



Public Works Office, Hobart, 11th December, 1883.

SIR,

HEREWITH I beg to submit Estimate of Cost for the Derwent Valley Line between Bridgewater and Glenora *via* the North side of River Derwent, as instructed by you.

I have the honor to be,

Sir,

Your most obedient Servant,

JAMES FINCHAM, *Engineer-in-Chief.*

The Honorable N. J. BROWN, M.H.A., Minister of Lands and Works.

DERWENT VALLEY LINE.

ESTIMATE OF COST.

BRIDGEWATER to GLENORA via alternative line between Bridgewater and New Norfolk on North side of River Derwent. Distance 23 miles 16 chains.

	£	s.	d.
Clearing	500	0	0
3284 Chains fencing, at 20s.	3284	0	0
183,243 Cubic yards excavating in clay, sand, and gravel, at 1s. 6d.	13,743	4	6
51,762 Cubic yards excavation in sandstone rock, at 5s.	12,940	10	0
16,419 Cubic yards excavation in trap rock, at 10s.	8209	10	0
1880 Chains ditching, at 8s.	752	0	0
1856 Chains forming, at 20s.	1856	0	0
608 Superficial yards rough-pitched apron along river, at 3s. 6d.	106	8	0
91 Lineal feet 4-feet culverts, at 30s.	136	10	0
257 ditto 3-feet ditto, at 20s.	257	0	0
1462 Ditto 2-feet ditto, at 15s.	1096	10	0
2286 Ditto 1-foot ditto, at 10s.	1143	0	0
Bridges	13,700	0	0
40 Chains road diversions, at £10	400	0	0
40 Chains road formed for joint occupation (road and railway), at £20	800	0	0
3 Public road crossings, at £50	150	0	0
50 Private road crossings, at £20	1000	0	0
90 Chains strengthening river bank and cliffs with masonry, &c.	1000	0	0
23 Miles 16 chains permanent way (steel rails, 40-lb.) complete, at £1303	30,229	12	0
Telegraphs	700	0	0
Accommodation works	2000	0	0
Stations and sidings	9000	0	0
	<u>£103,004</u>	<u>4</u>	<u>6</u>
Land compensation and legal charges	9000	0	0
Rolling stock	14,000	0	0
Contingencies	13,995	15	6
	<u>£140,000</u>	<u>0</u>	<u>0</u>

JAMES FINCHAM, *Engineer-in-Chief.*

Public Works Office, Hobart, 11th December, 1883.

SIR,

HEREWITH I beg to re-submit Estimate of Cost for the Fingal Line.

I have the honor to be,

Sir,

Your most obedient Servant,

JAMES FINCHAM, *Engineer-in-Chief.*

The Honorable N. J. BROWN, M.H.A., Minister of Lands and Works.

FINGAL LINE.

ESTIMATED COST.

From Corners Station of Main Line Railway to St. Mary's—47 miles 7 chains.

	£	s.	d.
Clearing (light) - - - - -	500	0	0
7600 Chains fencing, at 20s. - - - - -	7600	0	0
230,000 Cubic yards excavation in sand, earth, and gravel, at 1s. 6d. - - - - -	17,250	0	0
10,000 Ditto ditto in sandstone or claystone, at 5s. - - - - -	2500	0	0
10,000 Ditto ditto in trap rock, at 10s. - - - - -	5000	0	0
3800 Chains ditching, at 6s. - - - - -	1140	0	0
3767 Ditto forming, at 20s. - - - - -	3767	0	0
Culverts - - - - -	4384	6	0
5 Bridges - - - - -	4600	0	0
66 Chains Road diversion, at £10 - - - - -	660	0	0
11 Main Road crossings, at £60 - - - - -	660	0	0
3 Public road and street ditto, at £50 - - - - -	150	0	0
60 Private crossings, at £20 - - - - -	1200	0	0
47 Miles 7 chains permanent way complete (40-lb. rails), at £1171 - - - - -	55,139	9	3
Telegraph, connecting only to present line, and additional wire - - - - -	200	0	0
Cattle-creeps and sundry accommodation works, say - - - - -	1000	0	0
Stations and sidings - - - - -	7000	0	0
Land and compensation, and legal charges - - - - -	10,000	0	0
Rolling-stock - - - - -	20,000	0	0
Contingencies - - - - -	7249	4	9
TOTAL - - - - -	£150,000	0	0

JAMES FINCHAM, *Engineer-in-Chief.*
11th December, 1883.

NORTH-EASTERN RAILWAY.

ALTERNATIVE LINE, VIA UPPER PIPER.

Public Works Office, Hobart, 11th December, 1883.

SIR,

I HAVE the honor to report that I have examined the country through which this line would pass, and now submit the following particulars for your consideration.

Route.—It would leave the Launceston Station of the Launceston and Western Railway at the same point as shown on the plans laid before Parliament during the last Session, cross the Swamp to the back of the Racecourse and Mr. Milligan's house, cross Rocher's Lane, and then Barnard's Creek near boundary of "Melcombe Regis"; thence along a flat gully to head of Break-Neck Creek, and along hillside in a north-westerly direction to Nelson Creek, following this up for about a mile to Turner's Marsh Road, then near road to the "divide" between the Tamar and Piper valleys at southern end of Turner's Marsh Settlement, then, descending the range approximately along the margin of settlement, it leaves the "basalt" formation (which has been passed through all the way from Launceston) and enters into the "slate," still descending until the Piper River is reached, where a favourable crossing is obtainable. A good site offers for a station at this part of the district, and there is also a good supply of water available for engines. From this point the line traverses the country in a general north-easterly direction over the "divide" between the Piper River and the Second River, following up the last for about a mile until Hall's Track is reached. Here the line makes a considerable bend to the westward in order to surmount the "divide" between the Piper and Denison watersheds, near what is locally known as the Red Hill on Hall's Track, and then descends in a general northerly direction to a junction with the Lower Piper Line, at a point 45 miles 11 chains on plans of that line.

The line above described has been roughly marked and blazed sufficiently for preparing reliable estimates; but I anticipate that a working survey would effect improvements and shorten the distance from one to two miles. The limited time at disposal rendered it impossible in this broken country, covered as it is with a dense dogwood scrub, to fix the line with the same degree of accuracy that is obtainable in more open bush or in cleared land; indeed, had Mr. Climie had more time, it is quite possible he would have been able to report less unfavourably of this route.—Mr. Hales, who made the present survey, having come across Mr. Climie's marks in places while following up this line.

Distance.—The Upper Piper Line is 37 miles 59 chains from Launceston to a point on the Lower Piper Line, marked 45 miles 11 chains, a saving of 7 miles 32 chains—say, 7½ miles; but, as I have before pointed out, this saving may possibly be increased to 9 miles without extra cost, while an extra expenditure of some £25,000 for tunnelling would most probably increase the saving of distance to 12 miles, and reduce the summit level on the "divide" between the Piper and Denison watersheds near the Red Hill by 150 feet to 200 feet.

Heights and Grades.—The actual summit levels on line between Launceston and the common point of junction near Hall's Track are as follows:—

<i>Lower Piper Line</i>	587 feet.
<i>Upper Piper Line</i>	945 feet.

showing a difference between the summits of 358 feet in favour of the Lower Piper Line. The aggregate rises, or say total number of feet that a ton of goods would have to be lifted in travelling over the lines now being compared would be as follows:—

	<i>Outwards.</i> (From Launceston.)	<i>Inwards.</i> (To Launceston.)
<i>Lower Piper Line</i>	1832 feet	1255 feet.
<i>Upper Piper Line</i>	1766 feet	1190 feet.

showing more favourably for the Upper than for the Lower Piper Line.

The total lengths of ascending gradient on the two lines, and total lengths of ascending gradient of 1 in 50 or steeper, are as follows:—

	<i>Outwards.</i> (From Launceston.)					<i>Inwards.</i> (To Launceston.)			
	<i>Total</i>		<i>1 in 50 or steeper.</i>			<i>Total</i>		<i>1 in 50 or steeper.</i>	
	m.	c.	m.	c.		m.	c.	m.	c.
<i>Lower Piper Line</i>	21	19	9	4		14	0	7	10
<i>Upper Piper Line</i>	19	68	9	79		14	9	7	65

Generally.—The earthworks and clearings on Upper Piper Line are of a more expensive character than on the Lower Piper Line. The line is perfectly practicable, and serves a large area of fine agricultural country, now only developed to a small extent owing to the difficulties and prohibitive cost of transit of produce, and will be productive of more general benefit than that *via* Mount Direction and the Lower Piper. Upper Turner's Marsh can be served by a station near the "divide" between the Tamar and Piper Watersheds. Lower Turner's Marsh, and portion of Upper Piper, can be served by a station at the Piper River above referred to, while another portion of the Upper Piper would require a station near Hall's Track. The proximity of the line to some of the suburbs, and to the racecourse at Launceston, would no doubt cause a considerable amount of suburban traffic.

ESTIMATED Cost from Launceston to Scottsdale, via Upper Piper District.
Distance 59 miles 33 chains.

	£	s.	d.
4200 Chains clearing, at 45s. - - - - -	9450	0	0
9506 Chains fencing, at 20s. - - - - -	9506	0	0
251,120 Cubic yards excavation in clay, gravel, &c., at 1s. 9d. - - - - -	21,973	0	0
46,350 Ditto excavation in rock, at 7s. - - - - -	16,222	10	0
43,200 Ditto excavation in rock, at 5s. - - - - -	10,800	0	0
68,780 Ditto excavation in rock, at 3s. 6d. - - - - -	12,036	10	0
119,700 Ditto excavation in side cutting, at 1s. 6d. - - - - -	8977	10	0
6000 Chains ditching, at 8s. - - - - -	2400	0	0
4753 Ditto forming, at 30s. - - - - -	7129	10	0
Culverts - - - - -	6800	0	0
16 Bridges - - - - -	8000	0	0
19 Chains road diversion, at £15 - - - - -	285	0	0
1 Main Road crossing, at £60 - - - - -	60	0	0
12 Public Road crossings, at £50 - - - - -	600	0	0
100 Private ditto, at £20 - - - - -	2000	0	0
59 Miles 33 chains permanent way (50-lb. rails), complete, at £1735 - - - - -	103,080	13	9
Telegraph - - - - -	1350	0	0
Accommodation works - - - - -	2000	0	0
Stations and sidings - - - - -	9200	0	0
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	£231,870	13	9
Land, compensation, and legal charges - - - - -	£12,000	0	0
Rolling-stock - - - - -	30,000	0	0
Contingencies - - - - -	26,129	6	3
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	68,129	6	3
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TOTAL - - - - -	£300,000	0	0
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In conclusion I desire to record my appreciation of the trouble and care taken by Mr. W. P. Hales in order to find a practicable route through this very difficult country, and also of the assistance given him by Mr. G. Innes in finishing the work.

I have the honor to be,

Sir,

Your obedient Servant,

JAS. FINCHAM, *Engineer-in-Chief*

The Hon. NICHOLAS J. BROWN, *M.H.A.*,
Minister of Lands and Works.