

S U M M A R Y

R E P O R T

ON THE

H U R O N A N D O N T A R I O

S H I P C A N A L .



TORONTO :
PRINTED BY JAMES LOVELL,
67 YONGE STREET.
1868.



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HURON AND ONTARIO

SHIP CANAL.



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MAY 19 1944

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P R E F A C E.

The Huron and Ontario Ship Canal Company, having effected an agreement with prominent and well known capitalists and contractors, in Britain and the United States, whereby the latter undertake to enter into the necessary arrangements with the Company for the construction of the proposed canal and the subscription of the capital stock of \$40,000,000, provided that the Government and Legislature of Ontario will aid the work, by a free grant of ten millions acres of the public lands and of the unconceded waste or marsh lands of the Holland and Nottawasaga Rivers, along the line of the canal; the following summary or digest of the general report has been prepared for the information of the Government and Legislature, by which the Company's petition for the desired aid must be considered and discussed.

In the general report, of which this is only an abstract and synopsis, the various merits of the projected canal are fully set forth, namely, the general purposes which it is designed to serve—the vast extent, in British, Canadian and United States territory, which is the source of its prospective traffic—the numerous interests, [commercial, manufacturing, agricultural, national and political, as well as local, provincial, federal and British, which its construction will promote—the physical description of its route, and its engineering features and difficulties, and the manner in which the latter may be overcome—the various works and structures throughout, with the necessary maps, plans, profile or section of the line, drawings and specifications, illustrative and explanatory thereof—compar-

ison with other and competitive, actual and projected, channels of communication with the West—estimated magnitude and probable increase of the prospective traffic—the great reduction in cost of transportation which must follow its construction—the estimated cost of construction, and of maintenance and management—the proposed rate of toll and probable revenue, &c., &c. A very large portion of this wide range of subjects is quite beyond the scope and object of the present summary, which is not intended to demonstrate the practicability of the undertaking (that point being sufficiently established, by the confirmation of the views of the Company's interim engineer, and the endorsement thereof by the first engineers in England, Messieurs John Hawkshaw, and A. M. Rendel of London) nor to advance arguments calculated to influence subscriptions of stock, which are not expected nor looked for in this country; but only to present to the members of our Provincial Government and Legislature a general view of the project, the important ends it is designed to serve, and its claims on Provincial aid, in as concise a form as possible.

HURON AND ONTARIO SHIP CANAL.

The rapid settlement and occupation of the North Western portion of the United States, the fertility of its soil and the unparalleled increase of its cereal products; the occupation and development of the vast mineral region surrounding Lake Superior, both in Canadian and United States territory, surpassing in richness (especially in copper) all other parts of the known world; the prospect of the early acquisition, by Canada, of the North West Territory (now held by the Hudson's Bay Company) and the opening up to settlement and cultivation, of the millions of acres of the fertile agricultural lands in the valleys of the Saskatchewan and Assiniboine rivers; all combine to impress upon the public mind a sense of the urgent and growing necessity for some important increase of the facilities for the conveyance of the teeming products of the Great North West to the sea-board and the markets of the world.

A glance at the map of North America will show that the Saint Lawrence river and the chain of lakes which constitute its head waters are the natural outlet of all this vast territory; and if this magnificent water communication has hitherto failed to secure to itself the immense carrying trade of the West, it is only for the want of such ameliorations and improvements in its course, as the advanced intelligence of the present age dictates, and which, if accomplished, would place it beyond the reach of successful rivalry or competition.

To supply this great *desideratum* and provide a shorter and better route from the upper lakes, it is proposed to avoid the extensive *detour* through lakes St. Clair and Eric and to make a direct communication between the waters of lakes Huron and Ontario, by means of a ship canal of such dimensions as

shall permit the passage of sea-going vessels of 1200 tons burthen.*

It will, of course, be necessary to the completeness of the communication with the sea, that the St. Lawrence Canals be correspondingly enlarged, and that some improvements be made to the natural channel of the river, but as these works would involve only a, comparatively, small cost, it may be assumed that they will either immediately follow the construction of this Canal or be executed simultaneously therewith.

The effect of this canal will be, to diminish the distance between the upper lakes and tide-water, whether at Quebec or New York, about 400 miles; to avoid the tedious and comparatively unsafe navigation of lakes St. Clair and Erie, and the shoal waters of the St. Clair Flats, and to enable a class of large screw steamers and ocean-going vessels to pass from any of the upper lake ports to the sea, or across the Atlantic,

* The origin of this project is thus described by Kivas Tully, Esq., C. E., in a report to the Toronto Board of Trade in 1866.

"The proposed route of the canal, to unite the waters of Lakes Huron, Simcoe and Ontario, was first explored by me in 1846. In 1851 a second exploration was made, and I ran a line of levels between the head waters of the Humber and Holland Rivers, on the Simcoe level, but no action was taken in the matter by the gentlemen who employed me, namely, Sheriff Jarvis, Dr. Rees, Dr. Hayes, and the late Vice-Chancellor Jamieson."

In 1857 a charter was granted incorporating the Toronto and Georgian Bay Canal Company, with a capital stock of \$24,000,000. Under a Provisional Board of Directors, Mr. Tully's services were again engaged, and as engineer of the work, he made a complete survey of the line, locating the canal, and published his report with maps, profile, &c., estimating the probable cost at \$22,170,750. No further action, however, was then taken.

In 1865 the present Provisional Directors obtained an amended charter under the name of the Huron and Ontario Ship Canal Company. Mr. Tully was, at their first meeting, appointed Engineer, but shortly afterwards resigned on account of the claims of other professional engagements. It must be gratifying to him, after having so firmly maintained the perfect feasibility of this great work, against the contrary opinion very generally expressed, to find his judgment confirmed by the first Engineers in Britain. His professional labours on this project, formed the ground-work for his successor, Mr. Sykes, but all the details of the work, as set forth in Mr. Sykes' report, are entirely his own, and he estimates the cost at \$35,989,800. The accompanying Maps were published by Mr. Tully in 1857.

without breaking bulk. Whether the carrying trade to Europe be done with or without transshipment, at tide-water, about which opinions vary, it matters little to the merits of this canal—but it is clearly demonstrable that, whether transshipment be made (at Quebec or Montreal, for example) or not, a cargo of grain shipped from Chicago or other upper lake port, *via* this canal and the Saint Lawrence River and Gulf, could reach Liverpool quite as soon as another, simultaneously shipped, *via* Buffalo and Erie Canal, could reach New York; while, in consequence of the saving of time and transshipment, the transportation charges might be reduced one half, and be remunerative to the ship-owner.

That such manifest advantages as these must secure to this canal the vast carrying trade of the West, can hardly be doubted, and it may fairly be considered that, if the western export trade be secured to the channel of the St. Lawrence, that would be an important step towards the acquisition of the import trade likewise, or a large portion of it, for the obvious reason that vessels carrying cargoes of grain eastwards could afford to accept a minimum rate, on their return cargo, rather than come back empty. In the carriage of goods from Europe to the Western States, New York vessels could not compete, because, from the import trade of New York being greatly in excess of its export trade, high or full rates of freight westward must always be the rule. It can hardly be expected that western consumers will long submit to the importation of their supplies by the expensive route *via* New York, if they can command freight, *via* the St. Lawrence, at half the rate, and it would be for their interest to establish a regular traffic both ways, as it is only by return cargoes or freight both ways, that the rates of transshipment can be reduced to their remunerative minimum.

The City of Chicago, with its population of 250,000, is not only the chief port of entry and shipment for the vast region on its north, west and south, but has latterly become the seat of a direct import trade from Europe. This trade has already as-

samed large proportions, and it must increase with the growth and progress of the country beyond it, and the facilities for its prosecution. Situate on the margin of Lake Michigan, and accessible from sea by the St. Lawrence, with a back country extending to the Rocky Mountains, and possessing an almost unlimited capability of production, it occupies the eminent position of an inland seaport, with a trade which seems destined, ultimately, to rival that of New York in magnitude and importance.

The magnitude of the Western carrying trade, and the beneficial effects of its being secured to Canadian channels, are not appreciated by any but those who have been led to give the subject careful consideration. Few are aware that the teeming products of the great West and their increase, in the ratio which the experience of past years indicates, must, before the Huron and Ontario Canal can be completed, present an eastward movement of freight (the bulk of which could not fail to seek this outlet as the most favourable, whether for New York or Quebec) sufficient to employ a fleet of vessels greater than all that now resort to the St. Lawrence for timber and other cargoes.

The advantages, to this country, of such a carrying trade, and the impetus it would impart to many important branches of trade and industry, can hardly be overrated. Such a fleet of vessels, continuously passing through the entire length of the of the Provinces of Ontario and Quebec, would create a large outlay of money for repairs, outfit, provisions, ship-chandlery, &c. The vessels themselves would probably be, to a large extent, built and owned in this Province, as we can build ships here cheaper than they can be built in the United States, while the supply of iron or composite steam vessels for this traffic and for ocean navigation, would be of great importance to British ship building interests. Such a traffic may reasonably be expected to impart a greatly increased stimulus to the cultivation of hemp and flax (now in its infancy) and their manufacture into cordage and sail canvas for the use of the vessels engaged in it.

MINING TRADE.

The statistics of this trade, on the South side of Lake Superior, and in United States territory, show that the commencement of the copper mining operations was in 1845, in which year 1300lbs. of copper, of the value of \$290, were got out; and that notwithstanding the great deficiency of facilities for transportation and the necessity for land carriage, to get past the St. Mary's Falls, the value of the copper products yearly increased to \$805,000 in 1854, and the aggregate amount for that decade of years reached \$2,846,509. The year 1855 witnessed the opening of the St. Mary's Canal, and a new era in the mining trade of that region. The value of the copper shipped that year was \$1,437,000; and, in 1864, it had increased to \$6,318,550, the aggregate value for that decade bring \$31,701,000.

The iron trade of that district commenced on the opening of the St. Mary's Canal, in 1855, with a product that year of the value of \$14,470, and steadily and rapidly increased till it reached, for the year 1864, \$1,957,890; and made, for the total product of the ten years, \$6,244,920.

The mining trade of North Michigan, both in copper and iron is now being vigorously prosecuted, while the supply of ore seems inexhaustable and the production of the pure metals limited only by the facilities for their development and carriage to market.

Although the British side of the lake does not exhibit a corresponding degree of activity, there is, nevertheless, abundant evidence of a boundless and profitable field, for the employment of money and labor, when such powerful stimulants as capital, enterprise, and cheap transportation shall be brought to bear upon its now almost dormant resources.

GRAIN TRADE.

The following table shows the total annual shipments of grain, of all kinds, from the Ports of Chicago and Milwaukee, from the commencement of the trade in 1838.

YEAR.	FROM CHICAGO.	FROM MILWAUKEE.	TOTAL.
	Bushels.	Bushels.	Bushels.
1838	78		78
1839	3,678		3,678
1840	10,000		10,000
1841	40,000		40,000
1842	586,907		586,907
1843	688,907		688,907
1844	923,294		923,494
1845	1,024,620	133,260	1,157,880
1846	1,599,619	292,288	1,891,847
1847	2,243,901	772,611	3,016,512
1848	3,001,740	1,066,134	4,067,894
1849	2,769,111	1,840,808	4,609,919
1850	1,830,938	820,042	2,650,980
1851	4,646,291	702,290	5,348,581
1852	5,873,141	1,772,753	7,645,894
1853	6,412,181	1,981,249	8,393,430
1854	12,932,320	3,549,301	16,841,621
1855	16,633,700	3,758,960	20,392,660
1856	21,583,221	3,720,311	25,303,532
1857	18,032,678	3,727,570	21,760,248
1858	20,035,166	6,162,234	27,097,400
1859	16,771,812	6,552,896	23,324,708
1860	31,108,759	9,995,010	41,103,769
1861	50,481,862	16,710,580	67,192,452
1862	56,484,110	18,726,389	75,210,499
1863	54,741,829	16,993,335	71,735,174
1864	47,124,494	12,066,754	59,291,248
1865	53,212,224	13,796,773	67,008,597
1866	66,736,660	17,627,994	84,364,654

A digest of this table will show that the increase, in the cereal exports of Chicago and Milwaukee, has steadily been in a ratio of more than three-fold every five years, and more than equal to a yearly increase of 25 per cent.

For example, the shipments in 1842 were 688,907 bushels, which tripled

for 1847	gives	2,066,721,	the actual shipm'ts	being	3,016,512
" 1852	"	6,200,163,	"	"	7,645,894
" 1857	"	18,600,489,	"	"	21,760,248
" 1862	"	55,801,467,	"	"	75,210,499

At this period (1862) the late civil war interrupted the course of production and trade, by suspending immigration and withdrawing labor from agriculture for military service; but already, since the close of the war in 1866, the usual condition of progress has been restored, and the shipments from Chicago and Milwaukee (which had declined in 1864 to 59,291,248 bushels) had again advanced to 84,364,654 bushels. If three years be allowed, for lost time during the war, and the next five-yearly period, from 1862, be extended to 1870, a continuation of the same ratio of increase would shew, for the year 1875, when the Huron and Ontario Canal may be completed and open for traffic, the western shipments of cereals, at over 600,000,000 bushels—less than the half of which would (at the moderate toll of 80 cents per ton or about two cents per bushel—one-third of the toll levied on the Erie Canal) yield a handsome dividend on the cost of the canal, even if it reached the sum of \$50,000,000.

Of course, it may be said that the production of *wheat* cannot be expected to increase at the rate indicated, but wheat alone was not referred to, but cereals generally. It must be remembered that the chief cereal product of the West is Indian corn, the production of which, beyond the demand for local consumption, has been checked by the heavy expenses attending its conveyance from the interior to the lake ports, and thence, by Buffalo to New York and Liverpool, with transshipment at each point. It is considered that, out of the average market value of Indian corn at Liverpool, equal to about 70 cents of U.S. currency, in gold, only about ten cents reach the producer, the remaining 60 cents being consumed in freight, insurance, commission and other charges. The consequence is that there is no inducement to grow more than will meet the demand for local consumption, any surplus, beyond that quantity, being more

profitably disposed of as *fuel* for the generation of steam power, than by its exportation.

It is computed that the annual product, in Indian corn, of the States of Illinois, Wisconsin, and Iowa, exceeds 600,000,000 bushels, and as the quantity of grain, of all kinds, annually shipped has not yet exceeded 100,000,000 bushels, it is clear that more than 500,000,000 bushels of Indian Corn must find a local market. This vast quantity is consumed, mainly, as food for cattle and swine. There cannot be a doubt that if the cost of its transportation could be so reduced that its cultivation, for export, would pay the farmer, and if a sufficient market for it could be found, these states would soon produce an exportable surplus of 500,000,000 of bushels more.

The construction of the Huron and Ontario Canal will have the effect of reducing the cost of carriage, by water, between the lake ports and Europe from 30 to 50 per cent and if the cost of this valuable cereal can be reduced to the consumer, in Britain or Europe, there cannot be a question or doubt that a market may be found for almost any quantity of it. It is universally acknowledged to be, not only, admirable but *the very best* food for cattle and especially for swine. The population of Great Britain and Ireland may be considered to be about equal to that of the United States, and as animal food enters, at the least, as largely, into the consumption of the former as the latter, it follows that there must be as large a number of animals to be fed and therefore as large a market there for Indian Corn, as in the United States, the only necessary condition being, that it must be supplied at a price sufficiently low to enable it to supersede or compete with other descriptions of food.

It is considered that a price, in Britain, equal to 60 cents of U. S. currency, in gold, would do this, and that all the charges to which it is subject, between the producer and the consumer may be kept within 40 cents, leaving, at the least, 20 cents for the remote producers, while those, nearer to the point of shipment, would realize a somewhat larger return from the saving of inland carriage.

Although cereals constitute very much the largest feature of

Western products, the estimates of traffic must not be confined to them, seeing that there are other large and increasing items of produce such as Ores, Metals, Lumber, Provisions, &c., and when these are taken into account, we have only the Eastward movement of freights, leaving the entire Westward movement still to be considered.

TIMBER TRADE.

The construction of this canal will, by providing an outlet for a region hitherto shut out from means of access to a market, open up an immense district of well timbered land north and west of the Georgian Bay. The Honorable James Skead, M.L.C., in a paper read at the Mercantile Convention, at Detroit, in 1865, stated that the "The portion of Canada lying north of the River Severn, and east of French River, a district well provided with streams discharging into Georgian Bay, contains 12,800 square miles of timber lands; and that another portion lying west of French River and east of Pigeon River on lake Superior, contains 48,000 square miles, well stocked with white and red pine, oak, elm, maple, birch, spruce, tamarack, ash and white cedar." If to these area of supply be added the extensive region of forest lands in Michigan, we have, around the head of this canal, an extent of timber country four times as great as the area exhausted, in Canada, during the whole history of the timber trade since 1806.

The statistics of the lumber trade of Buffalo, chiefly supplied from these sources, shew a steady progressive increase, amounting in 1862 to three times the quantity of 1846, and represent, for the former year, a total of 300,000 tons. This quantity, large although it be, is small compared with what may be looked for in the trade in clear lumber and staves, if the Canadian Government succeeds in establishing satisfactory trade relations with the West India Islands. Their consumption of these commodities is enormous and is considered sufficient to furnish full employment for 500,000 tons of shipping, a very large portion of which would inevitably be drawn from these regions, for which returns would be made in molasses, sugar, rum, &c.

A direct communication between the West and Liverpool would also secure a large export trade to that port in staves and square oak timber which, in consequence of the expense of transportation, cannot now be carried on. Ornamental timber, such as walnut, butternut, bird-eye-maple, &c., suitable for house furniture and cabinet ware, might also be largely exported to Britain and Europe. Taking all these sources of supply and markets into consideration, it would be quite reasonable to reckon on a lumber traffic of five or six hundred thousand tons, in the year 1875.

COAL AND SALT TRADE.

The supply of Coal and Salt for western consumption, will form important items in the carrying trade, as Oswego is much nearer the sources of production of these commodities than Buffalo, whence they are now mainly shipped. The western consumption of coal is chiefly Anthracite, which is not obtainable nearer than Scranton, at the eastern extremity of Pennsylvania and nearly due south from Oswego, whence there is both canal and rail communications.

Syracuse, the chief source of salt supply is only 36 miles, by canal, from Oswego, while it is now carried 150 miles farther to Buffalo for shipment. It may be said that salt is obtainable much nearer to the markets of the West, but it must be remembered that the cost of carriage, on such cheap and bulky commodities as Coal and Salt goes to make up their chief market value, and carriage may always be had the cheapest on established lines of traffic. The fact that vessels taking cargoes of grain to Oswego, for local or eastern markets, could afford to take back Coal or Salt at nearly nominal rates (if necessary) is sufficient to secure the supply of those articles to that port.

The Chicago Board of Trade statistics shew the imports, there, of Coal and Salt, by lake, to have been as follows :

Coal, 1863.....	244,624 Tons.
1864.....	251,038
1865.....	288,771
1866.....	378,731
Salt, 1866.....	109,789 Tons.

and the port of Milwaukee must likewise have received a proportionate quantity. The western consumption of Coal must increase, not only in the ratio of general progress, but in proportion to the yearly diminished supply and advancing cost of firewood, and the influence which this canal is calculated to exercise in the development of the mining trade, both on the United States and Canadian shores of lake Huron and Superior must extend to the coal trade, by calling it into use for smelting purposes. In Salt the consumption must likewise steadily increase and be very important, as the Pork trade is essential to the prosperity of the Western States for the conversion of its staple cereal, Indian corn, and without salt that conversion cannot be effected.

EMIGRANT PASSENGER TRAFFIC.

The necessity for return cargoes from Europe suggests a branch of trade for which ocean-going screw steamers would be admirably adapted—the conveyance of emigrant passengers. Every year witnesses the arrival at New York of large numbers of emigrants from the thickly populated countries of the old world. Germany, Prussia, Denmark, Norway, Sweden, and other European countries, as well as the British Islands, annually contribute their *quota* to the tide of emigration which constantly flows to the American shores. These settlers are chiefly destined to the “Far West,” where they expect to get land at merely nominal prices, and where the prairies present a field for their labor, whence they may, at once, derive the means of subsistence, without the hardship and delay of clearing forest land. The hardship to which these poor people are subjected, in their inland journey, with their families and luggage, from the port of arrival to their destination, by canals, railways and steamboats, with frequent changes, must be inconceivably great, and might be much diminished, if they could embark at a British or European port, on board a good screw-steamer that would take them and their encumbrances, not only across the Atlantic but also through our inland waters to the extremity of lake navigation. Even if a change of conveyance was necessary, from the sea-going ves-

sel to the inland craft, it would still be an immense advantage over the present system, if the emigrant and his family could be taken the rest of the way in one conveyance of safe and comfortable description. If a trade of this kind were once established on a steady and regular system, there cannot be a doubt that the Saint Lawrence and the lakes would become the highway for emigration to the West—that the journey would be performed much more economically, comfortably and expeditiously than at present, and that the trade would be a profitable one to the ships employed in it, and be a considerable source of revenue to the proposed canal.

SOURCES OF TRAFFIC AND COMPARISON WITH OTHER ROUTES.

The Company's General Report on the projected canal, its engineering characteristics and works throughout, its sources and prospects of traffic, and the collateral advantages to this country, consequent upon its construction, treats all these subjects in detail and exhaustively, and contains full and complete table of statistics which, if reproduced here, would make this summary too lengthy.

It is therein shewn that, large as western production has already become, it is in its incipiency; for, of the whole area of the States of Michigan, Illinois, Iowa, Wisconsin, Minnesota, Nebraska, and Decotah, extending over 614,548 square miles, only 39,037 square miles, or $6\frac{1}{2}$ per cent. were under cultivation in 1860, leaving $93\frac{1}{2}$ per cent. of its lands, thereafter to be brought into a condition of productiveness to swell future statements of prosperity and advancement.

It is also therein clearly shewn that the Eric Canal, which is now, practicably, the channel for the western carrying trade to the sea-board (although its insufficiency is loudly complained of) cannot be a competitor with the Huron and Ontario Canal for the trade of the country west of lake Huron, because it has a more local and increasing source of traffic which must, in all future time, give it full employment.

For the trade of the States of Ohio, Indiana, Missouri, Kentucky, and Kansas, lake Erie is the natural reservoir, and

the Erie and Welland Canals are its outlets. The entire area of these States is 221,153 square miles, of which only 42,877 square miles, or about 20 per cent. were under cultivation in 1860, leaving 80 per cent. of their lands then unproductive and waiting development. From this statement it must be apparent that these States present a sufficient field for the future increase of their productions, to tax the utmost capacity of the Erie Canal and effectually prevent it from being a competitor for the remoter traffic of the Great West, for which the Huron and Ontario Canal is specially designed to provide.

The only other competitive channels of communication are the Welland Canal and the proposed Ottawa and French River navigation. The foregoing remarks, respecting the sufficiency of the area of production, of which lake Erie is the reservoir, and the Erie Canal the chief outlet, apply equally to the Welland Canal, besides which it has all the portion of the Western Canadian Peninsula, which is tributary to lake Erie, as its natural source of traffic. The insufficiency of the Welland Canal to accomplish the proposed object of its projectors, by the attraction of the Western Carrying trade to Canadian waters is sufficiently exemplified by the fact that the statistics of that trade, shew that the average proportion which seeks that channel does not exceed ten per cent., while even that small per centage, is chiefly destined for Oswego.

With respect to the projected Ottawa and French River route to Montreal, it is unnecessary to raise the question of the practicability of making a SHIP CANAL by that route, which some deny, because such an argument, used here, would have no more value than a similar one, by its advocates, against the Huron and Ontario project. Its feasibility is therefore assumed. At the first sight, this project seems as if conceived specially in the interest of Montreal, in order to convey the western traffic directly to her door, while it is not adapted to serve any general purpose that may not be better accomplished otherwise. If its projectors *really* sought the attraction of the western carrying trade to

The channel of the Saint Lawrence that object would be much better accomplished by drawing it into Lake Ontario, by which it would reach that channel more directly; while, as a highway to Montreal, Quebec or the Ocean, that Lake and the River Saint Lawrence offer a navigation incomparatively superior to that of the Ottawa River. Any route that does not fully meet western interests and requirements must fail to command its trade and that by the Ottawa and French River certainly does not. What western shippers want and have loudly asked for, is direct access to Lake Ontario, as a distributing centre for their produce, whence it may pursue its way to Montreal, Quebec, or the Atlantic, or whence they may avail themselves of any of their own artificial communications, by canal or railway, with the Hudson River and New York, or with other of their Atlantic sea-ports. While it is necessary to conciliate and satisfy all western interests, Canada has little to fear from the competition of American artificial channels, and may rely on the advantages of the saving of transshipment, and the shortness of the Atlantic voyage, (Quebec being 500 miles nearer than New York, to Liverpool) to make the Saint Lawrence, ultimately, both the outlet and inlet for Western American trade. The accomplishment of this object has been a prominent subject of Canadian Legislation during the last thirty years, and a large portion of the public debt has been created by the execution of public works for that express purpose. That the efforts hitherto made have not been successful only proves the insufficiency of the means adopted, and should not deter or discourage perseverance, when nature has so decidedly indicated the appropriate channel.

The more northerly situation of the Ottawa River route naturally places it under the serious disadvantage of a greatly shortened season for traffic, as its close waters will inevitably be several weeks later in opening in the spring, and as much earlier closed by frost in the fall.

A popular scheme with our neighbours, of the United States, for supplying the great and growing want of the West, has lat-

terly been the construction of a ship canal round the Falls of Niagara. There appear, however, to be powerful local influences operating against it, and it must be obvious that the commercial facilities and benefits sought by its means, would be equally secured by the Huron and Ontario Canal; while the saving in distance is a material point in favor of the latter project, so that its construction would satisfy all present requirements, and render the proposed Niagara Ship Canal unnecessary.

Reference to the map and the following comparative statement of distances from the principal western shipping port to the sea-board and Europe, will exemplify the great advantages of the route, *via* the Huron and Ontario Canal, over all others; and to the saving in distance may be added the further advantage of a superior navigation to that of lakes St. Clair and Erie.

	Miles.
Chicago to Quebec.	
<i>via</i> Lake Erie and Welland Canal and St. Lawrence..	1664
<i>via</i> Huron and Ontario Canal and St. Lawrence.....	1236
Chicago to New York.	
<i>via</i> Lake Erie and Erie Canal.....	1615
<i>via</i> Welland Canal and Oswego.....	1670
<i>via</i> Huron and Ontario Canal and Oswego.....	1210
Chicago to Liverpool.	
<i>via</i> Mississippi and New Orleans.....	6000
<i>via</i> Erie Canal and New York.....	4600
<i>via</i> Welland Canal and St. Lawrence.....	4180
<i>via</i> Huron and Ontario Canal and St. Lawrence.....	3736

For the Huron and Ontario Ship Canal the following manifest and important advantages are claimed.

1. The intricacies and dangers of the shoals and flats of Lakes Erie and St. Clair avoided and a saving of about 500 miles affected.

2. Cargoes of 1,000 or 1,200 tons may be taken from Chicago, or other lake port, to tide water or across the Atlantic, without transshipment.

3. Instead of 350 miles distance and fourteen days of time, on the warm and shallow water of the Erie Canal (exposing grain to risk of heating), the Huron and Ontario Canal, and

St. Lawrence Canals, together, will have only 120 miles of length with fourteen feet of water, the rest of the navigation being equal to any in the world.

4. Quebec being 500 miles nearer than New York to Liverpool, there will be a saving of that distance in the sea voyage.

5. A cargo of 1,000 or 1,200 tons shipped at Chicago for Liverpool, *via* Huron and Ontario Canal would, under ordinary circumstances, and whether transhipped at Quebec or not, reach Liverpool before another cargo shipped at same time, *via* Buffalo and Erie Canal, could reach New York.

6. With the advantages of the great saving of time and distance, and the passage of large cargoes without transhipment, the transportation charges, as well between Chicago and Oswego, as between Chicago and Liverpool, may be reduced nearly 50 per cent.

The statement that this canal will have the effect of reducing the rates of freight nearly 50 per cent. is founded on estimates carefully made, with the assistance and confirmation of shippers, ship-owners, and ship-masters, thoroughly conversant with the whole question, of the cost of first-class vessels adopted for the service—(both inland and marine) the expenses of their management, repairs and insurance—interest at 7 per cent. and a yearly profit of 20 per cent. to enable them to clear themselves and become profit to their owners at the end of five years—all of which estimates are set forth *in full detail* in the General Report. The result is the demonstration that grain may be profitably carried, (transhipment, time and distance being saved) *via* this canal, at the rates set down in the following comparison with present current rates :

Route.	Present average cost of transport of wheat p. bushel.	Rates at which it may be carried in sailing vessels via H. and O. Canal.	Rates by steamers, via H. and O. Canal.
Chicago to Oswego	12 cents.	5 cents	7 cents
do Montreal	14 do	8 do	10 do
do Boston	25 do	13 do	17½ do
do New York.	20 do	13½ do	17½ do
do Liverpool	34 do	16 do	18 do

PROBABLE TRAFFIC.

Based on the various data, hereinbefore recited, the following estimate is made of the probable movement of freight of all kinds, between the West and the East, both ways, by the year 1875.

EASTWARD MOVEMENT.

	TONS.
Cereals, Wheat, Corn, Barley, Oats, Rye	6,000,000
Provisions, Beef, Pork, Lard, &c.....	200,000
Minerals and Ores.....	750,000
Timber, Lumber, and Staves.....	600,000
	<hr/>
	7,550,000

WESTWARD MOVEMENT.

	TONS.
Coals from Oswego	800,000
Salt from Oswego.....	300,000
General Merchandize from New York, &c., via Oswego, and from Europe by the St. Lawrence, say $\frac{1}{4}$ th of Eastward movement.....	1,900,000
	<hr/>
	3,000,000
	<hr/>
Total Tons	10,550,000

In view of the great advantages which this route will offer, compared with all others, it would be reasonable to assume that it will command the largest portion of the freights to be carried between the country west of Lake Huron and the East and sea-board—say, at the least, two-thirds of the Grain, Provisions, Minerals, Lumber and General Merchandise, and all the Coals and Salt from Oswego.

Not to strain the point, however, let it suffice, for our present purpose, to assume what, it is conceived, no reasonable and intelligent mind will refuse assent to, that *one-half* of the above estimated total of freight passing between the West and the East, or 5,275,000 tons, must be commanded by this Canal, if completed and ready for business in 1875.

The rate of toll to be levied on property passing through the Canal, is a point of grave importance, because, while it is

necessary that it be such as will ensure, to the holder of shares in the work, a reasonable dividend on his capital, so invested, it is equally necessary that it be such as shall not impose any restriction on the traffic from which it is derived. A careful consideration of the subject has led to the adoption, for the purpose of estimating the probable revenue, of 80 cents per gross ton, as a rate which will equitably meet both conditions. Of course, consideration may hereafter be given to a judicious classification of rates of toll, on Vessels or their Cargoes, but it is sufficient, here, to assume that the tolls, however classified, should be equivalent to 80 cents per gross ton on all property passing through the Canal. With a toll of 80 cents on the Huron and Ontario Canal, and 20 cents on the St. Lawrence Canals, western vessels would be clear of all Canadian navigation charges to the sea-board, for one dollar per ton, or less than one half of the charge to which they are now subject, on passing through the Erie Canal. This rate would also be less than the Western shipper is prepared and willing to pay for the privilege of the free navigation of the St. Lawrence, with such ameliorations and improvements as shall permit the passage of large cargoes without transshipment; as the speeches made at the Detroit Convention in 1865 and at the various agricultural conventions held subsequently, in other Western towns, testify.

DESCRIPTION OF THE CANAL.

This canal, its route, engineering features, and works throughout, may be briefly described as follows:—

It will connect Lake Ontario (234 feet above the sea,) with Lake Huron (574 feet above the sea,) and have Lake Simcoe, (704 feet above the sea,) situated midway between them, for its summit level and feeder. The distance between its Southern terminus, in Humber Bay, of Lake Ontario, and its Northern terminus in Georgian Bay of Lake Huron is 100 miles, of which 24 miles are deep water navigation, through Lake Simcoe, and 16 miles slack water navigation, in the Northern extremity of the Nottawasaga River to its mouth in Georgian Bay; so that there will be only 60 miles of canal

proper of which 30 miles will be summit level and only 30 miles interrupted by lockage. The canal will, therefore, be in two divisions—one South of Lake Simcoe 47 miles in length, and the other North of Lake Simcoe, and (including the Nottawasaga River,) 29 miles in length. The Southern division will commence in the Humber Bay, at a point about 25 chains west of the mouth of the Humber River, where it is proposed to make three lift locks in the solid ground, elevating the canal 45 feet and carrying it, by means of a stone aqueduct, over the Lake Shore Road, Great Western Railway and side road. From the Northern extremity of this aqueduct, the canal will be continued, through the solid ground, to the village of Lambton, a distance of three miles, where it will join the river and receive its water supply. Following the valley of the Humber River for about three miles farther, to Weston, it will there intersect the Grand Trunk Railway, which is carried over the valley of the Humber by a viaduct about 60 feet above the water level. There the canal will be brought, by the necessary excavation in the bed of the stream, underneath the Railway, at a level to afford 100 feet clear headway for the passage of masts of vessels; its elevation to the natural level being effected, after passing beneath the viaduct, by three lift locks.

From Lambton the canal will follow the valley of the Humber River and its Eastern branch, to the boundary line between the townships of Vaughan and King; in which distance of 21 miles, an ascent of 470 feet to the summit level will have been effected by means of 31 locks, of an average lift of 15 feet 2 inches. At this point the largest feature of the work will be encountered. The highlands of the township of King there continue to rise until they attain a height of 186 feet above the level of Lake Simcoe, (the summit,) and then decline to that level, within a distance of nine miles. The average depth of the necessary cut through this ridge is about 80 feet, and the total excavation is computed at 36,000,000 cubic yards. It has been satisfactorily ascertained, by test-pits and boring, that the nucleus of this elevated ground consists of

indurated clay and gravel, very similar to the exposed cliffs, on Yonge Street, near York Mills, which appear to be a portion of the same geological formation; and that the upper or surface portion is clay, gravel and sand of a friable nature. Notwithstanding the admitted formidable nature and magnitude of this cutting, it is confidently believed that there is no insuperable obstacle in the way of its accomplishment, in a permanent and satisfactory manner. Through the entire length of this cutting, there will be massive continuous piers, formed of boulders, and concrete, and faced with close piling, secured to back stay piles, on both sides, to protect the foot of the slope.

This cut will bring the canal to its connection with the Holland River, the course of which it will follow, through an extended flat, known as the Holland Marsh, for fourteen miles, to its mouth on Lake Simcoe. Passing through Lake Simcoe and out of it at Kemperfeldt Bay, another cut or excavation will be necessary, averaging about fifty feet for five miles, to reach the Nottawasaga River, the course of which will be followed to within three miles of its mouth in Nottawasaga Bay, where, in order to save an extensive bend in the river, there will be a cut of about 40 feet deep for about a mile and a half, through a sand hill with clay bottom. This last cut will bring it to its northern terminus.

On the northern division of 29 miles, there is a descent of 130 feet, effected by eleven locks, of which six will have an average fall of 15 feet, and five of 8 feet. The only extraordinary work on this portion of the route will be the railway and road crossings over the Holland River near Bradford, where the unsatisfactory character of the ground calls for special structures, to secure sufficient foundations for iron swing bridges.

The total lockage on the canal will be 600 feet, and the number of locks forty-two. The width of the canal will be 100 feet at the water surface and 80 feet in the bottom, and its depth 13 feet, except where these dimensions are necessarily exceeded by the width of the valleys and character of the

rivers through which it will pass, and through the deep excavation, where its width will be 80 feet, both at the surface and bottom, with vertical piers on both sides.

All the locks will be detached, to prevent the loss of time and consequent diminution of practical capacity for traffic, which would attend the grouping of locks together, in combination.

The locks, sluices, and swing bridges will be operated by hydraulic power, except at the summit level, where steam power will be used.

The works, throughout the line, will mainly consist of:

A stone aqueduct, to carry the canal over the Great Western Railway and two public roads.

Modification of the Weston Viaduct to allow the passage of the canal under the Grand Trunk Railway.

About 10,000,000 cubic yards dredging in the rivers.

About 50,000,000 cubic yards excavation

16 miles retaining piers on both sides of deep excavation.

60 miles of other slope protections.

42 locks complete, 250 x 35 feet, with 13 feet on the sills.

25 miles Iron Hydraulic Main, for operating lock gates, sluices and swing bridges.

4 special fixed bridges over the deep excavation.

4 special railway bridges.

24 iron swing bridges, for ordinary road crossings.

Entrance harbors at each terminus.

Dams, waste-weirs, offlets, culverts and inlets.

Crib protections in Lake Simcoe.

Offices, work-shops, store-houses, lock and bridge-keepers' houses.

145 miles of towing path.

About 140 miles permanent fencing.

The time required for passing through the Canal is computed at 42 hours, thus :

24 miles lake navigation, at 8 miles per hour.....	3
52½ miles River and Canal, long reaches, 3½ miles per hour	15
20 miles River and Canal, short reaches, 2 miles per hour	10
3½ miles, 42 locks, at 20 minutes each.....	14

This rate of speed applies to steam-propelled vessels. Sailing vessels, to attain to it, must be towed. Steam Tugs will be specially provided for towage through the long reaches and the hydraulic power provided for operating the lock gates, sluices and swing bridges will be available for the short warping ponds.

The estimated cost of all the works is \$36,000,000, to which must be added the interest on expenditure during construction, which, together, will absorb the authorized capital of \$40,000,000.

ST. LAWRENCE CANALS.

The probable cost of the reconstruction of the St. Lawrence Canals, and the necessary improvement of the channel of the river and lakes St. Francis and St. Louis, are estimated at \$5,000,000, viz. :

Reconstruction of Canals	\$3,500,000
Improvement of the navigation of the river and lakes	1,500,000
	<hr/>
	\$5,000,000

The outlay of this sum must be met by an increase of revenue equal to the following items :

Present nett revenue, say	\$50,000
Increased Expense of Maintenance and Management	50,000
Interest at 7 per cent. on new expenditure of \$5,000,000	350,000
	<hr/>
	\$450,000

The tonnage relied on, for the Huron and Ontario Canal, at its outset, is 5,275,000 tons ; and, allowing that one half of this may be destined for Oswego or other U. S. ports, there would remain 2,637,500 tons to pass through the St. Lawrence Canals, which, at 20 cents per ton, would yield a revenue of \$527,500, and quite sufficient to warrant the expenditure.

COLLATERAL ADVANTAGES.

The collateral advantages which may reasonably be expected to follow the completion of this important work, may properly be classified as

- I. *Local.*
- II. *Provincial and Federal.*
- III. *National and Political.*

I. LOCAL ADVANTAGES.

So large an expenditure as \$40,000,000, during a period of from five to seven years, within a space of only 100 miles, the whole of which is tributary to the business of Toronto, cannot fail to be a powerful attraction to population, and will probably double the number of its inhabitants and proportionately enhance the value of real estate, both in the town and in the country. To the farmers of the Counties of York and Simcoe it will secure a home market and high prices, for all descriptions of agricultural produce, cattle and horses.

The construction of this work will create an almost unlimited water power along the first twenty-four miles of the Canal, between lake Ontario and the summit level, under the most favorable circumstances for its application to manufactures; while the Canal itself will afford the greatest facility for obtaining supplies of raw materials and the shipment of manufactured stuffs. To the City of Toronto it will offer the invaluable benefit of an abundant supply of water for domestic and sanitary purposes; and the pressure that may be commanded, from its source being 470 feet above lake Ontario, will make it so important a protection against the ravages of fire, as must reduce the rate of fire insurance, at the least, 25 per cent., and be equivalent to a corresponding reduction of taxation. The water power which may be made available within the city will be of great convenience and value, as by the aid of modern improvements in its application, and the use of high pressure water engines, motive power may be supplied for whatever purposes required. All the printing presses now worked by steam, and sewing and other labor saving machines may be worked by it, and the power obtained by the simple process of turning a tap, while the consumption of water may be registered by a metre, and the charge made therefor, according to an established tariff.

II. PROVINCIAL AND FEDERAL ADVANTAGES.

During the construction of the work, which may extend over seven years of time, the consumption of dutiable and excisable commodities, by the large number of laboring men and

their families, which so stupendous an excavation and other works, will necessitate, will bring an important accession to the public income, through the customs and excise.

When completed, the immense carrying trade which it will attract and accommodate, will be a constant source of profit to both Provinces of Ontario and Quebec, in the necessary expenditure of so large a fleet in its continuous passage through their entire length for repairs, outfit, provisions, ship stores, &c.

Ship building, and the cultivation of hemp and flax and their manufacture into cordage and sail canvas are interests of provincial importance which will be greatly stimulated.

The most important of its influences on Provincial and Federal prosperity will, however, be found in its powerful agency in the development of the vast region of Canadian and British territory north and west of Georgian Bay; rich in all the various products of the lake, the forest, and the mine, and presenting, for future ages, a lucrative field for Canadian enterprise and industry.

To the Federal Union this Canal will be of incalculable advantage, through its contribution to more intimate commercial intercourse with the Maritime Provinces of New Brunswick and Nova Scotia, to which their necessary supplies of breadstuffs will be furnished at greatly reduced charges of freight, while an extensive market will be opened for their coal, for the supply of steam vessels engaged in the carrying trade to the United States seaboard, and Europe.

As an important feature of the highway for commercial traffic through the Dominion, it will perform its part in the formation of the most enduring band of Union, and by its attraction of the products of the Western States to Canadian channels, and its development of our own West and North-West possessions, it will be an invaluable feeder to all Eastern viaducts of traffic, and especially to our projected federal work, the Intercolonial Railway.

Nor, in its federal relation, should its value be lost sight of, as an important link in the chain of communication between the Atlantic and Pacific Oceans, through British territory.

Connected with the opening up of the portions of the North-West territory, suitable for colonization and settlement, the concurrent works, which will be called for, in the improvement of the lakes and rivers and their connection with each other, by land roads and railways, cannot be long deferred. The key to the effective use of this important route will be the Huron and Ontario Canal.

The following statement of distances between the most prominent points of the route from Thunder Bay, on Lake Superior, to the mouth of the Fraser River, opposite Vancouver's Island, and of the time necessary to traverse them, are taken from the report, to the Canadian Government, of Mr. S. J. Dawson, C. E., on the Red River Expedition.

	M I L E S .	
	Land.	Water.
From Thunder Bay to Dog Lake.....	28	
Through Dog Lake and Dog River to Prairie Portage...		35
Over Prairie and Savanne Portages	5	
By Savanne River and Lac des Milles Lacs to Little Falls, River Seine		65
From Little Falls to Rainy Lake	67	
Through Rainy Lake, Rainy River, and Lake of the Woods, to Western Extremity of Lac Plat.....		208
From Lac Plat to Fort Garry.....	91	
From Fort Garry to Grand Rapid of the Saskatchewan.		290
From Grand Rapid of Saskatchewan to Lac Bourbon ...	20	
From Lac Bourbon to Acton House, near the Rocky Mountains		750
From Acton House to Navigable Water of Fraser River (across the Mountains).....	300	
Thence to Mouth of Fraser River.....		120
	511	1468

That is to say, 511 miles of land roads, and 1468 miles of navigation—in all 1979 miles from Thunder Bay, of Lake Superior to the Fraser River on the Pacific Ocean. If good land roads were made between the navigable reaches, and steamers placed on the latter, it might be traversed as follows :

	d.	h.	m.
1468 miles navigation, at 10 miles per hour.....	6	2	48
511 " land roads, at 5 miles per hour.....	4	6	12
13 transhipments, say 1 hour each.....	0	13	00
Days	10	22	00
Or if railways were constructed ;			
	d.	h.	m.
1468 miles navigation, at 10 miles per hour.....	6	2	48
511 " railway, at 22½ miles per hour.....	0	22	42
13 transhipments.....	0	13	00
Days	7	14	30

III. BRITISH, NATIONAL, AND POLITICAL ADVANTAGES.

That the population of Great Britain is directly interested in the successful carrying out of this project cannot be questioned, if its effect be materially to reduce the expenses of the carriage of breadstuffs from the place of their chief production to Europe. If a saving of fifteen cents per bushel be effected in this way, it is a reasonable assumption, and one that experience will probably verify, that this saving will be nearly equally divided between the producer and the customer. If such a saving may be predicated in the case of grain imported into Britain from America, then a corresponding reduction must be produced in all grain imported. If the average importation of grain into Britain be taken at twenty million of quarters (equal to 160,000,000 bushels), which is about the present figure, a reduction in the price, of 7½ cents per bushel would amount to \$12,000,000 or £2,400,000 sterling, and be an annual saving of that amount to the British customer, in the most important necessary of life.

In our relations with our neighbors of the United States, this canal will so identify the commercial interests of Canada and the Western States, as to constitute a most powerful and enduring bond of peace, and with the probability that it will be constructed by the joint efforts of the capitalists and contractors of both Great Britain and the United States, and that the capital stock will be held, in nearly equal proportions, by the subjects of both countries, such a community of interest will be established as will afford the strongest possible security for the maintenance of friendly relations, and as will be ready, at all times, to interpose a check to any tendency to an interruption of international amity.

PETITION TO THE LEGISLATURE OF ONTARIO
FOR GRANT OF LAND.

To the Honorable, the Legislative Assembly,
of the Province of Ontario, in Provincial
Parliament assembled.

The Petition of the Huron and Ontario Ship
Canal Company.

Humbly Sheweth,—That your Petitioners are incorporated under an Act of the Parliament, of the late Province of Canada, passed the 29th year of Her Majesty's reign, chaptered 78, and entitled "an Act to amend the act incorporating the Toronto and Georgian Bay Canal Company," which last mentioned act was passed in the 19th and 20th years of Her Majesty's reign, and was chaptered 118.

That under the provisions of their said acts of incorporation, your petitioners are empowered to construct a ship Canal, to connect the waters of Lakes Huron and Ontario, and thereby provide a shorter and better channel of communication between the upper lakes of this Province and the river St. Lawrence.

That, by the said acts, the capital stock of this company is fixed at forty millions of dollars, and your petitioners are thereby empowered to take possession of and hold all such lands as may be necessary for carrying into effect the objects of the said acts, as therein set forth, and further, to hold all such other lands as may, at any time, be granted to them, by Her Majesty, Her Heirs, or Successors, in furtherance of the said objects.

That your Petitioners, in the original conception of the project to construct the proposed Canal, always contemplated the necessity of aid by a grant of land from the public domain, as the experience of British and foreign capitalists, in their investments in Canadian public works, has heretofore been so unfavourable as to render such aid indispensable.

That, your Petitioners humbly submit, for the consideration of your Honourable House, that the appropriation of the public lands to the promotion and encouragement of public works of undoubted utility, is quite consistent with sound policy and general interests, provided that such grants be made with the utmost possible security for the exploration, survey, and occupation of such lands, so as to ensure the early development of their agricultural, forestial, mineral, and other resources.

That, your Petitioners further, humbly submit, that the

project, in aid of which they are applicants for such a grant of land, is one of surpassing importance, not only to the interests of the Province of Ontario, but also to the general prosperity of the Dominion of Canada.

That the object of the construction of the proposed Canal is not only to provide a channel which shall secure the immense and growing carrying trade of the Western United States to Canadian waters, and thereby provide employment for our existing, but now unproductive, public works, but also to afford the shortest and best communication with the valuable mineral regions bordering on lakes Huron and Superior, and the fertile valleys of the Saskatchewan and Assineboine rivers, and to supply an important link in the chain of communication between the Atlantic and Pacific Oceans, through British territory.

That your Petitioners have effected arrangements with capitalists and contractors of the highest character in Britain and the United States, to supply the necessary capital, and carry into effect the construction of the proposed Canal, without the incurring of any debt by the people or the government of this Province or of Canada, on the condition that it shall please the Executive Government of this Province, by and with the consent of Your Honorable House, to give to our Company a free grant of ten millions of acres of the public lands, together with such waste or marsh lands, on the line of the proposed Canal, as may be in possession of the Crown; such grants to be made under such conditions, securing the object thereof, as your Honorable House may see fit to impose, for perfectly protecting the public interests.

Your petitioners, therefore, humbly pray, that it may please Your Honorable House, to take the premises into your favorable consideration, and to pass such a measure as will best secure the fulfillment, by your Petitioners, of the great and important objects which they have been incorporated to accomplish, and, to that end, that your Petitioners may receive, under conditions, the grants of land herein before referred to.

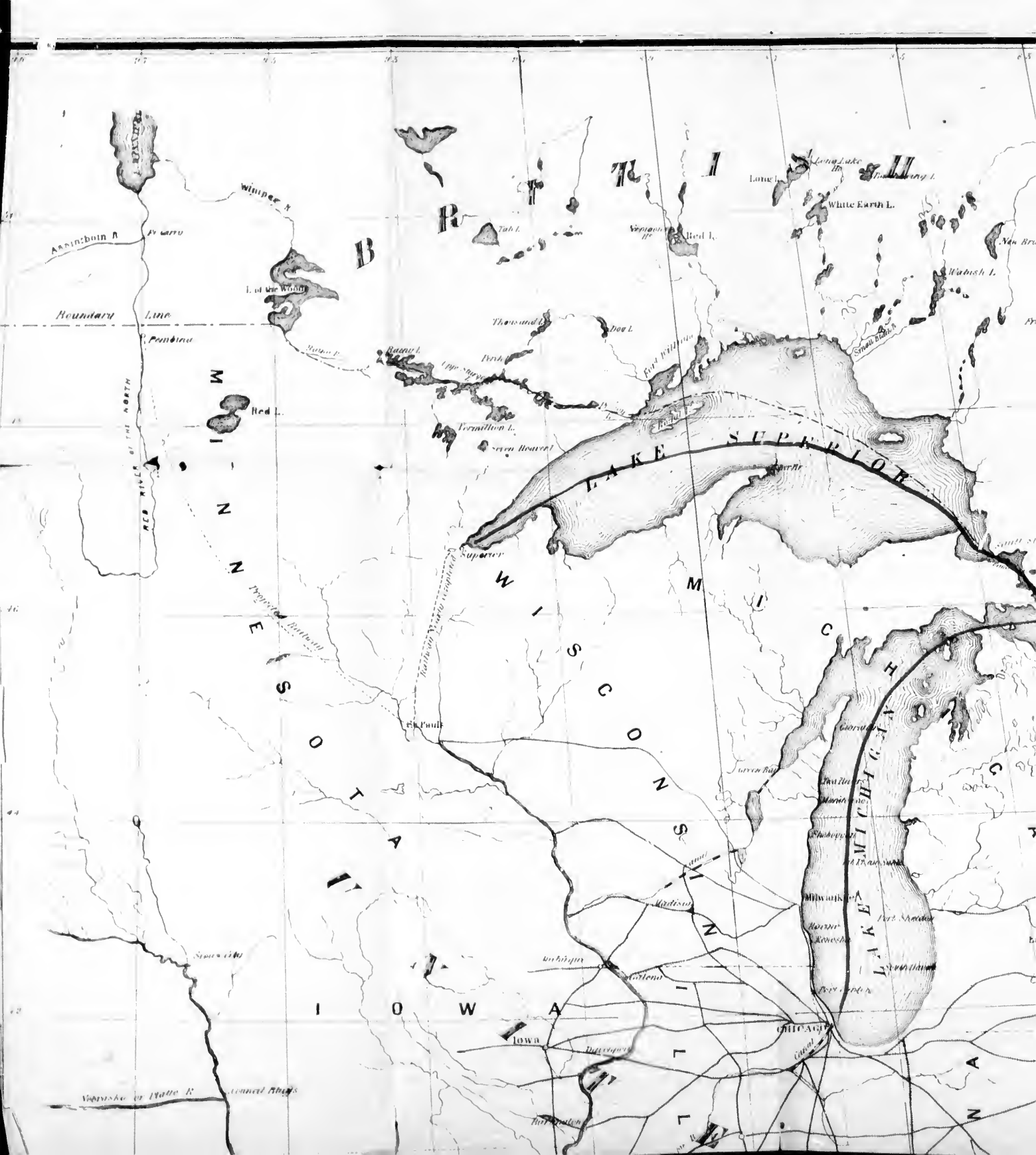
And your Petitioners will ever pray, &c.

Signed by two of the Provisional Directors
and sealed with the Company's Seal,
under resolution of the Board, of this
date.

DONALD McDONALD,
HENRY FOWLER.

[L.S.]

TORONTO, 29th January, 1868.



L. Superior

American R. by Garro

Boundary Line

RED RIVER OF THE NORTH

MINNESOTA

BRITISH

WISCONSIN

ILLINOIS

IOWA

LAKE SUPERIOR

LAKE MICHIGAN

Long Lake
White Earth L.

Superior

St. Paul

Green Bay

Milwaukee

CHICAGO

St. Louis

Iowa

Wabasha or Platte R. connected by...





TABLE OF DISTANCE

	Miles
Liverpool to Quebec	2582
" " Portland	2759
" " Boston	2790
" " New York	2980
Quebec to Chicago, via New Orleans	1664
" " " " "	1286
New York " " via Key West	1016
" " " " "	1210
" " " " "	1478
Chicago to Vancouver's Is., via New Orleans	2208
" " " " "	900
Toronto to Vancouver's Is., via River	2410
" " " " "	700
Chicago via Great Falls	408
" " " " "	408
" " New York via S. & N. H.	616
" " " " "	628
Quebec " " " "	836
" " " " "	801
Vancouver's Island to Cal., by Sea	6200



THUNDER H.

GLoucester BAY

TINY

Sandy Shoals

Broad Sand Beach

SUNNIDALE

Landing

VESPRAY

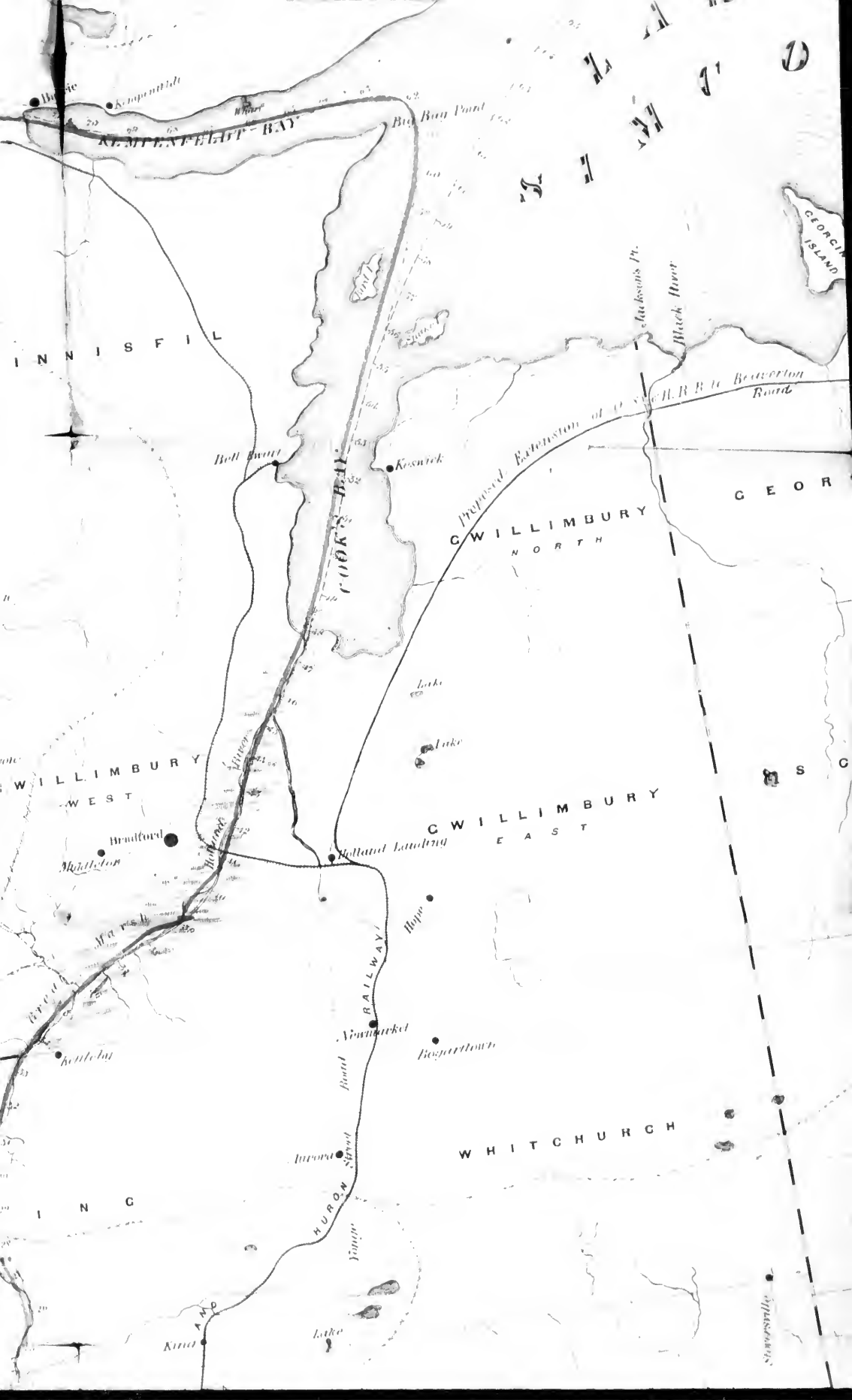
Port

Mill

M E

Y





Remond-Bell Bay

INNISFILL

WILLIMBURY WEST

ING

COOK'S BAY

WILLIMBURY NORTH

WILLIMBURY EAST

WHITCHURCH

GEOR

S C

Storrsville

Remond-Bell Bay

Big Bay Point

Bell Point

Keswick

Jacksons Pt.

Black River

Beaverton Road

Proposed Extension of Vermont Railway

Lake

Lake

Holland Landing

Hope

Vermont Market

Bozartown

Arundel

Huron Street

Lake

Kind

AND

Storrsville



Y

D

R

K

M A R K H A M

P O L L A S T I U C H A N

S I M C O E

O N T A R I O

S C A R B O R O U G H

E T O B I C O K E

R A I L W A Y

O R K

S C A R B O R O U G H T R U N K

H A I L W A Y

T O R O N T O

H A R B O U R

G R A N D

T O R O N T O

L A K E S H O R E

Shewing

TORONTO

SEA

CITY OF T

KIVAS TULLY, C
Chart Eng