, waggons, &c., with descriptions which will, I think, insure our obtaining the kind of plant required without the preparation of complete and detailed working drawings, more especially as it is, I believe, the intention of the Government that all such orders shall be submitted to the approval of a Consulting Engineer in England.

I have, &c.,

JOHN BLACKETT,

Acting Engineer-in-Chief.

P.S.—The estimate of cost of rails, plant, &c., is attached.—J.B.

Enclosure 1 in No. 114.

LIST of Rails, Fittings, and other Plant required for the first six miles; also List of Rolling Stock to be ordered.

	Tons	cwts.	qrs.
Rails	378	0	0
Fish-plates	16	10	0
Bolts and nuts for Fish-plates	2	8	0
Fang-bolts and nuts	8	5	0
Dog-spikes	7	10	0

Switches and crossings			10 sets complete.
Turntables	2	"	"
Signals	3	"	"
Goods cranes, $1\frac{1}{2}$ tons	2	"	"
Portable engines and machines for dressing sleepers to fit the rails (without boring apparatus)	1	"	"
Sleepers, 7 feet long by 8 inches by $4\frac{1}{2}$.			

Carriages, passenger	4		
Brake-vans	2		
Covered waggons	2		
Open waggons	4		
Mineral or coal waggons	6		
Locomotive engines	2		

Duplicate parts of engines as follows, *viz.*, :—

1 pair of cylinders, with valves, glands, &c., complete.

1 complete set of wheels and axles.

1 " " axle-boxes.

1 " " springs.

1 " " tubes.

1 pair of pistons.

4 sets of " packing.

1 set of pump clacks, complete.

2 buffers.

1 dozen gauge glasses.

1 complete set of the usual tools and gear to be sent with each locomotive engine,—such as screw-jacks, crowbars, spanners, &c.

Specification.

The rails to be made in lengths of 21 feet and 18 feet, in the proportion, say, of four-fifths of the former to one-fifth of the latter; and of the former, 200 should be made 2 inches shorter for inner curves, and of the latter, 60. Both kinds to be marked on the ends with red lead to distinguish them.

The rails to be of the form shown in the drawings sent herewith, and to weigh 40 lbs. to the yard; the fish-plates, bolts, fang-bolts, and spikes to be also according to the drawings, and the whole to be of the best quality and manufacture obtainable, and to be subjected to the usual tests.

The holes in the foot of the rails for the fang-bolts to be drilled square to the upper surface; the holes in the end of the rails for the fish-plate bolts to be carefully punched.

Switches and crossings-points to be steel.

Turntables to be made of a size no larger than will be required for the rolling stock on the line,—say 13 feet.

Signals to be fitted complete, with lamps and gear.

Goods cranes of wrought and cast iron.

All these to be made of the best materials, and of the simplest and most approved forms.

Locomotive Engines.

The engines to be of a total weight of about 17 tons when loaded with coal and water, which they must be fitted to carry.

Cylinders outside to be 10½ inches diameter, with 18-inch stroke. Steam in boilers, 120 lbs. to the square inch. Heating surface in the boilers to be about 500 superficial feet. Number of wheels to be six, all coupled, and 3 feet diameter, with a wheel base of 10 feet 6 inches; the trailing wheels to be turned so that their gauge between the flanges shall be from ½ inch to ¾ inch less than that at the other two pairs of wheels. The engines will burn brown coal or lignite, and the area of the fire-grates should be larger than if meant to burn the best description of coal. They must be fitted with the latest improvements, and made complete in every particular, and must be made of the best material. Fire-box of copper, tubes of iron (or most approved material). Force-pumps of brass, Gifford's injector of brass. Wheels of wrought iron, well balanced and with steel tires. Engine-framing of wrought iron; roof over engine-driver; sand-boxes for wheels; brake gear on all the wheels. Height of chimney above rails to be not more than 10½ feet; gauge between rails, 3 feet 6 inches.

No. 115.

The Hon. W. GISBORNE to the AGENT-GENERAL.

SIR,—

Colonial Secretary's Office, Wellington, 27th May, 1871.

The commencement of the railway from Dunedin to Clutha renders it necessary to make early provision for a part of the permanent way and rolling stock for that line.

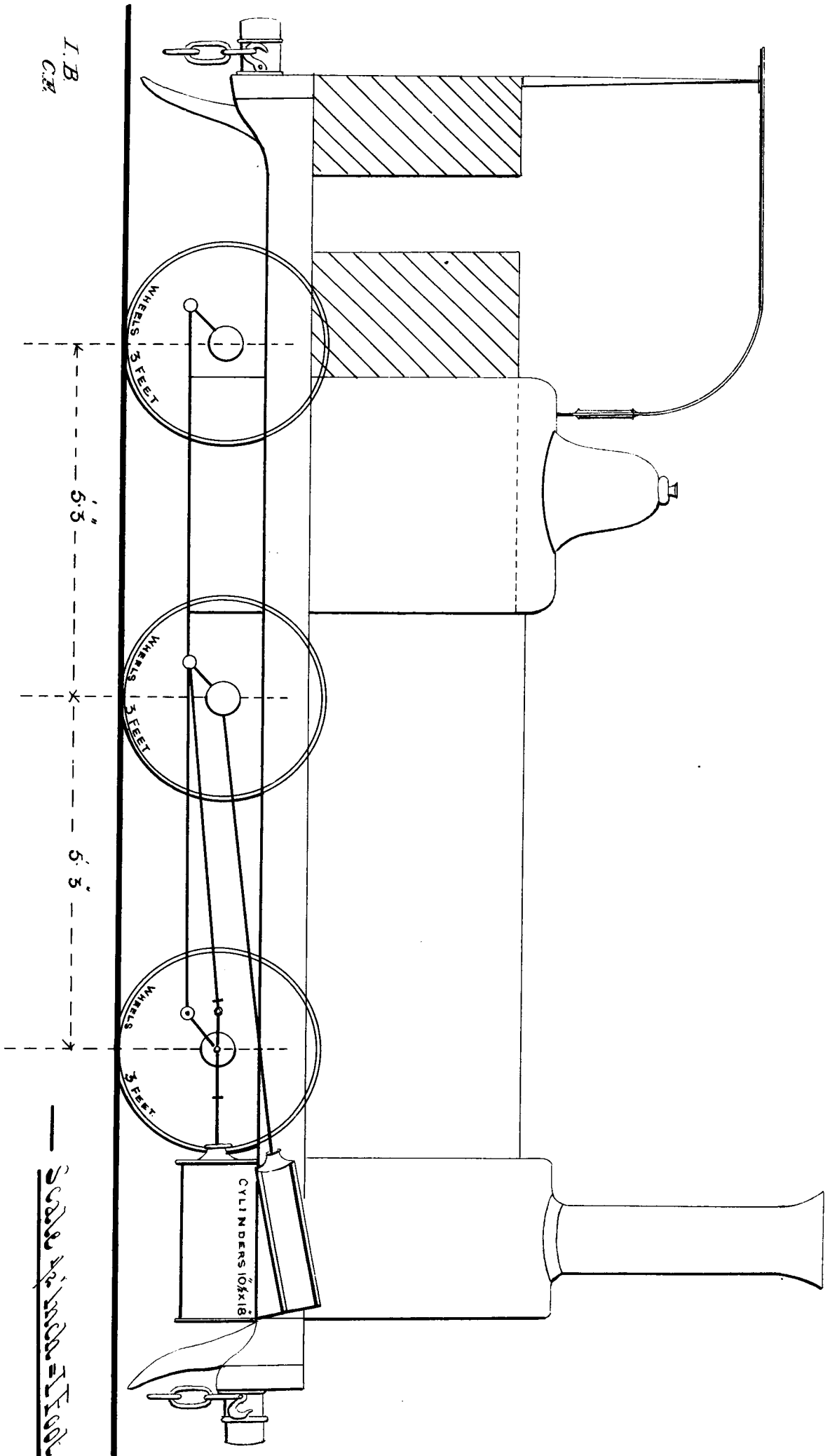
You are aware that the Canterbury railways have hitherto been made on the 5 feet 6 inch gauge, but that all lines to be constructed in future will be on the narrow gauge. In the case of the Clutha Railway, the Government have determined to adopt from the first a light rolling stock and a light rail; and upon the way in which the first orders are carried out will, to some extent, depend the success of the light system in this country.

I transmit a report from the Acting Engineer-in-Chief on the engines, rails, and carriages presently required for the Clutha Line, together with a detailed list of the same and a template of the rail.

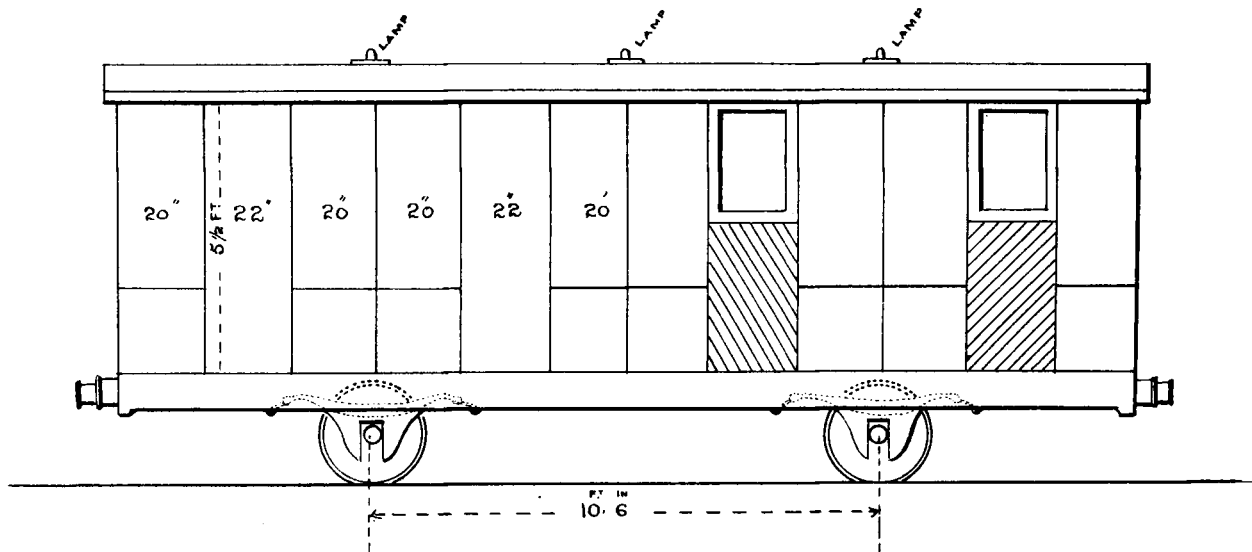
You will observe that Mr. Blackett gives the reasons which have governed his suggestions as to the order to be sent home for execution. They have received all the consideration which the experience at our command has made possible, and I believe that the plant will be found suitable to the character of the country, the gradients of the line, and the traffic that can now be expected. But the Government desires, before you put the order into the hands of any engineer for execution, that you should obtain the best advice upon every point mentioned by Mr. Blackett, and, indeed, upon any others which English experience and skill may raise. In the case of the Canterbury plant, on which I address you separately, the Provincial Government referred their Agent (Mr. Ottywell) to an engineer (Mr. Hemans), on whose advice they place great reliance. But having regard to the controversy that has so long existed on the respective merits of the wide and narrow gauge, and heavy or light engines and rolling stock, I wish to impress upon you that the order for the Clutha Line should be submitted to such engineers as you may know to be thorough supporters of the light and narrow-gauge system, and most competent to decide on the best way of introducing them here. When this has been done, and any alterations in Mr. Blackett's suggestions carefully settled, you will be pleased to place the order in the hands of proper persons for execution; and you will take such steps as will insure proper supervision of the work, so that the requirements of the engineer you may consult shall be carried out. It is not necessary that the whole should be executed before any is sent out. In particular, you will see that the rails are shipped as fast as they are made in any vessels sailing direct for Port Chalmers; and in like manner the first of the two engines and the first of the waggons should be sent as soon as completed. The whole is to be addressed to the Resident Engineer, Mr. Blair, and the bills of lading transmitted to me by mail in anticipation of the arrival of the sailing vessel.

The Government is desirous, if it can be done without additional cost, of encouraging the manufacture in this country of carriages and waggons for the New Zealand railways. It seems a pity that so much wood work should be sent all the way from England. I wish you, therefore, to obtain as nearly as possible an estimate of the freight of each carriage and waggon, and the cost of the wages in building them, so that I may ascertain how far it would be practicable to divide the

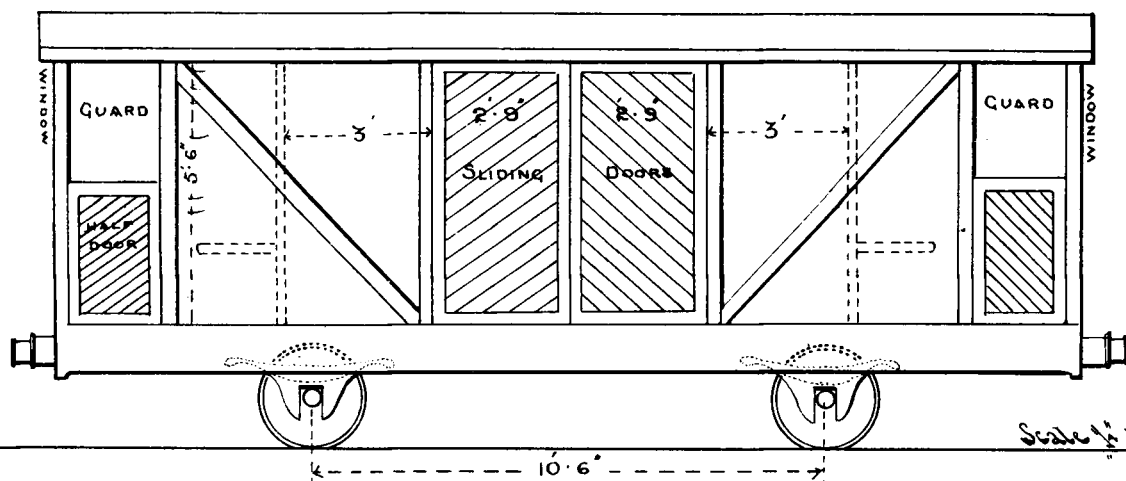
OTAGO SOUTHERN TRUNK RAILWAY Locomotive Engines



PASSENGER CARRIAGE 21 Feet Long

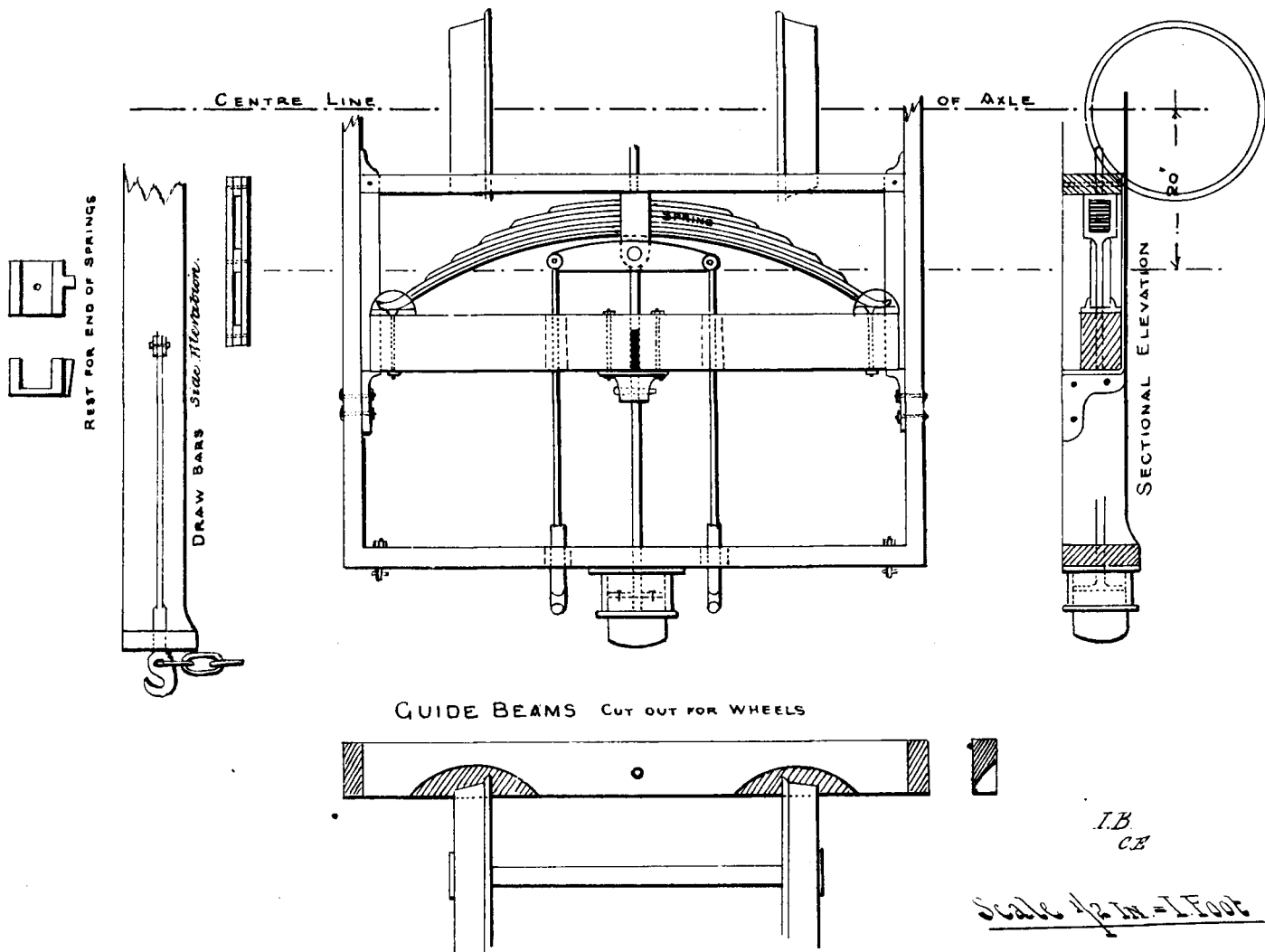


BREAK VAN 21 Feet Long

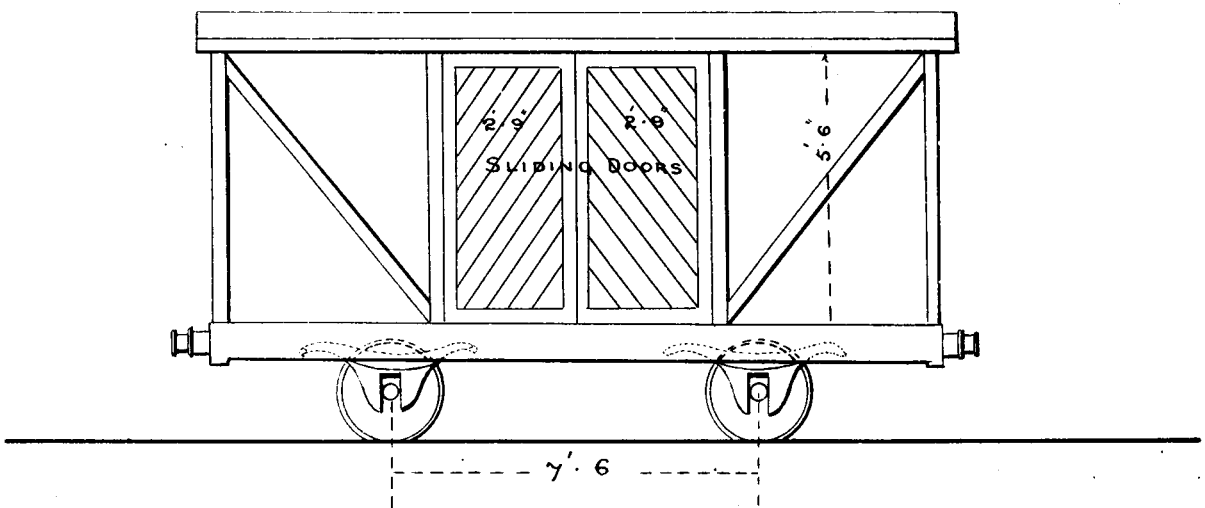


Scale 1/2" = 1 Foot

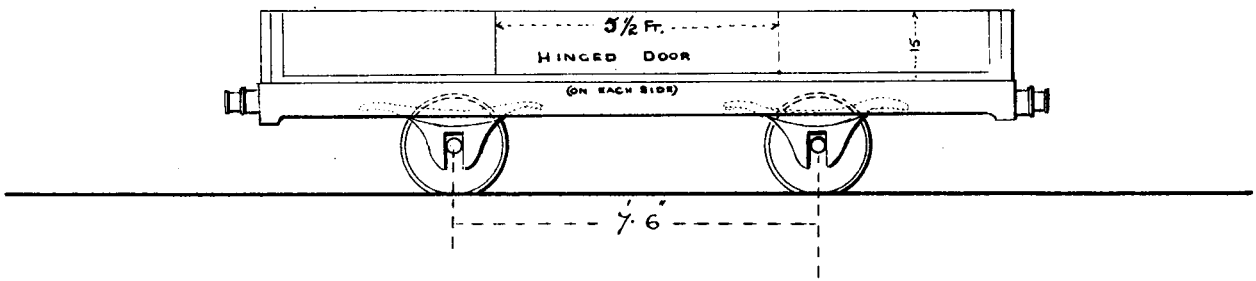
PLAN OF PROPOSED DRAWING AND BUFFING - GEAR



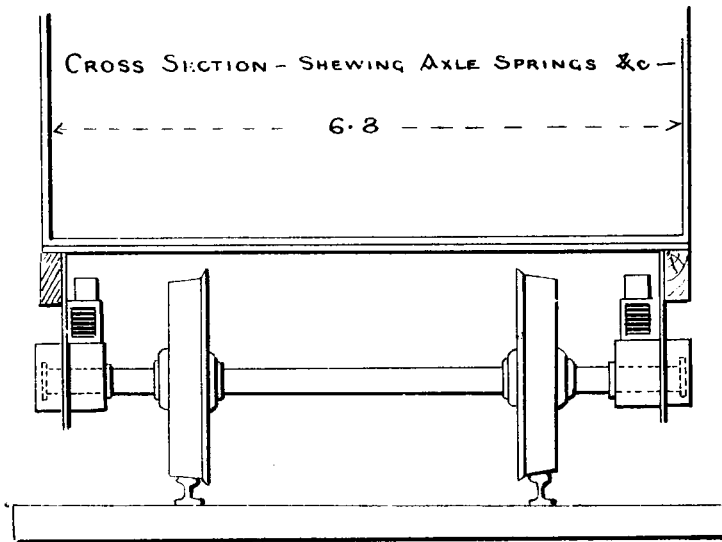
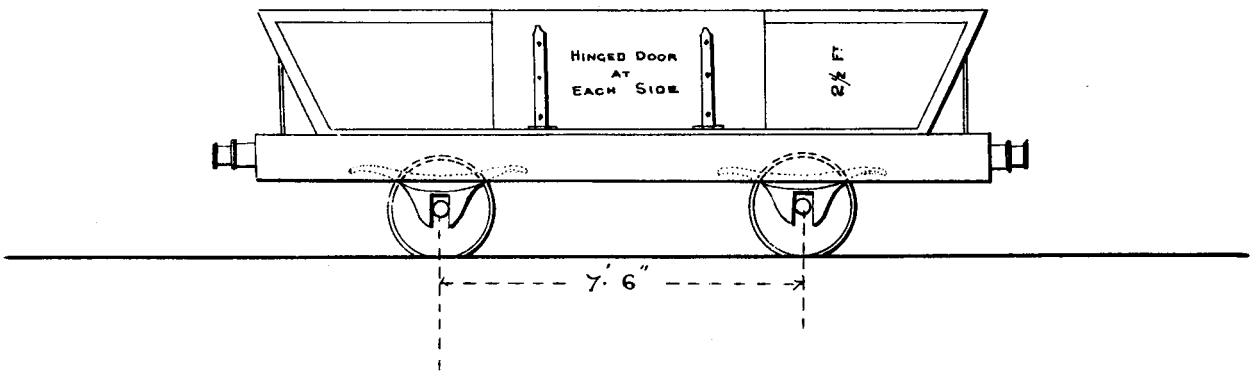
COVERED GOODS WAGON 15 Feet Long



OPEN GOODS WAGON
15 FEET LONG



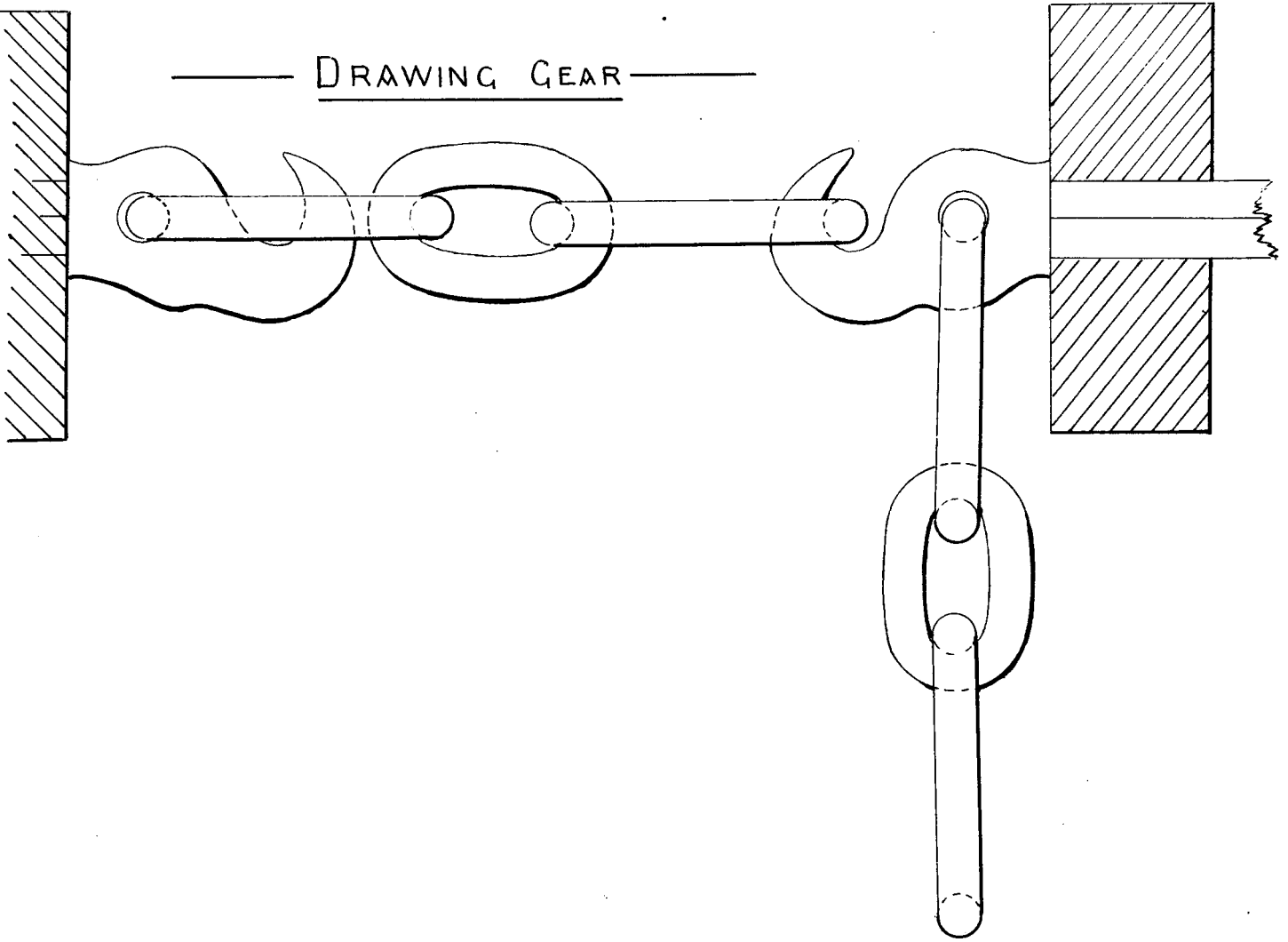
COAL OR MINERAL WAGON 15 FT LONG - IRON BODY



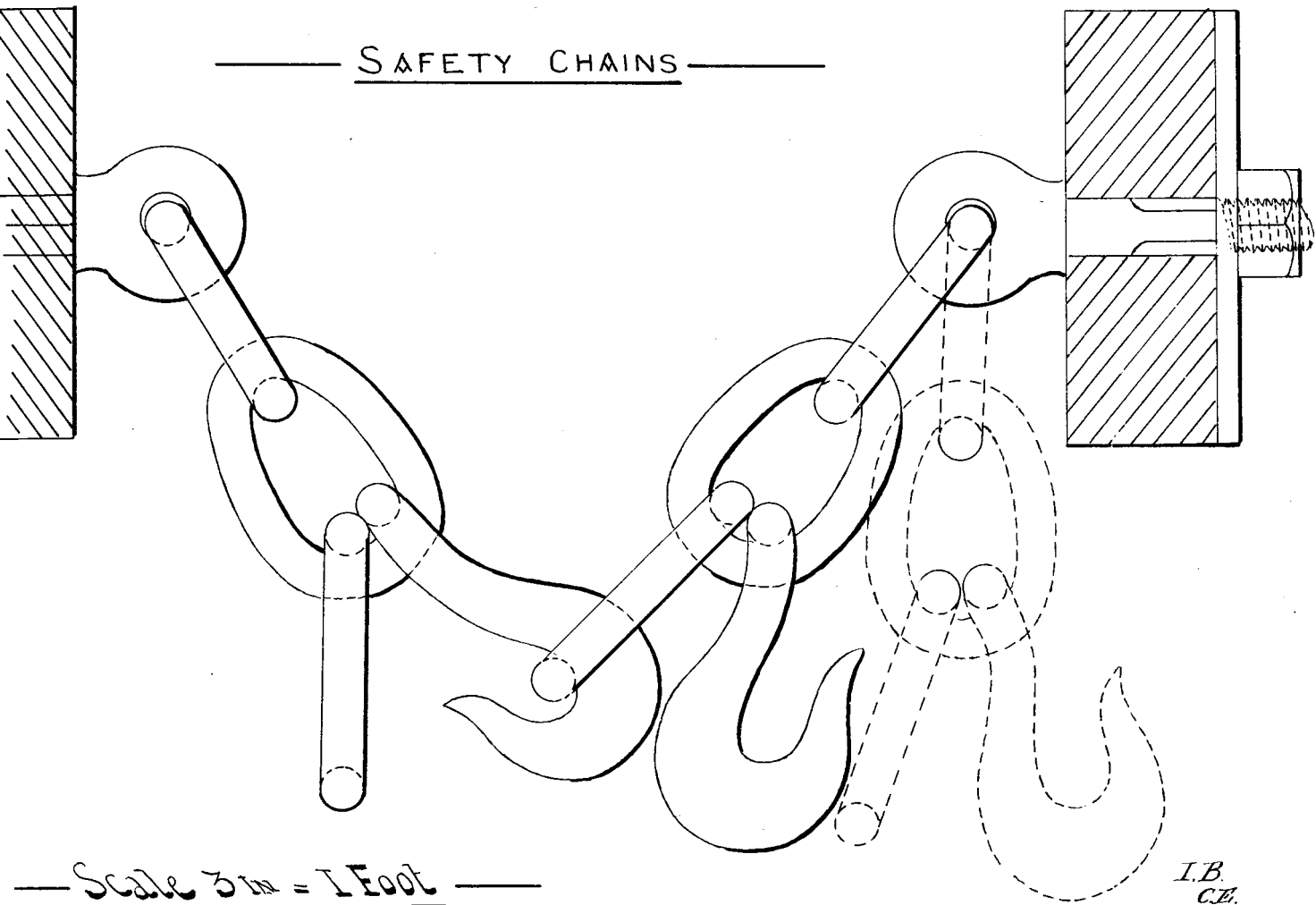
I.B.
C.E.

Scale 1/4" = 1 Foot

DRAWING GEAR

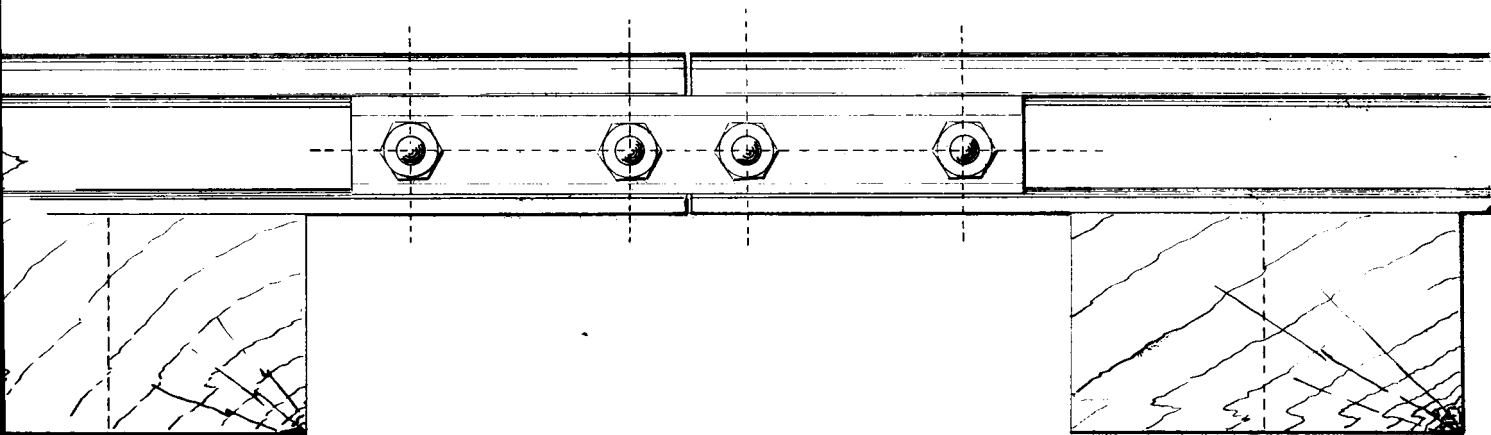


SAFETY CHAINS



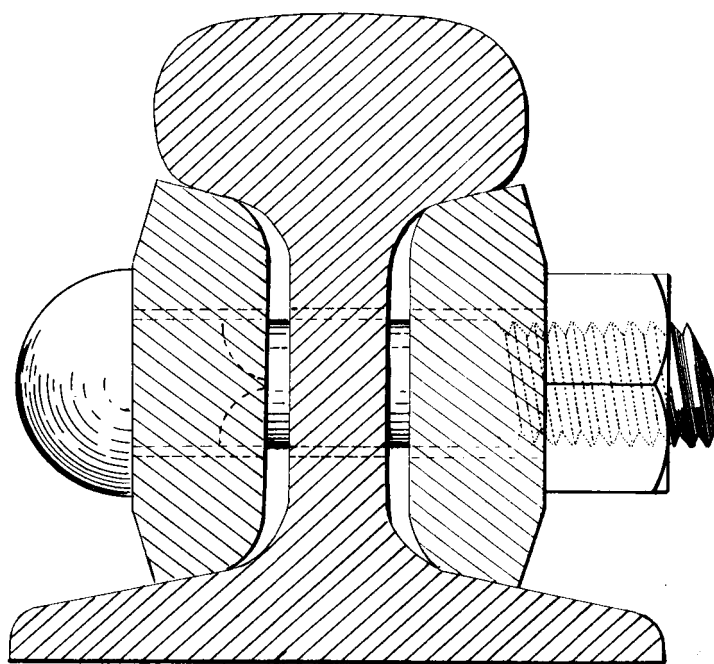
Scale 3/16" = 1 Foot

I.B.
C.E.



SIDE VIEW OF FISH-PLATE, JOINT $\frac{1}{4}^{\circ}$

Scale 5 in. = 1 Foot



SECTION OF RAILS - 40 LBS a YARD

FULL SIZE

J.B.
CZ

manufacture in future; importing from England whatever iron work required special machinery or skill, but providing here not only wood work but all the iron work of an ordinary kind.

You will receive separately instructions as to the funds required for the execution of the present order.

The Agent-General for New Zealand, London.

I have, &c.,
W. GISBORNE.

II.—WAITAKI TO MOERAKI.

No. 116.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

(Telegram.)

Wellington, 8th November, 1870.

I PROPOSE that steps should at once be taken to have the lines of railway between Invercargill and Mataura, and Moeraki and Waitaki, respectively, laid out as prescribed in "Railways Act, 1870." Will you recommend Engineer for each, competent to survey and lay off line?

* * * * *

W. GISBORNE.

No. 117.

Mr. MILLAR to His Honor J. MACANDREW.

SIR,—

Dunedin, 24th November, 1870.

In reply to your Honor's memorandum that the General Government have accepted my tender to furnish a Parliamentary survey and plans for the proposed railway from Moeraki to Waitaki, together with conferences upon the most advisable site for the Waitaki Bridge in conjunction with the Canterbury Province,—I have to inform your Honor (acting for the General Government) that I have promptly proceeded to form my field staff, in order to at once proceed with the preliminary works.

His Honor J. Macandrew, Superintendent.

I have, &c.,
J. MILLAR, F.S.A.

No. 118.

The Hon. W. GISBORNE to Mr. MILLAR.

SIR,—

Public Works Office, Wellington, 26th November, 1870.

Referring to previous correspondence with His Honor the Superintendent of Otago, respecting the survey of the railway line from Moeraki to Waitaki, it will be necessary that the work should be performed according to the following specification, a copy of which I have already telegraphed to His Honor, viz. :—

To make a sectional and plan survey of the line, showing position, grades, curves, bridges, culverts, cuttings, embankments, &c., and to furnish plans with an approximate estimate of the probable cost of the work complete, showing all the items in detail. Grades not to exceed 1 in 50, and curves not to be less than 5 chains radius. Gauge 3 feet 6 inches. A price per mile to be stated.

The features it will be necessary to lead from, and therefore the first to be determined are—

1. The best line through the broken ground at Otepopo, between Mount Charles and the sea.
2. The best crossing-place of the Kakanui River.
3. Possibly the township of Oamaru will be passed at some elevation.

You will also be required to consult with the Canterbury Engineer, who will furnish all information necessary for determining the site of the Waitaki Bridge.

It is important that this work should be commenced as soon as practicable, and I shall feel obliged by your reporting as to its progress from time to time to this Department.

J. Miller, Esq., F.S.A.

I have, &c.,
W. GISBORNE.

No. 119.

Mr. MILLAR to the Hon. W. GISBORNE.

SIR,—

Dunedin, 7th December, 1870.

I have the honor to acknowledge yours of the 26th ultimo, No. 86, enclosing specification for survey of the Moeraki and Waitaki Railway, the particulars of which had already been furnished to me by His Honor the Superintendent of Otago, to the terms of which I agree.

I have just started my staff for the locality, and propose leaving myself in a few days. I would take it as a favour if you would kindly inform me at what period must the plans and estimates be in the hands of your Department for presentation to Parliament.

I have further to suggest that it would facilitate matters materially if power was delegated to me to communicate with your Department from any telegraph station where I might happen to be when a necessity arose. In the meantime, letters addressed to my office at Dunedin will be forwarded.

Hon. W. Gisborne, Wellington.

I have, &c.,
J. MILLAR, F.S.A.

PAPERS RELATING TO THE

No. 120.

The Hon. W. GISBORNE to Mr. MILLAR.

SIR,—

Public Works Office, Wellington, 16th December, 1870.

I have the honor to acknowledge the receipt of your letter of the 7th instant, and in reply to inform you that I am anxious that the site of the Waitaki Bridge should be first settled by you in consultation with Messrs. Tancred and Bray, of Canterbury.

The survey of the railway line under your direction should be ready by May next.

Instructions will be issued for the transmission without charge of any telegrams addressed by you to this Department.

John Millar, Esq., F.S.A., Dunedin.

I have, &c.,
W. GISBORNE.

No. 121.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Dunedin, 23rd March, 1871.

I have the honor to report, for your information, that I have examined the line of the above railway, now under survey by J. Millar, Esq., C.E., from the Waitaki River to the town of Oamaru, and thence southwards for a few miles, as far as the actual line of survey is determined.

I have also inspected generally the probable line of the railway from that point to Moeraki.

From the Waitaki to Oamaru the line may be described as practically level, and presenting no difficulties of construction. It will enter Oamaru at the ordinary level of the streets in the lower part of the town; and by making a slight detour inland, and taking advantage of the valley enclosing the stream which flows through the town, a very favourable line may be obtained, there being but one summit to surmount at an elevation of about 140 feet, and which may be crossed at gradients of not more than 1 in 50, about a mile long. Another valley thus offers an easy exit to a long stretch of favourable country, and no difficulties of any consequence will be met with until we approach Hampden, between which and Moeraki the laying out of the line will demand careful consideration, although the general direction of the line is approximately determined.

The crossing of the Kakanui will I think give no trouble worth speaking of; but the Otepopo, from the extraordinary and winding nature of its stream, and the clifty and irregular formation of its banks, will require very careful study to obtain a good line, and one not likely to be affected by slips or the changes of the river bed.

That portion of the line in the harbour of Moeraki will apparently require some special provision against the tendency of the hill sides to slip, the evidence of which is but too palpable on the present line of road to the port.

I may, however, report generally that I have no doubt that a good practicable line may be found for the whole distance free from any gradients steeper than those already mentioned, and with no curves sharper than from 12 to 15 chains radius.

Hon. W. Gisborne, Minister for Works,
Wellington.I have, &c.,
JOHN BLACKETT,
Acting Engineer-in-Chief.

No. 122.

Mr. BLACKETT to the Hon. W. GISBORNE.

(Telegram.)

Christchurch, 13th May, 1871.

I TAKE the first opportunity of reporting that I spent one day on the railway line south of Oamaru with Mr. Millar. Most satisfactory line through the broken and irregular district of Otepopo; leading valley right through; good gradient and good safe site for bridge over the river. The whole of this line is turning out much better than expected.

Hon. W. Gisborne, Wellington.

JOHN BLACKETT.

No. 123.

Mr. STEWARD, M.H.R., to the Hon. W. GISBORNE.

SIR,—

Otago, 16th June, 1871.

I have the honor to enclose for your consideration copy of report of a public meeting held in Oamaru with reference to the question of railway communication, together with the resolutions carried thereat.

In view of the expressed desire of the General Government to receive information from the Provincial authorities as to the lines of railway (other than those provided for in the Schedule to "The Public Works and Immigration Act, 1870,") most desirable for the development of the resources of the Province, I venture to think that the information contained in the resolutions enclosed will be acceptable to the Government.

The Provincial Council having already (during the present Session) carried a resolution in favour of the line from Puke-uri to Greytown (Awamoko), twelve miles, it is unnecessary for me at present to urge anything in its favour, as the matter will necessarily come before the Government as embodied in the recommendation of the Provincial Council forwarded through the usual channel.

As, however, I perceive that the Provincial Council has as yet made no recommendation with regard to the first line indicated in the enclosed resolutions, it becomes my duty to lay before you the following facts, viz., that the proposed line—Oamaru, through Cave, Waiareka, and Awamoko Valleys,

to Maerewhenua (30 miles)—would traverse one of the richest (if not the richest) agricultural districts in Otago, and would open up 150,000 acres of first-class arable land, and give easy access to a considerable area of land now under the control of the Crown, but at present out of reach of settlement. That it will immediately upon its construction produce large traffic returns, the district through which it would pass growing a larger quantity of grain for its area (with perhaps one exception) than any in the Province. That it (the line in question) would pass close to, indeed I might almost say through, large stone quarries, and those containing some of the very best of the celebrated building stone of the district, and that the carriage of this article of merchandise would form no inconsiderable item in the traffic receipts. That the construction of the line would save a very heavy sum in the formation and maintenance of ordinary roads. That the gradients throughout are light, and that the cost of the line would be comparatively small, not exceeding probably £3,000 per mile. That I have every reason to believe that those freeholders (with one or two exceptions, persons residing near the town and controlling but at most a mile) over whose land the line would run are willing to give land for railway purposes without compensation. That private firms could be found to undertake the work upon Government guarantee of a fixed rate of interest for a term of years. And lastly, that the traffic receipts of the line, at any rate of the first portion (Oamaru to Waiareka Valley), would at once more than pay the amount of interest guaranteed. Petitions will be presented during the coming Session on this subject; but meanwhile I think it due both to the Government and to the constituency I have the honor to represent, to transmit to you for the consideration of the Government previous to the meeting of Parliament, the principal facts upon which those petitions will be based.

I may perhaps be permitted to point out that Mr. Millar, F.S.A., and staff, being now in this district, engaged in the survey of the Northern Trunk Railway, a preliminary (or rough) survey of the first portion of the Cave Valley Line might be made before the meeting of the Assembly.

I may also add, that the construction of the first portion of the proposed line, viz., Oamaru to Upper Waiareka Valley (twelve miles), would for the present meet the public requirements; and traversing, as it would, a settled and cultivated district, opening up some 70,000 acres of fine land which produces a large amount of grain, and giving access to many of the principal stone quarries of the district, would at once yield returns which would more than pay the guaranteed interest.

I have, &c.,

The Hon. W. Gisborne.

W. J. STEWARD, M.H.R.

Enclosure in No. 123.

RAILWAY MEETING.

THE adjourned meeting to consider the branch lines of railway most required was held in the Long Room of the Star and Garter Hotel, on Friday, the 2nd June. His Worship the Mayor occupied the chair. There were between sixty and seventy persons present, representing every portion of the district.

The Chairman stated that as there were many present who were absent at the former meeting, it might be desirable that he should again state the object for which they were called together. It was simply to consider the branch lines of railway most required in this district, and, by an expression of public opinion, strengthen the hands of their representatives when the question should arise in the General Assembly or the Provincial Council. He believed the Committee appointed at the previous meeting had collected an amount of information most valuable in the consideration of this most important subject, and that they were prepared with a report which he thought would prove satisfactory to all parties. He would call upon Mr. Maude, chairman of the Committee, to read the report.

Mr. Maude said the Committee had met several times, and carefully considered the subject they had been deputed to consider. The decision arrived at would, he believed, if adopted, prove satisfactory to all parties in the district. A map had been prepared, showing the proposed lines. He then read the following report:—

Your Committee beg to report that the matter referred to them at last meeting of conference has received their careful consideration, and that they have held two meetings, at which the whole bearings of the question have been discussed.

They beg to report that, in their opinion, the following recommendations should be made to the Members for the District,—

1. To support the construction of a line, at the earliest possible time, from the Waitaki to Moeraki, as a portion of the Main Trunk Line.

2. That, in the opinion of this conference, concurrently with the construction of the Main Trunk Line through the district, a branch line or lines should be made on a lighter scale, but of the same gauge with the main line; the direction of such branch line or lines to be as follows:—

(1.) A line joining main line near Oamaru, and from thence through Cave Valley, Waiareka Valley, and Awamoko Valley to Maerewhenua—distance say thirty miles—opening 150,000 acres of fine agricultural land on either side of the line; or, if a portion only of the line be constructed, the following sections represent the order in which the various portions of the line should be carried out:—

(a) Oamaru, through Waiareka Valley, twelve miles, opening 70,000 acres of splendid land, now more or less under cultivation, and passing large stone quarries.

(b) Waiareka Valley to Awamoko Valley, seven miles, opening 40,000 acres of fine land, not yet under cultivation.

(c) Awamoko Valley to Maerewhenua, eleven miles, opening 40,000 acres of fertile land, not yet under cultivation, and communicating with Maerewhenua Gold Field.

(2.) From Puke-uri, joining main line, to Greytown (Awamoko) up the Waitaki Valley, at a very easy grade, twelve miles, opening 20,000 acres of fine land, now more or less under cultivation, and communicating with the Awamoko Lignite Pits.

3. That, in the opinion of this conference, the construction of the above-mentioned lines would have the effect of immensely increasing the population of the district, the export of cereals, and of the valuable building stone of the district, and would at the same time save a large sum of money, which must be otherwise expended in the construction and maintenance of roads.

And your Committee further recommend to the Members for the District to urge the Government to cause an immediate survey to be made of the said branch lines.

H. J. MILLER,
Chairman.

29th May, 1871.

Mr. J. Lees submitted a map, showing the proposed lines, and explained that by the construction of these lines the whole of the settlers would be within six miles of a railway station.

The map having been carefully examined by the gentlemen present,—

Mr. Fenwick (Otepopo) moved, and Mr. J. Reid seconded, "That the report as read be adopted." Carried unanimously.

Mr. Steward, M.H.R., said he had that morning received the following information from Mr. Millar, F.S.A. :—

Upon the plans for the Northern Trunk Railway there are laid down for the consideration of the Government the direction and gradients of two branch lines—1st. From the Kakanui up the Waiareka Stream, *via* Cave Valley, to Oamaru. 2nd. From Puke-uri Point to Awamoko. 3rd. From Awamoko to Maerewhenua.

Mr. J. Lees proposed, and Mr. Maude seconded, "That a sub-committee be appointed to draw up and obtain signatures to a petition in favour of the construction of the lines indicated in the report, consisting of H. Edwards (Waiareka), P. Aitcheson (Papakaio), W. Murcott (Hampden), T. Henderson (Otepopo), J. Waddell (Oamaru), and the mover." Carried.

Mr. J. Reid proposed, and Dr. Gleeson seconded, "That copies of the foregoing resolutions be forwarded to His Honor the Superintendent, and the Members for the District in the General Assembly and the Provincial Council, requesting them to use their best endeavours to give effect to the same." Carried.

A vote of thanks was passed to His Worship the Mayor for presiding, and the meeting terminated.

No. 124.

The Hon. W. GISBORNE to Mr. STEWARD, M.H.R.

SIR,—

Public Works Office, Wellington, 6th July, 1871.

I have the honor to acknowledge the receipt of your letter of the 16th June last, in which you enclose copy of the report of a public meeting held at Oamaru on the 2nd of that month, with reference to the question of railway communication through Cave, Waiareka, and Awamoko Valleys, to Maerewhenua, and in reply to thank you for the information you have been good enough to convey, and to assure you that the attention of the Government has already been directed to the branch line which your letter advocates. I have, however, to express my regret that there will not now be time before the Assembly meets to obtain a Parliamentary survey of the country. But, in the meanwhile, it would be very desirable that the promoters of this branch line, who are landowners, should themselves formally communicate to the Government their willingness to give up the land without compensation, and that a similar communication should also be made by any competent persons willing to undertake the execution of the work on a guarantee of interest not exceeding the rate fixed by the Railway Act of last Session.

Copies of your letter and of this reply have been forwarded to His Honor the Superintendent of Otago for his information.

As the report of the public meeting above alluded to is extracted from a local paper, the name and date of which are not stated, I have not been able to send His Honor the Superintendent of Otago a copy, and I should feel obliged by your doing so.

W. J. Steward, Esq., M.G.A., Oamaru.

I have, &c.,
W. GISBORNE.

No. 125.

The Hon. W. GISBORNE to His Honor J. MACANDEW.

SIR,—

Colonial Secretary's Office, Wellington, 7th July, 1871.

I have the honor to forward for your Honor's information, copies of a letter received from Mr. Steward, M.H.R., with reference to a proposed branch line of railway through Cave Valley to Maerewhenua, and of my reply to the same.

His Honor the Superintendent, Otago.

I have, &c.,
W. GISBORNE.

III.—INVERCARGILL TO MATAURA.

No. 126.

His Honor W. WOOD, M.H.R., to the Hon. J. VOGEL.

SIR,—

Wellington, 22nd August, 1870.

I have the honor to call your attention to the necessity for some provision being made for the better development of the great resources of that important district situated between the Mataura River and Invercargill. The whole of the district is of that character best adapted to the construction of an inexpensive railway. In proof of this, I may state that an experienced railway contractor offered to construct a railway of 3 feet 6 inch gauge through it, furnishing the necessary sheds and rolling stock, for the sum of £3,000 per mile.

On a late occasion, when such a work was contemplated, the principal owners of land in the district expressed their willingness to give the land over which the railway would pass, so that I feel justified in stating that only a very small sum would be required as compensation for land taken. Such a railway would open up an extensive district splendidly adapted for agricultural purposes, and would tend greatly to increase the annual production of grain on land at present used chiefly for grazing purposes.

The above views are in accordance with those held by the Council and people of Southland, and I take this opportunity, on the eve of my tenure of office, to lay this matter before you, in the hope that it will receive your favourable consideration. I may also add, that the Provincial Council of Southland in November last passed a resolution expressing the above views.

The Hon. the Colonial Treasurer.

I have, &c.,

WILLIAM WOOD.

No. 127.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

(Telegram.)

Wellington, 8th November, 1870.

I PROPOSE that steps should at once be taken to have the lines of railway between Invercargill and Mataura, and Moeraki and Waitaki, respectively, laid out as prescribed in "The Railways Act, 1870." Will you recommend Engineer for each, competent to survey and lay off line, and after inquiry state what you recommend as terms of remuneration, inclusive of all allowances, but of course excluding cost of labour. If arrangement can be made, instructions will be given to Mr. Blackett, C.E., who is acting as Chief Engineer in the Public Works Department.

I would also propose that the Engineer who lays out the line on the Canterbury side of the Waitaki and the Engineer of the line between Moeraki and Waitaki should meet, and after consultation recommend the site of the Waitaki Bridge, and that then arrangements should be made for its construction.

I will write to you relative to proposal by Tuapeka Committee of railway from Tokomairiro to Lawrence, and of water supply.

His Honor the Superintendent of Otago.

W. GISBORNE.

No. 128.

The Hon. W. GISBORNE to Mr. BRUNTON.

SIR,—

Public Works Office, Wellington, 26th November, 1870.

Referring to former correspondence with His Honor the Superintendent of Otago respecting the survey of the railway between Invercargill and Mataura, I have the honor to enclose a tracing for your information. It will be necessary that the work should be performed according to the following specification, a copy of which I have already telegraphed to His Honor, viz. :—

To make a sectional and plan survey of the line, showing the position, grades, curves, bridges, culverts, cuttings, embankments, &c., and to furnish plans with an approximate estimate of the probable cost of the work complete, showing all the items in detail; grades not to exceed 1 in 50, and curves not to be less than 5 chains radius, gauge 3 ft. 6 in.; a price per mile to be stated.

The line will possibly be from Invercargill eastward, skirting Seaward Forest, and passing between the head-waters of the Waituna and Waihopai; skirting the low terraces of the Mataura to the seaward of Oteramika Bush; thence following up the valley of the Mataura, and crossing either at the falls or the Long Ford, according to whichever is best adapted to extending the line to Clutha.

It is important that this work should be commenced as soon as possible, and I shall feel obliged by your reporting as to its progress from time to time to this Department.

W. Brunton, Esq., C.E., Dunedin.

I have, &c.,

W. GISBORNE.

No. 129.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Princes Street, Dunedin, 7th December, 1870.

I have the honor to acknowledge receipt of yours, of date 26th November, 1870 (No. 87, P.W., 70-336), with tracings showing direction of line from Invercargill to Mataura River.

I have a staff at present employed in making necessary surveys to enable me to set out the line, and will lose no time in the completion of my plans, sections, estimates, &c., and will forward you a fortnightly report of the progress made.

The Hon. W. Gisborne, Wellington.

I have, &c.,

WM. BRUNTON, M.I.C.E.

No. 130.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Invercargill, New Zealand, 26th December, 1870.

I have the honor to enclose tracings showing railway lines from Invercargill to a point near Menzies Ferry on the Mataura River. The country over which these lines pass I have minutely inspected, with a view to determine—

1. The one demanding the least works in railway construction.
2. The one which will allow the best line with regard to gradients and surveys.
3. The one which, when completed, will command the most traffic.

1. The red line is that I had the honor to receive a tracing of from you, accompanying instructions. The ground over which this line runs is, from Invercargill to 12th mile slightly undulating, with a good many swamps running from Seaward Forest northward; from 12th to 19th mile it increases in its undulations, the gullies running at right angles to the course of the line (being feeders of the Waituna River). The cost in earthworks and culverts over this portion would be considerable, and the line itself would have to be serpentine, and in consequence increased in length; between the 16th and 19th mile, there are also a few very ugly-looking swamps to contend with, and the descent to the plain is far from gradual. From the 19th to the 23rd mile, being on the plain, the works will be very light, and the gradients practically level.

The blue line, as shown on plan, runs from Invercargill to the crossing on the Waihopai River (about six miles) over ground slightly undulating. From the 6th to the 11th mile it runs on a leading ridge, crossing at 11th mile the north branch of the Waihopai River (a small creek); from 11th to 17½ miles it runs on leading spurs which will be nearly surface formation the whole way, without either swamp or watercourse; from 17½ to 21st mile the ground gradually descends to plain by route through the centre of Oteramika Bush. In this bush there is a large quantity of totara and black pine timber, the facilities in obtaining which for railway purposes will be greatly increased by the line opening it out. I should recommend this route between the 15th to 23rd mile in preference to either of the others shown. Besides the aforementioned advantage, it is, I believe, the easiest part, for many miles north and south, by which to get down to the plain below. I am having a track cut through the bush to prove this.

The saving in cost of earthwork on blue line, as compared with red, would be great, taking both lines equally easy as to gradients; and although the blue line crosses the Waihopai River, involving a bridge two bays of 30 feet space, the numerous small culverts which would be required on the red, as compared with those on the blue line, would, I believe, more than exceed this disadvantage; and the expense in water openings on red line would exceed that necessary on blue line.

Level crossings on public or occupation roads, I estimate would be about the same per mile over each line. Over or under bridges would not be required upon either.

The length of red line exceeds that of the blue about 2 miles 35 chains—a saving in itself of, say, £4,500 or £5,000.

The facilities for getting material to the line during construction is in favour of the blue, as the road out of Invercargill is metalled eleven miles.

2. There are no engineering difficulties to prevent a practicable level line, with easy gradients, being made over both routes.

3. With regard to the two lines as giving accommodation to the general public settled in the districts through which they run, and the consequent traffic to be expected in carriage of the produce of these settlers, it seems to me there can be no hesitation in giving the blue line the preference. Over the red line, for ten miles out of Invercargill, there is little likelihood of any further settlement south of it for many years; whilst the blue line, keeping close to the main metalled road to Dunedin, on to which the produce of settlers to the north flows, *en route* to Invercargill, will give accommodation to both north and south, and pass close to works from which (at a low estimate) may be expected 1,300 tons of goods annually. From the 13th to the 22nd mile on red line, the country is pretty much in its original state; while from the 11th to 18th mile, the blue line passes entirely through agricultural land, fenced, ploughed up, and under crop, the carriage of the produce from which would be a large item of revenue to the railway.

The red line at 25th mile crosses the road leading from Menzies Ferry to Invercargill. This ferry is the first crossing there is over the Mataura River from the sea, and gives accommodation to the settlers on the east side of the river, and there is considerable traffic continually passing.

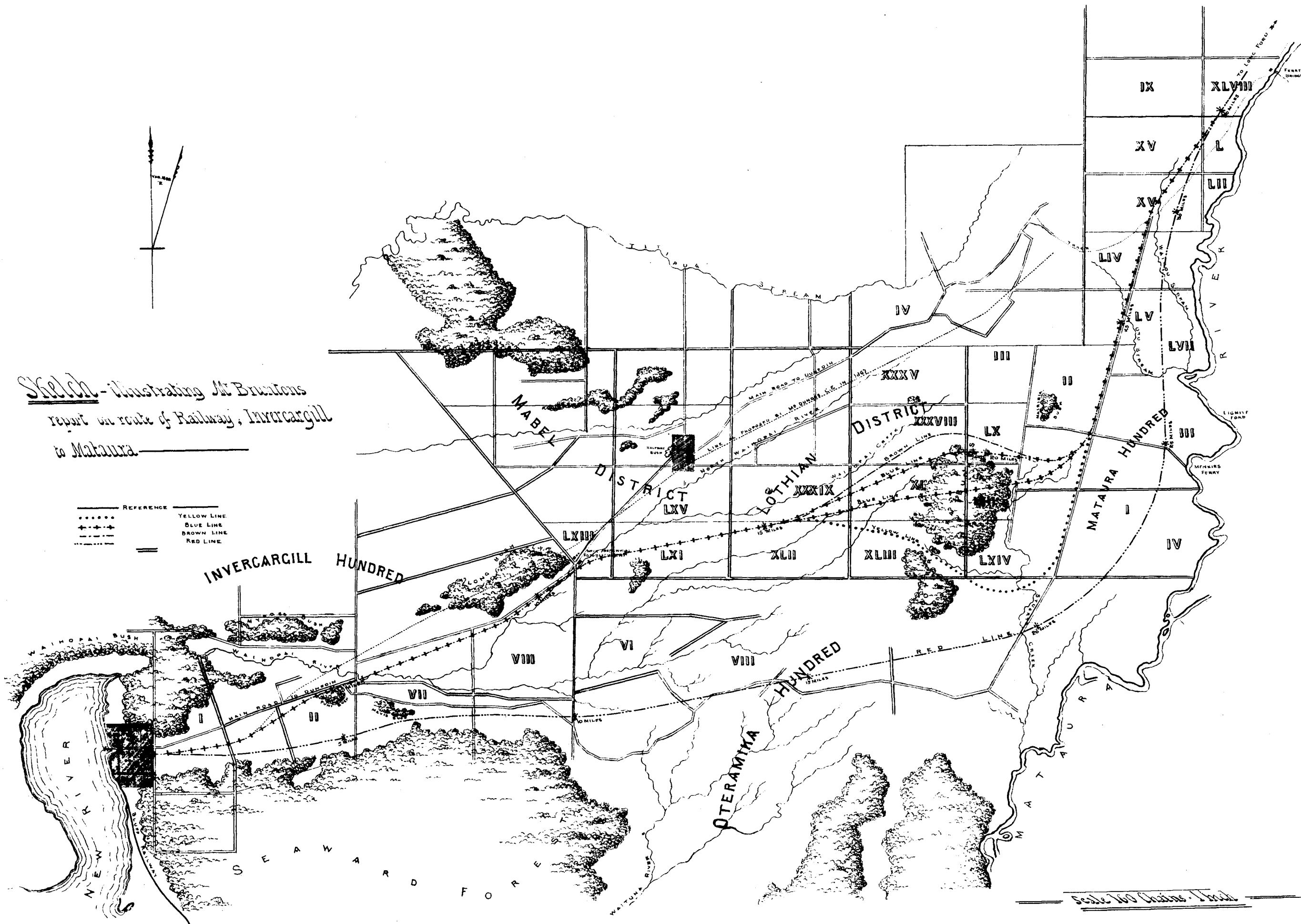
The red line descends the lower terrace to the plain level with the bank of the river. I recommend it being kept on the higher plains, as below the line would be subjected to floods, and the ground is not nearly so favourable for railway formation. And I propose the station to be on a reserve (as shown on plan), a road to which, direct from the ferry, is already made. The line would thence run parallel with road already fenced, and take advantage of one of these fences for some four miles.

In recommending the route of this line, I have borne in mind that it is part of one of the main trunk lines through the Province, and should, with due regard to cost in construction, be shortened as much as possible. Eventually branches will be brought into it from settled districts on either side; but I think the present requirements of the settlers on the east side of the Mataura admit of a slight detour, to afford such accommodation at Menzies Ferry, otherwise a line shorter, and still through settled districts, could be obtained.

I have dotted on plan a line as proposed by Mr. Dundas, C.E., in 1867, which would considerably curtail the distance to Long Ford. The only objection in it is, that it twice crosses the main trunk road to Dunedin unnecessarily, and that it would give no accommodation to settlers east of the Mataura, from the Wyndham to the sea.

Finally, I have the honor to recommend the blue line, as shown on plan passing through the centre of Oteramika Bush in preference to any other, looking at it in an engineering view with

*Sketch - illustrating Mr Brunton's
report on route of Railway, Invercargill
to Matakura.*



REFERENCE

 + + + + +
 - - - - -
 = = = = =

YELLOW LINE
 BLUE LINE
 BROWN LINE
 RED LINE

Scale 1/60,000

regard to character of line, &c., first outlay, and also financially with regard to probable results in revenue to be obtained; and I respectfully request instructions as to proceeding with its survey, or adhere to the line as given in your former instruction, viz., the red one.

The Hon. W. Gisborne, Wellington.

I have, &c.,
WM. BRUNTON, C.E.

No. 131.

The Hon. W. GISBORNE to Mr. BRUNTON, Invercargill.

(Telegram.)

Wellington, 9th January, 1871.

SURVEY of "blue" line recommended by you is authorized. I would suggest that you should commence at the Mataura end in laying out line, so that the best gradient from the Mataura Flats through Oteramika Bush may determine exact position of line on the high terraces.

W. Brunton, Esq., Invercargill.

W. GISBORNE.

No. 132.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Princes Street, Dunedin, 28th February, 1871.

I have the honor to forward, accompanying this, plan, section, and estimate of that section of the Otago Southern Trunk Railway situated between Invercargill and the Mataura River.

It is rarely that the natural features of a country are so favourable to railway construction as this is; and it is with every confidence that I state a good single line, 3 feet 6 inch gauge, with the necessary sidings, &c., can be made and equipped for £2,500 per mile, including a substantial bridge over the Mataura River.

It will be seen that I have crossed the Mataura at the Gore township and not at the Falls. There is no question but that, from the formation of the country between these two places and the Clutha, a line of railway, when brought from the latter place to the Mataura, will have to come to or near this point.

The steepest inclination is 1 in 71; the sharpest curve is 12 chains radius.

I have based my calculations on using in all structures such as bridges and culverts, the best Tasmanian blue gum, as far more durable than our indigenous timber suitable for bridge work. Indeed, the length of its durability, if properly fixed, experience has not yet ascertained. Using stone or brick in these structures would add largely to expense.

Good clean gravel for ballast can be obtained on the whole length of the line. The two heaviest cuttings, at 20 miles 45 chains, and 28 miles 20 chains, respectively, will principally be through such material.

Sleepers will be of totara, sawn, and free from sapwood. Similar sleepers have been in use seven years on the Invercargill and Bluff Railway, and are at present perfectly sound.

I have estimated the prices of rolling stock and permanent way materials from English prices of latest date, adding ample for cost of transit to Invercargill.

The line passes through—

	Miles	chains.
Land reserved for Government purposes	5	33
Purchased by Australian and New Zealand Land Company	22	79
Owned by small settlers	11	68
	40	20

The Australian and New Zealand Land Company, I believe, have notified their intention to Government of giving the land required for this railway without charge, leaving land for making 11 miles 68 chains of railway to be negotiated for (commencing at 1 mile 4 chains and terminating at 10 miles 46 chains, and again at 36 miles 48 chains and terminating at 38 miles 74 chains)—about 94 acres—very little of which is otherwise than in its original state. I have placed £1,000 on the estimates for this purpose, but have confidence that this amount will exceed that required when arrangements with landholders shall have been made.

Until negotiations are concluded with owners of land, it is impossible to state accurately the amount of accommodation required by them in respect to level crossings. On the Australian and New Zealand Land Company's property, a distance 22 miles 79 chains, I have estimated for nine, exclusive of public roads, and have the honor to attach copy of letter received from their representatives in this Province in respect to the same; and I am of opinion that the number over the whole line that are provided will be found to be adequate for the requirements, and satisfactory to the owners of property through which the line passes.

The Hon. the Colonial Secretary, Wellington.

I have, &c.,
WM. BRUNTON, C.E.

Enclosure 1 in No. 132.

Messrs. GRAY, RUSSELL, and Co. to Mr. BRUNTON.

New Zealand and Australian Land Company (Limited),
Dunedin, 7th March, 1871.

SIR,—

We are favoured with your letter of this date, and have to reply that we will be quite satisfied with the nine occupation level crossings provided by you on the proposed Invercargill and Mataura Railway for the Company's use, as approved of by Mr. Brydone—it being understood that, in the event of the Company desiring to alter the position of any of the crossings, it will be acceded to.

Yours, &c.,

GEORGE GRAY, RUSSELL, AND CO.,
Agents.

W. Brunton, Esq., C.E.

Enclosure 2 in No. 132.

APPROXIMATE ESTIMATE—Otago Southern Trunk Railway.

Invercargill and Mataura Section—length, 40 miles 20 chains; single line of railway, 3 feet 6 inch gauge; weight of rails, 36 lbs. to the yard.

			£	s.	d.
Earthwork—					
Main Line	...	...	232,478		
Deviations and Approaches	...	...	21,412		
Stations and Sidings	...	...	14,000		
		267,890, at 1s. 1d. per cubic yard	14,510	14	2
Ballast—					
Main Line	...	...	88,550		
Stations and Sidings	...	...	4,400		
		92,950, at 1s. 8d. per cubic yard	7,745	16	8
Rails—					
Main Line	...	...	2,295		
Stations and Sidings	...	...	114		
		2,409, at £9 per ton	22,885	10	0
Dog-spikes, Fish-plates, and Bolts—					
Main Line	...	...	91		
Stations and Sidings	...	...	4½		
		95½, at £10 per ton	955	0	0
Sleepers—					
Main Line	...	...	85,008		
Stations and Sidings	...	...	4,224		
		89,232, at 2s. each	8,923	4	0
Bridges at					
0	16, superstructure to be renewed	...	200	0	0
1	34, one 25 feet span	...	150	0	0
5	70, three 25 feet span	...	450	0	0
9	7, one 25 feet span	...	150	0	0
25	51, two 25 feet span	...	300	0	0
31	56, three 30 feet span	...	540	0	0
36	49, one 15 feet span	...	90	0	0
40	11, twenty 30 feet span	...	4,000	0	0
Culverts, seventeen 3-feet openings at £28 each...					
	four 4-feet openings at £30 each	...	120	0	0
	one 5-feet opening at £35	...	35	0	0
	eight 6-feet openings at £45 each	...	360	0	0
	two 10-feet openings at £65 each	...	130	0	0
Level Crossings, Gates, &c., twenty-five at £20 each					
Fencing Ditch and Bank, eighty miles at £15 per chain					
Points, Switches, and one Turntable					
Laying Permanent Way, Main Line, 40 miles 20 chains at £50 per mile					
Stations and Sidings, 2 miles at £50 per mile					
Rolling Stock—					
Four Locomotives at £1,500 each...					
Four composite Carriages at £300 each					
Forty open Goods Waggons at £85 each					
Ten covered Goods Waggons at £110 each					
Two Break Waggons at £150 each					
Stations—					
Six Platforms and Sheds at £250 each					
Water Tanks					
Land—Purchase of about ninety-four acres					
Engineering expenses					
Contingencies, 10 per cent.					
Total			£98,963	14	10

No. 133.

Mr. HARVEY to the Hon. W. GISBORNE.

SIR,—

Invercargill, 14th June, 1871.

I have the honor to transmit by this post a copy of the *Southland Times*, of 13th June, containing a report of the proceedings at a public meeting, at which I, as Chairman, was requested to ask you to further the views of the meeting.

Requesting your most favourable consideration,

I have, &c.,

JAMES HARVEY,
Chairman.

The Hon. the Colonial Secretary, Wellington.

Enclosure in No. 133.

MATAURA RAILWAY.

A LARGELY attended public meeting was held in the Council Hall on the evening of Friday, to consider the advisability of urging the Government at once to commence the formation of the Mataura Railway Line from Invercargill.

A numerous signed requisition had been presented to Mr. H. McCulloch, Sheriff, requesting him to convene the meeting. Mr. McCulloch read the requisition, after which Mr. James Harvey was voted to the chair.

Mr. Harvey said that as the railway system of New Zealand, under the General Government, had now been decided, it was the opinion of many of the leading citizens of this part of the Colony that some action should be taken, with the view of securing a fair consideration under that policy. They were aware that in carrying out the scheme heavy liabilities would be contracted, and as they would have to meet their share of the interest accruing therefrom, it was but right that they should see to their interest in the expenditure of the money. (Applause.) He was now happy to inform them that since this meeting had been decided upon, the Provincial Council of the Province had shown some zeal in the matter. A telegram had been received by one of the local papers, which he held in his hand, intimating that a majority in the Council had decided upon the lines in Otago being scheduled as follows:—"Invercargill to Mataura, Waitaki to Moeraki; and thence to Waikouaiti, Tokomairiro to Tuapeka, Mossgiel to Outram, Winton to Kingston, and Balclutha to Mataura."

By this it appeared that the Council had determined upon carrying out its railway works throughout the whole of the Province, commencing at Lake Wakatipu down to the Bluff, from Invercargill to Dunedin, and on from thence to the northern boundary at the Waitaki. So far as Southland is concerned, an opinion had been expressed that the line from Invercargill to Mataura was the most urgent, and in furtherance of that view a number of gentlemen would come before them with a series of resolutions indorsing that opinion, and urging upon the authorities to have the work gone on with at once. (Applause.)

Mr. J. W. Mitchell moved the first resolution—"That, in the opinion of this meeting, it is desirable that the railway from Invercargill to the Mataura should be commenced at Invercargill, and constructed as speedily as possible." (Applause.) Various reasons, he said, might be urged in favour of the motion. In the first place, work was scarce in Invercargill at present; but if the work of constructing the railway was set in operation, employment would be found for a great many men who were at present idle. In the next place, Invercargill admittedly ranked as the second chief town in the Province, and as such they had a perfect right to expect that the railway system would radiate from it in proportion to its position. (Applause.) At Dunedin, the works were already in operation; and he argued that, in claiming that the next move should be made from Invercargill, they were claiming nothing but what their social position gave them a right to insist upon. (Applause.)

Mr. W. J. Moffett seconded the resolution, which was put and carried unanimously.

Mr. Thomas Denniston, Oteramika, moved the next resolution—"That, in the opinion of this meeting, the Provincial Council should request the General Government to call at once for tenders for the construction of the above-named line, so as to be in a position to commence the work at the earliest date possible after the General Assembly meets." He said that after the unmistakable expression of opinion given to the last motion, there could be no doubt but that an earnest desire existed for the immediate prosecution of the line. Any consideration of the general question would show that if this part of New Zealand aimed at the construction of railways, the Mataura Line would show many claims for taking precedence in the movement. They had been told that the Provincial Council had already passed a resolution adopting it as one of the lines that should be made, so that any difficulty that may have existed in that quarter had now been removed. As a General Government measure, the Mataura Line had been put down in the Third Schedule of the Act, which implied that a survey should be made, and the work reported upon. It was now of the very greatest importance that they should succeed in impressing on the Government the necessity of having that survey and report completed at once, in order that any delay might be avoided in beginning the work.

Mr. William Blackwood seconded the motion. In doing so, he mentioned one or two additional reasons for urging forward the undertaking. The survey of the line, he reminded them, had been made, so that what they had now to do was to ask that tenders should be issued. Action of this kind had been taken by the neighbouring district of Balclutha, and they had succeeded in getting the work begun at their end of the line. The heavy traffic on the eastern districts roads was another strong reason in favour of this line being constructed forthwith. That traffic was cutting up the roads fearfully; and unless they were relieved of it, a heavy expenditure would be necessary for their maintenance. On the other hand, the line in question would be of great importance for enabling Invercargill to maintain its position of a market town to the surrounding districts. (Applause.)

Mr. H. Jagers moved, without comment, "That the Chairman be instructed to forward a copy of the above resolutions to the Colonial Secretary, His Honor the Superintendent, the Provincial Secretary, and the Secretary of Lands and Works, the Member of the General Assembly for Invercargill, and the Members of the Provincial Council for Invercargill, Waihopai, Tapanui, and Oteramika, with a request to forward the views expressed by the meeting."

Mr. John Elliott, Bushy Park, Hokanui, seconded the resolution, which was also carried. The meeting terminated with a vote of thanks to the Chairman.

No. 134.

Mr. KNOWLES to Mr. HARVEY.

SIR,—

Public Works Office, Wellington, 3rd July, 1871.

I am directed by Mr. Gisborne to acknowledge the receipt of your letter of the 14th June, wherein you transmit a report of the proceedings at a public meeting at Invercargill, of which you were Chairman, in reference to the formation of the Mataura Railway.

In reply, I am to inform you that the Parliamentary survey of the line, Mataura to Invercargill, has been completed, and will, in terms of the Act, be laid before the Assembly at the forthcoming Session for its decision.

I have, &c.,
JOHN KNOWLES,
Under Secretary.

James Harvey, Esq., Invercargill.

No. 135.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

SIR,—

Colonial Secretary's Office, Wellington, 3rd July, 1871.

I have the honor to forward, for your Honor's information, copy of a letter received from Mr. James Harvey, of Invercargill, with reference to the Invercargill and Mataura Railway, together with a copy of the reply which has this day been written to him by my direction.

His Honor the Superintendent, Otago.

I have, &c.,
W. GISBORNE.

No. 136.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

SIR,—

Province of Otago, New Zealand,
Superintendent's Office, Dunedin, 10th July, 1871.

I have the honor to acknowledge the receipt of your letter of 3rd July, 1871, enclosing for my information copy of a letter received from Mr. James Harvey, of Invercargill, with reference to the Invercargill Railway, together with a copy of your reply to that gentleman.

The Hon. the Colonial Secretary, Wellington.

I have, &c.,
J. MACANDREW,
Superintendent.

IV.—MATAURA TO CLUTHA.

No. 137.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

SIR,—

Dunedin, 10th March, 1871.

I have to inform your Honor that I have, under the authority of the 7th section of "The Public Works Act, 1870," accepted Mr. Brunton's offer to make a reconnaissance survey of a line of railway between Mataura and Balclutha, and to provide plans, sections, reports, and approximate estimate.

His Honor the Superintendent, Dunedin.

I have, &c.,
W. GISBORNE.

No. 138.

Mr. BLACKETT to the Hon. W. GISBORNE.

(Telegram.)

Invercargill, 8th April, 1871.

I HAVE seen about one-half of the probable course of the railway line from Clutha to Mataura. Mr. Brunton's assistants have already walked over the remainder of the line on the supposed route; they report it as much more favourable than expected, and express a hope of being able to secure a comparatively level line by careful selection, which will join that from Invercargill, at the Long Ford, Mataura, where there is an excellent site for a bridge; this I have already examined.

The Hon. W. Gisborne, Wellington.

JOHN BLACKETT.

No. 139.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Princess Street, Dunedin, 16th May, 1871.

I have the honor to report that the section over this division of the Southern Trunk Railway is plotted and line laid on. The length will be 49 miles 79 chains 24 links. Greatest inclination 1 in 92, sharpest curve 10 chains radius. A statement of gradients I have the honor to enclose. Calculation of quantities not yet complete, but I believe my estimate will not exceed £3,500 per mile, including the bridge over the Clutha River.

I shall in a few days proceed with the survey between Athol and Kingston.

I have, &c.,

The Hon. W. Gisborne, Secretary, Public Works,
Wellington.

W. BRUNTON, M.I.C.E.

Enclosure in No. 139.

TABLE of GRADIENTS, Otago Southern Trunk Railway,—Section, Long Ford to Clutha.

50 chains	...	Inclination	1 in 968	6.5 chains	...	Level	
20	"	"	1 in 176	43.5	"	Inclination	1 in 97
160	"	"	1 in 782	5	"	Level	
70	"	"	1 in 924	55	"	Inclination	1 in 129
120	"	"	1 in 428	20	"	"	1 in 680
90	"	"	1 in 565	30	"	"	1 in 990
80	"	"	1 in 880	130	"	"	1 in 98
180	"	"	1 in 365	110	"	"	1 in 177
80	"	"	1 in 257	160	"	"	1 in 251
85	"	"	1 in 136	90	"	"	1 in 242
5	"	Level		40	"	"	1 in 251
50	"	Inclination	1 in 206	80	"	"	1 in 114
60	"	"	1 in 660	2.5	"	Level	
50	"	"	1 in 300	107.5	"	Inclination	1 in 106
40	"	"	1 in 660	90	"	"	1 in 625
90	"	"	1 in 594	80	"	"	1 in 440
70	"	"	1 in 770	50	"	"	1 in 330
60	"	"	1 in 565	51.5	"	"	1 in 188
40	"	"	1 in 264	68.5	"	"	1 in 118
80	"	"	1 in 188	50	"	"	1 in 132
90	"	"	1 in 110	2.5	"	Level	
10	"	Level		202.5	"	Inclination	1 in 92
40	"	Inclination	1 in 132	75	"	"	1 in 353
110	"	"	1 in 588	113.5	"	"	1 in 267
70	"	"	1 in 577	76.5	"	"	1 in 252
10	"	Level		38	"	"	1 in 839
25	"	Inclination	1 in 110	82	"	"	1 in 492
5	"	Level		65	"	"	1 in 2145
20	"	Inclination	1 in 101	65	"	"	1 in 1075
8	"	Level		100	"	"	1 in 660
22	"	Inclination	1 in 242	19.24	"	Level	

3999 chains 24 links=49 miles 79 chains 24 links.

No. 140.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

SIR,—

Colonial Secretary's Office, Wellington, 29th May, 1871.

Adverting to my letter of the 10th March last, in which I informed your Honor that the Government had entered into a contract with Mr. Brunton, C.E., for a reconnaissance survey of a

railway line between Mataura and Balclutha, I would invite, in pursuance of the 6th section of "The Immigration and Public Works, Act, 1870," the expression of the opinion of yourself and of the Provincial Council of Otago relative to the construction of that railway, with a view to those opinions being laid in terms of that section before the General Assembly in its next Session.

It would also be desirable that the opinions of your Honor and of the Provincial Council should be expressed relative to the construction of the lines from Invercargill to Mataura and from Moeraki to the Waitaki, the survey of which has been made under the authority of "The Railway Act, 1870," but the construction of which has not yet been sanctioned by the General Assembly.

In my former letters I invited the opinion of the late Provincial authorities of Otago as to what other railways should be constructed in that Province under the Public Works Act; but I have received from them no recommendation on that subject, and I fear that the winter season is now too far advanced to admit of the survey of any line that may now be recommended, in time for the consideration of the General Assembly during its next Session.

His Honor the Superintendent, Otago.

I have, &c.,
W. GISBORNE.

No. 141.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Princes Street, Dunedin, 6th July, 1871.

I have the honor to forward with this plan section and estimate of the "Long Ford" and "Clutha" section of the Otago Southern Trunk Railway.

In a former report on the country over which the Invercargill and Long Ford section of this line runs, I characterized it as one rarely to be met with for favourable features in railway construction. The character of the country now in question is much the reverse; it being difficult from its irregularities, and involving a largely increased amount of earthwork, in order to obtain a line not having by steep grades a permanent bar to its success. This after many trial sections I have been able to obtain, as will be seen from the section and plan, the steepest gradient being 1 in 92, and the sharpest curve 10 chains radius; the estimated cost of which, including rolling stock, is £3,421 per mile.

I have based my estimates on using the same material in the construction of bridges and culverts, viz., blue gum, as I did on section from Invercargill to Long Ford, excepting the abutments of bridges carrying public roads over railway, which will be of rubble masonry, and constructed for double line of railway.

In order to obtain the best line, I have kept the low ground between the spurs running from ranges of hills. A great portion of the present surface is covered in floods which rise and fall gradually, and without any strong current endangering earthwork; and I have kept the line at such a height as to be well out of the reach of such floods, and made ample provision for the escape of the waters to their natural outlet.

Most of the roads crossed on this section are at present unformed (only reserved on survey plans), and no road is raised or lowered to cross it on a level to a degree to injure its utility. All roads on this section have steep grades in them, as bad as 1 in 12; I estimate all approaches to railway line to be not greater than 1 in 20.

You will see that the price of earthwork is increased 2d. per yard above earthwork on section Invercargill to Long Ford; the extra length of lead from cuttings to the embankments, also the extra height of the embankments where they have to be formed from side-cuttings, necessitate this. The ballast is also increased 4d. per yard. I have every confidence that good gravel ballast can be obtained, but it is not so plainly visible as over the section from Invercargill to Long Ford. The price of sleepers I have also slightly increased, as but little timber suitable is near the line on the section.

I have estimated the same rolling stock for the fifty miles as I did for the Invercargill and Long Ford section of forty miles in length; at first I should not consider it necessary to order this stock, letting that already estimated for do the work, and only ordering additional as it is found the traffic increases. The largest and most expensive work on this section is the crossing of the Clutha, estimated at £7,000. I should strongly recommend that before any crossing is constructed, the present action of this river should be carefully considered. It is yearly encroaching, and I am of opinion that unless some works are constructed above, so as to throw it into its former course, it only requires a flood a little above the ordinary ones to make it take its course through the township, leaving the present bridge high and dry. I am certain it is a matter for serious consideration in constructing a railway crossing over this river, and more especially for those who have property in this township.

The country through which this section runs I consider good agricultural land on the low portions, which will be taken in the construction of the line, but little has been done to improve it; but from 63 miles to the Clutha, the land alongside of the line is principally purchased, and a great portion broken up. From Long Ford to 63 miles, it is still occupied by pastoral tenants.

I have, according to instructions, supplied the Commissioner of Crown Lands with tracing, showing what land, for purposes of this railway, should be reserved from public sale.

I have the honor to enclose lithograph plan, showing course of this line from Invercargill to the Clutha.

The Hon. the Minister for Public Works, Wellington.

I have, &c.,
W. BRUNTON, C.E.

CONSTRUCTION OF RAILWAYS.

79 D.—No. 6B.

Enclosure in No. 141.

APPROXIMATE ESTIMATE—Otago Southern Trunk Railway.

Long Ford and Clutha Section—Length 49 miles 79 chains 24 links; single line of railway, 3 feet 6 inch gauge; weight of rails, 36 lbs. to the yard; works over railway constructed for double line of rails.

		£	s.	d.
Earthwork—				
Main Line	...	736,013		
Deviations and Approaches	...	95,502		
Stations and Sidings	...	27,000		
		858,515, at 1s. 3d. per cubic yard		53,657 3 9
Ballast—				
Main Line	...	110,000		
Stations and Sidings	...	6,600		
		116,600, at 2s. per cubic yard		11,660 0 0
Rails—				
Main Line	...	2,850		
Stations and Sidings	...	171		
		3,021, at £9 per ton		27,189 0 0
Dogs, Fish-plates, and Bolts	...	113		
Stations and Sidings	...	6 $\frac{3}{4}$		
		119 $\frac{3}{4}$, at £10 per ton		1,197 0 0
Sleepers—				
Main Line	...	105,600		
Stations and Sidings	...	6,336		
		111,936, at 2s. 2d.		12,126 8 0
Bridges at				
	Mls.	chs.		
	43	27, four 30 feet openings under railway	...	720 0 0
	48	37, two 30 feet openings under railway	...	360 0 0
	52	25, five 30 feet openings under railway	...	900 0 0
	56	40, one 20 feet opening under railway	...	145 0 0
	57	52, one 20 feet opening under railway	...	145 0 0
	66	16, one 25 feet opening over railway	...	280 0 0
	66	77, two 25 feet openings under railway	...	290 0 0
	70	40, two 30 feet openings under railway	...	360 0 0
	73	36, one 25 feet opening over railway	...	300 0 0
	75	25, one 30 feet opening under railway	...	180 0 0
	77	48, two 30 feet openings under railway	...	360 0 0
	82	14, one 15 feet opening under railway	...	90 0 0
	87	61, one 25 feet opening under railway	...	150 0 0
	90	10, thirty-three 30 feet openings under railway	...	7,000 0 0
Culverts, five 2-feet openings at £22 10 each				
		...	...	112 10 0
twelve 3-feet openings at £28				
		...	...	336 0 0
four 4-feet openings at £30				
		...	...	120 0 0
one 5-feet opening at £35				
		...	...	35 0 0
four 6-feet openings at £45				
		...	...	180 0 0
one 8-feet opening at £55				
		...	...	55 0 0
four 10-feet openings at £65				
		...	...	260 0 0
Level Crossings, Gates, &c., twenty-eight				
		...	...	960 0 0
Estimated accommodation, No. 20=48 at £20				
		...	...	6,000 0 0
Fencing, Ditch and Bank, 100 miles at £60 per mile				
		...	...	1,800 0 0
Points, Switches, Signals, and one Turntable				
		...	...	2,650 0 0
Laying Permanent Way, 50 miles; Stations and Sidings, 3=53 miles at £50 per mile...				
		...	...	2,500 0 0
Station, Goods and Engine Shed at Clutha				
		...	...	1,200 0 0
Five Platforms and Sheds on line				
		...	...	300 0 0
Water Tanks				
		...	...	2,500 0 0
Purchase of Land				
	
Rolling Stock—				
Four Locomotives at £1,500 each				
		...	...	6,000 0 0
Four composite Carriages at £300 each				
		...	...	1,200 0 0
Forty open Goods Waggon at £85 each				
		...	...	3,400 0 0
Ten covered Goods Waggon at £110 each				
		...	...	1,100 0 0
Two Brake Waggon at £150 each				
		...	...	300 0 0
			£148,118 11 9	
Contingencies, 10 per cent.				14,811 0 0
			£162,929 11 9	
Engineering expenses, 5 per cent.				8,146 0 0
Total			£171,075 11 9	

6th July, 1871.

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WM. BRUNTON, C.E.

V.—ATHOL TO KINGSTON.

No. 142.

Mr. BLACKETT to the Hon. W. GISBORNE.

SIR,—

Public Works Office, Dunedin, 5th May, 1871.

I have the honor to submit for your favourable consideration a proposal for the completion of the Parliamentary survey from Athol to Kingston, on Lake Wakatipu, a distance of about fifteen miles. This would complete for the present the list of surveys in Otago Province, and could, I think, be completed before the ensuing Session of the General Assembly.

Mr. Brunton would, I believe, be willing to undertake it; and if it meets your approval, I will request him to tender for the work.

The Hon. the Minister for Public Works,
Wellington.

I have, &c.,

JOHN BLACKETT,
Acting Engineer-in-Chief.

5th May, 1871.—Approved. Let the work be undertaken at once.

F. D. BELL
(in absence of Mr. Gisborne).

No. 143.

Mr. BLACKETT to the Hon. W. GISBORNE.

(Telegram.)

Dunedin, 5th May, 1871.

WITH the sanction of Hon. D. Bell, I have accepted tender for completion of Parliamentary survey, Athol to Kingston, on Lake Wakatipu, in continuation of the line from Winton. The length of the line will be about fifteen miles.

Hon. W. Gisborne, Wellington.

JOHN BLACKETT.

No. 144.

Mr. BRUNTON to the Hon. W. GISBORNE.

SIR,—

Princes Street, Dunedin, 3rd June, 1871.

I have the honor to report that my staff proceeds on Monday, the 5th instant, to Kingston, to commence the survey of the railway line situated between that town and Athol.

As levels have never been taken over the portion between the latter place and Winton Station, and without which it is impossible to form a reliable estimate of its cost, I would respectfully submit for the consideration of Government, whether the levels I am about to take between Kingston and Athol should not be extended to that station, in order to make the surveys of line of railway from Dunedin to Invercargill, and from that place to Kingston, complete.

The Hon. W. Gisborne, Minister for Public Works,
Wellington.

I have, &c.,

WM. BRUNTON, M.I.C.E.

No. 145.

Mr. BLACKETT to Mr. KNOWLES.

(Telegram.)

Hokitika, 12th June, 1871.

LEVELS of line Athol to Winton.—This subject was considered before I left Dunedin. Mr. Blair surveyed this line, and assured me that he could frame trustworthy estimates of this part of the line without going over it again. I therefore decided not to incur expense of taking levels. The country is perfectly easy.

John Knowles, Esq., Under-Secretary,
Public Works Department, Wellington.

JOHN BLACKETT.

No. 146.

The Hon. W. GISBORNE to the Hon. F. D. BELL.

(Telegram.)

15th June, 1871.

If you have not already done so, please inform Mr. Brunton that it is not proposed to incur expense of resurvey between Athol and Winton, as the country is very easy.

The Hon. Dillon Bell, Dunedin.

W. GISBORNE.

No. 147.

Mr. BLACKETT to Mr. BRUNTON.

(Telegram.)

Wellington, 5th July, 1871.

HON. MR. HOLMES begs me to notice that the Winton and Kingston Line can be taken up the east bank of the Oreti the whole way, and save £50,000 worth of bridges. Please make a note of this.

W. Brunton, Esq., Dunedin.

JOHN BLACKETT.

[This telegram was repeated to Mr. Blair, at Dunedin.]

No. 148.

Mr. BRUNTON to Mr. BLACKETT.

(Telegram.)

Dunedin, 5th July, 1871.

THE Oreti is crossed, I believe, sundry times between Athol and Winton. One crossing—a bad one to me—20 or 30 chains long, according to present plan, not between Athol and Kingston. By keeping the east bank of the Oreti the whole way, I believe these crossings ought to be saved and a good line obtained. I cannot say, however, to what extent saving would be made until levels are taken over it.

J. Blackett, Esq., Wellington.

W. BRUNTON.

No. 149.

Mr. BLAIR to Mr. BLACKETT.

(Telegram.)

Dunedin, 6th July, 1871.

ONLY two bridges on line between Winton and Athol, the cost of which is more than balanced by increased length of line and heavy earthworks on east side of Oreti.

John Blackett, Esq., Wellington.

W. N. BLAIR.

VI.—TUAPEKA BRANCH.

No. 150.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Dunedin, 20th May, 1871.

One of the railways which, sooner or later, must of necessity be constructed in this Province, the construction of which out of the Public Works Loan will be applied for at the next Session of General Assembly, is a line from Tokomairiro to Tuapeka. I may state that, in accordance with a resolution of the late Provincial Council, a reconnaissance survey has been already made and the land reserved from sale, so that the expense of a Parliamentary survey need not be very great. I have therefore the honor to request that the necessary authority may be given to have the latter survey effected as soon as possible.

The Hon. Colonial Secretary, Wellington.

I have, &c.,

J. MACANDREW.

No. 151.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

(Telegram.)

Wellington, 6th June, 1871.

I HAVE received only to-day your letter 20th May last, about survey of branch Tuapeka Line. I shall be glad to do what may be required. Will you personally communicate with Hon. Dillon Bell, to whom I have telegraphed on this subject, and who will arrange matter. If proper reconnaissance survey has been made, I should think little if anything else is requisite to make Parliamentary survey. A resolution of present Provincial Council in favour of this branch line should be obtained.

His Honor the Superintendent, Otago.

W. GISBORNE.

No. 152.

Mr. BLAIR to the Hon. F. D. BELL.

SIR,—

Dunedin, 12th June, 1871.

Referring to the survey of railway from Tokomairiro to Tuapeka, I have the honor to state that I will require nothing beyond the field work done by the Provincial Government. I can prepare the plans and estimates myself.

It will be necessary for me to furnish a memorandum of what is required, so that the work will be uniform with that already done on other lines.

The Hon. Dillon Bell.

I have, &c.,

W. N. BLAIR.

No. 153.

The Hon. W. GISBORNE to the Hon. F. D. BELL.

(Telegram.)

Wellington, 15th June, 1871.

I CONCUR that survey of Tuapeka branch should be left to Provincial Engineer, and that Mr. Blair should prepare the plans and estimates.

Hon. Dillon Bell.

W. GISBORNE.

VII.—CORRESPONDENCE RELATING TO THE ADMINISTRATION OF THE PUBLIC WORKS.

No. 154.

His Honor J. MACANDREW to the Hon. J. VOGEL.

SIR,—

Superintendent's Office, Dunedin, 22nd December, 1870.

Herewith I have the honor to transmit a memorial addressed to me by a large number of residents in Dunedin, requesting that I would impress upon the General Government the necessity of proceeding with certain public works referred to in the memorial.

I have only to add that I fully concur in the views of the memorialists.

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Treasurer.

Enclosure in No. 154.

To His Honor the SUPERINTENDENT of the PROVINCE of OTAGO,

The Memorial of the undersigned Residents and Settlers thereof:

HUMBLY SHOWETH,—

That your memorialists view with great regret the decision arrived at by a majority of the Provincial Council, to the effect that it is inexpedient to make any recommendation for the initiation of public works under "The Immigration and Public Works Act, 1870," until that Act has been considered by the various constituencies and by a new Parliament.

That whilst not approving the whole policy of the Act, and being satisfied that railway and other works might be more satisfactorily carried out under Provincial management; yet, considering that all works under the Act may be practically controlled by the local Government; considering the depressed state of trade in the Province, and the urgent demand for public works; considering that on all occasions the various districts of the Province have urged, and are now urging, the necessity for immediate action in carrying out such works; considering also that all the other Provinces of the Colony are taking advantage of the scheme,—your memorialists believe that great damage will result to Otago by any delay; that during the ensuing winter months a repetition of the distress of last season, of an intensified character, will be experienced; that the advancement of the interests of this Province will be stopped, while other Provinces are taking advantage of the measure; and that a responsibility will attach to us in connection with the loans which they obtain without our receiving any corresponding advantage.

Your memorialists would therefore request your Honor to press on the General Government, not only the desirability, but also the necessity, for immediate action being taken in the construction of the Southern Trunk Railway, the survey of the branch line to Tuapeka, together with the Gold Fields Water Supply Works, all of which are essential to the prosperity and independence of the Province.

And, as in duty bound, your memorialists shall ever pray.

HENRY DRIVER,

JOHN McLEAN,

and about 1,100 others.

December, 1870.

No. 155.

The Hon. J. VOGEL to His Honor J. MACANDREW.

SIR,—

Custom House, Dunedin, 22nd December, 1870.

I have to acknowledge the receipt of your Honor's letter of this day's date, respecting a memorial which you transmit from a large number of residents in Dunedin, requesting that you would impress upon the General Government the necessity of proceeding with certain public works referred to in the memorial.

In reply, I have to state that I will lay the memorial before the Cabinet immediately after my return to Wellington.

I have to assure your Honor that the Government are very anxious to carry out the wishes of the memorialists, and as much regret as they do the action of the Provincial Council.

I have, &c.,

JULIUS VOGEL.

His Honor the Superintendent, Otago.

No. 156.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Dunedin, 23rd February, 1871.

Herewith I have the honor to forward for your information a further petition, addressed to me by residents and settlers in this Province, requesting that I should press on the General Government the importance of immediate action being taken towards the construction of the Southern Trunk Railway, the survey of branch line to Tuapeka, and the providing of water supply on Gold Fields.

I need scarcely add that I fully indorse the views of the petitioners.

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

Enclosure in No. 156.

(The memorial enclosed is a verbatim copy of that forwarded with Superintendent's letter of 22nd December, 1870, signed by W. Theyers, Mayor, and about 217 others.)

No. 157.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Dunedin, 15th May, 1871.

With reference to the operations in this Province, both present and future, to be carried on under the authority of "The Public Works Act, 1870," I have, on the part of the Provincial Government, to intimate its wish to aid and assist and to act in harmony with the General Government in respect of such operations.

With this view, it is desirable, as regards the administration, that the Provincial Government of Otago should be placed in an analogous position to that occupied by the neighbouring Government of Canterbury in relation to the public works being carried on in that Province under the Act in question.

I do not suppose that the General Government can denude itself of the controlling power over all works carried on by virtue of the Act, nor of its responsibility in respect thereof to the Colonial Legislature. I think it will be found, however, in this Province, that, subject to the control and responsibility alluded to, the local Government is in many respects in a better position practically to administer public works with efficiency and economy than the Government at Wellington can possibly be.

Under these circumstances, therefore, I venture to hope for the concurrence of His Excellency's Advisers in the course now indicated.

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

No. 158.

The Hon. W. GISBORNE to His Honor J. MACANDREW.

SIR,—

Colonial Secretary's Office, Wellington, 29th May, 1871.

I have the honor to acknowledge the receipt of your Honor's letter No. 11,818, of the 15th instant, intimating the desire of the Provincial Government of Otago to assist and co-operate with the General Government in carrying on operations in that Province under the authority of "The Immigration and Public Works Act, 1870," and stating that, with that view, it was desirable that the Provincial Government should, so far as regards public works, be placed in an analogous position to that of the Provincial Government of Canterbury.

I hasten to assure your Honor that the General Government receive with great satisfaction the expression of the wish of the Provincial Government of Otago to aid in the advancement of the interests of that Province by a cordial co-operation in giving practical effect to the colonizing policy sanctioned by the late Parliament, and that on their part they sincerely reciprocate that wish.

The General Government cannot, as you state, divest themselves of their responsibility to the Legislature in respect of the Immigration and Public Works Act; but, within that limit, it will be their duty, as it is their desire, to consult and act in harmony with the Provincial authorities of Otago in devising and executing practical measures under the authority of that Act.

At the same time, I would point out to your Honor that a difference between the position of the Otago and Canterbury Governments, arising from the fact that the Canterbury Government is at present providing the funds for the public works, necessarily will prevent the Otago Government being placed in an exactly similar position as regards the entering into contracts for those works.

The position of the Canterbury Government in this respect is, for the reason which I have stated, exceptional; but that exceptional position is only temporary, and will cease so soon as the Colonial funds are substituted for those of the Province.

I have, &c.,

W. GISBORNE.

His Honor the Superintendent, Otago.

No. 159.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

Province of Otago, N.Z.,

Superintendent's Office, Dunedin, 22nd June, 1871.

SIR,—

I have the honor to acknowledge the receipt of your letter of the 29th ultimo, and to thank you for the assurance that the General Government has received with great satisfaction the expression "of the wish of the Provincial Government of Otago to aid in the advancement of the interests of that Province by a cordial co-operation in giving practical effect to the colonizing policy sanctioned by the late Parliament, and that on their part they sincerely reciprocate that wish;" and that "it will be their duty, as it is their desire, to consult and act in harmony with the Provincial authorities of Otago in devising and executing practical measures under the authority of that Act."

As a further evidence of the desire of this Province to assist and co-operate with the General Government in the matter, I have to forward copy of my Message No. 5, of 1st June, to the Provincial Council, and the resolution passed on the 8th instant by that body in reply.

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

Enclosure 1 in No. 159.

MESSAGE No. 5, SUPERINTENDENT, Otago, to PROVINCIAL COUNCIL.

THE Superintendent transmits herewith Despatch just received from the Honorable the Colonial Secretary, in which he invites, in pursuance of the 6th section of "The Immigration and Public Works Act, 1870," the expression of the opinion of the Superintendent and Provincial Council, relative to the construction of certain lines of railway, with a view to those opinions being laid, in terms of said section, before the General Assembly at its next Session.

The Superintendent solicits the concurrence of the Provincial Council in the construction of the line in question.

1st June, 1871.

J. MACANDREW,
Superintendent.

Enclosure 2 in No. 159.

REPLY to SUPERINTENDENT'S MESSAGE No. 5.—OTAGO PROVINCIAL COUNCIL.

THAT this Council having had under its consideration the communication from the Hon. the Colonial Secretary, contained in His Honor's Message No. 5,—

Resolved, That this Council acquiesces in the construction of the railway between Dunedin and Balclutha so far as it has made progress, and respectfully requests that the Colonial Government will continue its construction and complete it at the earliest possible time, and will take all necessary steps to obtain the concurrence of His Excellency the Governor and the sanction of the General Assembly to the immediate construction of the following lines of railway in terms of "The Immigration and Public Works Act, 1870," namely:—

1. Invercargill to Maitara.
2. Waitaki to Moeraki, thence to Waikouaiti.
3. Tokomairiro to Tuapeka.
4. Mossgiel to Outram.
5. Winton to Kingston; and
6. Balclutha to Maitara.

Passed the Provincial Council, 8th June, 1871.

CHAS. SMITH, Clerk of Council.

JNO. G. GILLIES, Speaker.

No. 160.

His Honor J. MACANDREW to the Hon. W. GISBORNE.

SIR,—

Superintendent's Office, Dunedin, 24th July, 1871.

Referring to my letter of 22nd June, forwarding resolutions of the Provincial Council as to the construction of certain railway lines therein specified, I have now to transmit herewith further resolutions recommending the following, viz.:—

Branch Railway, Papakaio to Greytown.

Railway between Waikouaiti and Dunedin.

Railway—Tokomairiro to Laurence; together with Petition of certain Residents in Dunedin and Tuapeka relative thereto.

Railway—Oamaru to Waiareka.

Recommending the respective lines to the favourable consideration of the Government,

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

Enclosure 1 in No. 160.

RESOLUTION of Provincial Council of Otago: Branch Line of Railway, Papakaio to Greytown.

THAT a branch line of railway from the Main Trunk Line at Pukhuri Point, Papakaio to Greytown, Awamoko Creek, a distance of about twelve miles, be placed in the Second Schedule of Railways to be recommended for the sanction of the General Assembly to be constructed in terms of "The Immigration and Public Works Act, 1870." (Mr. Sumpter and Mr. Mervyn.)

Passed the Provincial Council, 13th June, 1871.

CHAS. SMITH, Clerk of Council.

JOHN G. GILLIES, Speaker.

Enclosure 2 in No. 160.

RESOLUTION of Provincial Council of Otago: Railway Line between Waikouaiti and Dunedin.

THAT an Address be presented to His Honor the Superintendent, requesting him to urge the Colonial Government to cause the survey of a railway line between Waikouaiti and Dunedin to be effected, with the view of having that line constructed at an early period. (Mr. McKenzie.)

Passed the Provincial Council, 14th June, 1871.

CHAS. SMITH, Clerk of Council.

JOHN G. GILLIES, Speaker.

Enclosure 3 in No. 160.

RESOLUTION of Provincial Council of Otago: Petition of certain Residents of Dunedin and Tuapeka.

THAT an Address be presented to His Honor the Superintendent, requesting that he will be pleased to forward for the information of the General Government the petition of certain residents in

Dunedin and Tuapeka, having reference to the construction of a railway from Tokomairiro to Lawrence (presented to the Council by the Provincial Secretary on the 23rd November, 1870), together with a copy of the Report of the Select Committee upon the same, and to request the General Government to lay the same upon the table of the General Assembly. (Mr. Bastings.)

Passed the Provincial Council 16th June, 1871.

CHAS. SMITH, Clerk of Council.

JOHN G. GILLIES, Speaker.

Enclosure 4 in No. 160.

RESOLUTION of Provincial Council of Otago.

Railway between Oamaru and Waiareka.

THAT in the opinion of this Council it is very desirable that encouragement should be given to parties who may be willing to enter into contract with the Government for the construction of railways on the principle of guaranteed interest on capital employed. Certain parties having offered to construct a railway between Oamaru and Waiareka on the terms above stated, it is the opinion of this Council that this railway will open up a large grain and stone producing district, and prove a valuable feeder to the main line. That His Honor the Superintendent be recommended to request the General Government to grant a guarantee, for a period not exceeding twenty years at the rate of 6 per cent., for the construction of this railway, not to exceed in cost £3,000 per mile: Provided that any deficiency which the Government may be required to pay under the guarantee, shall be charged against the district or districts through which the branch line of railway may be constructed, and that power be given to defray the deficiency of guarantee (if any) by the levy of an assessment or assessments over the districts for that purpose. (Mr. Sumpter.)

Passed the Provincial Council, 27th June, 1871.

CHAS. SMITH, Clerk of Council.

JNO. G. GILLIES, Speaker.

Enclosure 5 in No. 160.

To the Honourable the PROVINCIAL COUNCIL of the PROVINCE of OTAGO.

The Memorial of the undersigned, Residents of Tuapeka and other Places in the Province of Otago:
HUMBLY SHEWETH,—

That your Memorialists have learned with satisfaction that the Government intend to promote the construction of the Otago Southern Trunk Railway.

Your Memorialists respectfully submit that in conjunction with the proposed line a branch line in connection therewith, as far as the Township of Lawrence, would be eminently desirable and tend greatly to make the main line directly reproductive.

Your Memorialists submit the following grounds in favour of the above suggestion, namely:—

1. The traffic between Tuapeka and Dunedin is at present greatly in excess of that between Balclutha and Dunedin.
2. If such a line were constructed, all the traffic between the greater portion of the Otago gold fields and Dunedin, which at present is chiefly carried round by a difficult, tedious, and lengthened route, would be diverted to Lawrence and be carried along the railway line.
3. The proposed branch line would not exceed twenty miles in length, and presents no engineering difficulties of any magnitude, and might therefore be constructed at a small cost.
4. It would pass through country all of which is well suited for settlement, and which is at present being rapidly occupied.
5. The land for the site of the proposed line is still in possession of the Crown, and the difficulty and cost of treating with private proprietors would not occur.
6. The great difficulty that would accrue upon the maintenance of the main line of road from the entire absence of suitable material would render the maintenance very costly and inefficient.
7. It has been conceded by all engineers acquainted with the gold fields that the route by way of Tuapeka is the natural highway to the interior of Otago, and that which any railway hereafter constructed must necessarily follow.

Your Memorialists would respectfully draw your attention to the Statistics and Papers published from time to time by the Government of Otago, which, if examined, will furnish much of the necessary information and will conclusively substantiate the statements of your Memorialists.

Your Memorialists have learned with satisfaction that the gauge on which railways are to be constructed in the Colony is to be established at 3 feet 6 inches, which would put the Government in a position to construct the proposed line to Tuapeka, as well as the line to Balclutha, at a probable cost for the whole not exceeding £365,000.

Your Memorialists therefore pray that your Honourable Council will authorize the construction of the railway to Lawrence, in conjunction with the Southern Trunk Railway, and take such steps as to your wisdom may seem best, to include the line to Tuapeka in the guarantee already provided for the remainder of the Otago Southern Trunk Railway.

And your Petitioners will ever pray.

[Here follow 466 signatures.]

