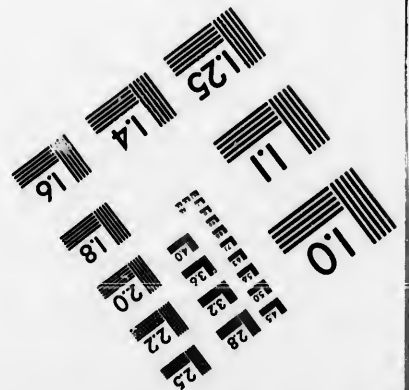
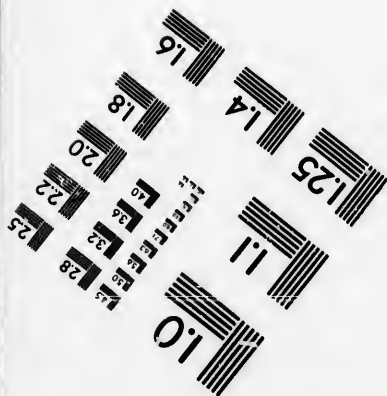
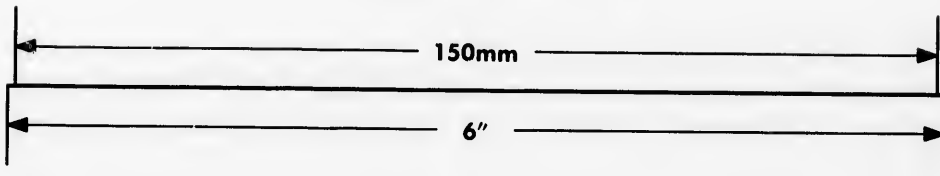
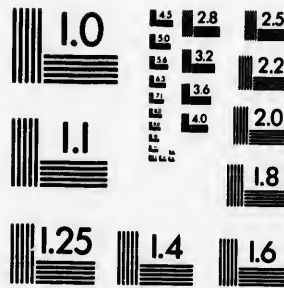
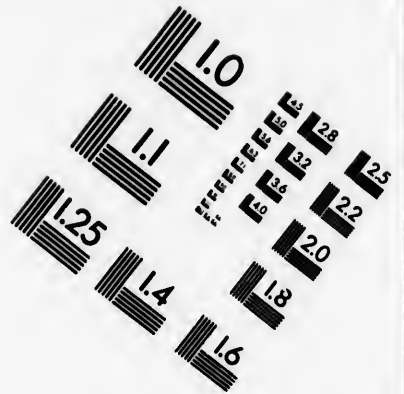
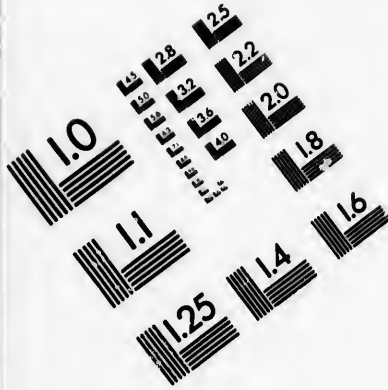


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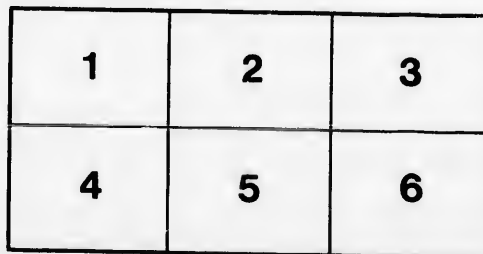
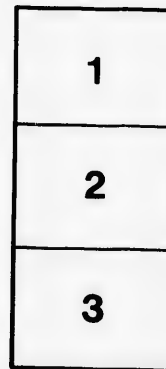
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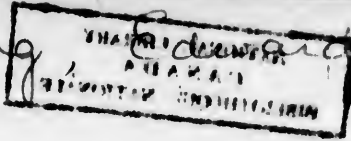
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Letter of E. H. Keating, City Engineer, to His  
Worship the Mayor, in reference to the  
Short Line Railway Question.

CITY ENGINEER'S OFFICE, July 9th, 1885.

*To His Worship the Mayor, Chairman of Short Line Railway  
Committee:*

SIR,—As requested, I have looked through the various letters and reports on the "Short Line Railway" which have been published in our local papers during my absence from the city, and also the printed debates in the House of Commons on the same subject. A perusal of these documents tends to divert one's attention from the real question at issue, viz:—

WHICH IS THE "SHORTEST AND BEST LINE"

that can be obtained connecting the Canada Pacific Railway at or near Montreal with the harbors of St. John and Halifax? This is the vital question now agitating the minds of the people of the Maritime Provinces, and it is of the very first importance to the inhabitants of this and the neighboring Provinces, but more especially to the citizens of Halifax, that not only the 'shortest' practicable route, but the 'best' commercial line should be selected. By the best commercial line I mean the line which will, by the advantages it can offer in the way of low summits, easy curves and gradients and economical working, be most likely to be utilized as the main trunk line for carrying heavy freight, mails and passengers

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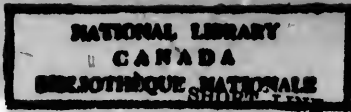
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RAILWAY.

between the sea board and the far west. We must not allow ourselves to be carried away by the various side issues which have been and are continually being raised, apparently for no other purpose than to cause bewilderment, nor should we allow our judgment to be prejudiced, either on the one side or the other, by the attacks which have been made upon the character, veracity and professional standing of the prominent engineers who have so ably advocated different rival routes. With

THE CONTROVERSY BETWEEN MR. SCHRIEBER AND MR. LIGHT

I do not concern myself. They may be allowed to settle their own differences. When I was directed to report upon 'the line which would best serve the requirements of the Maritime Provinces, looking specially at the interests of Nova Scotia,' I examined most carefully the maps and reports of each of those gentlemen and I stated in my report to you, dated 12th June, where I found the greatest difference between them to be. Not satisfied with that examination I delved into the reports of the subordinate engineers who had the direct charge of the surveying expeditions. The result of my labors has been given to you in my report. I cannot be accused of having any political or personal interest to serve; on the contrary I may expect much loss, as I have been and am still a supporter of the Government, but I consider that when the best interests and business prospects of my native Province and city are threatened with annihilation it is about time to lay aside party feeling, and that every man in the community who is worthy of the name should be patriotic enough to forget his politics for the time and work heartily and fearlessly with the view to obtaining for our country and city at least some share of the trade and commerce of the interior, which we have the undoubted right to expect. The Government have promised repeatedly that they would not adopt any but the 'shortest and best line' that could be found. This promise they are now asked by the people of this Province and city to fulfil.

THE QUESTION IS,

do the railway resolutions which have lately been introduced into Parliament, meet the case in the face of the fact that not one of the projected lines has been thoroughly surveyed?

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I think any unprejudiced person will admit that they do not meet the case in a manner which can be considered satisfactory, especially when we reflect that there is a wide diversity of opinion among able, competent and prominent engineers as to which is really the 'shortest and best line.' Under these circumstances it seems to me that we have the right to demand that all proceedings be stayed until a thorough investigation has been held. I repudiate the idea that my report was drawn up, governed or moulded in any way under the influence or suggestion of any person. My opinions were formed after a careful study of the official maps and reports presented to the Government by their own officers, and I fail to comprehend how any conscientious man having the interests of his country at heart, can—after thoroughly investigating the reports of the Government surveyors—arrive at any other conclusion than that the line via Sherbrooke or Lennoxville and Mattawamkeag is

#### ONE OF THE WORST THAT COULD POSSIBLY BE SELECTED

in our behalf. Its many objectionable features are so great that it can never be made a first-class trunk line, heavy trains cannot be hauled over it nor light trains safely be run on it at a high rate of speed. The various high summits over which it has to pass, its many long and heavy gradients and its excessively crooked alignment are sufficient to condemn it without any further investigation, setting aside the fact that for long distances the country is barren and comparatively worthless. I have shown in my previous report that the statements made by the engineers in charge of the surveys on this line (Mr. Davy and Mr. Spoffard) are by no means favorable to its adoption. We have also the report of Mr. Moses Burpee, C. E., whose statements corroborate those made by Mr. Spoffard. He says that at one point he had to rise '740 feet in 67,600 feet, corresponding to an average rate of about 57 feet per mile' for nearly 13 miles. He, however, thinks it possible to reduce this rate to 55 feet per mile by increasing the length of the line, which of course would lengthen this heavy gradient, and as much of it must necessarily be on curvature more or less sharp, this feature is sufficient alone to condemn the whole route unless the remainder of the line should be exceptionably favorable, which unfortunately is not the case. The route has also been



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CONDEMNED BY SIR CHARLES TUPPER,

our former minister of railways, who stated at a public meeting in this city that 'the people of St. John were standing in their own light by advocating its adoption,' and I have not yet heard one argument advanced in its favor which cannot be refuted by any person who will make himself familiar with the facts. The claim that it is the shortest line cannot be sustained, as I will presently show that other lines referred to in the official report to the government are shorter, even though they deflect further from the air line. It is an utter falacy to assume that a railway which keeps closest to an air line drawn between two points must necessarily be either the shortest or the best, especially where a very broken and rugged country has to be traversed. The official report gives the total distance to Halifax as 720 miles, to which however it is, I believe, admitted on all sides that 20 miles must be added to reach Montreal via the proposed Lachine bridge which it is intended to utilize, thus making the distance 740 independently of the additional mileage which will be required to overcome the summit referred to by Mr. Burpee, and the further additional length which may be necessary to get through the difficult country mentioned by Mr. Davy in his report. Now, if you refer to lines 17 and 18 as described by Mr. Schrieber you will find the total length of each to be 735 miles, showing a saving of at least 5 miles over the Mattawamkeag route. Each of these lines passes Chaudiere Junction, near Quebec, some 70 or 80 miles north of the air line. The absurdity therefore of assuming in this case that a route which is less remote from the air line is necessarily shorter, or of jumping at a hasty conclusion on a mere glance at a map will at once be apparent.

OUR REPRESENTATIVES IN PARLIAMENT

have assured us that it is useless to attempt to obtain a line via Richmond, or the central route, which is the one that was advocated by Senator Power, and which is claimed by some to be much the shortest line. The extreme northern or all Canadian route does not meet with general approval, and the southern or Mattawamkeag line has been shown to be most objectionable. It therefore became necessary to turn our attention to some intermediate or compromise route which

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would be likely to meet the requirements of the case and to which no serious objections could be raised. If we now glance for a moment at the Combination line it will be found that it presents claims which cannot be lightly ignored. It is unfortunate that this route was not reported upon by Mr. Schrieber, because had he examined it, I believe he could not have failed to recommend its adoption. It is a mistake to call this Combination line Mr. Light's line, it is not his line as he did not survey it, but he has undoubtedly formed his opinions and advocated its selection after having studied the reports of the engineers who traversed and surveyed the greater portion of the route. It is also unfair to call it a 'mythical line which has no existence except in imagination.' It exists as really and substantially as any of the lines under consideration. From Quebec to Canterbury it has been surveyed and explored by engineers sent out by the Government, with the exception of a gap of about 30 miles or so to the west of Lake Chesuncook, connecting Mr. Vernon Smith's survey with Major Yule's line. For this short gap Mr. Light must be held responsible. He has examined the country and states in his official report that no serious difficulties will there be encountered, in fact it is stated that the line lies in such a low valley or depression that it would appear as being

#### 'THE NATURAL DIRECT ROUTE

for a line of railway between the Province of Quebec and the Maritime Provinces.' If we now commence at Montreal and follow the Combination line, referring to official sources where doubts have been raised, I think the case will perhaps be better understood. I do not ask any person to be governed by my opinion, or by Mr. Light's, or by that of any other individual. It is only necessary to study the documents, but it is not sufficient to skim over them hurriedly and jump at conclusions. The Combination line from Montreal to Quebec, as has before been stated, follows the North Shore railway, which is a FIRST-CLASS ROAD, having no curve greater than 4 degrees, or 1,433 feet radius, and no gradient exceeding 50 feet per mile, with the exception of one short rise at the rate of 82 feet per mile (not 85) at Hochelaga, near Montreal, but over this the traffic to and from the west would not be required to pass. At any rate, if this short gradient is considered as fatal, why not apply the same remedy that has been put forward for the

long, steep grades on the International line, viz: improve it. The greatest rise and fall is 250 feet, while on the Intercolonial railway it is 1,405 feet. At Quebec we have the bridge to face, which, however, should not be considered an insurmountable obstacle, as we have the authority of Mr. Brunlees, the president of the institution of civil engineers of England, for stating that it can be built with a double track for \$4,319,000. The cost is, however, placed at \$5,000,000 to cover all contingencies, while \$3,000,000 is considered sufficient if a single track only is to be accommodated. The people of

THE MARITIME PROVINCES ARE IN REALITY MORE INTERESTED

in the construction of this bridge than the people of Quebec, and it must be built sooner or later. A company, I am informed, are prepared to proceed with the work on a 4 per cent. government guarantee, which it is anticipated they would not, after a short time, be called on to pay, as there are good reasons for believing that the traffic over it would be large and the enterprise would prove remunerative. The building of the Lachine bridge will not prevent the bridge being constructed at Quebec, while, if both are built, there is the risk of unnecessarily increasing the burdens of the country. From Quebec the Combination line follows Major Yule's survey of 1837. This was the original line surveyed for the St. Andrew's railway and it certainly should not be called 'mythical.' Mr. Wickstead, C. E., has recently made a re-examination for the Government of the same or nearly the same route and he reports that no gradient need exceed 50 feet per mile, 'and that only for short stretches' and no curve is required of less radius than 1,200 or 1,300 feet, while the work would be light. We now come to the short gap examined by Mr. Light, which is represented as a low lying valley presenting no difficulties, and this brings us to the head of Lake Chesuncook from which point to Canterbury and Harvey the surveys were conducted by Mr. Vernon Smith. I gave in my previous report extracts from Mr. Smith's report to the Government, showing that 'the route presents a very favorable line for the construction of an economical first-class railway, with easy curves and gradients.' He estimates that the average cost per mile would be only \$16,279, which is sufficient to show that the country traversed must be exceptionally favorable. From Harvey the Combination line merges into that known as 'Line No. 6,' which

has been recommended by Mr. Schrieber, so that no further description is needed. I would conclude by saying that if an appeal to the Government to suspend judgment until a proper investigation has been held into this matter should not meet with success, that it seems to me our proper course is to petition his Excellency, the Governor-General to withhold his sanction to the measure and that nothing should be left undone to prevent the granting of public money to an enterprise that will be ruinous to the prospects and interests of the Maritime Provinces, but especially to this port.

I have the honor to be,

Your obt. servant,

E. H. KEATING,

*City Engineer.*

