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PUBLIC WORKS (CANADA)

RETURN to an ADDRESS of the Honourable The House of Commons,  
dated 7 April 1843;—for,

COPY of the ACT of the PARLIAMENT of *Canada* in 1841, appropriating COLONIAL MONIES for the Improvement of the Navigation of the River *St. Lawrence*, and for other Public Works in the *Canadas*:—COPIES or EXTRACTS of all CORRESPONDENCE between the Colonial Office and the Governors of *Canada*, respecting the Improvement of the River *St. Lawrence* and other Public Works, under the Provincial Government, in the Years 1840 to 1843, both inclusive:—COPY of EXTRACTS of any REPORTS made to the Government of *Canada*, since January 1840, respecting the *Lachine, Beauharnois, Cornwall, Rapid Plat, Gallops* and *Welland* Canals; showing the Estimates, if any, prepared for each of those Works:—ACCOUNTS of the AMOUNTS already expended upon these Canals and Public Works; stating the Amount expended upon each Work in each Year, together with an Abstract of the Amount of the remaining Estimates for the said Works:—Of all MONIES borrowed for Public Works by the Canadian Government during the Years 1840 to 1843, both inclusive; stating the Rates of Interest to be paid, and what Arrangements have been made for Repayment of Principal Sums and Interest thereon:—Of the TERMS on which the LOAN (sanctioned by the British Parliament in 1842 for the Service of *Canada*) has been made in *England*; stating the Date of the Contract, the Amounts of the Loan paid up, the Dates of such Payment, and how the same has been appropriated:—Of all MONIES received as TOLLS on the *Lachine, Ottawa, Rideau* and *Welland* Canals, in each of the Years 1840 to 1842, both inclusive; distinguishing the Amount from each Canal in each Year.

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Colonial Office, Downing-street, }  
19 August 1843.

(*Mr. Hume.*)

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Ordered, by The House of Commons, to be Printed,  
21 August 1843.

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CANADA ACTS.

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MAP.

MAP of CANADA, showing generally the several Public Works completed or now in progress, as embraced and authorized by 3 & 4 Vict. c. 28; also exhibiting the different Lines of Road undertaken by the respective Districts, and Schedule explanatory of the cost of the several Public Works - at the end.

PUBLIC WORKS (CANADA).

CANADA ACTS.

(No. 28.)

4 & 5 VICT., CAP. XXVIII.

AN ACT to appropriate certain Sums of Money for PUBLIC IMPROVEMENTS in this Province, and for other purposes therein mentioned.

(18 September 1841.)

MOST GRACIOUS SOVEREIGN,

WHEREAS it will conduce to the prosperity and advancement of this province, that the public works hereinafter mentioned be undertaken and completed with the least possible delay ; May it therefore please your Majesty, that it may be enacted ; and be it therefore enacted by The Queen's most Excellent Majesty, by and with the advice and consent of the Legislative Council and of the Legislative Assembly of the Province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, intituled, "An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada ;" and it is hereby enacted by the authority of the same, that for the construction and completion of the public works of this province, there be granted to Her Majesty, Her heirs and successors, the sum of One million, six hundred and fifty-nine thousand six hundred and eighty-two pounds, sterling, which said sum shall be applied and expended under the charge and superintendence of the Board of Works of this province, for the erection and completion of the following public works, and in the proportions and within the periods herinafter mentioned ; that is to say :

A certain sum granted for public works.

For the Welland Canal, the sum of Four hundred and fifty thousand pounds, sterling ; Welland Canal.

For the improvement of the navigation of the Saint Lawrence, exclusive of Lake Saint Peter, Six hundred and ninety-one thousand six hundred and eighty-two pounds, sterling ; Improvement of the St. Lawrence.

For the improvement of the navigation of the Lake Saint Peter, Fifty-eight thousand five hundred pounds, sterling ; Lake St. Peter.

For the Burlington Bay Canal, Forty-five thousand pounds, sterling ; Burlington Bay Canal.

For improving the internal waters of the Newcastle district, the construction of slides, locks and certain roads leading thereto, Fifty thousand pounds, sterling ; Waters of Newcastle District.

For constructing or improving harbours and light-houses on Lakes Ontario and Erie, and roads leading thereto, Seventy-four thousand pounds, sterling ; Harbour and Light-houses on Lakes Ontario and Erie.

For improving the River Richelieu, Twenty-one thousand pounds, sterling ; River Richelieu.

For improving the River Ottawa, and building bridges and constructing slides on the same, Twenty-eight thousand pounds, sterling ; River Ottawa.

For improving the Bay of Chaleurs Road, between Percé Point and the Indian Mission, and a portion of the Métis or Kempt Road, Fifteen thousand pounds, sterling ; Bay of Chaleurs Road.

For improving and completing the Gosford Road, between Quebec and the Eastern Townships, through the block of land possessed by the Government, Ten thousand pounds, sterling ; Gosford Road.

For improving and completing the Main Northern Road from Lake Ontario, at Toronto, to Lake Huron, continuing and perfecting the same from the Main Northern Road. termination

## PAPERS RELATING TO

termination of the portion already undertaken by the district of Barrie, establishing toll-bars thereon, and improving sundry parts thence to Penetanguishene, and on the Cold-water Portage, Thirty thousand pounds, sterling.

Main Province Road.	For improving the Main Province Road from Quebec to Amherstburg and Port Sarnia, building certain bridges on the same between Montreal and Quebec, and improving those portions of the line along which the river or lakes are not now available for the transport of the mails, that is to say :
Cascades to Province Line.	To macadamize or otherwise improve that portion between the Cascades and the Province line, and to establish toll-bars thereon, Fifteen thousand pounds, sterling;
Brantford to London.	To macadamize or otherwise complete that portion from the termination of the part already undertaken by the district of Brantford to London, and establish tolls thereon, Fifty-five thousand pounds, sterling;
London to Port Sarnia.	To drain, trunk, form, and otherwise improve the road thence to Port Sarnia, Fifteen thousand, pounds, sterling;
London to Chatham, &c.	To drain, trunk, form, and otherwise improve the road from London to Chatham, Sandwich and Amherstburg, Fifty-five thousand pounds, sterling;
Bridges between Quebec and Montreal.	For building bridges over the large rivers between Quebec and Montreal, Thirty-four thousand pounds, sterling;
L'Original to the St. Lawrence.	For the completion of the Military Road, from the Ottawa near L'Original to the Saint Lawrence, Fifteen hundred pounds, sterling;
Hamilton to Port Dover.	For the formation of a line of road from Hamilton to Port Dover, Thirty thousand pounds, sterling.

Powers heretofore vested in any Directors or Commissioners of any of the said Public Works transferred to the Board of Works.

II. And be it Enacted, That from and after the passing of this Act, all Directors or Commissioners appointed by or under the authority of any of the laws now in force, authorizing the construction or carrying on of any of the said works and improvements, shall be superseded, and their respective offices shall cease and be determined to all intents and purposes whatsoever; and that all and every the powers and authorities conferred upon any such Directors or Commissioners in or by any such law or laws shall be transferred to and shall and may be used, exercised and enjoyed by and under the direction of the Board of Works, in as full and ample a manner to all intents and purposes as the same might or lawfully could be used, exercised or enjoyed by such Directors or Commissioners or any number of them respectively: Provided, that nothing herein contained shall diminish or affect the authority and powers of the Commissioners appointed by or under the authority of an Act of the Legislature of the late Province of Upper Canada, passed in the third year of the reign of his late Majesty King William the Fourth, and intituled, "An Act granting to Her Majesty a sum of Money, to be raised by Debenture, for the Improvement of the River Saint Lawrence," in so far as regards the settlement of the claims for compensation for damages made under the said Act, by any person whomsoever, before the passing of this Act; but such powers and authorities, and all the provisions of the said Act shall, in so far as regards any such claim, be and remain in full force and effect, as if this Act had not been passed; and provided also, that nothing herein contained shall in anywise affect the rights or powers of the Stockholders of the capital stock of the Welland Canal Company, or any Directors by them elected according to law.

Proviso as to certain powers to settle claims or damages given by Act of U. C., 3 Will. 4, c. 18.

Rights and liabilities of the Commissioners and Directors transferred to the Board of Works.

III. Provided always, and be it Enacted, That nothing herein contained shall be construed in anywise to annul, discharge, vacate or make void any contract, agreement, debt or liability lawfully made, entered into or incurred by or to such Directors or Commissioners; but that every such contract, agreement, debt or liability shall be performed, fulfilled, paid and discharged to or by the said Board of Works, in like manner and subject to the same conditions as it would have been to or by the said Directors or Commissioners if they had continued in office.

A loan may be raised by the Governor to an amount equal to the

IV. And be it Enacted, That it shall be lawful for the Governor, Lieutenant-governor or person administering the government of this Province, from time to

time, and as occasion shall require, to raise by loan the said sum of One million six hundred and fifty-nine thousand six hundred and eighty-two pounds, sterling, for the construction and completion of the several public works hereinbefore enumerated.

total amount of the sums hereby granted.

V. And be it Enacted, That it shall be lawful for the Governor, Lieutenant-governor or person administering the government of this Province, to cause or direct any number of debentures to be made out for such sum or sums of money, not exceeding in the whole the amount hereinbefore authorized to be raised, as any person or persons, body or bodies corporate or politic, shall agree to advance upon such debentures, with interest payable half-yearly at a rate not exceeding the rate of five pounds for every hundred pounds by the year, and which said debentures shall be made payable at twenty years from the date thereof.

Debentures to be issued to the amount aforesaid.

VI. And be it Enacted, That all such debentures and interest thereon, and the charges incident thereto or attending the same, shall be and are hereby declared to be charged and chargeable upon and shall be borne and paid out of the Consolidated Revenue Fund of this Province.

Debentures issued under this Act to be chargeable on the revenue of the Province.

VII. And be it Enacted, That if any person or persons shall forge or counterfeit any such debenture as aforesaid, which shall be issued under the authority of this Act and remain uncanceled, or any stamp, indorsement or writing thereon or therein, or shall tender in payment any such forged or counterfeited debenture, or any debenture with such counterfeited indorsement or writing thereon, or shall demand to have such counterfeit debenture, or any debenture with such counterfeited indorsement or writing thereupon or therein, exchanged for ready money by any person or persons who shall be obliged and required to exchange the same, or by any other person or persons whomsoever, knowing the debenture so tendered in payment or demanded to be exchanged, or the indorsement or writing thereupon or therein, to be forged or counterfeited, and with intent to defraud Her Majesty, Her heirs or successors, or the person appointed to pay off the same, or any of them, or any other person or persons, bodies politic or corporate, then every such person or persons so offending, being thereof lawfully convicted, shall be adjudged guilty of felony, and shall suffer punishment accordingly.

Counterfeiting debentures, &c., with intent to defraud, to be felony.

VIII. And be it Enacted, That the Receiver-general of this Province for the time being, shall before each session of the Parliament of this Province, transmit to the Governor, Lieutenant-governor or person administering the government of this Province, a correct account of the numbers, amount and dates of the different debentures which may have been issued under the authority of this Act, of the amount of the debentures redeemed by him, and the interest paid thereon respectively, and also of the amount of the said debentures outstanding and unredeemed at the period aforesaid, and of the expenses attending the issue of the same, and of carrying this Act into effect.

Accounts to be rendered by the Receiver-general.

IX. And be it Enacted, That the interest accruing upon the said debentures shall and may be demandable at half-yearly periods computing from the date thereof, and shall and may be paid on demand by the Receiver-general of this Province for the time being, who shall take care to have the same indorsed on each debenture at the time of payment thereof, expressing the period up to which the said interest shall have been paid, and shall take receipts for the same from the parties respectively; and that the Governor, Lieutenant-governor or person administering the government of this Province, shall after the thirtieth day of June, and the thirty-first day of December in each and every year, issue warrants to the said Receiver-general, for the payment of the amount of interest that shall have been advanced according to the receipts to be by him taken as aforesaid.

Such interest to be payable by the Receiver-general half-yearly.

X. And be it Enacted, That a separate warrant shall be made to the Receiver-general, by the Governor, Lieutenant-Governor or person administering the government of this Province for the time being, for the payment of each debenture as the same may become due and be presented, in favour of the lawful holder thereof, and that such debentures as shall from time to time be discharged and paid off, shall be cancelled and made void by the said Receiver-general.

Debentures redeemable how to be paid off.

Debentures redeemable may be called in, and further interest stopped on those not presented accordingly.

XI. And be it enacted, That at any time hereafter it shall and may be lawful for the Governor, Lieutenant-governor or person administering the government of this Province, if he thinks proper so to do, to direct a notice to be inserted in the Gazette, requiring all holders of such of the said debentures as shall be then redeemable to present the same for payment, and if (after insertion of the said notice for three months) any debenture then payable shall remain out more than six months from the first publication of such notice, all interest on such debentures after the expiration of the said six months shall cease and be no further payable in respect to the time which may elapse between the expiration of the said six months and their presentment for payment.

Accounts of monies expended and tolls collected on such works to be laid before Parliament.

XII. And be it enacted, That there shall be annually laid before both Houses of the Legislature of this Province, accounts in detail of the expenditure made in the prosecution of the several public works hereinbefore mentioned, and also of the rates and tolls received on account of each of said works respectively.

Accounting Clause.

XIII. And be it enacted, That the due application of the monies herein granted shall be accounted for to Her Majesty, Her heirs and successors, through the Lords Commissioners of the Treasury, in such manner and form as Her Majesty, Her heirs or successors shall be graciously pleased to direct.

(No. 33.)

4 & 5 VICT., CAP. XXXIII.

AN ACT to facilitate the Negotiation of a LOAN in *England*, and for other purposes therein mentioned.—(18 September 1841.)

MOST GRACIOUS SOVEREIGN,

Preamble.

WE, Your Majesty's most dutiful and loyal subjects, the Legislative Assembly of the province of Canada, in Parliament assembled, having taken into our serious consideration the present state of the public debt of this province, and the message of Your Majesty's Governor-General of this province, transmitting a despatch from Your Majesty's Principal Secretary of State for the Colonies, bearing date the 3d of May, in the year of our Lord 1841, and containing among other things the following passage:

Despatch of the Secretary of State for the Colonies, dated 3d May 1841, in part recited.

“The Queen's Government coincide in your views of the expediency of making such arrangement as may employ the credit of this country for the benefit of the finances of Canada, and have given their consideration to the plan proposed in your despatches. They are of opinion that such an arrangement, if it can be carried into effect with the consent of the creditors, would be in every way desirable; but they feel that the objections to a Bill compelling parties to receive payment of their money in breach of agreement entered into with them by competent authority are insuperable.

“Her Majesty's Government are ready to give any assistance in conformity with your proposal, which does not appear to them inconsistent with good faith. They are ready to propose to Parliament to guarantee a loan which may be required for Public Works (under the restrictions suggested by you), for the repayment of such part of the debt as may be now redeemable, or may be held by creditors who shall declare themselves willing to accept reasonable terms,”—and being desirous of lessening the charge of the said debt, as well as of making provisions for the continuance and completion of public works commenced in this province, by means of a loan at a reduced rate of interest, under the guarantee proposed in the said despatch, humbly beseech Your Majesty that it may be enacted; and be it therefore enacted by The Queen's most Excellent Majesty, by and with the advice and consent of the Legislative Council and of the Legislative Assembly of the province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, intituled, “An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada;” and it is hereby enacted by the authority of the same, That after the charges made on the Consolidated Revenue Fund of this province, under and by virtue of the said Act of Parliament of Great Britain and Ireland, the said Consolidated Fund shall be charged and chargeable with the payment of the interest and principal of any new debentures, loan or stock not exceeding the sum of One million five hundred thousand pounds sterling money of

The Consolidated Revenue Fund of the province to be charged with any sum not exceeding £. 1,500,000 sterling, raised by loan for the purposes aforesaid.

of Great Britain, which shall be raised or created on behalf of this province by virtue of this Act or of any Act or Acts of the Parliament of Great Britain and Ireland, to be passed for the raising and creating any such loan or stock, or for the purpose of guaranteeing the payment of the same and interest thereon by this province.

II. And be it enacted, That in case it shall be necessary to effect such loan, it shall and may be lawful for the Governor of this province to authorize debentures to the amount of One million five hundred thousand pounds of sterling money to be issued in such form, and payable at such period, and for such sums, and at such rate of interest as shall be most convenient, and as shall be in accordance with the terms in which such new loan may be guaranteed as aforesaid.

The Governor may issue debentures for such loan if necessary.

III. And be it enacted, That all and every the provisions of a certain Act of the Parliament of Upper Canada, passed in the seventh year of the reign of his late Majesty King GEORGE the Fourth, and intituled, "An Act to authorize the Government to borrow a certain Sum of Money upon Debentures to be loaned to the Welland Canal Company," which relate to the debentures authorized by that Act, passing current with certain public accountants, the suspension of interest in certain cases, the submitting to the Legislature accounts of such debentures and the interest paid thereon, and the expenses attending the same, and the paying off and cancelling the said debentures; and also the provisions contained in the seventh section of the said Act, declaring and making the forging any such debenture, or any stamp, writing or indorsement thereon or therein; and the tendering in payment any such forged debenture, or any debenture with such counterfeit stamp, indorsement or writing thereupon or therein; and the demanding to have such counterfeit debenture, or any debenture, with such counterfeit stamp, indorsement or writing thereupon or therein, exchanged for ready money by any person or persons who shall be obliged or required to exchange the same, or by any other person or persons whomsoever, knowing such debenture, or the stamp, indorsement or writing thereupon or therein to be forged or counterfeited, and with intent to defraud, as in the said Act is mentioned—Felony, and subjecting the person or persons guilty thereof to suffer as in the cases of felony, shall be and are hereby enacted and declared to be in force with regard and in respect to all and every debenture or debentures to be issued in pursuance of this Act.

Certain provisions of the Act of Upper Canada, 7 Geo. 4, cap. 20, relative to the debentures therein mentioned, extended to debentures to be issued under this Act.

IV. And be it enacted, That it shall be lawful for the Governor of this province to nominate and appoint such person or persons as he shall think the most fit for the purpose, of arranging and negotiating the mode and terms in and upon which such new loan or stock may be most advantageously raised or created, and to advance and pay to the person or persons so employed such sums of money as shall be reasonable and necessary to defray the expenses attending his or their employment; and that such person or persons (subject to instructions to be from time to time given to him or them by the Governor of this province), shall have full power and authority to negotiate on behalf of this province, in such form and manner as shall be rendered necessary by any such Act or Acts to be passed by the Parliament of Great Britain and Ireland, or as shall be directed and approved by Her Majesty's Principal Secretary of State for the Colonies for the time being.

The Governor may appoint a person or persons to negotiate such loan on the part of this province.

Expenses.

Powers.

V. And be it enacted, That it shall and may be lawful for the Governor of this province, out of the monies to be raised by any such new stock or loan, to direct and order the payment in full of all and every the public debentures of the late provinces of Upper and Lower Canada, or of either of them, which are now due, or which may hereafter be lawfully called in for the payment thereof, or which shall become due and payable, together with all interest due or to become due thereupon.

Governor may pay off

VI. And be it enacted, That it shall and may be lawful for the Governor of this province to authorize and direct the redemption of any debenture or debentures of either of the said late provinces, out of the monies so to be raised, as aforesaid, at such rates and upon such terms and conditions as shall and may be agreed upon with the holder or holders thereof: Provided always, that in no case shall any greater sum than is expressed in any such debenture, together with the interest due and unpaid, be paid for the redemption of the same.

or redeem debentures with proceeds of loan.

Executors, &c. may agree to such redemption.

VII. And be it enacted, That all executors, administrators, guardians, trustees, tutors, curators, and all curators or committees of the estates of idiots and lunatics, or absentees, who shall as such have the custody or control of or over any such debentures in this province, may agree for the redemption thereof, and receive the sums of money to be respectively paid therefor, and shall hold and be accountable for such sums as they shall respectively receive for any such debenture, upon, with, under and subject to the same uses, trusts, powers, conditions and purposes as such debentures were subject or liable to, when in their possession, custody or control.

Residue of loan to be appropriated as Legislature shall direct.

VIII. And be it enacted, That the residue of the monies so to be raised as aforesaid, after redemption of such debentures, shall be paid to and remain in the hands of the Receiver-general of this province, subject to such disposal and appropriation as the Legislature may, from time to time, by an Act or Acts direct and appoint.

Proceeds of loan to be accounted for.

IX. And be it enacted, That all monies to be raised by such loan or stock, as aforesaid, shall be accounted for to Her Majesty, Her heirs and successors, through the Lords Commissioners of Her Majesty's Treasury, in such manner and form as Her Majesty, Her heirs and successors, shall be graciously pleased to direct.

(No. 38.)

4 & 5 VICT. CAP. XXXVIII.

AN ACT to repeal certain ORDINANCES therein mentioned, and to establish a BOARD of WORKS in this Province.—(17 August 1841.)

Preamble.

The Ordinance of Lower Canada, 2 Vict. cap. 64, repealed.

WHEREAS it is expedient to repeal two certain Ordinances hereinafter mentioned, and to establish a Board of Works in and for this province; Be it therefore enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Legislative Council and of the Legislative Assembly of the province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, intituled, "An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada," and it is hereby enacted by the authority of the same, that a certain Ordinance of the Legislature of the late Province of Lower Canada, passed in the second year of Her Majesty's reign, and intituled, "An Ordinance to establish a Board of Works in this Province," and a certain other Ordinance of the said Legislature, passed in the fourth year of Her Majesty's reign, and intituled, "An Ordinance to amend and render permanent the Ordinance establishing a Board of Works in this Province," shall be and the said Ordinances are hereby repealed.

And the Ordinance of Lower Canada, 4 Vict. cap. 38, repealed.

II. Provided always, and be it enacted, That all contracts and agreements made and entered into by the Board of Works heretofore established and subsisting under the authority of the said Ordinances, and all rights, titles, interests or obligations, by the said Board of Works, or by any person or party whatsoever, acquired, held or contracted under the authority of the said Ordinances, or either of them, and all matters and things done or performed by the said Board of Works, or by any person or party under the said authority, shall subsist and continue to be good and valid, and in full force and effect, to all intents and purposes, as if this Act had not been passed; and the Board of Works to be established under the authority of this Act shall, with regard to all such contracts, agreements, rights, titles, interests, obligations, matters and things, be substituted for the Board of Works established under the authority of the Ordinances aforesaid.

Contracts, &c. entered into by the Board of Works for Lower Canada, and rights acquired under the Ordinance repealed, to remain valid, and the Board of Works constituted under this Act to be with regard to such contracts, rights, &c. substituted for the Board of Works for Lower Canada.

A Board of Works to be established for the province.

III. And be it enacted, That there shall be in and for this province a Board of Works for the superintendence, management and control of public works therein, which said Board of Works shall consist of such and so many persons, not exceeding five in number, as the Governor, Lieutenant-governor, or person administering the Government of this province shall from time to time appoint to be members of the said Board, one of whom shall be appointed to be Chairman; and the said Board shall have such powers, authority and capacities as are provided by this

To have such powers as are expressly given it and no others.

Act,

Act; or may hereafter be provided by any Act of the Legislature of this province, and no others.

IV. And be it enacted, That a fit and proper person shall be appointed, in the manner aforesaid, to be Secretary of the said Board, and that the Governor, Lieutenant-governor, or person administering the Government, may remove the members of the said Board, or the said Secretary, or any of them, and appoint others in their stead, or reinstate those so removed, when and so often as he shall deem it expedient.

A Secretary to be appointed by the Governor.

Members and Secretary to hold their offices during pleasure.

V. And be it enacted, That the Chairman and the Secretary of the said Board shall respectively receive a yearly salary, and their actual disbursements and travelling expenses when away from their usual place of residence on the business of the Board, and shall devote their whole time to the business of their respective offices, and shall not exercise any other profession or calling while they shall respectively hold the said offices; and the members of the Board, other than the Chairman, shall receive their actual disbursements and travelling expenses when away from their several places of residence on the business of the Board.

Chairman and Secretary to be allowed a yearly Salary.

Other Members to be allowed their actual disbursements only.

VI. And be it enacted, That the Chairman and Members of the said Board for the time being shall be a body politic and corporate, by the name of "The Board of Works," and may by that name sue and be sued, and may have a common seal, and alter it at pleasure, and may hold real property, and shall generally have all the powers and capacities which bodies politic and corporate have by law.

Board of Works to be a body corporate, and to have the usual powers of corporate bodies.

VII. And be it enacted, That the office of the said Board shall be at such place as the Governor, Lieutenant-governor, or person administering the Government shall appoint for that purpose, and shall be the legal office of the Corporation; and the Board shall meet thereat, or at such other place as the Governor, Lieutenant-governor, or person administering the Government shall appoint, at such times as he may direct, and at any time to which it may have adjourned at any previous meeting.

Office and meeting of the Board where to be kept and held.

VIII. And be it enacted, That the Chairman for the time being shall be the legal organ of the Corporation, and all writings and documents signed by him and sealed with the seal of the Corporation, and no others, shall be held to be acts of the Corporation.

What shall be deemed acts of the Corporation.

IX. And be it enacted, That it shall be the duty of the said Board to examine and report upon all matters which may be referred to it by the Governor, Lieutenant-governor, or person administering the Government, connected with the objects for the promotion of which it is constituted, as aforesaid, and to obtain all such evidence and information, plans, estimates, drawings, or specifications, and to cause such surveys, visits and examinations to be made, and generally to do all such things as may be necessary to enable it to make such report in the manner best adapted to advance the public good: Provided always, That no expense shall be incurred or authorized by the Board with regard to any matter so referred, unless with the sanction and approval of the Governor, Lieutenant-governor or person administering the Government.

Duties of the Board.

Expenses not to be incurred by the Board without the approval of the Governor.

X. And be it enacted, That the said Board may suggest to the Governor, Lieutenant-governor, or person administering the Government of this province, any public works or improvements therein, which it may appear to the Board could be undertaken with advantage to the province; but shall incur no expense relative to the object of such suggestion, unless with the sanction and approval of the Governor, Lieutenant-governor, or person administering the Government as aforesaid.

Board may suggest improvements relative to public works; but shall incur no expense touching the same without the Governor's approval.

XI. And be it further enacted; That all applications for any grant of public money for any of the objects for the superintendence of which the said Board is constituted, as aforesaid, which the Governor, Lieutenant-governor or person administering the Government shall think may be undertaken with advantage to the public, or any matter connected with such object which he may himself suggest, shall be referred to the said Board, which shall report thereon in the manner and under the provisions aforesaid.

Matters which shall be referred to the Board.

Board may make regulations with regard to Public Works.

XII. And be it enacted, That the said Board shall in like manner report on any reference which may be made to it, with regard to the tolls and duties to be collected on or for the use of any public works; and may make such regulations for the use of any public work of any kind, vested in the Board, or under its control, as shall not be inconsistent with the law, or with the purposes of such work; but such regulations shall impose no fine, unless the power of imposing such fine shall be given to the Board by some law relating to such work.

Proviso.

What public monies shall be expended under the control and superintendence of the Board.

XIII. And be it enacted, That no sum of public money, now appropriated or to be hereafter appropriated for any public work, of the nature of those for the superintendence of which the said Board is constituted, as aforesaid, and the expenditure of which is not by law directed to be made, under the control of, or by any certain person or persons, or officer, or body corporate, shall be expended, except under the control and superintendence of the said Board.

Such monies not to be expended until after the Board shall have reported on the mode of expenditure, and this report shall be approved by the Governor.

XIV. Provided always, and be it enacted, That no part of any sum so appropriated shall be expended or advanced until the said Board shall have reported to the Governor, Lieutenant-governor or person administering the Government, in detail, the mode in which it is proposed to expend the same, nor until such report shall have been approved by him; nor shall any contract be entered into by the said Board for the performance of any work, except good and sufficient security, to the satisfaction of the Board, and of the Governor, Lieutenant-governor or person administering the Government, be given for the performance of the contract, within a time to be specified in the contract.

No public work to be commenced, unless it can be completed for the sum appropriated for it.

XV. And be it enacted, That no contract shall be entered into, or any money expended on any work for which any public money shall have been or shall be appropriated, unless it shall appear that the work can be completed, according to the intention of the Legislature, for the sum appropriated for it; excepting always such preliminary expenses as shall be necessary to ascertain whether it can or cannot be so completed.

The Board, with the approval of the Governor, may employ and pay Engineers, Surveyors, &c.

XVI. And be it enacted, That the said Board shall (with the approval of the Governor, Lieutenant-governor or person administering the Government, as aforesaid) employ for the accomplishment of the objects for which it is constituted, such and so many engineers, surveyors, architects, clerks, draughtsmen, superintendents and other persons as may be necessary, and allow and pay them a fair and adequate compensation, not exceeding the usual allowances, salary or pay allowed to such persons respectively by other persons.

All public works not specially vested in other persons shall be vested in the Board.

XVII. And be it enacted, That all public works which are not or shall not hereafter be specially vested in other persons, bodies or officers, shall be and are hereby vested in the said Board of Works, and placed under its superintendence, management and control, excepting always, that the tolls, revenue or income derived from any public work shall be or continue to be received, and accounted for by the persons appointed or to be appointed for that purpose; but the amount of such tolls and the expenses of collecting them, and all such other information as the Board may require from time to time, shall be reported and furnished to it by such persons on the requisition of the Secretary or Chairman.

The Board, or their Engineers, &c. may enter upon property for the purpose of taking measurements, &c.

XVIII. And be it enacted, That it shall be lawful for the said Board of Works, their engineers, agents, servants and workmen, to enter into and upon any and all lands and grounds to whomsoever belonging, and to survey and take levels of the same or of any part thereof, for any or all of the purposes and objects for which the said Board is so constituted, as aforesaid, and in and for the execution of the said purposes, and for the attainment of the said objects or any of them, to set out and ascertain such parts of any such lands and grounds, as the said Board shall deem necessary or proper, making compensation for all damages which shall be sustained by the owner or occupier of such land or ground, such compensation being ascertained by arbitration in the manner hereinafter provided, in case the said Board and the party to whom compensation is to be made shall not agree as to the amount thereof.

Making compensation for any damage they may occasion.

Board to have power to take and hold real property for Public Works.

XIX. And be it enacted, That the said Board shall have power to acquire and hold all such land and real property of any description as may be necessary or useful for the performance of any work directed or to be hereafter directed by the Legislature, and may for that purpose contract and agree with all persons, bodies corporate

corporate, guardians, tutors, curators and trustees, whatsoever, not only for and on behalf of themselves, their heirs, successors and assigns, but also for and on behalf of those whom they shall represent, whether infants, (*minor children*) absentees, lunatics, idiots, femmes covert or other persons otherwise incapable of contracting, who are or shall be possessed of or interested in such property; and all such contracts and agreements, and all conveyances or other instruments made in pursuance thereof, shall be valid and effectual in law to all intents and purposes whatsoever.

Certain parties otherwise unable to convey property may convey to the Board.

XX. And be it enacted, That whenever the owner, or person so representing as aforesaid the owner, of any such land or real property, shall refuse to agree for the sale and conveyance thereof, it shall be lawful for the said Board of Works to make a legal tender to him or her of the probable and reasonable value of such land or real property, with a notification that the said Board of Works will submit the settlement of the value thereof to arbitration; and upon such tender and notification having been so made, it shall be lawful for the said Board of Works to enter upon and take possession of the land and real property to which such tender shall relate: Provided always, That the said Board of Works shall, within three days after so taking possession, name an arbitrator, and the owner or person representing the owner of the land or real property so taken possession of shall, within three days from such nomination also name an arbitrator, and the two arbitrators so named shall, before proceeding, name a third arbitrator; and the said three arbitrators shall inquire of, and they or any two of them shall award and adjudge upon the value of such lands and real property, and shall signify their award and judgment to the parties interested, within a period not exceeding ten days next after the appointment of the said third arbitrator; and the said Board of Works shall, upon the signification of any such award and judgment, forthwith tender to the owner or person representing the owner of such land or real property, the sum so demanded and adjudged; and if the same exceed the sum originally tendered, the Board of Works shall pay the costs of arbitration, but if not, the costs shall be paid by the person so refusing the tender made by the said Board as aforesaid.

When the Board and the party interested cannot agree on the compensation for the property or damages, such compensation may be ascertained by arbitration.

But the Board may enter on such property after making a reasonable tender.

Mode of appointing arbitrators.

Award to be made within a certain time.

Board must tender the sum awarded.

Costs of arbitration.

XXI. And be it enacted, That any award made under this Act concerning land or real property situate in that part of this province formerly called Upper Canada, shall be subject to be set aside on application to the Court of Queen's Bench, in the same manner and on the same grounds, as in ordinary cases of submission to arbitration by the parties; in which case a reference may be again had to arbitrators as hereinbefore provided; and any award made under this Act, concerning land or real property situate in that part of the province formerly called Lower Canada, shall be liable to be set aside at the instance of any party interested by the judgment of any court of competent jurisdiction, in that part of the said province, if the court shall be of opinion that injustice has been done by the award to the party complaining, and the value to be paid by the Board for such land or real property shall in such case be finally determined by the judgment of such court: Provided always, That no such award shall be set aside in any case unless the application to the court shall be made within one year from the date of such award.

Awards made in Canada West, how liable to be set aside.

And if made in Canada East.

Limitation of time within which any award shall be liable to be set aside.

XXII. And be enacted, That if the said Board shall neglect in any way to comply with any of the requirements of this Act touching the appointment of an arbitrator, or if no award shall be made within the period hereinbefore prescribed for making the same, then the party to whom the compensation is due shall have an action against the Board for the amount of such compensation, which shall then be ascertained, as to law may appertain, saving the right of the Board to plead any tender made of the amount of such compensation: Provided always, That nothing herein contained shall prevent the parties from agreeing to the extension of the period for making any such award, and such period shall in any such case be extended accordingly for all the purposes of this Act.

Party interested to have an action for the compensation if the Board neglect to appoint an arbitrator or award be made within the time limited.

Proviso.

XXIII. And be it enacted, That the arbitrators so appointed as aforesaid shall have power to examine any person upon oath touching the value of the property, or the amount of any compensation which they shall be required to ascertain, and they or any one of them may administer such oath; and the said arbitrators shall themselves be sworn to the due performance of their duties before some Judge or Justice of the Peace, before they shall proceed to perform such duties.

Arbitrators may examine witnesses on oath, and must themselves be sworn.

Duties of the Secretary of Board.

Accounts.

Plans, etc.

Contractors.

Reports.

Correspondence.

Travelling.

General duties.

Proviso.

Plans, Documents, Instruments, &c., relative to Public Works, to be delivered to the Board.

Board may require the attendance of persons whom it may be requisite to examine touching any Public Work.

Penalty on persons refusing so to attend.

Board may require accounts to be sworn to; any Member may administer the oath.

False swearing to be perjury.

Warrants for money appropriated for Public Works under the Board not to issue except on certificate of the Chairman.

Certain sum may be advanced to the Secretary to meet the disbursements of the Board.

Accounts of monies expended under the Act, how to be rendered.

XXIV. And be it enacted, That it shall be the duty of the Secretary of the said Board (with such assistance as may be found necessary) to keep a separate account of the monies appropriated for and expended on each public work; to have charge of and keep all plans, contracts, estimates and documents, models or other things relative to any such work; to keep regular accounts with each contractor or other person employed by the Board; to see that all contracts made with the Board are properly made and prepared; to draw out all certificates upon which any warrant is to issue, as hereinafter mentioned; to prepare all reports to be submitted to the Board for its adoption, and to receive and answer, according to the instructions he may receive from the Board, all letters to or from members of the Board, or other persons, on the business thereof; to notify the members of all meetings of the Board which may be called at any time, other than that to which the Board shall have adjourned at its then last meeting; to keep minutes of its proceedings at all meetings; and to proceed to any place at which any public work may be undertaken, if directed to do so by the Board; to have the general superintendence of all other matters which he may be instructed to superintend by the Board; and generally to do all ministerial acts connected with the business of the Board, which it may direct him to do, or which may devolve upon him, by a fair construction of the meaning and intent of this Act, in all cases not expressly provided for: Provided always, That it shall be lawful for the Governor, Lieutenant-Governor or person administering the Government to require any person or persons, whomsoever, having in their possession any instruments, plans, papers, books, drawings, models, estimates or documents relative to any public work, and belonging to the province, to deliver the same to the Chairman of the said Board, and also from time to time to place in his charge and keeping, for the uses of the Board, any instruments, books, drawings, models or documents relative to the objects for which the said Board is constituted, which may be the property of the province, and required for the better attainment of the objects of the Board.

XXV. And be it enacted, That the said Board shall have power to send for and examine on oath all such persons as it shall deem necessary to examine touching any matter referred to the Board, as aforesaid, and to cause such persons to bring with them such papers, documents and things, as it may be necessary to examine with reference to such matter; and to pay such persons a reasonable compensation for their time and disbursements; and such persons shall be bound to attend at the summons of the said Board, after due notice, under penalty of such damages as may be awarded in favor of the said Board, as the loss the public may have sustained by the non-attendance of such person, in an action to be brought by the Board in that behalf.

XXVI. And be it enacted, That the Board may require any account sent in by any contractor or any person in its employ to be attested on oath, which oath, as well as the oath to be taken by any witness, the Secretary or any member of the Board may administer; and any false statement wilfully made under any such oath, or in any case where an oath is required or authorized by this Act, shall be perjury.

XXVII. And be it enacted, That no warrant shall be issued for any sum of the public money appropriated for any public work under the superintendence of the said Board, except on the certificate of the Chairman, sealed with the seal of the said Board, that such sum ought to be paid to the person or persons named in the certificate in whose favor a warrant may be issued accordingly.

XXVIII. Provided always, and be it enacted, That it shall be lawful for the Board from time to time to grant such certificates, in favour of their Secretary, for such sums as may be necessary to meet any disbursements allowed to him or the members of the Board when on duty, or which the Board may order to be made immediately by the Secretary, in any report approved by the Governor, Lieutenant-governor or person administering the Government; but the sum which shall at any one time be in the hands of the said Secretary shall in no case exceed Five hundred pounds currency.

XXIX. And be it enacted, That the said Secretary shall make up detailed accounts of the expenditure of all monies advanced or paid under certificates of the said Board, showing the sum appropriated for each public work, the sum so paid or advanced, and the balance, if any, remaining unexpended, and in whose hands; and each such account shall be accompanied by vouchers, corresponding with

with the numbering of the items of such account, and shall be made up to and closed on the first day of January and the first day of July in each year, and shall be attested before some Judge of the Court of King's Bench or of the Court of Queen's Bench, or before some Justice of the Peace, and shall be transmitted to the officer whose duty it shall be to receive it, within fifteen days after the said periods respectively.

XXX. And be it enacted, That it shall be the duty of the Chairman of the said Board of Works to transmit to the Executive Government of this province, to be laid before the other two branches of the Legislature, within fifteen days after the opening of the Session, a detailed statement of the several public works carried on under the direction of the Board, and of the progress made in the said works since the previous Session of the Legislature, and of the amount of monies so far expended upon them, respectively, together with all such further information as the said Chairman may deem proper to be submitted for the information of the Provincial Parliament.

Chairman to report annually upon the state of the Public Works, for the information of the Legislature.

XXXI. And be it enacted, That nothing in this Act contained shall be taken or construed to authorize the expenditure of any greater or further sum of money in the payment of the yearly salary of the Chairman and Secretary, or in the payment of their travelling expenses, or in the payment of the actual disbursements and travelling expenses of the other members of the Board, than is at present provided for by an Act of the Imperial Parliament of Great Britain and Ireland passed in the third and fourth years of the reign of our Sovereign Lady Queen Victoria, intituled, "An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada."

Salaries of Chairman and Secretary, &c., and other expenses, not to exceed the appropriation under Imp. Act 3 & 4 Vict.

XXXII. And be it enacted, That any Member of the Legislative Assembly of this province accepting the office of Chairman or of Secretary of the said Board of Works, shall thereby vacate his seat as such Member, and shall be incapable of sitting or voting in the said Legislative Assembly, unless elected to the said Assembly subsequent to his acceptance of any such office as aforesaid.

Any Member of the Assembly becoming Chairman or Secretary to vacate his seat, but may be re-elected.

XXXIII. And be it enacted, That the due application of all monies expended by, for or under the superintendence of the said Board, shall be accounted for to Her Majesty, Her heirs and successors, through the Lords Commissioners of the Treasury, in such manner and form as Her Majesty, Her heirs and successors shall direct.

Due application of all such monies to be accounted for to Her Majesty.

XXXIV. And be it enacted, That this Act shall be deemed and taken to be a public Act, and as such shall be judicially taken notice of by all Judges and other persons and in all Courts without being specially pleaded.

This Act to be deemed a Public Act.

(No. 103.)

6 VICT., CAP. VIII.

AN ACT to authorize the raising by way of LOAN in *England*, the sum of One million five hundred thousand pounds sterling, for the construction and completion of certain Public Works in *Canada*.—(12 October 1842.)

WHEREAS by a certain Act, passed in the last Session of the Provincial Parliament of Canada, intituled, "An Act to appropriate certain Sums of Money for Public Improvements in this Province, and for other purposes therein mentioned," there was granted to Her Majesty, Her heirs and successors, the sum of One million six hundred and fifty-nine thousand six hundred and eighty-two pounds sterling, to be expended and applied under the charge and superintendence of the Board of Works of this Province, for the erection and completion of certain Public Works in the said Act specified, and which said sum of money was to be raised by way of loan in manner provided by the said Act: And whereas in and by an Act of the Imperial Parliament of Great Britain and Ireland, passed in the last Session of the said Parliament, intituled, "An Act for guaranteeing the payment of the Interest on a Loan of One million five hundred thousand pounds, to be raised by the Province of Canada," after reciting that Her Majesty was graciously pleased to signify to the Legislative Council and Legislative Assembly of the Province of

Preamble:  
Act 4 & 5 Vict., c. 28,  
cited.

Imperial Act cited.

Canada, by a message sent to the said Council and Assembly by the Governor-general of the said Province, acting for and in the name of Her Majesty, that Her Majesty was ready to propose to Parliament, to guarantee a loan which might be required for public works in the said Province, under certain restrictions therein referred to, for the repayment of such part of the debt of the said Province as might be then redeemable or might be held by creditors who should declare themselves willing to accept reasonable terms; it is enacted, That it shall and may be lawful for Her Majesty, Her heirs and successors, to guarantee the payment of the dividends and interest, not exceeding the yearly rate of four pounds in the hundred, on any principal sum or sums of money, not exceeding the sum of One million five hundred thousand pounds in the whole, which shall be raised for all or any of the purposes aforesaid, by loan, debenture or otherwise, and which said dividends and interest so guaranteed, are charged and provided for in manner specified in the said Act: And whereas for carrying into effect the said above-mentioned Act of the Parliament of this Province, and in order that this Province may be most fully benefited by Her Majesty's gracious intentions, and by the guarantee provided by the said above-mentioned Act of the Imperial Parliament, it is considered expedient that the guarantee aforesaid shall be made, so far as it will go, applicable to the loan to be raised and the money granted to Her Majesty in and by the said first mentioned Act; Be it therefore enacted by The Queen's most Excellent Majesty, by and with the advice and consent of the Legislative Council and of the Legislative Assembly of the Province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, and intituled, "An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada," and it is hereby enacted by the authority of the same, That to the amount of the said sum of One million five hundred thousand pounds, the dividends and interest upon which are guaranteed as aforesaid, the said sum so granted to Her Majesty by the said Act of the Parliament of this Province, for the erection and completion of the public works in the said Act specified and mentioned, shall be raised and borrowed upon the said guarantee, and shall be expended in the construction and completion of the said public works, according to law.

£1,500,000 of the money appropriated by 4 & 5 Vict., c. 28, shall be raised under the guarantee in the said Imperial Act mentioned, and applied for the works mentioned in 4 & 5 Vict., c. 28.

Manner in which the said sum may be raised.

The principal, interest, and a sum to form a sinking fund, charged on the revenue of this Province.

Sum raised to be paid the Receiver-general.

Interest, how paid.

Sinking fund, how managed.

Punishment of persons forging debentures, &c. &c.

II. And be it Enacted, That, notwithstanding any thing contained in the said Act of the Parliament of this Province, the said sum of One million five hundred thousand pounds, shall be raised and borrowed, with the guarantee aforesaid, by any person or persons appointed in that behalf by Her Majesty, Her heirs and successors, or by the Governor of this Province, by loan, debentures or otherwise, and the principal sum so raised, the dividend and interest thereupon, and a sinking fund for the payment of the said principal sum, not exceeding five pounds per cent. per annum, on the said principal sum, shall be, and the same is hereby charged on the Consolidated Revenue Fund of this Province, next after the charges now made thereon by law.

III. And be it Enacted, That the principal sum so to be raised and borrowed, shall be received from time to time, as the same shall be raised by the Receiver-general of this Province, who shall upon the warrants of the Governor of this Province, pay the dividends and interest thereupon, as the same shall become due, together with the sums accruing to the said sinking fund; and the said sinking fund shall be paid and managed for the redemption and payment of the said principal sum, in such manner as shall be agreed upon and negotiated when the said principal sum shall be raised, or if there shall be no agreement in that behalf, then in such manner as the Governor of this Province, by and with the advice of the Executive Council thereof, shall from time to time direct and appoint.

IV. And be it Enacted, That if any person or persons shall forge or counterfeit any debenture or other security issued under the authority of this Act, or any stamp, indorsement, or writing thereon or therein, or shall demand to have such counterfeit debenture or other security, or any debenture or other security with such counterfeited writing or other indorsement thereon or therein, to be exchanged for money by any person or persons who shall be obliged or required to exchange the same, or by any other person or persons whomsoever, knowing the debenture or other security so tendered, or the indorsement or writing thereon or therein, to be so forged or counterfeited, with intent to defraud Her Majesty,

Majesty, Her heirs or successors, or the person appointed to pay off the same, or any of them, or any other person or persons, body or bodies, politic or corporate, then every person so offending, being thereof lawfully convicted, shall be adjudged guilty of felony, and shall suffer such punishment as shall be adjudged in that behalf, not exceeding imprisonment at hard labour for life in the provincial penitentiary.

V. And be it Enacted, That the Receiver-general of this Province for the time being, shall, before each Session of the Parliament of this Province, transmit to the Governor of this Province, a correct and detailed statement and account of the sums raised under the authority of this Act, and of the debentures or other securities which shall have been issued, and of the dividends and interest paid thereon, and of the sinking fund, and of the redemption of the whole or any part of the said principal sum, by means of the said sinking fund or otherwise, and of the expenses attending the negotiation, management, payment, and redemption of the said loan.

Accounts to be laid before the Governor by the Receiver-general of things done under this Act.

VI. And be it Enacted, That the due application of the monies so to be raised shall be accounted for to Her Majesty, Her heirs and successors, through the Lords Commissioners of Her Majesty's Treasury, in such manner and form as Her Majesty, Her heirs and successors shall be graciously pleased to direct.

Due application of monies to be accounted for.

VII. And be it Enacted, That the words "Governor of this Province," wherever the same occur in this Act, shall be construed to mean the Governor, Lieutenant-governor, or person administering the government of this Province.

Word "Governor" interpreted.

## CORRESPONDENCE.

### —No. 1.—

(No. 131.)

COPY of a DESPATCH from Lieutenant-Governor Sir G. Arthur, to the Marquis of Normandy.

My Lord,

Government House, Toronto, 8 June 1839.

WITH reference to the Bills transmitted to your Lordship with my despatch, No. 108, of the 14th of May, particularized in the accompanying Schedule marked (A.), having for their object the raising money to carry on this government, and to continue and perfect some of the public works undertaken in the Province, I have now the honour to submit the following remarks.

No. 1.  
Sir Geo. Arthur to the Marquis of Normandy,  
8 June 1839.

2. In my despatch of the 20th November last (No. 91), I stated to Lord Glenelg the probability of the arrival of very serious financial difficulties: I mentioned the causes of expenditure generally, as well as the occurrences which occasioned a sudden check to the public credit, and which threatened to cause the most serious evils, unless some means could be devised to place the financial concerns of this Province upon a satisfactory and permanent footing.

For Sir G. Arthur's Despatch, 20 November 1838, No. 91, *vide* Papers ordered by The House of Commons to be printed, 12 July 1839, No. 347.

3. I have since met the Provincial Parliament, and your Lordship is in possession of the speech with which I opened the session.

4. It was not in the power of the House of Assembly to do more than adopt temporary measures, and those which passed that body, whatever may be their merits, seemed to me so pregnant with evil, should the expectations of the Assembly on which they were founded be disappointed, that I have felt it my duty to contend with present inconvenience, and to lay the whole financial question before Her Majesty's Government; and in the mean time to reserve the Bills for the signification of Her Majesty's pleasure thereon.

5. The public debt of this Province, which your Lordship will find stated in Table (B.), and which involves an expenditure in interest nearly equal to the whole revenues of the colony, has been occasioned, as your Lordship will find noticed in the Earl of Durham's Report, principally by attempts to connect the magnificent inland waters of the Province with the sea, by means of canals, which, if completed, would open a line of inland navigation scarcely equalled in the world. These canals were supposed not only to promise immense advantages to

the trade and agriculture of the province, but to offer a prospect of great accession to the public finances.

6. The expectation of a rapid realization of these advantages, will at once explain to your Lordship the reason why the prudent course of making a provision for the interest of borrowed money from funds immediately available, was not adopted at each successive advance into debt. The prospects, it must be acknowledged, were sufficiently alluring; but nothing could be more plain, than that a postponement of the completion of the public works, a disappointment as to their profitable results, or a suspension of public credit, must leave the financial concerns of the province exposed to embarrassments of the most serious nature; in short, that the Government must want pecuniary means for its support, or that the public creditor must forego the interest which ought to arise from his investment.

7. These causes have unfortunately co-operated to produce the present difficulties. The distrust of British capitalists in American securities generally affected the provincial credit. This prevented the acquirement of a sufficient sum to complete the public works, and, of necessity, prevented their becoming profitable. The evil has been aggravated by the internal and frontier troubles of the Provinces; and the canals having been commenced on a scale calculated upon the wants and interests of a rapidly increasing population, and for an improving commerce, an immediate adequate return could scarcely be expected on those parts of the line of communication actually brought into operation, under circumstances of a complete cessation of immigration, and a great commercial depression.

8. The Welland Canal, which overcomes the difference of elevation between Lakes Ontario and Erie, was commenced by a private company with very inadequate means. It was originally intended for the navigation of ordinary canal boats, but the dimensions of the canal were afterwards increased, so as to allow of the passage of the schooners which compose the British and American sailing marine of the lakes. This increase of dimensions in the Welland, was expected to become profitable by means of the American western trade on the lakes, even then important, but which has since increased enormously. The passage of schooners through the Welland, enables vessels conveying freight from and towards the New York market to substitute, without breaking bulk, above 120 miles of open lake navigation for the expensive and tedious navigation of the Erie canal; of which, in effect, Oswego, on Lake Ontario, is thus to a certain degree made the western debouchure, instead of Buffalo, on Lake Erie.

9. The Welland Canal has been so far completed as to be now actually in operation, as it has been for several years. But, partly from want of judgment, and partly from want of funds, the locks have been constructed of timber, and the work requires a yearly expenditure in repairs more than equal to the whole receipts for tolls.

10. The private stockholders of the Welland Canal Company have expended on the work, 117,000*l.*, the British Government, 73,000*l.*, and Lower Canada, 25,000*l.* Besides these sums, 275,000*l.* have been expended on the work, which belong to the public debt of this Province, making a total of 490,000*l.*

11. By order of the Assembly, an estimate has been made of the sum which would be required to reconstruct the locks of stone, and render the work permanent; the amount is estimated at 300,000*l.*, which, from the reputation of the engineers, and the knowledge which has now been acquired of all the difficulties and expenses of the undertaking, I believe to be as nearly correct as such calculations can ever be expected to be.

12. The present expense of repairs on the canal amounts, on an average, to 16,000*l.* per annum, the expense of management to 3,000*l.* = 19,000*l.* But, if the projected improvement takes place, the whole expense of management and repairs would not be over 5,000*l.* per annum, which difference of yearly expenditure would argue in favour of the new expenditure, even if the necessity of it were not apparent from the danger and inconvenience of continually patching and preserving a decaying work of the dimensions and importance of this canal.

13. The tolls received upon the Welland have been steadily on the increase; for the year 1838 the tolls and rents of water-works amounted to 11,000*l.*; and since

since the opening of the navigation this year, the increase has been altogether unprecedented; and it is considered that 25,000 *l.* per annum would be realized were the work made permanent, and that this would be an increasing income.

14. Apart from calculations of profit, it is proper to consider the Welland Canal as it affects the safety of the western portions of the Province, in case it should require an armed defence, or the effect which the defensibility of the south-western frontier may have in the preservation of peaceable relations with the neighbouring country. For these purposes I conceive the Welland Canal to be absolutely indispensable; and it may be a question worthy of serious consideration, whether it would not be for the interest of the Imperial Government to take the whole work into its own hands and management, in which case it would be necessary to redeem so much of the provincial debt as is involved in the undertaking, and to purchase the investments of the private stockholder.

15. This measure would ensure the completion of the canal, and relieve the Province from a considerable portion of its present debt, and from the necessity of incurring a considerable amount in addition; but should it not be thought fit to make the Welland Canal a national work, another plan of relief may be adopted by the advance of a sufficient sum to complete the canal, and buy out the shares of the private stockholders.

16. I should mention here, that since the commencement of the Welland Canal, steam-boats have, to a great extent, but without displacing the sailing vessels, been employed on the lakes. The number engaged in the American trade, centring at present in Buffalo, is very great; and if the canal were increased in its dimensions so as to permit the passage of these vessels into Lake Ontario, it is believed that the utility and prospect of profit of the work would be materially advanced, as well as its capability of adding to the defence of the Province. But this would cause a further outlay of 250,000 *l.*, and, after the best consideration I can give the subject, I am not disposed to recommend the measure.

17. The Rideau Canal is a great military work, connecting Lake Ontario with the waters of the Ottawa. It was constructed at an expense to the British Government of upwards of a million sterling, and its projection was, I am informed, partly occasioned by the cession to the United States of Barnhart's Island in the Saint Lawrence, which left the navigable channel of that river within American territory.

18. This canal is a noble work; it is made of a size to admit the navigation of steam-boats of a small class; its utility is, however, contracted for want of suitable connecting links of canal below its debouchure at Bytown, and between that place and the mouth of the Ottawa.

19. The Grenville Canal, constructed by the British Government, and navigable only for small boats, occupies one of the parts of this line of navigation, and a private company own one lock at the rapids of St. Anne, so that the Rideau line of navigation is imperfect in a most material part. The enlargement of the Grenville Canal, and the improvement of the navigation at St. Anne's, ought most unquestionably to be completed to the same size as the Rideau, or that great work cannot become available to its full extent for military or mercantile purposes.

20. Were this part of the Ottawa navigation, which is required as adjunct to the Rideau, completed, the steam-boats, which could then ascend the Ottawa from Laclaire, and proceed by means of the Rideau to Lake Ontario, could descend the Saint Lawrence, and thus perform a circuit of navigation assisted by the stream of this great river; this would no doubt increase the utility of the Rideau navigation immensely, and be sufficient for all the trade of the colony for many years to come.

21. The Saint Lawrence Canal, on which so great a proportion of the sum of which the public debt consists has been expended, was intended as a part of a chain of inland navigation, projected on a scale sufficient to admit the passage of large steam-boats and sea-going vessels of a limited draft of water; a portion of the work is nearly completed, but it cannot be available without the addition of very expensive works on the Saint Lawrence, both in Lower and Upper Canada.

22. It is maintained, and perhaps upon good grounds, by the friends of this undertaking, that it would tend to divert a considerable portion of the import trade to the Western States, which now passes through New York to Montreal and Quebec, and that many of the exports of these states would find egress by the same channel. It is also expected that a profitable trade might be opened on the Canadian lakes, in the way of building sea-going vessels, which, being loaded with staves or other produce of Western Canada, might proceed by way of the canal to Quebec, and thence to the West Indies or to Europe; and it is further relied upon, that if this navigation were available, British goods would be extensively supplied to all the American towns and villages bordering on the Saint Lawrence, the Lakes and the "far west." These projects, and others, may be quite reasonable, and their success would unquestionably add greatly to the commercial prosperity of both Provinces; but it strikes me that the undertaking was imprudent in the state of our finances, and the prospect of return too remote to be ventured upon, without at least a sure provision for the payment of interest on the debt incurred in the construction of the canals, until the profitable part of the scheme should be realized. Moreover, this work is much exposed, and in the event of war can scarcely be available for military purposes, and therefore cannot supersede the necessity of the parallel line of navigation on the Rideau. Nevertheless, it cannot be questioned but that it is a noble undertaking, and ought to be completed.

23. I transmit to your Lordship herewith the reports \* of the finance committee of the Assembly, by which your Lordship will see the opinions of that body respecting the prospects of return from the public undertakings.

24. I acknowledge that my opinions regarding the perfect safety of the public creditor does not so much rest upon the expected return for investments in the canals, as upon the fact that, as compared with other countries, these colonies are almost untaxed, and that the whole revenue, if increased, is applicable for purposes of improvement.

25. The only means which the law leaves open to the local legislature of meeting the yearly expenditure, arise from internal excise and direct taxation.

26. The duties on imports are levied partly by Imperial and partly by Provincial Statutes; and the amount of these duties is at present so small, that I am satisfied a great part of the existing deficiency might be made up by a judicious increase on the duties levied at the port of Quebec. The whole share coming to this Province amounts, at present, to about 45,000  $\text{\$}$  per annum; and if this sum were even doubled, the burden upon trade would be still inconsiderable as compared with that borne by the American States, and the interest on the whole debt of the Province, arising from loans for general public purposes, could at once be placed upon, and perfectly secured by those duties.

27. Their increase and appropriation for this purpose would immediately form a basis upon which the credit system of the Province could rest without any fear of the recurrence of financial embarrassments; and the addition I have proposed would allow of an augmentation to the debt sufficient to complete the Welland Canal and other essential works, and would, it seems to me, offer an opportunity for consolidation of the debt on such terms as would occasion a considerable reduction of the amount of interest.

28. This would be very materially facilitated by the guarantee of a new loan on the part of Her Majesty's Government; and this loan being secured, as I have stated, on a revenue received at the seaport by officers of the Government, would offer the best counter-security for the guarantee, with the easiest and most certain way of collecting the revenue.

29. Supposing the assent of Her Majesty's Government to be given, the remaining difficulty in the way has hitherto been the want of a port of entry and clearance for Upper Canada, and to overcome which the annexation of Montreal has been warmly advocated; but if there are insuperable objections to that measure (and I

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\* These reports have not been received.

am sure I have daily experience that Upper Canada is large enough already to govern with promptitude and energy), I cannot help thinking that other schemes might be devised whereby the commercial revenue might be regulated, without involving the concerns of the Lower Province.

30. The main part of the debt being thus arranged, the expenses of the administration of Government, and the part of the loan which consists of advances for public works of local interest, would remain to be provided for from internal resources. This portion of the loan secured by the liability of the companies and their joint property, and by the liability of the districts to local assessments, so that I do not anticipate any public burden from this source.

31. The interest upon the general public debt being provided for, as I have proposed, by the duties on imports from the sea, would leave the revenues arising from tolls upon the great public works available for the purposes of the Government; and, although they may not furnish an amount in money equal to the expenditure in the way of interest occasioned by them, they would form very material additions to the internal revenue,—that interest being provided for elsewhere.

32. I am aware that my plan of charging the interest upon the public debt, against the revenues arising from taxation, does not precisely meet the views of the finance committee of the Assembly, as your Lordship will perceive by their Reports. They still adhere to the opinion that the public works, if completed, would pay for themselves; this proposition I do not pretend to controvert, and if they be right, so much the better; my objection to it arises from the fact that it involves the principle of paying interest out of the capital sum borrowed, in the anticipation of future revenue; and I apprehend that those who would have to advance the money would have serious objections to the plan.

33. It also involves the opportunity, resting in the Colonial Legislature, of increasing the public debt indefinitely, and by this means jeopardizing the interests of the public creditor, whose great security ought to be that the funds upon which he rests should not be alienated or diverted until his debt is discharged.

34. The system of borrowing money in this manner has been deprecated by Messrs. Baring, Brothers, & Co., the principal negociators of Upper Canada debentures in London. They properly claim to be made acquainted with all new loans, and to have an opportunity of passing their judgment upon the means proposed of meeting the interest.

35. I am not aware of any other manner of producing this result satisfactorily, and of offering tangible security to the old and new public creditor, than that of limiting the loans to be negotiated to the power of the Province to meet the yearly interest from funds capable of being immediately realized.

36. If Her Majesty's Government should assist the province by a guarantee, or by a representation from authority, that this prudent system should for the future be pursued, it would have the best reasons for insisting upon its plan being consistently followed in the colony; and, it seems to me, that the honour of the empire, and the peace and prosperity of the Province, are so intimately connected with the observance of faith to the public creditor, that those points cannot with prudence be left to the discretion of the borrowing colony; which, impelled by the best motives of public good, and with the purpose of hastening the arrival of a period of great public prosperity, may, unconsciously, overlook the financial difficulties which a failure or postponement of the result of their sanguine expectations must inevitably produce.

37. It is painful to me to be obliged to represent to Her Majesty's Government the necessity of some interference to relieve the colony from its difficulties. I should not do so were there any means of procuring relief from internal operations, or were the evils to arise from the present state of affairs less serious, or inevitable.

38. The greatest mischief and inconvenience is now felt in the Province from the want of means to continue and perfect the internal communications of which the

benefits are commencing to be sensibly felt. The people naturally look to the Government to devise ways and means for their local works; and individuals cannot readily see the general difficulties which interfere with particular and local interests. They chafe and fret when they find impediments in their way, and their discontents find an easy solution in resting the blame upon the Government. Laws are in existence authorizing the raising of money for making macadamized roads, and they are apt to think that the Government is in fault, because the money is not forthcoming. Comparisons are made with the States of America, where gigantic and expensive undertakings are carried through successfully by means of British capital; and a spirit of dissatisfaction arises, which must be put an end to before public affairs can be managed with popular approbation, or with satisfaction to Her Majesty's Government.

39. In the Report of the Finance Committee the following passage occurs:—

“It may be well to examine the description and extent of the security they (the States of America) offer to British capitalists, and then compare it with the description and extent of the security the Canadas can offer for similar investments.

“The old States, New York, Pennsylvania, &c. rely upon an internal revenue collected within the State to pay the interest on the capital borrowed during the construction of their various improvements, and after these works are in operation, in the progressive increase of tolls.

“The states of Indiana, Illinois, and those recently forced into existence rely on the sale of lands ceded by the general government to pay the interest during the construction; when those lands are sold they have the canals and improvements in their place.”

40. These are the principles which I wish to adopt, although the committee do not draw precisely the same conclusion. The land-granting system pursued in this province for so many years, and the number of outstanding claims for which the faith of Government is pledged, will, I fear, place this Province in the condition of one of the old States; and it appears to me the conclusion is inevitable, that, the means of paying interest pending the unproductiveness of the public works, must be derived from the same source as in the old States, namely, taxation.

41. A law was passed during the session of the Provincial Parliament before the last, authorizing the negotiation of a loan of 1,000,000*l.* for the purpose of consolidating the public debt; the new debentures to bear three per cent. interest. If this loan should, by the assistance of Her Majesty's Government, be negotiated on favourable terms, the credit of the Province would immediately rise; the outstanding debt could be redeemed as it falls due, or at the will of the public creditor; and the negotiation of the required sum placed on the most favourable footing.

42. I have not alluded in this despatch to the effect which the proposed union of the Provinces will have upon the finances of this portion of Canada; partly because I have no right to assume that such a measure will be carried into effect, and partly because the Lower Province will have full power in the Legislature to keep their own share of revenue; and there is a fearful arrearage of public outlay to be made up in that colony which will require all their resources before the country can be placed on an equality with the neighbouring States, or, ever with this Province.

43. I subjoin some tabular statements, (A.), (B.), (C.), (D.) and (E.), which will the better enable your Lordship to understand some of the details of the subject on which I have written, and it remains for me briefly to state my reasons for reserving the bills transmitted for the signification of Her Majesty's pleasure thereon.

44. I have reserved the Bill authorizing the issue of bills of credit, because, unless some measures be adopted to restore the public credit, these bills would remain unpaid at the end of the year without any means of redeeming them. They must then become depreciated, and I need not explain to your Lordship the ruinous consequences of such an event upon the public prosperity and tranquillity of the

the colony; were this measure ceded, the prospect of a return to cash payments would be at least more remote.

45. I have reserved the Bill authorizing the sale of debentures for certain purposes at the market price, because I think the propriety of the measure depends altogether upon the establishment of a system of credit for the colony on a sound and simple basis; and, although the delay is productive of much inconvenience, I am of opinion that this evil will be more than compensated by the adoption of a good system, and by the negotiation of these debentures in consonance with it.

No. 2.

46. I have reserved the Bill for the payment of claims arising out of the late troubles, because, as from the preamble it is expected that the charge will be ultimately borne by Her Majesty's Government, I think it would be improper in me to have assented to it under an implied pledge which I had no authority to give.

No. 3.

47. I have reserved the Bill for purchasing the interest of the private stockholders in the Welland, because, until I shall have seen the means of finishing the work made available, I do not think it just to the public creditor to add to the provincial debt for this purpose.

No. 4.

48. The Bill to equalize the value of gold and silver coins, from its nature, was necessarily reserved. It is intended by this measure to equalize the currency of the Province with that of the United States, and to enable the banks to use money on the same terms as in that country. Most serious inconveniences are felt from the want of such a measure; and until a provincial coinage shall be established, I believe it to be necessary to prevent the continual drain which the present inequality of value causes upon the specie in the Province, and to make foreign coins available for commercial purposes.

49. My principal object in this despatch is to put your Lordship in possession of information to show that the resources of this colony are much more than equal, if properly tried, to the public exigencies, and that the time for trying them is come. My plan may be faulty or imperfect, but if so, some other ought to be adopted; the resources of a rising and rapidly increasing community are in existence; how they are to be made available is one question, but their being capable of becoming so is another. The latter point is the one in which I feel the deepest interest.

50. In conclusion, I beg to refer your Lordship to the Earl of Durham's despatch, (No. 25) of the 16th of July 1838, in which, with reference to the public works of this Province, his Lordship strongly urges them upon the attention of Her Majesty's Government, "both as a means of restoring tranquillity to the Canadas, and of blessing the North American Provinces with a degree of prosperity which has never yet been afforded them;" and his Lordship then proceeds to ask "a grant of money to be issued on the same principles and securities as those which regulate the assistance given to harbours, railroads, canals, and other public works in England."

For Lord Durham's Despatch, 26 July 1838, No. 25, vide Correspondence relative to British North America; ordered to be printed February 1839, page 141.

In this recommendation I most cordially concur. As the whole debt was incurred before my succeeding to this government, I am in no measure personally responsible for the consequences; but it would gratify me beyond all expression, successfully to plead the cause of a fine race, who have been plunged into the deepest political and financial distress by a course of events most awfully calamitous.

I have, &c.

(signed) Geo. Arthur.

Enclosure 1, in No. 1.

(A.)

1. "An Act to regulate the value at which gold and silver coins shall pass current within this Province." Encl. 1, in No. 2.

2. "An Act to afford further facilities to negotiate debentures for the completion of certain works."

## PAPERS RELATING TO

3. " An Act to authorize the issue of bills of credit."
4. " An Act to ascertain and provide for the payment of all just claims, arising from the late rebellion and invasions of this Province."
5. " An Act to authorize the purchase of the private stock in the Welland Canal on the part of the Province, and for other purposes therein mentioned."

## (B.)

	£.	s.	d.
Whole present debt of the Province - - - - -	1,162,187	-	-
Interest thereupon, with expenses of remittance - - - - -	65,000	-	-

## (C.)

Proportion of this debt incurred for general public purposes, about	-	900,000	-	-
Sum required to finish the Welland Canal permanently	£. 300,000	-	-	
Sum required to purchase the private stock in the Welland Canal	-	117,000	-	-
For other public expenditures	-	83,000	-	-
		<u>500,000</u>	-	-
	£.	1,400,000	-	-
Interest at five per cent. - - - - -	-	70,000	-	-
Present revenue at Quebec - - - - -	-	45,000	-	-
New revenue required - - - - -	£.	<u>25,000</u>	-	-

## (D.)

Debt incurred in assistance of local undertakings - - - - -	£.	270,000	-	-
Interest thereon - - - - -	-	13,500	-	-
Permanent expenses of the government, including the administration of justice and Parliamentary appropriations for schools, penitentiary, light-houses, &c. - - - - -	-	55,000	-	-
Permanent Expenditure - - - - -	£.	<u>68,500</u>	-	-

## Resources :

Interest on advances secured by local works used by district assessments	£. 13,500	-	-
Tolls on the Welland Canal when completed, exclusive of 5,000 <i>l.</i> for management and repairs	20,000	-	-
From other works	2,000	-	-
Duties on imports from the United States	13,000	-	-
Internal duties	8,000	-	-
New taxation required - - - - -	56,500	-	-
	12,000	-	-
		<u>68,500</u>	-

## (E.)

Interest on present debt - - - - -	-	65,000	-	-
Permanent expenses of government - - - - -	-	55,000	-	-
Revenues - - - - -	-	120,000	-	-
	-	78,000	-	-
	£.	<u>42,000</u>	-	-

Showing a permanent deficiency of 42,000*l.*, awaiting the productiveness of public works or the increase of revenue from gradual improvement of resources.  
The extraordinary expenses, amounting to about 15,000*l.*, arising from the late troubles, are excluded from this statement.



make up six per cent. interest upon the amount of stock by him subscribed and paid for, from the time the same shall have been actually paid in, up to the time of the issuing of the debentures in the first clause of this Act mentioned, which debentures shall be made payable in 20 years from the date thereof, and bear interest at the rate of six per cent., payable half-yearly out of the public revenues of the Province.

3. Provided always, and be it further enacted, by the authority aforesaid, That nothing herein contained shall be construed to compel any stockholder to accept debentures for the stock by him held as aforesaid, or, in case of refusal to take the same, to deprive him from being paid from the tolls and revenues of the said canal, according to the laws now existing having relation to the said canal.

4. And be it further enacted, by the authority aforesaid, That so soon as the stockholders owning two-thirds of the stock in the said canal shall have signified their acceptance of debentures in lieu of stock, as hereinbefore provided, so much of the eighth clause of an Act passed in the seventh year of the reign of his late Majesty King William the Fourth, intituled, "An Act for the permanent completion of the Welland Canal, and for other purposes therein mentioned," as authorizes the annual election of two directors by the private stockholders of the said Welland Canal Company, and as requires the election or appointment of more than three directors for the management of the stock, property, affairs and concerns of the said Welland Canal Company, be, and the same is hereby repealed, and that a majority of the three directors shall be a quorum for the transaction of business: Provided always, that the Lieutenant-governor shall have power and authority to appoint such directors, or any of them, annually at his discretion.

Commons House of Assembly, 6th day of May 1839.

*Allen N. Macnab*, Speaker.

Legislative Council Chamber, 9th day of May 1839.

*Jonas Jones*, Speaker.

I reserve this Bill for the signification of Her Majesty's pleasure thereon.

*George Arthur*, Lieutenant-governor.

— No. 2. —

(No. 67.)

COPY of a DESPATCH from the Right honourable *C. Poulett Thomson* to Lord *John Russell*.

No. 2.  
Despatch from the  
Right hon. C.  
Poulett Thomson  
to Lord John  
Russell,  
11 March 1840

My Lord,

Government-house, Montreal, 11 March 1840.

I EXPECT to be able shortly to submit a detailed statement of the financial condition of both these provinces, with a view to enable your Lordship and Her Majesty's Government to consider how far some assistance may be afforded through the interference of the Imperial Parliament towards diminishing a part of the burthen which will rest upon the united province, and to assist in developing the resources of the country by continuing the public works now suspended.

But, as it is possible that some discussion may arise upon the subject of the public debt of both provinces during the progress of the Union Bill, I shall briefly state the situation of each in this respect, and furnish an approximate account, without waiting for the exact particulars, which cannot, so far as Upper Canada is concerned, be completed until some returns for which I have called are rendered.

The obligations incurred by these provinces must be classed under different heads. 1st. Debt incurred for provincial expenditure of a general nature. 2d. Debt incurred for public works on account of the province. 3d. Debt incurred by advances to private companies, for which they are responsible. 4th. Debt incurred for works for which the interest is leviable, under Acts of the Legislature, by local taxation.

In Lower Canada the only class of debt is one under the second head. Advances have been made to the extent of about 50,000*l.*, and authorized to the extent of about 45,000*l.* more, making a total of 95,000*l.* for public works, for which the province is liable, receiving, of course, the benefit of the tolls and proceeds in return.

In Upper Canada the debt incurred under the first head amounts to about 62,000*l.*, being for war losses, and a portion of the insurrection losses defrayed by the province. This, however, can scarcely be accounted as debt now due for those objects, because it might long ago have been discharged from the ordinary resources, if they had not been absorbed in the payment of interest accumulating on the debt contracted for public works, or advances under the other heads.

The

The amount advanced in Upper Canada under the second head is 704,000*l.*, and a further sum of 200,000*l.* has to be added to the charge for the interest upon the original advances, which has been paid by fresh loans. These works are the Welland and St. Lawrence canals, which have absorbed, with the interest, no less than 817,000*l.*, and the rest, works of the same, though of a less important character.

Under the third head there have been advanced to private companies a sum, with interest also due, amounting to 36,000*l.*

Under the fourth head there have been advanced for macadamized roads a sum, with interest, of 210,000*l.*, for which the districts through which they run are liable under an Act of the Legislature, directing the annual interest to be levied by local taxation.

The whole debt of Upper Canada may therefore be called about 1,200,000*l.* in currency, or 1,080,000*l.* sterling.

I have stated, in submitting my scheme for the Union, that the whole debt of each province must be united and charged upon the general revenue, because there will exist no separate fund after the Union in either Province. But it is necessary to, remark, that in looking at the Upper Canada debt, which, of course, forms the important feature, although so large a sum is necessarily transferred, and thus placed upon the united province, this amount is no measure of the charge which will really have to be defrayed annually.

The whole of the debt under the fourth class, namely 210,000*l.*, is only a contingent security given by the province. Under the Acts by which these works were authorized, the different districts were rendered liable through the district rate leviable on the inhabitants and lands for the payment of any deficiency of interest which might arise from the inadequacy of the tolls; a provision which had not yet been enforced, but which I have directed to be immediately acted upon. No annual charge can therefore fall upon the united province on account of this part of the debt.

The sum advanced under Class 3 is, in like manner, a mere security, although, of course, not so good, inasmuch as private companies only are responsible to the Government; but I have directed this to be enforced, and there can be no doubt that, as regards the greater part of this sum, which is, after all, a mere trifle, the security will be available.

Nearly the whole of the debt of Upper Canada, therefore, consists of the sums expended in principal and interest upon the two great canals and some other public works of general utility, of no less advantage to the Lower than to the Upper Province; and as these works cannot fail to produce a return when completed, which will, of course, be paid to the united revenue, the burthen which will really fall upon Lower Canada, notwithstanding the difference in the amount of the share of debt which it brings, must be considered as very trifling.

I have, &c.

(signed) *C. Poulett Thomson.*

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— No. 3. —

(No. 129.)

COPY of a DESPATCH from the Right honourable *C. Poulett Thomson* to  
Lord *John Russell*.

My Lord,

Government House, Montreal, 27 June 1840.

I now transmit to you an account of the financial state of the two Canadas, and in order to bring the subject fully before you, I shall call your attention, first to the estimated income and expenditure of each province for the present year; secondly, to that of each in regard to the future, under their existing engagements; and lastly, to the state in which the finances of the united province will probably be found, should the Union Bill pass into a law, as proposed by me.

The account marked (A.)\* is the estimate of the revenue and expenditure of the present year, as prepared by the Inspector-general of Lower Canada. This return would show a probable deficiency in the revenue of about 9,000*l.*, exclusive of the debt of 20,000*l.* to the military chest. I do not, however, anticipate any inconvenience from this deficiency, as many of the services for which it is necessary to make

No. 3.

Despatch from the  
Right hon. C.  
Poulett Thomson  
to Lord John  
Russell,  
27 June 1840.

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\* Income and Expenditure of Lower Canada for the year 1840.

make provision during the current year will not in reality be paid until after the commencement of the next financial year. In regard to the debt to the military chest, I trust that Her Majesty's Government will not object for the present to suspend its repayment. If this be permitted, I have every reason to expect that the revenue of the present year will be sufficient to meet all the charges upon it. I must also remark that I have not been able to provide this year for a sum of from 12,000*l.* to 15,000*l.* for indemnity to sufferers under the rebellion, which have been allowed under a commission named by my predecessor.

The account (A. a.)\* will show the estimated expenditure and the interest of debt in Upper Canada, to be provided during the present year, together with an estimate of the income likely to accrue.

From this account it will appear, that after providing for the payment of the dividends upon the debt due in London on the 1st of January 1841, which must of course be met by remittances in December, or by some other arrangement, there will remain a deficiency of 50,394*l.* Against this has to be set a debt from Messrs. Thomas Wilson & Co. of 61,021*l.*, of which, however, only a small part can be expected to be realized within that period, if indeed any dividend be made, although there is no reason to doubt that the whole will ultimately be paid.

To provide for this deficiency, the Legislature have voted a credit of 63,000*l.*, to be raised by the sale of debentures in London without limit as to price or rate of interest.

Thus you will perceive, that to complete the payments and fulfil the obligations of the province during this year, a sum of about 50,000*l.* must be raised, which can be effected only by the realization of the debt of Messrs. T. Wilson & Co., or by having recourse to the powers granted by the House of Assembly.

Of the first there is little probability. Although I entertain no doubt of the ultimate solvency of the house in question, and of the payment of the debt in full, it is not to be expected that this can be effected during the present year, and it will be necessary to have recourse to the other resource, if other means cannot be adopted.

But this would in my opinion be most objectionable. In the present state of the credit of Upper Canada, debentures to the extent required could not, most probably, if saleable at all, be disposed of for any thing more than 75 or 80 per cent., if bearing interest of 5 per cent., and only redeemable in a certain number of years; or, if redeemable at pleasure at par, probably it would be necessary to pay an interest of 8 or 9 per cent.

A fresh loan to this extent would add materially to the debt which must hereafter form the united debt of the province of Canada, and would, in addition to the injustice of thus saddling upon the united province an augmented burthen to that extent, impose one contracted upon the most disadvantageous terms to the borrower.

I would therefore earnestly press upon Her Majesty's Government the propriety of affording the means of avoiding this necessity, which it may do with no inconvenience, and without any risk worth speaking of.

This may be effected by the Treasury undertaking the advance of 50,000*l.* necessary to complete the balance required, and taking in security the transfer of the debt of Thomas Wilson & Co., to which would be added of course the security of the province. The advance would, as regards the British Treasury, be a purely temporary one, probably not remaining uncovered for more than a few months; but to the province it would be a matter of the greatest moment.

I next come to the financial condition of the two provinces under their present separate administration.

In Lower Canada the provincial debt already incurred, or which may probably be raised during the ensuing year, is comparatively insignificant. From the statement (B.) annexed to this despatch, it appears that the total interest both certain and probable, payable on this debt during the present year, will not exceed 4,007*l.* 12*s.*, and that in future years it will amount only to 6,769*l.*

With regard to the general expenses it is to be observed, that in Lower Canada, under the heavy burthens of the two last years, the revenue has been nearly equal to the expenditure. In future years it will be relieved of some of the heaviest charges now upon it, and will therefore afford a considerable surplus. Thus the expense of the police of Montreal and Quebec, now amounting to

12,900*l.*

\* Income and Expenditure of Upper Canada, for the year 1840.

12,900*l.* (but in future on a very reduced scale), will be borne by those cities respectively.

The expense of the rural police will be reduced from 20,000*l.* to 13,000*l.*; the charge for the Commissioners of Indemnity and for the sums awarded by them will cease to exist.

By the saving thus effected there will be a surplus, as exhibited in paper (C.), for next year of 16,891*l.*, and in future of a larger sum.

Paper (B. b.) will show the present debt of Upper Canada, both funded and due to London bankers, the periods at which each part of it is redeemable, and the annual charge for interest. To this amount are appended the charges for fresh debt which may be incurred in the present year under certain contingencies; which are, first, the above-mentioned sum of 63,000*l.* if not provided for as I have pointed out; next, a sum of 36,000*l.* voted for indemnity to sufferers during the rebellion, to which Bill the assent of the Crown is pledged under your Lordship's instructions to me, and which has only not been given, as it is to be hoped that Her Majesty's Government will accede to the Address of the House of Assembly, upon which I have already written to you, and consent to cause these indemnities to be paid from the imperial treasury: and lastly, an additional sum of (probably) 54,000*l.*, which must be raised for public works which would otherwise fall into decay. The whole amount of debt will then stand at 1,067,959*l.* certain, or, including these contingencies, at 1,220,959*l.*, and the certain and possible annual charges at 65,768*l.* 5*s.* 6*d.*

Paper (C. c.) will exhibit the total annual charge for the whole of these engagements, (subject to a pro rata diminution on the last items, if otherwise disposed of,) and the expenditure of the province according to the last estimates, which can scarcely admit of reduction, to the debtor side of the account; and to the creditor side, the probable income arising from taxation, and that arising or to be expected from advances on public works for which the districts are bound to provide by local taxation, or from advances to companies, or from other sources. This account will then exhibit an annual deficiency, under the present revenue, of 28,735*l.*

Lastly, I proceed to show the condition in which the finances of the province of Canada will stand after the union, supposing it to be completed upon the terms arranged in the Bill submitted to Parliament by your Lordship, and taken in the order in which they stand in the Bill. The items are given in paper (D.), and reference to the separate accounts.

## EXPENDITURE.

## 1. Expenses of collection.

These it is unnecessary here to specify, as the net revenue only is stated in the accompanying Returns.

## 2. Interest of debt.

LOWER CANADA.—Now payable	-	-	-	£.4,753	
Payable in future	-	-	-	2,016	
					£.6,769
UPPER CANADA.—Now payable	-	-	-	56,837	
Payable in future	-	-	-	8,931	
					65,768

## 3. Payments to the clergy.

Lower Canada	-	-	-	-	-	Nil.
Upper Canada	-	-	-	-	-	5,731

These payments are now made from the Crown revenues, but as those revenues will be taken credit for in the income, they will appear on both sides of the account.

## 4. Charges for Civil List - - - - - 75,000

## 5. Other charges now by law or usage payable.

Lower Canada	-	-	-	-	-	12,502
Upper Canada	-	-	-	-	-	20,978

## 6. Annual votes for civil expenditure.

Lower Canada	-	-	-	-	-	64,369
Upper Canada	-	-	-	-	-	18,424

£.269,541

## PAPERS RELATING TO

## REVENUE.

LOWER CANADA.—	Ordinary Revenue	- - - -	£. 107,075	£.
	Duties under 14th Geo. III., resumed	- - - -	19,665	
	Crown Revenues	- - - -	23,400	
	Without deducting charges thereon, £. 2,422.	- - - -		
			150,140	
UPPER CANADA.—	Ordinary Revenue	- - - -	77,234	
	Duties under 14th Geo. III., resumed	- - - -	15,286	
	Crown Revenues ceded	- - - -	30,000	
	Without deducting charges thereon, £. 7,908.	- - - -		
			122,520	
			£. 272,660	

Against this apparent surplus has to be set the amount of the contingent expenses of the Legislature in future years, which, looking to the past in either province, must be considerable. Whatever may be required for the continuation of the great public works of both provinces, for a general system of education, or for any other improvements, is wholly unprovided for in this statement of the expenditure; and, on the other hand, the receipts will, in 1842, be diminished by the cessation of payments from the Canada Company.

Your Lordship will thus at once perceive that assistance will be required from the mother country to place the finances of the united province in a satisfactory condition; and that the aid which I was authorized to promise in order to obtain the assent of the Upper Canada Legislature to the measure, if necessary, must hereafter be afforded.

I was not, it is true, under the necessity of making use of these powers, and I rejoice to think that I found the means of dispensing with them; at the same time one of the main arguments in favour of the Union in that province was felt to be the necessity of extricating the finances from the difficulty under which they laboured, and the confident hope that the Imperial Parliament would assist in doing so.

It will therefore be absolutely necessary that Her Majesty's Government should enable the Governor of the province of Canada to afford this relief when the Union is completed, and the financial settlement takes place; and I know of no better means than those originally proposed,—of guaranteeing a loan which would remove a considerable charge arising from the high rate of interest payable by the province on the debt already contracted, or which it would have to pay for raising fresh loans which may be required hereafter for great local improvements.

I shall have the opportunity, when I enter upon the consideration of these works, of explaining more fully the mode in which such a guarantee might be most advantageously afforded; and in what way, under the peculiar terms of the debt of Upper Canada, great part of which is not redeemable for some years, the relief in question can be best afforded to secure the interests of the province.

In the meantime I must urge upon the immediate attention of Her Majesty's Government the pressing point with regard to the deficiency in the Upper Canada revenue for this year, to meet the interest of the debt due in December, and to support its credit.

I have, &c.

(signed) *C. Poulett Thomson.*



## PAPERS RELATING TO

(A.)

## LOWER CANADA.

ESTIMATED REVENUE for the Year 1840, being the Net after deducting Expenses of Collection and Proportion for Upper Canada.

	Sterling Dollars, at 4s. 6d.		
	£.	s.	d.
Casual and Territorial Revenues, being Quints, Lods et Ventcs, and other Dues within the Queen's domain, under the Feudal Tenure, and Rents of the King's Posts, Water Lots, &c.	5,400	--	--
Net proceeds of Sales of Crown Lands and Licenses to cut Timber	6,000	--	--
Customs under Imperial Act 14 Geo. 3, c. 88	19,800	--	--
Licenses under ditto for retailing Spirituous Liquors	2,950	--	--
Fines and Forfeitures	900	--	--
Customs under Provincial Act 33 Geo. 3	1,950	--	--
Ditto ditto 35 ditto	21,200	--	--
Duties on Licenses to retail Spirituous Liquors under Provincial Act 35 Geo. 3	3,150	--	--
Duties on Licenses for Billiard Tables under Provincial Act 41 Geo. 3	30	--	--
Customs on Tobacco under Provincial Act 41 Geo. 3	7,000	--	--
under Provincial Act 53 Geo. 3, c. 11	25,000	--	--
Ditto 55 Geo. 3, c. 3	10,500	--	--
under Imperial Act 3 & 4 Will. 4, c. 59	22,000	--	--
Ditto 4 Geo. 3, c. 15	60	--	--
Tolls on La Chine Canal	4,000	--	--
Rents and Profits of the Seigniorv of Lauzon, held of Sir John Caldwell, formerly Receiver-general, on account of his Debts of the Crown	2,000	--	--
Wharfage dues at Montreal	2,000	--	--
<b>TOTAL applicable to general purposes</b>	<b>142,940</b>	<b>--</b>	<b>--</b>
Duties on Shipping	4,000	--	--
Tonnage Duties	1,400	--	--
Jesuits' Estates	1,800	--	--
<b>TOTAL Revenue</b>	<b>£. 150,140</b>	<b>--</b>	<b>--</b>

(signed) *Joseph Cary,*

Montreal, June 1840.

Inspector-General Public Accounts.

(B.)

## LOWER CANADA.

STATEMENT of the PUBLIC DEBT for the Year 1840 and following Year.

SERVICE.	Amount of Loan.	Amount of Interest payable in 1840.	Annual Amount of Interest which will be payable in future, if the whole Sums authorized are raised.
	<i>Sterling.</i> £. s. d.	<i>Sterling.</i> £. s. d.	<i>Sterling.</i> £. s. d.
For improving the harbour of Montreal at different rates of interest, from 5 to 6 per cent. The capital and interest payable out of wharfage dues; if not sufficient for the interest, the deficiency to be made up from the general funds, under the authority of various Acts of the Provincial Legislature	31,500 -- --	1,715 -- --	1,715 -- --
For the same purpose under Ordinance 1 Vict., c. 23. Interest payable out of the general Funds at 6 per cent.	19,147 10 --	1,148 17 --	1,148 17 --
For completing the Chambly Canal under recent Ordinances of the Special Council, the total sum has been raised at the interest of 6 per cent., that is, 13,500 £ on the 15th June 1840, and 18,000 £ sterling on the 1st May 1841, for 8 years from these dates respectively	31,500 -- --	303 15 --	1,890 -- --
<b>TOTAL certain, sterling</b>	<b>£. 82,147 10 --</b>	<b>3,167 12 --</b>	<b>4,753 17 --</b>
<b>PROBABLE.</b>			
Loan of 20,700 £ sterling, for continuing the improvements of the Montreal Harbour, authorized by a recent Ordinance, 3 Vict., c. 28, of which there may be raised 10,000 £ in 1840, at the interest of 8 per cent.	10,000 -- --	690 -- --	1,656 -- --
Loan of 4,500 £ sterling, for completing and working the dredging vessel, under the same Ordinance, may be raised this year at the interest, say of 8 per cent.	4,500 -- --	150 -- --	360 -- --
<b>TOTAL certain and probable</b>	<b>£. 96,647 10 --</b>	<b>4,007 12 --</b>	<b>6,769 17 --</b>

(signed) *Joseph Cary,*

Montreal, June 1840.

Inspector-General Public Accounts

(C.)

LOWER CANADA.

STATEMENT of the Annual Charges, for the Interest of the Public Debt, and of the Estimated Annual Provincial Expenditure and Revenue.

	Sterling Dollars at 4s. 6d.		Sterling Dollars at 4s. 6d.
	£.	s. d.	
<b>ANNUAL EXPENDITURE.</b>			
Total Amount of Charges for Interest on Loans for Public Works, as per Statement (B.)	-	-	-
Administration of Justice and support of the Civil Government	-	-	-
Education as at present	6,769	-	-
Support of Hospitals and other Charities	70,000	-	-
Roads and Public Works (if same as at present), say	3,000	-	-
Rural Police	5,400	-	-
Annual Expenses permanently provided for by special Acts of the Legislature	10,000	-	-
For the Relief of sick Mariners out of the Tonnage Duties	13,000	-	-
Expenses of the Trinity Boards in supporting and improving the navigation of the River St. Lawrence	4,780	-	-
	1,300	-	-
	4,000	-	-
Total Annual Expenditure	118,249	-	-
Add for Indemnities unpaid, which will be a charge for next year, although not in the following	15,000	-	-
TOTAL EXPENDITURE	133,249	-	-
<b>ANNUAL REVENUE.</b>			
Net Annual Revenue, after deductions for expenses of collection, and proportion for Upper Canada: the same as for 1840, as per Statement (A.):	-	-	-
Amount applicable to general purposes	142,940	-	-
Revenues of the Jesuits' estates (reserved for advancement of Education)	1,800	-	-
Duties on shipping, for the expenses of improving the navigation of the River St. Lawrence, under the Trinity Board	4,000	-	-
Tonnage Duty, applicable to the relief of sick Mariners	1,400	-	-
	150,140	-	-
Surplus on Annual Revenue	16,891	-	-

Montreal, June 1840.

(signed) Joseph Cary,  
Inspector-General Public Accounts.

(E.)

## LOWER CANADA.

CHARGES now by Law payable, exclusive of those provided for in the Civil List of £.75,000.

	Sterling.			Sterling.		
	£.	s.	d.	£.	s.	d.
Under permanent appropriations, as per Statement (A.) - - -	4,780	-	-			
Expenses of Trinity Boards in supporting and improving the navigation of the St. Lawrence - - - - -	4,000	-	-			
For the relief of sick Mariners - - - - -	1,300	-	-			
	10,080	-	-			
<i>Expenses of a permanent nature considered as Charges upon the Crown Revenues.</i>						
Salaries of the Commissioners of Crown Lands - £.1,200 - -						
Salary of the Agent for Emigrants at Quebec, and Contingencies of his office - - - - -	677	-	-			
Pensions - - - - -	545	-	-			
	2,422	-	-			
				12,502	-	-
<i>Annual Votes for Civil Expenditure.</i>						
Office of Adjutant-General of Militia - - - - -	2,073	-	-			
Miscellaneous Expenses, as Rent of Buildings for public purposes, Fuel, Repairs to Public Buildings, Salaries of Grand Voyers, and various other services - - - - -	7,500	-	-			
Surveyor-General's Department - - - - -	1,103	-	-			
Contingencies of various Public Offices - - - - -	2,300	-	-			
Support of Hospitals and other Public Charities - - - - -	5,845	-	-			
Contingencies of the Legislature - - - - -	6,100	-	-			
Printing Laws - - - - -	1,500	-	-			
Retiring Allowances to Officers of the late Legislative Bodies - - - - -	1,980	-	-			
Salaries of Sheriffs, Coroners, Keepers of Court-houses, Petty Officers of Courts, contingent Expenses of Gaols, Court-houses, &c. - - - - -	3,000	-	-			
Rural Police - - - - -	13,000	-	-			
For Education - - - - -	3,600	-	-			
For Literary and other Societies - - - - -	180	-	-			
Medical Faculty of McGill College - - - - -	450	-	-			
Roads, Improvement of Navigation, and other Public Works - - - - -	10,738	-	-			
				64,369	-	-
<i>Payments to the Clergy.</i>						
To the Scotch Presbytery at Quebec - - - - -				500	-	-
This is the only payment for the Clergy out of the Revenues raised within Lower Canada, and is made out of the fund arising from the proceeds of sales of Clergy Reserves remitted to England.						
<i>The Revenues at the disposal of the Crown are:</i>						
Casual and Territorial Revenue - - - - -	5,400	-	-			
Net Proceeds of Crown Lands, after deducting expenses of collection and other Contingencies - - - - -	6,000	-	-			
Annual aid by Provincial Act, 35th Geo. III., out of the duties levied under that Act, towards defraying the expenses of the Administration of Justice, and the support of the Civil Government - - - - -	5,000	-	-			
Estimated amount of Duties on Tobacco, levied under Provincial Act, 41st Geo. III., permanently appropriated to the same purposes - - - - -	7,000	-	-			
Payments by the British American Land Company - - - - -	Nil.					
				23,400	-	-

NOTE.—In the years 1836 and 1837, in consequence of the regular supplies being withheld by the House of Assembly, a considerable proportion of the expenses of the Civil Government were, by directions from the Secretary of State for the Colonies, made payable out of the revenues at the disposal of the Crown; but when the Land Company ceased paying up their instalments, these revenues fell short of the amount of expenditure to which they were directed to be applied.

On the suspension of the Constitution of this Province, it was considered as the more simple course to merge the Crown Revenues in the other funds, and from that general fund, the appropriations required for defraying all the expenses of Government (including these charges on the Crown Revenues) were made.

That course has been pursued up to the present time.

Montreal, June 1840.

Joseph Cary,  
Inspector-General Public Accounts.

(F.)

LOWER CANADA.

STATEMENT of the DUTIES levied under the Imperial Act 14th Geo. III., cap. 88, for the Year 1839.

	Currency.	Sterling Dollars, at 4 s. 6 d.
On Importations by Sea at the Ports of Quebec and Montreal:—	£ s. d.	
For the Quarter ended 5th of April 1839 - - -	191 6 5	
"    ended 5th of July 1839 - - -	15,428 6 4	
"    ended 10th of October 1839 - - -	14,747 16 7	
"    ended 10th of January 1840 - - -	5,200 5 8	
Gross Amounts - - -	35,567 15 -	
Expenses of Collection - - - - -	38 17 8	
	35,528 17 4	
Proportion for Upper Canada, 38½ per - - -	13,678 12 3	
Leaves for Lower Canada - - - - Currency	21,850 5 1	
Deduct 1/10 for Sterling - - - - -	2,185 - 6	
		19,665 4 7

(signed) *Joseph Cary,*  
Inspector-General Public Accounts.

Montreal, June 1840.

(D.)

GENERAL STATEMENT.

EXPENDITURE.	Sterling.	REVENUE.	Sterling.
	£. s. d.		£. s. d.
1. Interest of Debt.		Lower Canada:	
Lower Canada:		Ordinary Revenue £.150,140 - -	
Certain - - £.4,753 17 -		Less, Duties under	
Probable - - 2,016 - -	6,769 - -	14th Geo. III. - 19,665 - -	130,475 - -
Upper Canada:		Deduct Crown Revenues included	23,400 - -
Certain - - 56,836 16 3		above - - - - -	£. 107,075 - -
Possible - - 8,931 9 3	65,768 - -	Upper Canada:	
2. Payments to the Clergy:		Ordinary Revenue, as	
Lower Canada (nil.)		per Estimate in	
Upper Canada (per Paper (E.), No. 1.)	5,731 - -	Paper (C.) - £.92,520 - -	
3. Charges for Civil List - - -	75,000 - -	Less, Duties under	
4. Other Charges now by law or usage payable:		14th Geo. III., ch.	
Lower Canada - - £.10,080 - -		88, as per State-	
Charges on Crown		ment (F.) - - 15,285 19 9	77,234 - -
Revenues - - 2,422 - -	12,502 - -	Duties under 14th Geo. III., ch. 88,	
Upper Canada (per		resumed:	
Paper (E.), No. 2.) 13,070 5		Lower Canada - £.19,665 - -	
Charges on Crown		Upper Canada - - 15,286 - -	34,951 - -
Revenues - - 7,908 - -	20,978 - -	Crown Revenues ceded (per Paper (E.),	
Annual Votes for Civil Expenditure;		Nos. 4 and 5)	
1839. Lower Canada - - - -	64,369 - -	Lower Canada - - £.23,400 - -	
Upper Canada (per Paper (E.),		Upper Canada - - 30,000 - -	53,400 - -
No. 3.) - - - -	18,424 - -		
	£. 269,541 - -		£. 272,660 - 3

(signed) *John Macaulay,*  
Inspector-General.

Inspector-General's Office, Toronto, }  
May 30, 1840.

(A. a.)

## UPPER CANADA.

STATEMENT of the Estimated Provincial EXPENDITURE and REVENUE for the Year 1840.

EXPENDITURE.	Currency Dollars, at 5 s.			Sterling Dollars, at 4 s. 6 d.		
	£.	s.	d.	£.	s.	d.
Arrears of 1839, up to 1st January 1840, say	16,000	-	-			
Per ACCOUNT (B.)						
Interest of Public Debt (funded) - -	63,152	-	3	-	-	-
Per STATEMENT, No. 1, annexed.						
Administration of Justice, and support of the Civil Government - - -	32,000	-	-			
Per STATEMENT, No. 2, annexed.						
Legislature, 8,446 <i>l.</i> 14 <i>s.</i> 1 <i>d.</i> , say -	8,500	-	-			
Schools: Permanent Grants, 15 Districts - - - - - £. 5,250						
Ditto, Books, for Sunday Schools 150						
Annual Vote for 1840 - - 5,650						
	11,050	-	-			
Militia and other Pensions - £. 3,200						
Ditto, under various Acts of last Session - - - - - 102 10						
	3,302	10	-			
Lighthouses - - - - -	2,500	-	-			
Agricultural Societies - - - - -	1,000	-	-			
Penitentiary, including 300 <i>l.</i> to Deputy Warden - - - - -	5,300	-	-			
Militia Courts Martial - - - - -	300	-	-			
Per STATEMENT, No. 3, annexed.						
Balances due the London Agents, 1st January 1840, 57,039 <i>l.</i> 18 <i>s.</i> 8 <i>d.</i> sterling, exchange at 11 per cent. - -	70,349	5	-			
Toronto House of Industry - - - - -	350	-	-			
Boards on claims for losses by Rebellion and Invasions - - - - -	500	-	-			
				214,303	15	3
REVENUE:						
Balances due from Collectors of Revenue, on account of 1839 - - - - -	3,000	-	-			
Balance in Receiver-General's hands, 31st December 1839 - - - - -	24,260	-	-			
Proportion of Duties at Quebec - - - - -	60,000	-	-			
Import Duties from United States - - - - -	18,000	-	-			
Licenses, including Auction Duty - - - - -	12,000	-	-			
Bank Dividend, due 1st January 1840 - - - - -	1,000	-	-			
Government Tolls 2,000 <i>l.</i> , and Interest on Loans to private and incorporated Companies, and to Macadamized Roads, 12,000 <i>l.</i> - - - - -	14,000	-	-			
Tonnage Duty - - - - -	300	-	-			
Fees on Militia Commissions, Fines, &c. - - - - -	500	-	-			
Proceeds of sale of Bank Stock - - - - -	25,250	-	-			
				158,310	-	-
Deficiency, exclusive of Interest on Advances by London Agents - - - - -				55,993	15	3
				192,873	7	9

Inspector-General's Office, Toronto, }  
May 30, 1840.

(signed)

John Macaulay,  
Inspector-General.



(B. b.)

UPPER CANADA.

STATEMENT of the PUBLIC DEBT on 1st January 1840.

Halifax Currency.

£. 61,240 - - at 5 per cent.  
 5,000 - - at 5½ per cent.  
 137,662 12 2½ at 6 per cent.

Sterling Dollars, at 4 s. 6 d.

£. 826,750, at 5 per Cent. Debentures,  
 payable in London.

TOTAL - - £. 203,902 12 2½ payable in Upper Canada.

REDEEMABLE IN THE FOLLOWING YEARS:—

YEARS	CURRENCY DEBENTURES:						Sterling Debentures, at 5 per Cent.				
	At 5 per Cent.	At 5½ per Cent.	At 6 per Cent.			TOTAL.			£.	£.	s. d.
	£.	£.	£.	s.	d.	£.	s.	d.	£.	£.	s. d.
1836	-	-	3,250	-	-	3,250	-	-			
1837	-	-	1,416	13	4	1,416	13	4			
1838	-	-	1,750	-	-	1,750	-	-			
1839	-	-	83	6	8	83	6	8	6,500	-	-
1840	-	-	1,500	-	-	1,500	-	-	8,000	-	-
1841	1,000	-	3,666	13	4	4,666	13	4	12,666	13	4
1842	1,000	5,000	6,166	13	4	12,166	13	4	24,833	6	8
1843	2,250	-	1,666	13	4	3,916	13	4	28,750	-	-
1844	-	-	-	-	-	-	-	-	-	-	-
1845	-	-	500	-	-	500	-	-	29,250	-	-
1846	-	-	500	-	-	500	-	-	29,750	-	-
1847	-	-	15,800	-	-	15,800	-	-	45,550	-	-
1848	-	-	-	-	-	-	-	-	-	-	-
1849	-	-	-	-	-	-	-	-	-	-	-
1850	-	-	-	-	-	-	-	-	-	-	-
1851	-	-	21,000	-	-	21,000	-	-	66,550	-	-
1852	-	-	1,500	-	-	1,500	-	-	68,050	-	-
1853	53,250	-	-	-	-	53,250	-	-	121,300	-	-
1854	3,300	-	8,000	-	-	11,300	-	-	132,600	-	-
1855	50	-	6,000	-	-	6,050	-	-	138,650	-	-
1856	-	-	-	-	-	-	-	-	400,000	600,000	-
1857	180	-	4,000	-	-	4,180	-	-	203,650	803,650	-
1858	60	-	-	-	-	60	-	-	66,000	869,650	-
1859	150	-	*7,862	12	2½	8,012	12	2½	150,902	12	2½
1860	-	-	†	-	-	-	-	-	-	-	-
1861	-	-	-	-	-	-	-	-	-	-	-
1862	-	-	-	-	-	-	-	-	-	-	-
1863	-	-	2,000	-	-	2,000	-	-	152,902	12	2½
1864	-	-	1,000	-	-	1,000	-	-	153,902	12	2½
1874	-	-	42,500	-	-	42,500	-	-	196,402	12	2½
1875	-	-	7,500	-	-	7,500	-	-	203,902	12	2½
									-	-	869,650 - -
											Less remaining unsold in hands of Messrs. Baring - - } 42,900 - -
											826,750 - -
£.	61,240	5,000	137,662	12	2½	203,902	12	2½	Equal in Sterling - -		183,512 6 11½
									TOTAL, Sterling - - £.		1,010,262 6 11½

\* Exclusive of £.229. 19. remaining unissued for losses by the Insurrection, bearing interest from January 1, 1839.  
 † £.500 issued in January 1840, redeemable this year.



(C. c.)

## UPPER CANADA.

## STATEMENT of the ANNUAL CHARGES for the INTEREST of the PUBLIC DEBT, and of the Estimated Annual PROVINCIAL EXPENDITURE and REVENUE.

ANNUAL EXPENDITURE.	Currency Dollars, at 5 s.		Sterling Dollars, at 4 s. 6 d.		
	£.	s. d.	£.	s. d.	
Total Amount of Charges for Interest of the Public Debt, as per Statement (B.), subject to a diminution on the three items of Debt which may be incurred this year	73,075	17 2	-	- -	65,768 5 6
Administration of Justice and Support of Civil Government	28,500	- -			
Legislature	10,000	- -			
Schools	11,050	- -			
Pensions	3,302	10 -			
Lighthouses	2,500	- -			
Agricultural Societies	1,000	- -			
Penitentiary	5,000	- -			
Militia Courts-Martial	300	- -			
			134,728	7 2	121,255 10 6
<b>ANNUAL REVENUE.</b>					
Proportion of Duties at Quebec	60,000	- -			
Imports from United States	18,000	- -			
Licenses and Auction Duty	12,000	- -			
Tolls and Harbour Dues from Government Works	2,000	- -			
Interest payable by Private and Incorporated Companies on Loans and by Macadamized Roads	10,000	- -			
£.13,329. 7 s. 11 d. (estimated receipts from)					
Tonnage Duty	300	- -			
Fees on Militia Commissions, Fines, &c.	500	- -			
			102,800	- -	92,520 - -
<b>ANNUAL DEFICIENCY</b>			31,928	7 2	28,735 10 6
The estimated Charges on the Additional Debt which may be incurred this year (part of which should be returned by payments from the various Public Works, in proportion to the advances made to them), are			9,923	16 11	8,931 9 3

Inspector-General's Office, Toronto, }  
May 30, 1840.

(signed) John Macaulay  
Inspector-General.

## STATEMENT of the ANNUAL CHARGES for the ADMINISTRATION of JUSTICE and SUPPORT of the CIVIL GOVERNMENT.

	£.	s.	d.
Civil Government, per 1 Will. IV., cap. 14:			
Lieutenant-Governor	2,000		
Three Judges	3,300		
Attorney and Solicitor General	500		
Five Executive Councillors	500		
Clerk Executive Council	200		
	£6,500		
Receiver-General's Salary, £.700 sterling, per 1 Will. IV., cap. 15			7,222 4 5
Inspector-General's Salary, £.365 sterling, per 49 Geo. III., cap. 13			777 15 6
Surveyor-General's Returns to Treasurers, per 59 Geo. III., cap. 7, say			405 11 1
Adjutant-General of Militia, per 2 Vic. cap. 69	600		*40 - -
Assistant-General of Militia, per 4 Geo. IV., cap. 27	200		
Contingencies, per 4 Geo. IV., cap. 7	85		
			885 - -
Administration of Justice, per 7 Will. IV., cap. 1:			
Two Judges	2,000		
Clerks of Assize and Travelling Expenses	1,000		
			3,000 - -
Vice-Chancellor, per 7 Will. IV., cap. 109			1,250 - -
Annual Grant, per Bill of Supply for 1840	£16,779	4 6	13,580 11 -
Less, Arrears of 1839	2,661	15 6	
			14,117 9 -
	£.		27,698 - -

\* Estimated at £.30 for 1840.

(E. c.)

UPPER CANADA.

		Sterling.		
		£.	s.	d.
<b>No. 1. Statement of payments to the Clergy :</b>				
Church of England	- - - - -	7,291	5	6
Less. Estimated Sum payable from the Clergy Fund formed by Rents of Leased Reserves, Interest in Sales, and Dividends on the amount of proceeds of Sales, invested in London	- - - - -	6,000	-	-
Church of Scotland	- - - - -	1,540	-	-
Presbyterian Synod of Upper Canada	- - - - -	700	-	-
Methodists	- - - - -	700	-	-
Roman Catholic Bishop	- - - - -	500	-	-
„ Priests	- - - - -	1,000	-	-
			1,291	5 6
			4,440	- -
			5,731	5 6
<b>No. 2. Charges now by law payable, exclusive of those provided for in the Civil List of £75,000:—</b>				
Maintenance of Lighthouses, variable	- - - - -	2,200	-	-
Clerk of the Crown in Chancery	- - - - -	67	10	-
Adjutant-General of Militia, Assistant ditto, and Contingencies of Office	- - - - -	796	10	-
Offices of the Legislature	- - - - -	846	-	-
Schools	- - - - -	4,860	-	-
Pensions - - - - - variable	- - - - -	2,972	5	-
Agricultural Societies „	- - - - -	900	-	-
Militia Courts'-martial „	- - - - -	270	-	-
Surveyor-General's Returns to District Treasurers, variable	- - - - -	36	-	-
Provincial Legislative Library	- - - - -	72	-	-
			13,070	5 -
<b>No. 3. Annual Votes for the Civil Expenditure</b>				
Contingencies of the Legislature for 1839, Currency £.6,801 14 1		6,121	10	8
Schools	- - - - -	5,085	-	-
Adjutant-General of Militia, Contingencies of Office	- - - - -	423	-	-
Repairs of Government House	- - - - -	180	-	-
Printing the Statutes	- - - - -	900	-	-
Other Government Printing	- - - - -	675	-	-
Casual and Extraordinary Expenses	- - - - -	540	-	-
		13,924	10	8
Penitentiary	- - - - -	4,500	-	-
			18,424	10 8
<b>No. 4. Crown Revenue:—</b>				
		Sterling.		
Canada Company (ceases in 1842)	- £.20,000 - -			
Sales of Crown Lands, Licences for cutting Timber, Rents of Mills, Ferries, &c., Fines and Forfeitures, Fees on Grants of Land under certain regulations	- - 10,000 - -			
		30,000	-	-
<b>No. 5. Charges on the Crown Revenue to which the faith of the Crown may be considered as pledged, viz.—</b>				
Indian Annuities £.5,405 currency	- - 4,864 - -			
Pensions	- - - - - 1,198 - -			
Upper Canada College	- - - - - 1,000 - -			
Spears Legislative Council	- - - - - 360 - -			
Contract School, Toronto	- - - - - 418 10 - -			
School at Petersborough	- - - - - 67 10 - -			
		7,908	-	-
Leaving - £.		22,092	-	-

Inspector's General's Office,  
Toronto, May 30, 1840.

(signed) John Macaulay,  
Inspector-General.

(F. f.)

## UPPER CANADA.

STATEMENT of the DUTIES levied under the IMPERIAL ACT, 14th Geo. III. c. 88, for the Year 1839.

COLLECTED IN LOWER CANADA.	Currency.			Sterling.		
	£.	s.	d.	£.	s.	d.
Duties on Importations by Sea, according to the Returns of the Inspector-General of Lower Canada, viz. :—						
For the Quarter ended April 5, and up to May 1, 1839 -		191	6 5			
Ditto July 5 „ -		15,428	6 4			
Ditto Oct. 10 „ -		14,747	16 7			
		30,367	9 4			
Ditto Jan. 5, 1840 -		5,200	5 8			
		35,567	15 -			
Expenses of Collection - - -		38	17 8			
	£.	35,528	17 4			
Proportion to Upper Canada, 38½ per cent.		13,678	12 3			
Deduct ⅙ for Sterling - - - -		1,367	17 3			
				12,310	15 -	
COLLECTED IN UPPER CANADA.						12,310 15 -
Spirits imported from the United States into Upper Canada, per Returns ended December 31, 1839, 16,512½ gallons -				825	12 9	
Licences for retailing Spirituous Liquors, per Returns to January 4, 1840, 1472 at £1. 16s. sterling each - - -				2,649	12 -	
				3,475	4 9	
Estimated Expenses of Collection - - -				500	- -	
						2,975 4 9
TOTAL - - - -						15,285 19 9

Inspector-General's Office,  
Toronto, May 30, 1840.(signed) *John Macaulay,*  
Inspector-General.

(No. 48.)

— No. 4.—

COPY of a DESPATCH from Lieutenant-Governor Sir *George Arthur*,  
to Lord *John Russell*.

My Lord,

Government House, Toronto, 14 July 1840.

No. 4.  
Despatch from  
Sir George Arthur  
to Lord John  
Russell,  
14 July 1840.

I HAVE the honour to transmit for your Lordship's information the accompanying papers, from which your Lordship will be put in possession of the steps which have been taken with a view of affording employment to the immigrants who are now arriving in the province, and of, at the same time, enabling the Commissioners of such of the public works in this province, as are likely to be most beneficial to the public, to continue their operations.

I have, &amp;c.

(signed) *Geo. Arthur.*

## Enclosures in No. 4.

## ADVANCES TO PUBLIC WORKS.

Encl. in No. 4.

- No. 1.—Governor-General, 20 May 1840, proposing the subject.
- No. 2.—Sir George Arthur's Reply, 20 June, enclosing Report of the Executive Council, as to the mode in which the sum required is to be raised.
- No. 3.—Sir George Arthur, 30 June, reporting the arrangements made with the Banks, and the Instructions sent to the Commissioners of the Works.
- No. 4.—Governor-General, 30 June, approving of the plan recommended by the Executive-Council.

(Confidential.)

No. 1.

Sir,

Government House, Montreal, 20 May 1840.

I HAVE the honour to transmit to your Excellency copies of the reports made to me by Mr. Killaly, the engineer, to whom I gave directions, previous to leaving Upper Canada, to examine into the state of several of the public works of that province, and to report upon the expenditure which, in his opinion, would be indispensably necessary to prevent their suffering during the present year, and until some settlement of the financial affairs of the province enabled the Government to come to a final determination respecting future proceedings with respect to them.

Besides the works upon which Mr. Killaly was specially desired to report, he has subjoined a statement upon the Welland Canal, which, however, I wish to treat separately, and shall therefore for the present exclude from consideration.

I advert therefore to the other works as enumerated in his list.

Mr. Killaly has stated the debts due by the different commissioners upon these works, for contracts already performed, and has added to them the sums which in his opinion appeared necessary as outlay during the present year.

With respect to the debts contracted, I am of opinion that the interference of the Government must depend, first, upon an examination into the authority by which they were contracted by the Commissioners, and next, if satisfaction be given on that point, upon the means which the Executive possesses under the authority of Parliament for assisting by the issue of debentures. Upon some of these works, authority, I believe, is given for the issue of certain sums by the sale of debentures, without limit as to interest or time, but there may be others in which no such authority is given, and where the aid needed could only be afforded by an arrangement that the debentures should be taken at par.

I would therefore suggest to your Excellency the propriety, with regard to the debts, of causing these particulars to be investigated, and then acting accordingly. It is undoubtedly desirable that the claims of the contractors should be paid, if possible, and I shall be glad to concur in its being done, if upon examination it be found just, as well as practicable, to do so.

The most important point, however, is the second reported upon by Mr. Killaly, namely, the assistance which it is indispensable to afford during the present year to any of these works. I have on former occasions stated my opinion, that we should not be justified in increasing the amount of the Upper Canada debt pending the union of the two provinces, with a view to carry on to their full extent the public works begun in that province, although authority may have been given by the local legislature for that purpose; but at the same time that it is our duty to provide for extreme cases, when either the total cessation of work might be attended with serious injury to the part already completed, or when the security for any just expenditure appear undesirable. I feel likewise, that, considering the amount of emigration to be expected during this season, it is most desirable that a total cessation of all works heretofore in progress should not take place.

I have accordingly gone over the report, and the papers Nos. 1 and 2, with Mr. Killaly, with great attention, and have come to the conclusion, after a detailed examination with him, that, although advances to all the works specified in his list would not be justifiable, certain advances are indispensable for some of them; the following is the result of our consideration of the matter:—

*Johnston Road.*—That it is not advisable to advance any thing at present.

*Kingston and Napanee Road.*—To advance 5,000 *l.*

*Queenston, &c., Road.*—To advance nothing for the continuance of the work.

*West Toronto Road.*—No advance is proposed for the continuance of the works. The amount recommended is only the sum owing, which of course will be considered under the first head.

*North Toronto Road.*—To advance 7,000 *l.* for new work.

*East Toronto Road.*—No advance to be made. Mr. Killaly, upon reconsideration, being of opinion that as Rouge-hill cannot be completed, it would be inexpedient to make any.

*Hamilton and Brantford Road.*—To advance the sum of 600 *l.* as recommended.

*Dundas and Waterloo Road.*—To advance 5,000 *l.* as recommended.

*Trent Navigation.*—To advance 5,000 *l.*, which would complete Chisholm's Lock and put the

the other works in repair, abandoning the lock at the mouth of the river, which Mr Killaly considers useless.

£.  
5,000  
7,000  
600  
5,000  
5,000  

---

22,600

On these works therefore there would be an advance to be made, exclusive of the debts, if paid, of 22,600*l.*, which I would suggest should be out of the issue of debentures, if authorized by the Acts, the Receiver-general, or by an arrangement with the banks and the Commissioners that the debentures should be taken at par.

Before quitting the subject of the macadamized roads, I would, however, beg to call your Excellency's attention to the instructions which I gave verbally to the Attorney General, before my departure, for causing immediate steps to be taken for calling on the districts to make good the deficiency in interest due upon the provincial advances to them as recommended, and were taken credit for in the report of the Finance Committee of last session. I think it highly probable that the Commissioners may not be inclined to hasten what must be undoubtedly an unpopular work; but it seems to me absolutely necessary that the powers given under the Acts should be enforced without any delay, and I would recommend that immediate steps should be taken by the proper authorities in the Government for so doing.

I now come to the consideration of the Welland Canal. For reasons I have already stated, I should be unwilling to authorize any advance to the Commissioners beyond what may be absolutely indispensable; nor do I deem it advisable that works should be undertaken which would decide at this time the scale on which the canal is to be carried on, which would be done, if an outlay like that applied for by Mr. Merritt and the Commissioners were sanctioned; still less should I consent to money being raised by the Commissioners on their own responsibility with some fresh bankers in London, such an operation would complicate still more the financial concerns of the province, which are already more than sufficiently involved. But with a view to enable the works to proceed rapidly next year, before which time, of course, a final decision must be taken as to the scale to be adopted, I should not refuse to advance such a sum as might enable the materials to be got out at this season of the year, with a view to their being worked up in the winter,—an object as I am told of great importance; that I should consider a legitimate advance. It appears that a credit exists under the Act of 1839, sanctioned by the Queen, to the extent of 15,000*l.* to be raised by debentures; and I am informed that by the advance of this sum the necessary preparations could be made; I should therefore recommend that an advance of debentures to this extent should be permitted, under a clear understanding with the Commissioners that it was to be devoted to the preparation of materials.

I beg to submit these considerations to your Excellency, and to say that, if you concur in them, I shall be happy to see them carried into effect with as little delay as possible.

His Excellency Sir Geo. Arthur.

I have, &c.,  
(signed) C. Poulett Thomson.

(Confidential)

No. 2.

Sir,

Government House, Toronto, 20 June 1840.

I HAVE the honour to acknowledge the receipt of your Excellency's despatch of the 20th ult., upon the subject of the debts at present due by the different Commissioners of the Public Works for contracts already performed, and of the assistance which it is indispensable to afford to some of these works during the present year. I immediately brought the subject under the consideration of the Executive Council, and beg to forward to your Excellency a copy of the report on it which has been made by that board.

I have concurred in the view taken by the Council in preferring to raise the sum requisite for affording the assistance to the extent suggested in your Excellency's despatch, by loan, rather than by the issue of debentures. Under the present circumstances of the credit of the province, great embarrassment would ensue from a sale of debentures in this country; and a sale, no doubt, even to the extent required for these advances, could only be effected upon very disadvantageous terms. On the other hand, the plan proposed will enable the Government to proceed with the contemplated works; and sufficient time will be afforded to Her Majesty's Government, before the repayment of the loan will be required, to adopt measures for arranging the finances of the country.

In furtherance of the plan, I have taken steps to obtain, by loan from the banks, the sum of 40,000*l.* in four months; 10,000*l.* in each of the ensuing months of July, August, September and October, to be repaid, with interest, at the rate of 6*l.* per cent. per annum, at the end of six months from the date of each advance. In this way, I hope to be able to carry out the suggestions of your Excellency, so far as regards the advances which have been recommended to be made during the present season, as they are indispensably necessary.

There is also at the disposal of the Government, at present, an additional sum of 2,000*l.*, which, having been realized by the sale of school lands, has been invested in debentures for the service of the Welland Canal. This sum will, therefore, be available in part payment of the 15,000*l.* appropriated to the Welland Canal.

With respect to the debts at present existing on account of public works, although it seems to be of the greatest importance that some arrangement should be made for their liquidation, yet the means of raising the funds must, in a very great degree, depend upon the general financial measures to be adopted.

I have

I have proceeded, in each individual case, to make an examination into the authority by which the debt has been contracted by the Commissioners, and the means possessed by the executive, under the authority of Parliament, for assisting them by the issue of debentures. When this examination is completed, I shall be able to consider each case upon its own merits.

The same objection, though perhaps not quite to the same extent, would seem to apply to the payment of these debts by the issue of debentures, as to the raising of money by that means for the purpose of proceeding with the works.

Steps have been taken for calling upon the districts to make good their several arrears of interest due upon the provincial advances; but no satisfactory conclusion has been arrived at. I am much afraid, as the law at present stands, that there will be great difficulty in obtaining pecuniary aid to the resources of the province by those means.

I propose to cause the directors of the Welland Canal Company to be informed that the Government have made arrangements to advance to them the sum of 15,000*l.*, by a payment of 5,000*l.* in each of the months of August, September and October, for the purpose merely of getting out and preparing the materials, so as to enable the works to be rapidly proceeded with next year; and the Government directors have also been instructed that the advance is to be applied to the preparation of the materials, and that nothing is to be done by which either the site of the canal, or the scale hereafter to be adopted, are to be compromised.

The Right hon. C. Poulett Thomson,  
&c. &c. &c.

I have, &c.  
(signed) Geo. Arthur.

## MEMORANDUM.

2 June 1840.

THE Lieutenant-Governor begs to lay before the Executive Council, for their information, the two accompanying despatches received from the Governor General upon the very important subject of immigration, and the means of employment to be afforded by public works, and will be glad to receive a communication of the sentiments of the Council upon the best means to be adopted for carrying into effect the recommendations of the Governor General.

20 &amp; 29 May 1840.

By command,  
(signed) S. B. Harrison.

MINUTE transmitted to the Receiver-General.

In Council, 4 June 1840.

It is proposed by his Excellency the Lieutenant-Governor, for the consideration of the Executive Council—

1st. That a sum of money, of from 15,000*l.* to 35,000*l.*, should be raised for certain indispensable expenditure upon public works during the present season; the principal work upon which the outlay is considered of the greatest importance being the Welland Canal.

2d. The Act of the Provincial Parliament, 2 Vict., c. 72, authorizes a sale of debentures, without limitation of terms, for the works therein specified.

The Council desire your opinion of the effect of a sale of debentures under this Act, at present, upon the provincial credit; whether you think money can be raised in this manner, and at what rate, and whether you could prudently draw in anticipation of a sale, provided it should be ordered.

3d. Can you propose any plan by which a temporary advance can be obtained? Do you think the banks would make the advance, and upon what terms?

Receiver-General's Office, Toronto,  
5 June 1840.

Sir,

In reply to the Minute in Council of the 4th instant, in relation to the raising of 35,000*l.* for certain indispensable expenditures upon public works during the present season, and requiring to know from me the effect of a sale of debentures under the Act of the Provincial Parliament, 2 Vict. c. 72, and whether money can be raised in London, and prudently drawn in anticipation of a sale of these debentures, or any plan by which a temporary advance can be obtained, I have the honour to report, for the information of the Honourable the Executive Council, that I consider the sale of debentures at this moment impracticable in London. From the last accounts from that city, debentures were only worth about 83*l.* for 100*l.* debenture. That Messrs. Baring, Brothers & Co. held, I think, about 44,000*l.* belonging to the province, and they state that no sales could be effected, and this rate was nominal. No debentures can be issued here payable in England, without previously obtaining the sanction of some house, where the interest and principal can be made payable on the face of the debentures. The objections made by Messrs. Baring, Brothers & Co. to a similar proceeding on the part of the Local Government, some years ago, are, I have no doubt, fresh in the recollection of the Honourable the Council. The injurious effect



Executive Council Chamber, Toronto, Tuesday, 16 June 1840.

Present :

The Honourable ROBERT BALDWIN SULLIVAN, Presiding Councillor.  
 " William Allan.  
 " William Henry Draper.  
 " Richard Alexander Tucker.

To His Excellency Sir *George Arthur*, К. С. П., Lieutenant-Governor of the Province of Upper Canada, &c. &c. &c.

May it please your Excellency,

THE Executive Council have carefully considered the minute transmitted by Mr. Secretary Harrison, with an accompanying despatch from his Excellency the Governor-General, on the subject of the Public Works in this province, and relating to the means of obtaining money for the purpose of proceeding with certain of them during this summer.

The attention of the Council is in the first place directed to the provincial statute passed in the session before the last, to which the Royal Assent was promulgated 30th January 1840, intituled, "An Act to afford further facilities to negotiate Debentures for the completion of Public Works."

By this Act it is provided, "That it shall and may be lawful for Her Majesty's Receiver-General, by and with the consent of the Lieutenant-Governor of this Province in Council, to sell and dispose of the public debentures of this province, now authorized by law to be issued, to the best advantage, in order to realize the several sums hereby appropriated during the present year, viz.—

	£.
" For finishing the St. Lawrence Canal - - - - -	50,000
" For building a Ship Lock at Dunnville, and providing Materials for the Welland Canal - - - - -	15,000
" For the Grand River Navigation, the sum of - - - - -	12,500
" For the Johnstown District Roads - - - - -	500
" For the Queenston and Grimsby Road - - - - -	10,555
" For the Road north of the City of Toronto - - - - -	9,000
" For the Road east of the City of Toronto - - - - -	7,000
" For the Road west of the City of Toronto - - - - -	4,000
" For the continuation of the Improvement of the River Trent - - - - -	12,000
" For the Credit Harbour - - - - -	750
" In all - - - £.	121,305 "

And, "That the amount of debentures required by this Act now authorized to be issued for the construction of the foregoing works, payable in this province, shall be made payable in England, any thing in any Act to the contrary notwithstanding."

Previously to the passing of this Act, money could not legally be raised, unless at the rate of interest mentioned in the Act, and the public bonds could not be sold under par. The object of the Legislature appears to be to relax this rule in favour of the public works mentioned in the Act, so that money might be obtained on the easiest terms which the state of the market would allow, should the operation be considered proper by the Governor in Council.

The state of the province, its internal disturbances and the foreign aggressions under which it suffered, the incomplete state of all the public works, the want of revenue arising therefrom, the want of provision of means to pay the interest upon the public debt, which it was originally supposed would have been met by the income arising from the public works, the absorption of the whole current revenues of the province in payment of interest, and in the expenses of the administration of Government, and the large sums still required annually for the construction of improvements far exceeding the original estimates, and the crisis in financial and monetary affairs in the United States, which affected the value of all American securities, combined to depreciate and render unsaleable the public debentures of the province.

When this state of affairs began to press upon the Government, and before these circumstances all united in rendering the raising money impracticable, many urgent applications were made to the Executive Government by the Commissioners employed on the public works, praying for money to be raised according to the provisions of the various Acts of the Provincial Parliament passed for that purpose, and representing in the strongest terms the loss that would accrue to the public were the works suddenly suspended, as well on account of the breach of contracts into which the Commissioners had entered, as from the dilapidations which the works would suffer if not placed in a state of preservation, if not of completion.

It being supposed, as it afterwards proved, impracticable to dispose of public debentures at the legal rate in England, and the failure of the house of Thomas Wilson & Co., of London, having deprived the Government of the use of the large sum in their hands, an Act of the Provincial Parliament was passed on the 11th July 1837, at a special session summoned for the consideration of urgent affairs relating to finance and banking operations, by which Act it was provided, that it should be lawful for the Lieutenant-Governor of the Province,

2 June 1840.  
 20 May 1840.

Province, by and with the advice of the Executive Council, to authorize the issue in the province of debentures, payable in London, to the amount which might be required for the purpose of making the several macadamized roads authorized by the Legislature, at the legal interest of 5 per cent., or if the payment was to be in the province, at the rate of 6 per cent. This Act also extended to provide for the repairs and completion of the Welland Canal, so far as the discharging the debts due, and the keeping the same in repair.

The effect of this Act was to make it the interest of the banking institutions in the province to offer for the debentures at par, by which means they had the advantage of the exchange on London, at the time very high, which was expected to cover any rate of depreciation at which the debentures might sell in London.

The Council are, however, informed, that a considerable sum in these debentures remain in the hands of the banks unsold to this day.

When the Receiver-general returned to this province, he having been absent in London at the time of the passing of the Act, he complained of the transaction as a losing one to the Government.

It appeared to be so at the time of passing the Act, and also at the time of the sale of the debentures to the banks, but the Parliament considered it absolutely necessary that money should be raised, and only gave this mode by which it could legally be done, unless debentures were saleable at par in the London market.

Upon the recommendation of the Receiver-general, and upon the exhibition of complaints on the part of the house of Baring, Brothers & Co., of the increase of the public debt without their being informed of the transaction, and particularly of their being made agents for the payment of the interest, without their previous consent, which in fact only the urgency of the case could justify, sales of debentures in the province were discontinued, and a sum of 60,000*l.* of public bonds were directed to be transmitted to London on account of the following works :

Welland Canal - - - - -	£. 40,000
Three York Roads - - - - -	9,000
Johnstown District Roads - - - - -	6,000
Queenston and Grimsby Roads - - - - -	5,000

the Receiver-general giving it as his opinion, that the proceeds might be immediately realized, by drawing against them. The Receiver-general, however, did not draw upon those proceeds, but advanced monies raised by the previous sale of debentures to the banks for other works, and particularly for the Trent Navigation, the sale for that purpose having been made to the commercial bank.

As the event proved, the not drawing upon the proceeds of the debentures transmitted to London was prudent and fortunate, as the amount has remained unsold in the hands of the agents, except in so far as they disposed of them under par, for the purpose of repaying themselves in part for their advances on account of the interest upon the public debt.

The banks having been partly induced to risk the purchase of debentures at par from a wish to forward public works in which their locality made them interested, complained of the appropriation of the money for other purposes, and the people interested in the completion of the works complained that the raising money by sale to banks, which they had induced the banks to negotiate, had not been available for the intended purposes.

Thus it is shown, that, in fact, the only means of raising money to meet the public exigencies at the time was the sale to the banks, and upon that depended, not only the demands for the works intended to be provided for by the sale, but also the disbursements intended to be provided for by means of the transmission of debentures to London.

At present, as has been above detailed, the debentures thus transmitted remain unsold in London.

The highest prices reported by the London agents of late has been 83 per cent. or 17 per cent. under par, and moreover, this price was stated to be merely nominal, or, in other words, it was supposed that the debentures would not maintain nearly that price were extensive sales attempted.

The London agents, Baring, Brothers & Co., and Glynn & Co. are stated to be considerably in advance for payments of interest upon the public debt.

Matters continuing in this condition since the year 1837, the public works have been suspended, and the necessity for further sums of money appears to be most pressing.

The only remedy proposed by the Legislature is a forced sale of the debentures, with the approval of the Lieutenant-Governor in Council; and his Excellency the Governor-General seems willing to accede to this measure to the extent stated in the despatch before the Council.

The necessity of providing some immediate employment for the labouring population coming into the province, as well as the great public benefits which would accrue from the continuance of the works proposed to be provided for, form the inducements leading to his Excellency's favourable opinion of this plan.

The great increase of income from the Welland Canal realizing the expectations of its projectors as to the immense importance of the work, is a very strong reason for the immediate commencement of preparations to place the work in a permanent state of efficiency; the continual dilapidations which the insufficiency of the present work causes, and the expensive repairs necessary to keep it open, make the canal unprofitable, and there is too much probability that it cannot long be continued in a state to be used, unless the locks shall be constructed in such a manner as to be permanent.

It is stated by persons who have warmly interested themselves in the Welland Canal, that its present prospects are so flattering that there would be no difficulty in disposing of debentures for the completion of that work upon its own credit, and prospects of being profitable.

The amounts proposed to be expended in the macadamized roads will, of course, ultimately be provided for by local taxation, if the tolls should be found insufficient. The roads are found to be of great and manifest public utility, and now that the benefits arising from them are experienced, little difficulty need be apprehended in meeting the necessary disbursements by local taxation, even if the tolls should be found insufficient for that purpose.

But when the Council contemplate the financial state of the province generally, the disappointments experienced in almost all calculations hitherto made of reimbursement from the works themselves, the great difficulty and even impossibility of meeting the interest upon the public debt, without a new system of financial arrangement and the imposition of new taxes, which the Legislature only can accomplish, they greatly apprehend the consequences of a forced sale of debentures for any purpose, until the general credit of the province shall be re-established; for its re-establishment, however, they look with the greatest confidence to the first session of the united Legislature; for if certain available and tangible means shall be provided to meet the interest upon the public debt, and if the prospects of reimbursements from the public works shall be regarded as a means of relief from taxation, rather than as a mode of meeting certain yearly demands, there can be no reason why the credit of these provinces should not stand fully as high as that of any part of America.

However encouraging this prospect may be to the Council, it cannot be expected, while a mere prospect, to affect the money market; but an attempt to force a sale of debentures may altogether fail under present circumstances, while it would appear to the holders of public securities to arise from a determination, by all means, to increase the public debt without the necessary provision for its repayment, either in principal or interest; and while those so interested would complain with much justice of the endangering and jeopardizing the debts due already by the increasing the public burthens without increasing the powers of bearing them, as well of the actual and immediate depreciation which a sale of new debentures at any price they would fetch would cause to the whole of the public securities, it appears to the Council that it would be unwise for any temporary purpose to incur the risk which would arise from such a measure of permanently injuring the credit of the province, and of rendering future important financial operations difficult or impracticable.

The Council thought it right on the submission of this matter to obtain the opinion of the Receiver-general on the subject, and accordingly addressed to him the minute hereto appended.

The Council feel disposed to concur in the opinion of the Receiver-general so far as to advise the obtaining an advance from the Provincial Banks in preference to a forced sale of debentures.

They advise this measure in the full confidence they have already expressed that the Legislature will provide certain means of meeting the interest upon the public debt at its next meeting, after which the debentures may be disposed of at their full value without any injurious effect upon the public credit. The extent of outlay to be made upon public works will be then ascertained, and the public creditor may calculate with certainty upon the security of his investments. If this confidence on the part of the Council should happen to be mistaken, the raising money by any means whatever will have been most unfortunate, but the same means of repaying the banks will still exist that are now proposed to be used for raising the money.

The Council are of opinion that the banks should be requested to make the requisite advances with the assurance of repayment within six months from the present time; the money is not wanted immediately, and it will require that time in all probability before a sale of debentures will be advisable. The banks will probably be influenced in making the advance by a desire to promote public undertakings which they approve of, and therefore it may be considered a good criterion from whence to judge of the policy of advancing a public work, the readiness of the several banks to loan the money, they knowing the respective purposes to which it is to be applied.

The Council therefore respectfully recommend, that the Receiver-general be authorized to procure from the banks of this province or of Lower Canada a temporary advance, to be repaid with interest at 6 per cent. for the following purposes:—

1st. For providing materials for the completion of the Welland Canal as a permanent work, the money to be expended strictly in providing these materials and in conveying them to the places where they will probably be required; nothing, however, to be done which would settle the dimensions of the canal, or make alterations necessary upon the final adoption of any dimensions	£. 15,000
For continuing the macadamised road between Kingston and Napanee	5,000
North Toronto road	7,000
Hamilton and Brantford road	600
Dundas and Waterloo road	5,000
For the Trent Navigation, <i>i. e.</i> , for the completion of Chisholm's Rapids, and for the repair of other works, abandoning the lock at the mouth of the river	5,000
	<u>£. 37,600</u>

4 June 1840.

5 June 1840.

As regards these works of a merely local character, with which the general funds of the united province ought not ultimately to be charged, the Council are respectfully of opinion that the simple mode of charging the whole upon the separate districts by specific provisions, and by actually laying on local taxes to meet them, by authority of the united Legislature, will be the most practicable and easy mode of securing the payment of the interest and of relieving the general finances. The present provision by law for charging the arrears of interest upon the districts appears to be highly inconvenient. The Trustees or Commissioners are in the first place required to levy sufficient tolls to meet the yearly interest, and to discharge the principal sum borrowed in a certain number of years. Secondly, to pay over the tolls to the Receiver-general for that purpose. Thirdly, to apply for the levy of a local tax to meet the arrears. Fourthly, the laying on the tax is left to the discretion of the local authorities.

The following faults seem apparent on this system :—

1st. Much of the outlay is incurred, and interest becomes due, before any tolls can be levied, and long before they can amount to a sufficient sum for the purposes contemplated; consequently the interest is immediately and necessarily in arrear.

2d. The Receiver-General is bound by the debentures to meet the interest when it becomes due, although the Act pledges the province only after other means shall have failed. The public revenues are thus burdened with an expenditure not provided for.

3d. Should the Trustees who do not keep the public accounts omit to report the sum received not sufficient for the purpose, the Receiver-General, who first knows the fact of the insufficiency of the amounts received by him, has no authority to apply for the levy of a tax; and should the Magistrates in Quarter Sessions not think fit to decree a new assessment, the public finances suffer.

The Council are of opinion, that the law should specify how long the interest should be paid out of the principal borrowed, if at all; it should next specify when a rate should commence for the purpose of meeting the interest, and the Executive Government, whose business it is to see that the public finances are not burdened improperly, should state the amount of the rate.

The interest should be provided one year in advance; that is to say, there should be certain means provided within the year to meet the interest for the coming year, and the rate should cease for the coming year upon the Receiver-General reporting that he had a sufficient sum in his hands arising from tolls to meet the next year's interest, and the proper proportion of principal, as contemplated by the Act. Thus the money would be always forthcoming, and the continual recurrence of payments from the general funds of the province, or from the principal sum borrowed, would be avoided, and the local security would become immediately available and effective.

This plan may be illustrated by the following hypothesis :—

The inhabitants of a district are desirous to raise money upon the public security, or they have raised it in this manner for a macadamized road; the amount may be stated at 10,000*l*. Two years may be allowed without calculating upon the tolls, during which time the interest may be paid out of the principal borrowed.

If within these two years a sufficient sum should happen to be received for tolls to meet the full payment of the interest, and a proportion of the principal, say 333*l*. 6*s*. 8*d*., and that this sum should be in the hands of the Receiver-General, no rate need be levied for the third year, otherwise a rate should be levied by proclamation to meet the deficiency.

If within the third year a sufficient sum should be received to meet the interest and proportion of principal for the fourth year, no rate need be levied for the fourth year; but, if otherwise, a rate to meet the deficiency should be proclaimed.

And thus funds from the proper source would be provided in advance, and the public finances would not suffer, and the power of necessary action would be given to the executive officers in charge of the general treasury. Probably this plan may not be necessary, should districts borrow upon their own security, but it ought to be made to apply to all sums raised or to be raised under the present Acts, and indeed it is not probable that money will readily be raised upon local securities in England; and the necessity for a continuance of the general security may therefore become apparent, in which case the system of providing funds in advance will be the only safe plan of operation.

In the meantime the means given by the present law can be used so far as possible to relieve the public finances, but the Council apprehend that the results will be long protracted, and very unsatisfactory.

As respects the debts contracted by the Commissioners, and the authority upon which they were created, the Executive Council can say little more than that the Acts of Parliament authorizing the expenditure of money provided sets of officers, called Trustees or Commissioners, who upon their own responsibility, and at their own discretion, were authorized to carry on the works.

For the means of doing so the Commissioners were to depend upon money to be raised by loan at a certain rate of interest, and not on more disadvantageous terms than the sale of debentures for the full sum which they purported to secure.

The Commissioners calculating upon the certainty of procuring the money and with the authority of the Acts of Parliament merely, but without the funds actually in hand, entered into contracts, and incurred liabilities without the sanction of the Executive Government.

So soon as the financial difficulties began to appear, the Executive Government, at the same time that it disapproved of the creation of debts without the means in hand to discharge them,

them, used every means in its power to relieve the contractors and the Commissioners, and various advances were made for that purpose, provided for by sales of debentures, under the circumstances set forth in the commencement of this minute.

But the Commissioners were uniformly warned, upon every application, that the Government could not undertake to provide means for continuing the works, that the sums provided by extraordinary means must be considered the last that could be furnished, until the aspect of affairs altered for the better, and that no new liability should be incurred, without its being previously ascertained that the means of payment were already realized.

Such, in fact, was the authority for the incurring the debts now sought to be paid, and such was the course of the Government in consistently advising the Commissioners of the risk of erecting new liabilities; but still the Council find debts to be provided for, and the only expedient proposed is the issue to the contractors of Government debentures in lieu of money.

It is true, that many of the debts now due arise from the performance of contracts entered into by Commissioners at the commencement of the works, but even, with regard to these, the Council are of opinion, that it was imprudent in the Commissioners to anticipate so largely the realization of the funds intended to be provided by the Legislature. The Commissioners and the contractors had full means of forming opinions upon the probabilities which the state of the money market offered for the borrowing of money; and if they would go on creating debts upon the prospects offered, the Council do not think they have a right to call upon the Executive Government to use illegal or extraordinary means to relieve them from difficulties and embarrassment.

The Trent Navigation forms an exception to the general fact, for, in that case, a sum of 20,000*l.* was actually raised, but the money was used, not for the work for which it was raised, but to meet disbursements made on the credit of the debentures sent to England, and which now remain unsold; but, in this case, the whole proceeding was submitted to the Legislature, and provision was made for the raising 12,000*l.* for that work, by the sale of debentures to the best advantage.

The Council suppose the intention of the Legislature must have been to provide for the payment of debts incurred by the Commissioners, under the circumstances before mentioned; that is to say, the money was actually raised, and therefore the Commissioners were fully justified in incurring the liabilities; and it would follow, that no continuance of the work can properly or justly be provided for, without the discharge of the work incurred. Mr. Killaly reports a sum of 3,500*l.* due to contractors: were the intentions of the Legislature carried into effect by a forced sale of debentures to the amount of 12,000*l.*, this sum would be immediately paid.

The present proposal is to raise 5,000*l.* in this manner, for the work to be yet done.

Considering the sum necessary for the contemplated purpose, the Council are prepared to advise the addition of the sum of 3,500*l.* to the loan for this work, provided it can be raised by a temporary advance from the banks, as above proposed.

On the Kingston and Napanee Road, the debt amounts only to 150*l.*, and therefore no distinction need be made on the subject of the old debt or the new expenditure.

On the Queenston and Grimsby Road, a debt has been incurred of 1,250*l.*, for which the Council do not think the Government is called upon to use extraordinary means to provide.

The issue of debentures in lieu of money is contrary to the spirit and letter of the Acts of Parliament: money is required to be raised by the Receiver-General, and paid to the Commissioners; if debentures be issued in lieu of money, it will amount to the substitution of depreciated Government bonds in lieu of money; it will form a recognition of a debt by the Government, and its discharge in a medium which will not pay the amount of the debt, but which will be a legal discharge of it. The creditors who receive the debentures are probably much in need of money, and will have to realize at any sacrifice; if they lose much by the operation, a claim will immediately be founded for reimbursement, and moreover, the public securities will be depreciated even more than by a forced Government sale. The contractors and the Commissioners alike speculated upon the sale of debentures, and with their eyes open they contracted the debts, knowing the money was not realized. The Commissioners must therefore bear the blame of expenditure, which they had not the means of meeting, and the contractors await the time when money can be raised in the ordinary manner to pay them.

The same remarks will apply to the West Toronto Road, as well as to the roads to the north and east of the city; but in these cases, it is believed, advances have been made by the banks, and a temporary delay will not be productive of much inconvenience, and it is not at all probable that payment in debentures, payable in this province at par, would at present be accepted.

The same observations will probably be found to apply to all the other debts, in which cases the Council think the offer of debentures payable in the province in lieu of money would not only be inexpedient, but would also be unacceptable to the creditors.

The debt due by the Commissioners of the Welland Canal appears to have been incurred very advisedly and necessarily, but there appears no immediate necessity for its discharge, until means can be acquired in the ordinary manner.

The Executive Council conclude these observations by a general remark applicable to all expenditure of money for which the public finances are liable; that is to say, that the money should be expended by paid officers under the control of the Government for the impossibility of managing the finances of a country, when the power of expending money, and the burden of providing it, are placed in distinct and independent bodies, is demonstrated, as well in practice as it would seem to be in theory, upon all sound political argument; and they

## PAPERS RELATING TO

they therefore express the hope that, in place of the present mode, some general department of public works may be substituted, and that in merely local matters, the necessity of providing means may fall upon the same persons that have charge of the expenditure, or, at least, that the latter should be under the complete control of the former as to the amounts for which they incur liabilities.

All which is respectfully submitted.

(signed) *R. B. Sullivan, P. C.*

(signed) *G. A.*

No. 3.

Government House, Toronto, 30 June 1840.

Sir,

With reference to the subject of the advances made to the public works of this province, I have the honour to inform your Excellency that I have completed the arrangement with the bank of Upper Canada for the loan of 40,000 *l.*, to which I alluded in my despatch of the 20th instant.

I have accordingly communicated to the Commissioners of each of the public works designated in your Excellency's despatch of the 20th ult., the determination of the Government to make an advance to them to the extent specified in that recommendation.

With a view to show at one glance the course adopted, I have caused the accompanying schedule to be prepared, which I forward for your Excellency's information.

In making this communication to the different boards, I adopted in each case the recommendation of Mr. Killaly's report, both with respect to the amount of appropriation to the work, and to the conditions and restrictions under which the expenditure was to take place.

With regard to the Trent and Inland Waters Navigation, I adopted the terms of your Excellency's despatch of the 18th instant, and made the communication to each of the Commissioners accordingly.

I impressed upon the Commissioners the necessity of economy in the management of the money placed at their disposal by the Government, and required that reports of their proceedings in the disposition of it should from time to time be furnished to the Government, as might be necessary.

I am in hopes that these measures will, as far as the defective constitution of such boards for the outlay of public money will permit, be efficient to insure such an expenditure as will effect the specific objects in view. With regard to the Welland Canal expenditure, I have no doubt whatever that the instructions of the Executive Government will be pursued in the expenditure of the money appropriated for that service.

I have, &c.

The Right hon. C. Poulett Thompson,  
&c. &c. &c.

(signed) *Geo. Arthur.*

MEMORANDUM as to the Appropriation of MONEY for PUBLIC WORKS.

There will be at the disposal of the Government the following Sums, at the following periods; viz.

	£.	£.
July - - - - -	10,000	
August - - - - -	10,000	
September - - - - -	10,000	
October - - - - -	10,000	
	40,000	40,000

From these are to be paid,—

	£.	
Welland Canal - - - - -	13,000	
Kingston and Napanee Road - - - - -	5,000	
North Toronto ditto - - - - -	7,000	
Hamilton and Brantford ditto - - - - -	600	
Dundas and Waterloo ditto - - - - -	5,000	
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District - - - - -	4,000	
Trent Navigation - - - - -	1,000	
	35,600	
Surplus - - - - -	£.	4,400

The following will be the Appropriation in the respective Months :

July: Amount at the disposal of the Government - - £. 10,000.

Disposal :

	£.		£.
Welland Canal - - -	3,000		
North Toronto Road - - -	2,000		
Hamilton and Brantford ditto - - -	600		
Dundas and Waterloo ditto - - -	1,500		
Kingston and Napanee ditto - - -	1,000		
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District - - -	1,200		
Trent Navigation - - -	300		
		9,600	
Surplus - - - £.			400

August: Amount at the disposal of the Government - - £. 10,000.

Disposal :

	£.		
Welland Canal - - -	5,000		
North Toronto Road - - -	2,000		
Dundas and Waterloo ditto - - -	1,000		
Kingston and Napanee ditto - - -	1,000		
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District - - -	800		
Trent Navigation - - -	200		
TOTAL - - £.		10,000	

September: Sum at the disposal of the Government - - £. 10,000.

Disposal :

	£.		
Welland Canal - - -	5,000		
North Toronto Road - - -	1,500		
Dundas and Waterloo - - -	1,500		
Kingston and Napanee - - -	1,000		
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District - - -	800		
Trent Navigation - - -	200		
TOTAL - - £.		10,000	

October: Sum at the disposal of the Government - - £. 10,000.

Disposal :

	£.		
North Toronto - - -	1,500		
Dundas and Waterloo - - -	1,000		
Kingston and Napanee - - -	2,000		
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District - - -	1,200		
Trent Navigation - - -	300		
		6,000	
Surplus - - -			4,000
TOTAL Surplus - - - £.			4,400

PAPERS RELATING TO

RECAPITULATION:

TOTAL Amount at the disposal of Government, as before - - £. 40,000.

	£.	
Welland Canal:		
July - - - -	3,000	
August - - - -	5,000	
September - - - -	5,000	
		13,000
North Toronto:		
July - - - -	2,000	
August - - - -	2,000	
September - - - -	1,500	
October - - - -	1,500	
		7,000
Hamilton and Brantford:		
July - - - -	600	
		600
Dundas and Waterloo:		
July - - - -	1,500	
August - - - -	1,000	
September - - - -	1,500	
October - - - -	1,000	
		5,000
Kingston and Napanee:		
July - - - -	1,000	
August - - - -	1,000	
September - - - -	1,000	
October - - - -	2,000	
		5,000
Commissioners for the Improvement of the Navigation of the Inland Waters of the New Castle District:		
July - - - -	1,200	
August - - - -	800	
September - - - -	800	
October - - - -	1,200	
		4,000
Trent Navigation:		
July - - - -	300	
August - - - -	200	
September - - - -	200	
October - - - -	300	
		1,000
TOTAL - - - - £.		35,600
Surplus - - - - £.		4,400

23 June 1840.

No. 4.

(Confidential.)

Sir,

Castle St. Lewis, Quebec, 30 June 1840.

IN reply to your despatch of the 20th June, I beg to inform your Excellency that I quite concur in the propriety of adopting the course recommended by the Executive Council, and approved by yourself, for raising the sums required for the assistance of the public works of the province, referred to in my despatch of the 20th May, by loans from the banks.

With regard to the arrears due to contractors on obligations contracted by the Commissioners, I am of opinion that a payment in debentures at par of such of them as may be finally admitted would be quite sufficient to satisfy the justice of the case, and care may be taken to prevent any demand being hereafter made for difference (should there be any) between the par and the market price they may obtain, by making the receipt of these debentures at par a condition of the interference of the executive at all.

I have, &c.

(signed) C. Poulett Thomson.

His Excellency Sir George Arthur, K.C.B.

— No. 5. —

## Copy of a DESPATCH from Lord Sydenham to Lord John Russell.

My Lord,

Government House, Montreal, 22 February 1841.

THE time is now approaching when it will become necessary for me to explain the extent of assistance towards the financial concerns of this province, which the Imperial Parliament may, in its wisdom and generosity, think fit to afford. On the opening of the United Legislature I am bound to make a statement to this effect, and it is, besides, indispensably required with a view to the arrangements which I shall be called upon to submit for the preservation of the public credit of the province, and the continuation of the great public works by which its prosperity can alone be assured.

In my despatch of the 27th June last, No. 129, I furnished a full and detailed statement of the financial situation of each province, as well as an estimate of the position which the finances of the united province would probably present after the union. The only variation upon that estimate which the experience of what has since occurred offers is, that, on the one hand, the revenues of the two provinces have increased, and, in my opinion, may be therefore calculated as likely to produce 10,000*l.* or 15,000*l.* a year more than I then reckoned upon, even under the present system of taxation, and on the other, the debt of Upper Canada has been increased by about 100,000*l.* by the assent which Her Majesty has been advised to give to the Upper Canada Act for buying out the private shareholders of the Welland Canal; and that of Lower Canada has been augmented by the loans authorized to be raised within that province, for different public works to the extent of 26,000*l.* In this last case, however, the tolls to be received will most undoubtedly cover, and eventually pay off, the sums borrowed, and the province does nothing more than lend its credit for the transaction, though I regret to say that, even with that double security, the funds can only be raised at an interest of from six to eight per cent., and, consequently, at a heavy sacrifice.

Her Majesty's Government have, therefore, the whole state of our finances distinctly before them. The total of debt may be stated at 1,325,000*l.* Colonial sterling, or 1,226,000*l.* British sterling.

That the province of Canada possesses the most ample means of paying not merely the interest, but of refunding the principal of this debt, there can be no doubt whatever, and I do not think it necessary to call upon the generosity of the mother country to expend a single shilling, although it would be easy to show that even if Great Britain were to place at the disposal of the provincial government a sum equal to the whole amount of its debt, as a free gift, it would be a wise economy, on its part, for the Imperial Treasury can only obtain relief from the heavy expenditure which it is now annually called upon to incur within the province, equal nearly each year to that amount through the settlement of the domestic affairs of the colony, and by securing its prosperity, and the entire developement of its natural resources.

But the assistance of the mother country is indispensable to enable Canada either to support its present burthens, or advance in that career which may render them light hereafter.

Nearly all the Canadian debt has been contracted for public works, which are begun but not completed, from which, when completed, a revenue will be derived, but which, at the same time, can only be rendered thus productive by fresh expenditure. The province is sinking, therefore, under the weight of engagements which it can only meet by fresh outlay, whilst that very present inability to meet its engagements, by destroying its credit, prevents it from obtaining the means for this expenditure, through which it can alone extricate itself permanently from its difficulties.

I can furnish no stronger illustration of this state of things than the Welland Canal. The total outlay upon this work has been about 400,000*l.* currency, and I regret to say that it has been most improvidently and unwisely expended, owing to the wretched system which has been heretofore followed, both with regard to the money grants, and to the construction of public works, by assistance from public funds. The tolls, however, of this canal, thus imperfectly made, which were, in the year 1838, about 6,000*l.*, and in 1839, about 12,000*l.*, have last year amounted to 24,000*l.*, and would, I entertain not the slightest doubt, amount to between 40,000*l.*

No. 5.

Despatch from  
Lord Sydenham to  
Lord John Russell,  
22 February 1841.

and 50,000*l.* next year, if the canal could be kept open, and to a far larger amount hereafter. But unless a very considerable sum can be raised, equal almost to that already expended, this great work must inevitably go to ruin, and this undertaking, which is now the joint property of the province and of the Imperial Government, and might be made, by fresh expenditure wisely conducted, amply to repay all that has been expended on it, will be irretrievably lost. It would be idle, however, for the Canadian Government to attempt, unassisted, to obtain the necessary funds. Its credit is unhappily so low, that it cannot hope to do so; and even if it could find capitalists willing to undertake the operation, an exorbitant rate of interest of eight or ten per cent., or an enormous sacrifice of capital, by the sale of debentures under par, would destroy nearly all chance of its succeeding, in a commercial point of view.

I have given this canal as one instance, but the same may be shown to be the condition of nearly all the works for which the debt of this province has been contracted. They are either in themselves incomplete, and consequently a dead weight, or rendered useless by the absence of other improvements necessary to make them productive.

It is in the power of Parliament alone, therefore, to afford the necessary assistance. What is required is such aid as shall at one and the same time diminish the annual charge upon the provincial treasury for debt already incurred, and by raising the credit of the province, enable it to obtain the additional funds required to make its fresh expenditure productive; and I am, satisfied that this may be done without the expenditure of a single shilling, and with perfect security.

The plan which I was formerly authorized to propose, namely, the guarantee of a loan for Canada to the extent of 1,500,000*l.*, would effectually secure both these ends.

I should propose, therefore, that the Treasury should be authorized to raise a loan to that amount—the proceeds to be applied, first, to the liquidation at par of the Canadian debt, and the residue for the completion of such public works as might be deemed expedient.

This debt to be made a first charge upon Canadian revenues, before all other debt, if any afterwards be contracted by the Province, and to be specially provided for as such by the Canadian Legislature. All tolls and other securities which had been mortgaged to the province as security for the present debt to be made over in the same way. The Canadian stockholders to be compelled to receive their money at par, or new stock, at a price proportionate to it.

No portion of the fund applicable to public works to be expended on any work which was not wholly and absolutely under the direction of the Executive Government, whether private shareholders had or had not any interest in the undertaking.

The advantage of this plan is twofold: first, by at once paying off the present stockholders, the province would be relieved from an annual charge upon the whole debt of nearly two per cent., inasmuch as the rate of interest now paid is about 5½ per cent., whilst under the guarantee of Great Britain, the sum could probably be raised at 3½; and next, that by these means the stockholders could not be able to derive the unfair advantage they would otherwise acquire from the greatly increased marketable value which their stock would undoubtedly obtain, if the credit of Canada generally were materially raised through the assistance in any other way of the British Government—an advantage they could have no right to.

The stockholders have, it is true, a right, as will be found set forth in paper (B. b.) of my despatch of the 27th June, not to be paid off before certain fixed periods, varying from 1842 to 1860; but, on the other hand, their stock is not now worth more than 75*l.* or 80*l.* for the five per cent. and 85*l.* to 90*l.* for the six per cent. if it be saleable at all, and, unless the Imperial Government interferes, will never again probably be worth par. They will therefore be amply compensated for this compulsion, though against the terms of their bargain. Indeed, if Her Majesty's Government consent to propose this plan, I entertain little doubt that the Chancellor of the Exchequer may not consider it unjust to affix even a lower rate than par for the repayment of the five per cent. stock.

With regard, too, to the residue of the loan after redemption of the debt, the plan which I suggest offers no less advantage, both to the Imperial Treasury and to the Province. I have already stated that fresh outlay is indispensable in order to  
render

render the public works productive. The employment, therefore, of this portion of the whole loan for this purpose, affords additional security that the whole, both interest and capital, will be repaid by the Province, and, at the same time, by so greatly enhancing the credit of the Province, any further sums it may be found necessary to raise, in order fully to complete the works, will be attainable at a low rate of interest, even upon provincial security alone.

This is the mode which, without entering further into details, I would venture humbly to suggest, as the best by which the assurances I was authorized to give, that pecuniary relief would be proposed to Parliament, may be fulfilled. It may indeed be contended there that the guarantee of a colonial debt is impolitic. Upon this point, however, your Lordship and Her Majesty's ministers will of course be prepared with a ready answer; but I may be permitted to remark, that, if I know any thing of the feelings of the British population of Canada, the generosity of the mother country will bind them to it more than ever; and if the opportunity I have now had of studying this country has not been wholly thrown away, I am convinced that it is by such assistance, leading to so great practical results in the increase of the wealth and commerce of the province and of the comforts of its inhabitants, that Great Britain may make the colony less of a burthen, and far more a benefit to her, than it has ever before been.

I have, &c.

(signed) *Sydenham.*

—No. 6.—

(No. 282.)

COPY of a DESPATCH from Lord *John Russell* to Lord *Sydenham*.

My Lord,

Downing-street, 11 January 1841.

IMMEDIATELY after the receipt of your Lordship's despatch, No. 129, of the 27th of June, relating to the financial condition of Upper and Lower Canada, I entered into communication with the Lords Commissioners of the Treasury on the subject. I inclose, for your Lordship's information, a copy of the letter which I wrote upon that occasion. In answer to that reference, the Lords of the Treasury represent to me that they are unable to take any proceedings for granting financial assistance to the Canadian treasury until they shall be in possession of the explanation promised in your despatch, as to the mode in which it would be most advantageous, with reference to the peculiar debt of Upper Canada, that relief should be afforded. I must therefore beg your Lordship to proceed directly to state your views to me in detail, in order that I may communicate them to the Treasury for the further deliberation of their Lordships.

I have, &c.

(signed) *J. Russell.*

No. 6.

Despatch from  
Lord John Russell  
to Lord Sydenham,  
11 January 1841.

24 July 1840.

Enclosure in No. 6.

My Lords.

Downing-street, 24 July 1840.

I HAVE the honour to transmit for your Lordships' early and serious consideration the accompanying copy of a despatch, with enclosures, from the Governor-general of British North America, containing an account of the present and the expected financial condition of the provinces of Upper and Lower Canada.

At the same time I have to state, that with respect to the immediate loan of 50,000*l.*, which the Governor-General earnestly solicits Her Majesty's Government to grant for the relief of the Upper Province, I am not aware that your Lordships have any power to grant it, and I cannot advise an application to Parliament for such partial assistance.

Your Lordships should be apprised that Her Majesty's Government have always had it in contemplation to support the credit of Canada, by guaranteeing the Upper Canada debt. Previously to quitting this country, the Governor-general was informed by Her Majesty's confidential advisers of this intention, and was left at liberty to announce it, if he had thought it necessary, in Canada. Although Mr. Thomson abstained from making such an announcement, and Her Majesty's Government therefore stand unpledged and uncommitted,

Encl. in No. 6.

No. 129, 27 June  
1840.

high motives of public policy render the proposal of such assistance to the finances of Canada scarcely less imperative on the Government than it would have been had a solemn engagement been entered into on the part of the Crown.

The utmost extent to which the ministers of the Crown can proceed is to promise to recommend to Parliament, in the next session, such a guarantee of the actual debt of Canada, as may enable the legislature to reduce the interest now payable to a lower rate.

I would consequently wish your Lordships to consider in what manner this guarantee can most properly be effected. When apprised of your Lordships' views upon the subject, I propose to instruct the Governor-general to announce to the Assembly of the United Province the intentions of the Crown to ask the concurrence of Parliament in effecting this important object, in the manner which your Lordships shall deem most advisable.

The Lords Commissioners  
of Her Majesty's Treasury.

I have, &c.  
(signed) *J. Russell.*

—No. 7.—

COPY of a DESPATCH from Lord *Sydenham* to Lord *John Russell*.

No. 7.  
Despatch from  
Lord *Sydenham* to  
Lord *John Russell*,  
25 Feb. 1841.

Page 53.

Government House, Montreal,  
25 February 1841.

My Lord,

By the messenger who arrived this morning, I have had the honour of receiving your Lordship's despatch (No. 282), of the 11th January.

On the 22d instant I anticipated your wishes, as conveyed to me in this despatch, by explaining the manner in which I ventured to think that Her Majesty's Government could best afford the assistance to the finances of this province, which I was authorized to hold out an expectation of their receiving. I can add but little to what I had then the honour to submit, but I avail myself of the return of the messenger to make one or two remarks, in consequence of what I find in your Lordship's letter to the Lords of the Treasury.

The plan which I have submitted, implies the guarantee of a loan to the extent of 1,500,000 £, which exceeds by a sum of between 200,000 £ or 300,000 £, the total debt of the province. I took this amount, because it was that to which I was authorized to go by the communication to which your Lordship refers, but I should not have done so if I was not satisfied that it is most desirable upon other grounds that the assistance to be rendered by the Imperial Government, should not be limited by simply effecting a reduction in the annual charge for the interest of the debt of Canada, but that it is expedient in the interest both of the province and of the mother country (if the latter interfere at all) to go beyond this.

I have already explained that the debt of this province having been contracted nearly altogether for public works, which are now incomplete, and consequently unproductive, is in fact either a dead weight upon the revenue of the country, or a profitable investment of capital, exactly according to the means which may be at the command of the provincial government. If no means can be found to finish these works, either by an advance of money, or by so improving the credit of the province as to enable it to borrow in the market at a rate of interest which is not exorbitantly high, they must go to ruin, remain unproductive of any revenue, and in that case the annual charge for interest is as much a dead weight upon the income of the country as the interest of the national debt in England, the capital of which has been expended in armaments. The interference of Parliament, by affording its guarantee for this debt, would, under this supposition, do no more than reduce the annual charge upon the provincial revenue. The capital already invested could not be rendered productive, and although the province would undoubtedly be a gainer by the saving of interest, the advantage to it would stop there, whilst the security to the mother country for the repayment of interest and principal would be limited to the ordinary resources of the colony, unaided by any return from the works for which the original debt had been contracted.

On the other hand, however, if means are found through the assistance of Parliament, not only to effect the saving of interest on the debt already contracted, but to aid in rendering productive the works on which the capital which they represent has been expended, the annual charge on the provincial funds is rendered light,

light, and perhaps may be altogether removed, and the security to the Imperial Treasury in the same ratio is improved, and repayment rendered certain.

It is with this view that I so strongly recommend Parliament to go in its guarantee to the extent of the sum I have named, by which the double purpose will be served, and its own security stand in a far better position than it would otherwise do.

I would further remark, with reference to an expression in your Lordship's letter to the Treasury, that my earnest hope is, that whatever arrangement is effected with the consent of Parliament, will be made in England. Here we are in no condition to effect a transaction of this magnitude or of this nature. The plan which I have had the honour of submitting is based upon this conviction; let Parliament decide upon the terms on which it will consent to afford its guarantee for a fixed sum; let it fix the conditions on which the present creditors of the province shall receive back their capital or take fresh stock under the imperial guarantee; let it declare the stipulations under which it will permit the surplus of the loan which remains after the liquidation of the debt, to be appropriated in the province, that is, for public works solely under the responsibility of the Executive; let it affix the conditions which it deems advisable for its own security as to the mortgage of the provincial revenues and of the tolls, and let this arrangement, thus defined and regulated, be offered for the acceptance of the Provincial Legislature.

For this I have provided, in the plan which I had the honour to submit.

There only remains one point on which it occurs to me that it may be desirable to add any thing; in the plan which I have given, the main principle consists in the compulsory repayment of their capital to the stockholders, notwithstanding the engagement entered upon with them that repayment should not be made for 15 or 16 years. On this it may be asserted that it is a violation of their contract, and therefore unjust to these parties.

That it breaks through the contract is of course undeniable, but it is as impossible to deny that the arrangement, compulsory as it is, affords the most unexpected advantages to them, and if it were possible, as it is not, to propose it for their acceptance or refusal, is such as not one of them would reject.

There is no other mode by which Parliament could afford its assistance with advantage to the province or justice to itself; and the creditors of Canada must be content, if this course should not be adopted, with the security they have at present. Hitherto, by continued loans, and with infinite difficulty, the interest upon the Upper Canada debt has been paid, but in spite of this, what is the marketable value of these securities at the present time? If saleable at all, the five per cent. stock may be worth 75 or 80; the six per cent. 85 or 90. For the moderate loans required in this province, where to the security of the revenue is superadded that of the tolls on the canal or the turnpike-road for which the money is required, I am even now daily compelled to authorize the payment of an interest of seven and seven-and-a-half per cent. The Montreal Harbour Bonds, the best security in America, because the actual tolls receivable must inevitably pay both capital and interest, sell at this moment at 90 for six per cent. debentures. It seems to me, then, perfectly idle to suppose that more than a full measure of justice will not be given to the creditors of the province under the arrangement I have suggested; not one can receive less than he advanced, for the stock has never been above par, at or under which it was taken, whilst at present no one can obtain within 15 or 20 per cent. of that amount for it, or, if this arrangement be not effected, ever probably hope to get more.

Your Lordship will, I hope, forgive my entering so much at length into these details, but the extreme anxiety which I feel to be furnished with the decision of Her Majesty's Government before the opening of the Legislature, and the conviction to which I have arrived, after the best consideration, that no other plan is possible, must plead my excuse.

I have, &c.  
(signed) *Sydenham.*

—No. 8.—

(No. 369.)

COPY of a DESPATCH from Lord *John Russell* to Lord *Sydenham*.

My Lord,

Downing-street, 3 May 1841.

No. 8.  
Despatch from  
Lord John Russell  
to Lord Sydenham,  
3 May 1841.

THE despatches which I have received from you on the general state of the province of Canada, the reports with which you have furnished me on several important subjects, and the approaching meeting of the Council and Assembly of the United Province, have induced me to explain to you at this time the views which Her Majesty's Government entertain on the topics most interesting to the welfare of Canada.

In any measures that may be adopted, it must be taken for granted that Her Majesty persists in the determination to maintain at all hazards, Her Royal authority in Canada. Neither the honour of Her Majesty's Crown, nor the support due to Her loyal subjects in British North America, nor the provident care of the interests of the empire at large, would permit any deviation from this fixed principle of British policy.

At the same time Her Majesty's advisers are not insensible to the difficulties imposed upon them in carrying into execution the purpose of the Crown. A province bordered by an open frontier of more than a thousand miles, approached with ease at all times by the citizens of a neighbouring and powerful state, separated from England not only by the ocean but by the rigours of climate and season, must be maintained by a judicious preparation for defence in time of peace, and a vigorous exertion of the resources of the empire in time of war, or not at all. To trifle with the fortunes of men whose lives and properties are freely devoted to the service of England, or to encourage foreign aggression by neglect or apathy, would be far worse than the spontaneous surrender of these important possessions of the Crown. The Canadians might in such a case incur no risk, no blood need be shed, and the treasures of the empire might be spared. The other course would be cruel to a brave people, and unbecoming the character of the country.

But, as I have already said, we have no alternative. We have only to consider the means of binding Canada more firmly to this country, of developing her resources, of strengthening her British population, of defending her territory, and of supporting and encouraging the loyal spirit of her people.

In this spirit, then, I shall touch upon the principal topics connected with these views:—

#### 1. FINANCE.

You have stated the debt of the United Province to amount to 1,226,000 £, and with the sum required to complete public works necessary for the free passage between the western portion of the province, the St. Lawrence and the sea, to about 1,500,000 £.

The Queen's Government coincide in your views of the expediency of making such an arrangement as may employ the credit of this country for the benefit of the finances of Canada, and have given their best consideration to the plan proposed in your despatches. They are of opinion that such an arrangement, if it can be carried into effect, with the consent of the creditors, would be in every way desirable, but they feel that the objections to a Bill, compelling parties to receive payment of their money in breach of agreements entered into with them by competent authority, are insuperable.

Her Majesty's Government are ready to give any assistance in conformity with your proposal, which does not appear to them inconsistent with good faith. They are ready to propose to Parliament to guarantee a loan which may be required for public works (under the restrictions suggested by you), for the repayment of such part of the debt as may be now redeemable, or may be held by creditors, who shall declare themselves willing to accept reasonable terms.

With regard to this latter sum, it appears to the Government most expedient that you should fix such terms as you may consider sufficient to induce the creditors to accept the proposed equivalent (not of course exceeding 100 £ for every nominal 100 £ lent); that you should make known such tender in such way as may appear to you most advisable, giving the holders sufficient notice and information, and fixing a given day before which the willingness of the parties to accept such offer should be sent in.

To

To do this an Act of the Canada Legislature will be necessary, and when that is obtained the subsequent arrangements might be made; or through some party deputed on the part of the Canadas to this country with full instructions.

It may, perhaps, be also expedient at the same time by law to enable trustees, &c. to account, as in cases where the interest of loans are received in this country. Upon receiving the information of the assent of the parties accepting the terms proposed, the necessary means may be taken in this country to raise the requisite funds; and it may be expedient that you should fix the day for the paying off such assenting creditors and other claims at a time when the Parliament of this country is sitting; for should it be necessary to have recourse to a loan, such a measure has always been considered open to objection during the prorogation of Parliament.

## 2. DEFENCE.

I have perused with great interest the enclosures in your despatch of 24th December, containing reports from Lieutenant-general Sir Richard Jackson, and Colonel Oldfield, the commanding officer of engineers, on this subject.

The question is one of so much importance, that I was not satisfied with referring your despatch to the Master-general and Board of Ordnance, but I also asked the opinion of the Commander-in-Chief, and requested him to consult the Duke of Wellington, whose high authority on every military subject is in this instance of peculiar weight, from the attention he has for many years given to this matter, both on political and on military grounds. Their opinions are transmitted with this despatch.

Her Majesty's Government agree in opinion with Lord Hill and Sir Richard Jackson, that "no dependence upon the decided superiority of our troops, and arrangements made for defence connected with them, should lead us to neglect the construction and completion of permanent works calculated for the protection of the points of most importance to us."

They likewise concur in his Lordship's opinion, that in the event of the construction of these or any other works, a large effective regular force, and a militia, registered and enrolled, but not called from their districts, except in case of invasion, will be indispensable.

But it cannot be reasonably expected that works on a large scale should be undertaken without reference to the great expense to be incurred.

I have therefore to inform you, that the Government are prepared to state their opinion that, beyond the ordinary estimates of the year, 100,000*l.* should yearly be applied for the defence of Canada. At present, this sum is nearly absorbed in the maintenance of the militia and volunteers. But by a more economical plan this expense might be greatly diminished, and a great portion of the sum of 100,000*l.* left for the improvement of military communications, and the erection or repair of fortifications.

You will hear further from me on this point when I have more fully considered the various plans proposed.

## 3. EMIGRATION.

I have read with great interest your despatches on this subject, and I agree with you in opinion that it would not be wise for this country to engage to convey emigrants to Canada at the public expense. But neither can I agree that this country ought to pledge itself indefinitely to the expense of maintaining the emigrants in Canada till they are able to obtain employment.

I quite concur, however, in the sense you entertain of the importance of the object.

It is a hardship to Canada that she should be obliged to maintain the pauper emigrants from the United Kingdom, who arrive in a state of destitution and disease. But this object was formerly provided for by the imposition of the emigrant tax, and I think the renewal of this tax should be recommended to the Legislature of Canada.

I have recommended to the Treasury that the expense thus incurred by the emigrant should, in consideration of the great political advantages likely to flow from emigration to Canada, be defrayed by this country.

Supposing a tax of 5*s.* a-head, 32,000 emigrants might be freed from the tax for 8,000*l.* This is a sum which I think Parliament might be asked to vote for so important an object. The tax might then be paid in Canada, not by the captain

of the passenger ship, but by the Commissary-general, on proper vouchers of the number of emigrants landed.

In this case, the only emigrants paid for must be those whose fitness for emigration had been previously attested by an emigration agent in this country.

The emigrant tax would then act as a check, and very properly so, on those who could not obtain the attestation required.

I have now adverted to the three principal topics to which I have called the attention of the Queen's confidential servants. There are many others of great importance to the welfare of Canada, but upon which I am anxious to receive your reports before proceeding further.

Of this kind are the engagements of the land companies, and the future disposal of the Crown lands.

The means of communication for commercial purposes within the British territory, through the whole length of Canada, must always be a matter of the highest interest, both to Canada and to this country. But it seems to me that with a legislature in Canada disposed to co-operate with the Queen and the Parliament of the United Kingdom in developing her vast and unexplored resources, there is every hope that we shall behold the prosperity of that noble province augment every year, and add more and more to the strength and stability of the empire.

(signed) I have, &c.

*J. Russell.*

— No. 9. —

(No. 57.)

COPY of a DESPATCH from Lord *Sydenham* to Lord *John Russell*.

No. 9.

Despatch from  
Lord *Sydenham* to  
Lord *John Russell*,  
6 May 1841.

For Lord *John  
Russell's* Despatch,  
26 March 1841,  
No. 344, vide  
Papers ordered by  
the House of  
Commons to be  
printed, 28 Sept.  
1841, No. 49.

My Lord,

Government House, Montreal, 6 May 1841.

I HAVE the honour to acknowledge the receipt of your Lordship's despatch of the 26th March, No. 344, enclosing a Memorial addressed to you by the three Canadian Land Companies, and by other persons connected with Canada, respecting the advancement of agriculture and commerce, and the completion of the great public works in this province. Your Lordship adds a statement of the views entertained by the memorialists on these subjects, as explained to you at an interview.

The proposition of the memorialists seems to be (so far as it is possible to affix a meaning to words so extremely vague and indistinct) to raise and advance as a loan the money necessary for the completion of various works, and for the introduction and settlement of emigrants on the faith of the revenue arising from the sale of land and timber, the execution of the works being as heretofore left with the Local Government, but due security being provided by law for their speedy completion, and for the appropriation of the land revenue to the payment of the interest on the loan.

Passing over the legal objections to this proposition, which at once occur, and which were stated by your Lordship to the memorialists, I must observe that, even with the explanation contained in your despatch, the scheme is presented in so intangible a shape, that it is difficult to know in what manner to reply to it.

There can be no question about the importance to this country of obtaining a very considerable loan, and in so far I approve of the memorialists' views; but in every other respect they appear to me impracticable. The land revenue of both Canadas, deducting the payments of the Canada Company, which will cease next year, and those from the British American Company, which will never be renewed, is very inconsiderable, and is already pledged as part of the consolidated fund towards the existing debt. If, as the memorialists assume, the consolidated fund will pay the charges on it, leaving a surplus to the amount of the land revenue, the province will be able, and no doubt will be disposed, to borrow in the London money market to the full amount which can be obtained by such surplus; and in that case the security of the consolidated fund, including the land revenue, will be far better and more easily negotiable than the security of the land revenue, without the consolidated fund. If the consolidated fund be not adequate to the charges

charges on it without the land revenue, it would be a breach of faith to withdraw that revenue from the security of the present creditors, and the scheme must consequently fall to the ground. In this view, therefore, I think the proposition impracticable.

Again, the memorialists, while they would leave to the Executive Government the execution of the public works, propose to stipulate for some legal provision for their completion, &c. What is the nature of this provision does not appear; but if it be intended, as I suppose it must be, to prescribe any particular manner in which, or any particular time within which, the works in question should be completed, I think it decidedly objectionable.

The Local Government and Legislature are far more intimately acquainted with and interested in the works in question than any set of gentlemen residing in London, the majority of whom, probably, have never crossed the Atlantic. Errors were no doubt committed some years ago, in the commencement of one or two of the principal public works; but those very errors will be the safeguard against similar mistakes hereafter, more especially since the establishment of the Board of Works, and since the Union Act has placed in the hands of the Government the initiation of money votes. It is my intention to submit to the Legislature, at their next meeting, a plan for the promotion of all the principal works in this country; and the decision on the measures to be adopted may properly be left to them without the interference of the companies in question. And there is this further and conclusive objection to their proposal: that, were a loan raised on the understanding that legal provision should be made for the completion of certain works in a prescribed manner, the law which might be passed on the subject would take the form of a contract, and become irrevocable afterwards, however much the circumstances of the country might alter.

These are some of the objections to the proposal which occur to me most readily. I abstain from following them up, because at the present moment the matter cannot be brought to any practical result. I have already put your Lordship fully in possession of the state of the finances of Canada, and have pointed out the course which should, I think, be adopted. It will be one of the earliest and most important duties of the Legislature on its meeting to take up the same subject.

If the propositions which I have submitted to your Lordship be approved by Her Majesty's Government, the finances and credit of Canada will at once be put on such a footing as to enable her to borrow with ease in the London market the funds necessary to complete her public works. Even should those propositions not be adopted (which I should be very reluctant to anticipate), I have no doubt that the establishment of the union, and the restoration of public confidence in this province, will raise its credit sufficiently to enable it to procure funds. But, as a general principle, I should dissuade the raising of money clogged by any stipulations of an unusual nature, or which do not properly enter into monetary transactions, however advantageous such an arrangement might at first sight appear. If the resources of Canada flourish, as I expect they will, its credit will be good, and it will borrow easily; if they be not, I doubt whether any stipulations or legal enactments in regard to public works, &c., will induce English capitalists to come forward with loans.

At the same time, however, as I consider it my duty to weigh any and every scheme which may be offered by which there is a possibility of this province being benefited, I shall be quite ready, in case these companies delegate to any person power to explain their views, and also empower him to treat with the Government of Canada upon the subject, to give the best consideration in my power to what he may propose, and assist in any arrangement which may be really useful.

I have, &c.  
(signed) *Sydenham.*

—No. 10.—

(No. 113.)

EXTRACT of a DESPATCH from Lord *Sydenham* to Lord *John Russell*,  
dated Government House, Kingston, 28 August 1841.

No. 10.

Extract Despatch  
from Lord Syden-  
ham to Lord  
John Russell,  
28 August 1841.

My duty consists in taking care that whatever works may be undertaken or expenditure incurred, sufficient provision shall be made for defraying their cost, and upholding the credit of the colony, and further in affording all the information in my power as to the best system to be pursued as regards both the execution of the works themselves, and the acquirement of the funds for their completion.

I have accordingly transmitted to the House of Assembly a Message upon this subject, together with a Report from the President of the Board of Works, of which I enclose a copy; by which I have placed before Parliament and the country the best information I possess as to the works which are likely to prove most advantageous, and a scheme for defraying their cost.

It is not in my power to say whether the whole or what part of these improvements will be adopted this session; nor is it my wish to influence the decision of Parliament upon the matter. But whatever may be determined upon, I shall of course take care, acting upon the principles I have propounded, that no expense shall be incurred, for which ample security by increased revenue shall not be afforded.

20 August 1841.

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Enclosure in No. 10.

Encl. in No. 10.

MESSAGE from his Excellency the Governor-general to the Legislative Assembly of the Province of Canada, on the subject of Public Improvements which it may be desirable to carry into effect within the said Province.—(Kingston, 20th August 1841.)

## SYDENHAM.

IN pursuance of the declaration contained in his Speech from the Throne, the Governor-general solicits the attention of the House of Assembly to the public improvements which it may be desirable to carry into effect within the province, and to the means by which those works may be safely and successfully undertaken.

It has appeared to the Governor-general of great importance that Parliament as well as the Executive should have distinctly brought before them, in one general plan, the whole of the different works which are demanded by the public voice, and appear likely to tend to the increase of trade and to the advantage of the country. Such works as the Legislature shall decide upon adopting may thus be conducted upon one uniform system, having reference as well to each particular work as to the whole, and great advantage will result both as regards their execution, and in making provision for the funds necessary for the undertaking.

The Governor-general accordingly directed a Report to be prepared upon the subject by the President of the Board of Works, and that department having now been established by law for the whole province, he transmits this document for the consideration of the House of Assembly.

This Report will be found to embrace all the great improvements which appear at all desirable for some time to come, or that afford promise of rendering a return for the capital to be expended upon them:—the completion of the Welland Canal; the opening the communication between Kingston and Montreal by the St. Lawrence for schooners and steamboats; the improvement of Lake St. Peter, and the navigation between Quebec and Montreal for vessels of large burthen, opening the River Richelieu so as to perfect the navigation through that river by the Chambly Canal; the construction of slides for timber and other works on the Ottawa; the improvement of the inland waters of the Newcastle district; the construction of a port and light-houses in Lake Erie, and the improvement of Burlington Bay Harbour; the establishment or improvement of great lines of road from Quebec to Amherstburgh and Port Sarnia, from Toronto to Lake Huron, and between Quebec and the Eastern Townships, and the improvement of the Metis Road, and of the communications near the Bay of Chaleurs.

The total cost of all these works thus enumerated would involve an expenditure of about 1,470,000 l. Provincial Sterling, to be spread over a period of five years necessary for their completion.

Whether the whole or any part of these works shall be decided on by Parliament, it is clear that in the present financial state of the province, whatever is required for their construction must be provided by drawing on the public credit.

The statement of the provincial receipts and expenditure submitted to Parliament, although exhibiting, after the payment of the charges for the public service, a considerable surplus

surplus in proportion to the revenue, affords nothing from which, as capital, the costs of works of any importance can be defrayed.

Parliament must therefore provide the means for raising the capital required for the execution of these public works which it may determine to adopt, and at the same time afford such security as may be necessary for the annual interest upon the money to be borrowed, as well as for the gradual extinction of the debt, until the works themselves become productive.

If the whole of the works specified in the report are determined upon, the charge for interest upon the total sum required, calculated at the rate of interest usual in this province, would be between 80,000 £. and 90,000 £., a charge which it would be difficult to impose at once upon the country.

Means however exist by which such an increase of the charge upon the revenue of the province may be materially reduced, whilst the capital itself may notwithstanding be provided.

The reduction of the interest of the public debt through the assistance to be afforded by the Imperial Parliament, would probably reduce the present charges upon the provincial revenue by a sum of between 15,000 £. and 20,000 £. per annum, which will thus become available as security for any fresh loan.

There will remain, after effecting this conversion, a surplus of from 250,000 £. to 300,000 £. still further to be raised under the Imperial guarantee at a low rate of interest, by which an additional saving will be effected of about 6,000 £. a year.

A very considerable amount of the capital required might be raised, without any charge whatever for interest, by the assumption by the province of the issue of paper payable on demand, which is now enjoyed by private banks or by individuals, without their being subjected to any charge whatever in return for the power thus accorded to them by the State. If that power were resumed to the fullest extent, a capital representing a revenue of not less than 35,000 £. a year might be provided. But even under such an arrangement as would afford great advantages to the various banks at present issuing paper, as a compensation for their being in future deprived of that power, a revenue of not less than 15,000 £. or 20,000 £. might be safely relied on.

The union of the two provinces has now placed within the control of the Parliament the regulation of the Customs duties, which under the separate Legislatures was attended with so much difficulty, and a wise and prudent re-adjustment of some of these duties will render the revenue far more productive than at present, and easily furnish, without any injury to the trade of the country or any pressure on the people, what may be further required to provide for the remaining charge.

There is also one of the works to which, although great importance is justly attached to it, it will, in the opinion of the Governor-general, be just, as well as possible, to affix a condition by which the annual charge above submitted for the whole may be diminished. The navigation of the St. Lawrence involves the expenditure of nearly one-half of the whole sum calculated on. That work is undoubtedly highly desirable, but it scarcely justifies so great an expenditure at present, unless some diminution of the annual charge for interest upon the sum to be raised can be obtained. Nor is such a diminution to be unhopd for. Many capitalists in England are interested in the promotion of this work, and especially in seeing the communication between Lake St. Louis and Lake St. Francis established on the southern side of the River St. Lawrence. The Governor-general has reason to expect that assistance will be afforded upon this condition, and he would not therefore recommend that this undertaking should be sanctioned, unless, as a condition, the greater part of the capital required for it can be raised at a low rate of interest, not much exceeding that which the province would have to support for such part of its debt as will be guaranteed by England.

Entertaining these opinions, the Governor-general has therefore directed measures to be submitted to the House of Assembly embodying them, which he recommends to their favourable consideration.

However large the expenditure may appear, to which the improvements recommended by the Board of Works will amount, the Governor-general feels that it is his duty, looking to their vast importance, to submit them to the judgment of the country, and a measure will therefore be presented to the House, which comprises the whole of them.

If they are undertaken, it is no less the bounden duty of Parliament and of the Executive Government to take care that means sufficient for their completion are provided, and that the credit of the province shall be sustained in any engagements which are rendered necessary for raising funds for that purpose. He has therefore directed that, simultaneously with the proposal for the works themselves, measures should be submitted to the Assembly for the conversion of the debt, for the establishment of a bank, and for the regulation of the customs, and he desires to express his anxious wish to concur with the Assembly in whatever decision they may arrive at by which objects of such importance to the welfare of the province may be obtained consistently with that due regard to the interests of the people, to public credit, and to the maintenance of engagements without which it would be alike unjust and impolitic to attempt to carry them into execution.

Kingston, 20th August 1841.

MEMORANDA respecting various Public Works heretofore in progress, or projected in the province of Canada; showing the ultimate cost of their completion, and the amount of the appropriations proposed to be apportioned thereto, for the several years respectively.— Prepared and submitted for the consideration of his Excellency the Governor-general.

*The Welland Canal.*

Of those works which are indispensably and immediately necessary to the advancement of the general interests of the country at large, and from which the prospective revenue may be safely calculated upon to pay the interest on the expenditure, the Welland Canal unquestionably stands foremost.

Upon this work, about 491,777*l.* has been expended from time to time upon its construction, and as the locks, the most important part of the work, had been formed with perishable materials, the outlay upon annual repairs has been necessarily very heavy; notwithstanding which, the locks are now in a most dangerous and ruinous state. Of this sum, about 117,800*l.* in stock is held by private individuals, for the purchasing out of which, and thereby placing the work entirely in the hands of the province, a Bill is now before the Parliament.

After a very careful consideration and revisal of the several estimates furnished by the various engineers, the completion of this work, in a permanent and fully sufficient manner, with cut stone locks of 120 feet in length, 26 feet wide, and 8 feet 6 inches depth of water on the sills, together with the required weirs, waste-gates, stone aqueduct over the Chippawa, a steam-boat lock, and a capacious and safe harbour at each of the terminations, widening of the deep cut, widening and deepening of the feeder throughout, I estimate at 450,000*l.*

Of debentures authorized by a late Act of the Provincial Parliament to be issued for this work, about 180,000*l.* remain undisposed of, leaving a balance of 270,000*l.* to be further sanctioned and provided, for the ultimate full completion of the work.

It is no doubt in the recollection of his Excellency that the completion of the canal on the full scale upon which a portion of the St. Lawrence navigation was proceeded with, has been strongly urged upon the attention of Government. The chief arguments used, being the benefit of enabling Atlantic steamers, with cargoes, to proceed to the Upper Lakes, and the advantage which would be obtained in time of war, from having the power of concentrating our naval forces upon either lake, as might be required. The subscriber is of opinion that the scale referred to, viz., locks 56 feet wide, 180 feet long, and 10 feet draft of water, is quite unsuited for sea-borne steamers, and unnecessary for those well suited to the lakes, and to the commerce of the country; and that even if this scale were adopted, at enormous cost, transhipment from the sea to the lake vessels would, notwithstanding, always take place at Quebec or Montreal. In a military point of view, no doubt the second proposed advantage would be great, but being quite beyond the means of the province, the work as necessary for the trade of the country has been alone estimated for. The large lock which is proposed at each end would allow (in case of danger) of the steamers being brought up many miles inland.

From the very unsafe and precarious state of the canal, it would be of the utmost consequence to have the works commenced forthwith, if possible.

As the foregoing total estimate of 450,000*l.* includes the sum of 35,000*l.* for an outer harbour at Port Dalhousie, and 20,000*l.* for one at Port Colborne, which harbours will be available to Her Majesty's vessels and others upon the lakes, independent of the canal, the entire cost of completing the latter may be set down at 400,000*l.* The most prudent rate of expending this estimate, I consider to be as follows:—

From the present to the 1st April 1842	-	-	-	-	£. 50,000
Thence to 1st April 1843	-	-	-	-	150,000
Thence to 1st April 1844	-	-	-	-	150,000
Thence to 1st April 1845	-	-	-	-	100,000

*St. Lawrence Navigation.*

From Lake Erie to Tide-water, after passing the Welland, the next portion of the route which will require an outlay when the other improvements more immediately called for on the river below it are completed, is the part between Prescott and Dickinson's Landing, a distance of about 40 miles, in which the collective falls at a few points amount to about 22½ feet, to overcome which, by the necessary locks, &c., would require about 150,000*l.*; but as the down-stream carriage upon this part of the river is safe and facile, and tug-boats can (although with difficulty) bring up light barges, it is considered unnecessary in the present state of the navigation generally to incur any outlay thereon.

*Long Sault, or Cornwall Canal.*

The improvement of this reach of the river St. Lawrence, in length about 11½ miles, and in which there is a fall of 48 feet, was estimated at 216,343*l.* and was commenced in 1833-34. Shortly after operations commenced, it is stated, that from the increase on the prices of provisions, and other causes, the Commissioners considered themselves justified in adding very largely to the contract rates, in some instances, as much as 30 per cent. Under these increased

increased rates the works have been continued from that time, without reference to any fluctuation in the price of provisions.

The accounts rendered by the Commissioners up to 1st January 1839, show an expenditure of 354,203 *l.* 2*s.* 1*d.* to that date, exclusive of some outstanding claims. I have had a minute and careful estimate made by Mr. Keefer, engineer to the Board, within the last month, from which it appears that the sum of 43,867 *l.* is required to open the canal to the trade, and a further sum of 13,804 *l.* for sundry small works, lock-houses, &c., making in all an amount of 57,671 *l.* 6*s.* necessary for the full completion of the entire of the Cornwall Canal.

Although the advantages to be derived from the improvement of this portion of the navigation would of necessity be very circumscribed, until that between Lake St. Francis and Lake St. Louis was also perfected, yet in favour of the immediate finishing of the Cornwall Canal it may be justly urged:—

First.—That it would enable the river forwarders to have their barges towed up by steam from the Côteau du Lac to Kingston, by which a saving in time of two days would be made.

Secondly.—To avoid the cost of tracking up the Long Sault Rapids, which during the past year, attending this very limited trade, was 3,000 *l.*

Thirdly.—The passenger trade would be much benefited by it.

Fourthly.—Some return beyond the cost of maintaining the establishment of lock-keepers, &c., would be obtained from the large sum already expended, which, until this canal is completed, must remain a *caput mortuum*.

#### *Improvements required between Lake St. Francis and Lake St. Louis.*

The Côteau, the Cedars, and the Cascades Rapids, between these two lakes, present most formidable difficulties to the dragging up of a small light barge with but 15 or 20 tons of cargo. To vessels of any size they are wholly insurmountable. The construction of the necessary locks and canals to overcome these difficulties, Mr. Keefer estimates at 255,900 *l.*; and I have every reason to believe the work can be done for that sum.

#### *Lachine Canal.*

The only remaining barrier, after the foregoing, to the free passage of lake-going vessels between Quebec and Lake Huron, is the Lachine Canal; the necessary enlargement of which would cost, by Mr. Keefer's estimate, 225,300 *l.*

#### *Lake St. Peter.*

The improvement of Lake St. Peter for deeply-laden sea-going vessels is a subject also of very great importance, and has occupied the serious consideration of the Board of Trade of Montreal, who have petitioned the Parliament for an appropriation to fit out the necessary establishment of Dredging Vessels, &c., and they propose a tonnage upon the vessels trading to the port, to pay the interest on the outlay.

The Governor-general will perceive that this proposed appropriation is inserted among the Estimates—see Appendix; but it is very desirable that a sum, say, 1,000 *l.* should be at once made available to make some alterations to the steamer belonging to the Harbour Commissioners, so as to have the nature of this work fully and practically tested, prior to any large expense being entered into.

#### *General Observations upon the foregoing.*

The necessity of involving the province in the cost of forming a second water communication with Tide-water, has been for a long time the subject of dispute and argument with many. Among the number of those who doubted the prudence of it, I was one until latterly; but the vastly increasing trade, doubling almost annually, and the conviction upon my mind, after mature consideration, that the lowering of freight consequent upon affording additional facilities, together with the productiveness of the Western countries, which are only now coming into operation, will increase still further this trade to an almost inconceivable extent, have convinced me that a second and more facile outlet is called for. Besides the transport being confined to the Rideau, the navigation of which depends upon the stability of dams of great height (in one case 60 feet), should any injury arise to one of these dams (as was apprehended last spring), either through accident or malice, the effects of it would be ruinous to half the commercial interests of the country.

I am decidedly of opinion, that the scale upon which the Cornwall Canal was undertaken was unsuited to the means of the province, and was not absolutely necessary for the greatest increase of trade, which the most sanguine may look forward to, and that a schooner navigation combined with a system of tug-boats would have answered every commercial purpose; but now, from the large expenditure already incurred upon the central portion, the little required to complete it, and the comparatively small saving that might be effected upon what remains to be done, by adopting the schooner scale, I am led to conclude that the best and wisest course will be to open the St. Lawrence throughout from Montreal to Lake Ontario for steam-boats and schooners,—not upon the full size of the Cornwall Canal, but on a scale sufficiently large to admit a powerful class of steamers or tug-boats to pass.

The estimates submitted herewith are based upon the principle of locks being adopted, length 175 feet, breadth 40 feet, and 8 feet 6 inches depth of water, but as some time from the present period will, under any circumstances, elapse before the actual building of locks is commenced, the question will in all probability be fully decided as to the power and suitableness of the several modes recently proposed for the propelling of vessels, and this decision will naturally govern the dimensions of the locks, and may seriously tend to a diminution of expenditure.

*River Richelieu.*

Upon the completion of the works of the Chambly Canal now rapidly advancing, the only impediments to an uninterrupted navigation between the River St. Lawrence at Sorel, and the head of Lake Champlain, a distance of about 180 miles, will be presented by the fords near St. Ours, St. Denis, and Belœil.

To remove these obstructions, by means of dredging and clearing the channel of rocks, the Legislature of Lower Canada appropriated a sum equal to about 7,650*l.* of which 4,525*l.* remain unexpended. The outlay incurred under this appropriation has effected nothing, and I am of opinion that the erection of a steam-boat lock, and a dam of moderate height, say 4 or 5 feet over low water, at or near St. Ours, is the most certain mode of obtaining the object in view, and the value of the water power which would be created by the dam, in the midst of a productive country, heretofore without mills, would yield a considerable return towards defraying the interest on the money expended.

The cost of the works is estimated by Mr. Keefer at 21,000*l.*

*River Ottawa.*

The improvement of the navigation of this river is a measure which has been for a long time strongly advocated, principally by those interested in that district of country. The project embraced the full completion of an uninterrupted navigation from the St. Lawrence by the Ottawa, Lake Nipissing, and French River to Lake Huron. The sum of 3,000*l.* was appropriated some time ago to defray the expense of a survey, on which about 1,500*l.* have been expended, but the information as yet obtained, is not at all of such a nature as to hazard an estimate of what the cost of the undertaking would be, and in my judgment this navigation is not required in the present state of the country: in saying so, I would not be understood to mean, that obstacles ought to be opposed by the Government to the project, in case the parties interested should be inclined to proceed in it upon their own resources; on the contrary, arrangements might be made mutually advantageous to them and to the interests of the province.

The improvement on the Ottawa included in this estimate (see Appendix) relates solely to the lumber trade: to afford facilities to which, by the construction of suitable slides at those places where they are most required, and to reconstruct the bridges at Bytown, it is proposed to appropriate the sum of 28,000*l.*

It will be deserving of consideration whether the property in those slides which are now in the hands of private Companies, should not be resumed by the province, remunerating the proprietors according to the terms of their charters.

The propriety of making such an appropriation will be seen, when the considerable revenue derived from this source is borne in mind, and that, notwithstanding the large amounts heretofore received from it by the country, no public money has yet been granted towards affording to this trade that assistance which its present state and prospects show to be so necessary.

*Burlington Bay Canal.*

The dangerous and dilapidated state of this very important work renders it necessary that steps be immediately taken to repair or rather wholly reconstruct it in a substantial and permanent manner. Such is its present ruinous condition, that it cannot be repaired effectually; and a few hours of a heavy blow from the east or south-east might very reasonably be expected to close it up altogether; the consequence of which would be most serious to the mercantile interests of Hamilton and Dundas, and to the extensive and highly productive country of which these ports are the outlets.

However advisable it may be for the purpose of obtaining still water, and have the entrance commanded from the land, to locate this work northward of the existing passage, yet the placing of it so much in shore, as has been lately proposed, I consider unadvisable: by so doing, sail vessels would be prevented from getting out many days during the season, and in making for it, if they did not succeed at once in getting in, would unavoidably be driven aground. The best position for the work, I conceive, is not far from the original natural outlet.

*Improvement of the River Trent and Inland Waters of the Newcastle District.*

The persisting in these works as heretofore contemplated would, as appears by the estimates, involve the province in an expenditure of about 620,000*l.* but from the rates upon which those estimates are based, I am of opinion that 200,000*l.* or 300,000*l.* in addition to that sum, would be required to effect the object.

The line of this intended water communication from the Bay of Quinté to Nottawassaga Bay, with upwards of 820 feet of lockage, a proposed depth of five feet water, continued through a series of lakes and currents, and in many cases extremely circuitous, is in my judgment quite unsuited to the principal purpose for which it was originally recommended, namely, the line by which the produce of the Western States would be sent down to Tidewater.

water. The second argument advanced for its formation was the facility it would afford for the transport of the agricultural and other produce of the inland townships to market; and, thirdly, the advantages to be reaped by the lumberers; the two latter, I consider, can be obtained sufficiently, more immediately and at infinitely less cost, by the erection of two or three locks to connect the long existing reaches or natural navigation, by the construction of two or three cross roads from them to the nearest ports on Lake Ontario, and, finally, by the formation of slides at the places where they may be required. A farmer or merchant at the head of Rice Lake is within 12 or 14 miles of the harbours of Port Hope and Cobourg, on Lake Ontario, to which he could have facile access afforded him by an outlay of about 10,000*l.* or 12,000*l.*, whereas to get the same produce to Lake Ontario by the proposed navigation would require a previous expenditure on it, even according to the estimate of 233,447*l.*, and the distance to be travelled would be about 80 miles. As to the lumber trade, I believe a very moderate sum expended on slides would effect quite as much as is necessary; indeed, I find in the original Report a passage recommending slides, "which cost comparatively little, and much better suit the purpose for heavy timber than lockage."

From the foregoing general grounds of objection, I cannot recommend the continuing of the expenditure as contemplated, upon this navigation, but I most readily admit the necessity of assisting and developing the resources of that fine district of country, which I would do, by immediately affording to it the advantages to be derived from works of the nature I have suggested; to accomplish the whole of which would cost about 50,000*l.*

#### *Harbours and Light-Houses on Lake Ontario and Lake Erie.*

There is no expenditure more called for, and from which the benefits to be derived would be more immediately serviceable to the country, than the outlay which is required to construct or complete some harbours on the lakes. Many of those on Lake Ontario are in a very inefficient and incomplete state. On Lake Erie there literally, at this moment, is not one into which a vessel can run or remain in with safety.

The state of the light-houses on Lake Erie is equally bad; that which had been at the end of Long Point, the most important station on the lake was prostrated long since. Others have not been lighted for a considerable time. The natural consequence of all which is, that we have not now one steam-boat on this lake, and the difficulty and cost of inducing shipowners to risk their vessels into the ruins of what were constructed as harbours, is so great, as almost to put a stop to the shipping of the produce of the country.

The sum of 74,000*l.* has been set down in the estimates, after much consideration and calculation, as sufficient to remove general and well-grounded complaints on this head.

It is intended that those harbours, where nature has offered most advantages, be completed and rendered such as they ought to be. That the present light-houses be put into an efficient state, and others erected where necessary; but as the propriety of constructing some harbours, by the Admiralty, is now under the consideration of that department, it is conceived best at the present moment to appeal to the Legislature to admit the principle, and sanction the appropriation, but not to decide finally on the particular harbours, until the decision of the Admiralty is known, which should of course govern the selection, and thereby save provincial funds.

The foregoing, it is hoped, will sufficiently explain to His Excellency the general principles upon which the appropriations for the several very important works in the first Class, (see Appendix), are based and applied for.

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#### SECOND CLASS.

The works in Class Second are of a different character; they consist of main lines of internal communications, the opening or improving of which, it is believed, would conduce so much to the general advancement of the country, as fully to justify the expenditure, although the direct revenue to be derived from them, for many years, is not likely to meet the interest.

#### *Bay of Chaleurs Road.*

This line of communication along the north side of the Bay of Chaleurs, from Percé Point to the head of the Bay, a distance of 140 miles, is interrupted in two places by portions of the road which are so little formed, as to be almost impassable (one from Little Pabos to Port Daniel, the other from the Little Nouvelle to the Indian Mission, in all about 48 miles.

These portions being improved, and the Metis or Kempt Road (from Point aux Snelles, on the River St. Lawrence, to the head of the Bay of Chaleurs) better opened; the entire of Gaspé east and south, and of New Brunswick east and north, would be approachable from the St. Lawrence with facility, as New Brunswick middle and west, is by the Temiscouata Road.

#### *The Gosford Road.*

Under this head is embraced the completion of the main line leading directly from Quebec through St. Giles, Ste. Croix, Inverness, &c. to Sherbrooke, at present but partially open, and not available in summer. It passes through the large tract of good settlement land belonging to the Crown; and will curtail the line of travel between Quebec and Sherbrooke by more than 50 miles.

*The Main Northern Road from Lake Ontario at Toronto to Lake Huron.*

The opening of this Road efficiently throughout is considered highly desirable, and strongly recommended; but the portion here more immediately referred to, is from the termination of that undertaken by the district at the Holland Landing to Barrie; which it is proposed to drain, form and plank, and establish toll bars thereon; from thence to Penetanguishine, it is intended to improve. By this and the expenditure of moderate sums upon one or two of the principal branches leading into the main road, and also upon the Cold Water Portage Road; the entire of the fertile district to the North, West and South of Lake Simcoe, would be afforded the advantages of a good communication with the market and harbour of Toronto.

*The Main Province Road from Quebec to Amherstburg and Port Sarnia.*

Unquestionably beneficial as it would be to have the main Province Road properly opened and established throughout, yet such an undertaking, in the present state of the country, is altogether beyond its resources. Under this head, therefore, is embraced the improvement of those portions only, along which the advantages of water carriage are not afforded, viz. from the Cascades to the Province line, and from Brantford to London; these portions it is proposed to properly form and macadamize or plank, and establish toll-bars thereon; the revenue from which would be quite equal to meet the interest of the outlay. From London westward it is intended for the present only to open, drain, trunk, and form; raising and bridging where necessary.

The building of the several bridges over the large rivers between Quebec and Montreal, the crossing of which, at certain seasons, is very dangerous, and attended with loss of life, is also calculated for.

## THIRD CLASS—(See Appendix)

Consists of the several lines of roads which have been already undertaken by the respective districts, and upon which large sums have been expended; but from their unfinished state, they are, to a great extent, unproductive. The object in introducing them into the Appendix is to bring the matter before the attention of the Legislature, and to show the amount required to finish them. Their completion will properly belong to the different districts, and can be effected under the superintendence of the district surveyors.

*Hamilton H. Killaly.*

Board of Works, 12th August 1841.

## Appendix.

ESTIMATES of the TOTAL COST of constructing and completing certain PUBLIC WORKS in the Province of Canada; showing, also, the Amounts of Appropriations proposed to be apportioned thereto, for the several Years respectively, in case the prosecution of these Works should be decided upon.

FIRST CLASS :—Consisting of those Works of purely a national character, and which are indispensable to the advancement of the Commercial and Agricultural Interests of the Country at large, and from which the prospective Revenue may be calculated upon, with certainty, to pay the Interest of the necessary Expenditure.

	Total Estimate.	Amount of proposed Appropriations for the Years				
		1842.	1843.	1844.	1845.	1846.
	£.	£.	£.	£.	£.	£.
The Welland Canal - - - - -	450,000	150,000	150,000	150,000		
The St. Lawrence Navigation; viz. Prescott's Dickenson's Landing - - -	151,312	-	-	51,312	100,000	
Dickenson's Landing to Lake St. Francis - -	57,670	45,000	12,670			
Lake St. Francis to Lake St. Louis - - -	255,900	-	55,900	100,000	100,000	
Lachine Canal - - - - -	225,300	-	55,300	60,000	60,000	50,000
Lake St. Peter - - - - -	60,000	20,000	10,000	10,000	10,000	10,000
River Richelieu - - - - -	21,000	15,000	6,000			
River Ottawa, to build Bridges and construct Slides - - - - -	28,000	14,000	14,000			
Burlington Bay Canal - - - - -	45,000	30,000	15,000			
Internal Waters of the Newcastle District, construction of Slides, Locks, and some Roads leading thereto - - - - -	50,000	20,000	20,000	10,000		
Harbours and Light-houses on Lakes Ontario and Erie, and Roads leading thereto - -	74,000	34,000	40,000			
£.	1,418,182	328,000	378,870	381,312	270,000	60,000

PUBLIC WORKS (CANADA).

SECOND CLASS:—Consists principally of those Works connected with the Improvement of the Main Inland Communications of the Country by Roads; these, however loudly called for, and quite as necessary to the development of the resources of the Country in time of peace as those embraced in Class First, and of the utmost importance to its protection in case of war, cannot generally be relied upon as likely, for many years, to produce a direct Revenue sufficient to pay the Interest upon the requisite Outlay.

	Total Estimate.	Amount of proposed Appropriations for the Years		
		1842.	1843.	1844.
Bay of Chaleurs Road, to moderately improve about 50 miles, now all but impassable, between Percé Point and the Indian Mission, and portion of the Métis or Kempt Road - - - - -	£. 15,000	£. 10,000	£. 5,000	
Gosford Road, opening a communication between Quebec and the Townships, through the Government Block of Land, and shortening the Road between that City and Sherbrooke more than 50 miles - -	10,000	5,000	5,000	
Main Northern Road from Lake Ontario at Toronto to Lake Huron, continuing and perfecting from the termination of the portion already undertaken by the District of Barrie, establishing Toll-bars thereon, and improving sundry parts thence to Penetanguishine and on the Cold Water Portage - - - - -	30,000	10,000	10,000	10,000
Main Province Road, Quebec to Amherstburg and Port Sarnia, to build certain Bridges between Montreal and Quebec, and to improve those portions of the line along which the River or Lakes are not available for the transport of the Mails, &c.; viz. To macadamize or otherwise improve that portion between the Cascades and the Province Line, and establish Toll-bars thereon	17,000	10,000	7,000	
To macadamize or otherwise complete that portion from the termination of the part already undertaken by the District at Brantford to London, and establish Tolls thereon - - - - -	55,000	20,000	20,000	15,000
To drain, trunk, form and otherwise improve thence to Port Sarnia	15,000	10,000	5,000	
To drain, trunk, form and otherwise improve from London to Chatham, Sandwich and Amherstburg - - - - -	36,000	15,000	15,000	6,000
Building of Bridges - - - - -	34,000	17,000	17,000	
£.	212,000	97,000	84,000	31,000

From the items of which the First Class is principally composed, it will be perceived that the necessity of opening fully our main water communications to the ocean, with a view to develop the resources of the country, and increasing its commerce and revenue, is considered indispensable, and forms the basis of the proposed appropriations. Most of the works embraced in the Second Class consists of branches leading to the main trunks formed by those in Class One, and are recommended upon the principle that it is wise legislation to leave no cause of regret to the inhabitants of the interior, in consequence of large canal expenditure or front improvements, by affording them frequent and facile access thereto, and thereby diffusing, as generally as possible, the benefits of those improvements.

Board of Works, Kingston, }  
12th August 1841.

Hamilton H. Killaly, Chairman.

THIRD CLASS:—Embraces those Lines of Roads already undertaken by and at the Cost of the respective Districts, and which are in different stages of forwardness, but from their unfinished state are, in some cases, unavailable and unproductive.

	Total Estimate.	Amount for the Years		
		1842.	1843.	
Queenston and Grimsby Road	£. 42,500 *	£. 25,000	£. 17,500	* This exceeds the sum appropriated by former Act by about 29,888 <i>l.</i>
Kingston and Napanee Road -	6,000 †	6,000	- -	† This exceeds the sum appropriated by former Act by about 2,100 <i>l.</i>
Toronto Road, North - -	25,000	12,500	12,500	
Toronto Road, East - -	7,777 ‡	5,000	2,777	‡ Being balance of appropriation by former Act.
Toronto Road, West - -	9,078 §	6,000	3,078	§ Being balance of appropriation by former Act.
Hamilton and Bradford -	9,000	9,000	- -	This exceeds appropriation by former Act about 9,000 <i>l.</i>
Dundas and Waterloo - -	10,000 ¶	10,000	- -	¶ This exceeds appropriation by former Act about 2,000 <i>l.</i>
£.	109,355	73,500	35,855	

Board of Works, Kingston, }  
12th August 1841.

Hamilton H. Killaly, Chairman.

— No. 11. —

COPY of a DESPATCH from the Right honourable Sir *Charles Bagot*, Bart.,  
G. C. B., to Lord *Stanley*.

Government House, Kingston,  
14 January 1842.

No. 11.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
14 January 1842.

Page 4.

My Lord,

YOUR Lordship is of course aware that in consequence of Lord Sydenham's representations relative to the financial state of Canada, Her Majesty's late Government had promised to apply to Parliament to guarantee a loan to the amount of 1,500,000*l.* for the redemption of the debt of this province, and the completion of certain public works. This intention was communicated by Lord Sydenham to the Legislature in his speech at the opening of the Session, and was by them made the foundation of an Act, the 4th & 5th Vict., c. 33; that Act is already before your Lordship for the signification of Her Majesty's pleasure thereon.

The circumstances which led to the retirement of Her Majesty's late Ministers, prevented their redeeming the pledge given in their name to the people of Canada, but your Lordship will readily believe with how much anxiety its redemption is looked for from Her Majesty's present Government; the announcement of those liberal intentions produced throughout the great body of the people a feeling of deep gratitude, and a confidence in the determination of Great Britain to maintain the connexion between herself and this province, and these sentiments will be strengthened and confirmed in proportion to the promptitude with which the matter is now taken up by Her Majesty's Government. It is from this conviction that I feel it my duty to make this the first subject of communication with your Lordship after my assumption of the Government of Canada.

It is not necessary that I should enter into any further statement respecting the finances of Canada, or the grounds which justify the determination of Her Majesty's late Government. Those questions have been exhausted in the despatches of my predecessor; and the pledge having been given and acted on by the legislature of this province, it only remains to provide for its being carried into effect.

The Act of the provincial legislature, after reciting the promise of Her Majesty's Government, authorizes the Governor to appoint such person or persons as he may think most fit to negotiate the loan, from which the legislature would seem to have contemplated that an agent would be sent from this country. I should accordingly have proceeded immediately to act on this authority; but after fully considering the matter, and making every inquiry in my power, I am satisfied that it would be very advisable, if possible, to avoid this course, and to conduct the negotiation under the immediate sanction of the Lords Commissioners of the Treasury. There is, on the one hand, scarcely any person in this country sufficiently known in the London Money Market to conduct so extensive a transaction with advantage, while the expense of sending him home, and maintaining him there during the negotiation, would be considerable. On the other hand, the loan, if effected under the immediate authority of the Lords of the Treasury, would necessarily be obtained under the most advantageous terms possible for the province, while any person who might be selected by their Lordships to conduct it, would bring to the task an experience and intimate knowledge of parties, which it would be useless to look for here. The people of this country moreover would, I am sure, see in their Lordships undertaking this duty, the anxiety of Her Majesty's Government to act towards this province in a spirit of justice, and would appreciate to its full extent the boon conferred on them. If in consequence of the fourth clause of the statute, it be necessary that the person by whom the negotiation is concluded, should hold a direct authority from the Governor of Canada, I could of course give such an authority to the individual whom the Lords of the Treasury might select.

Under these circumstances, and considering that as the loan is to be guaranteed by Great Britain, she is as much interested as this province in its successful negotiation, I trust that the Lords of the Treasury will not refuse to undertake this business. It would be for their Lordships to determine whether it should be managed by a member of their own department, or only under their authority and control; and although such a transaction would be beside the ordinary course of business, yet as the circumstances out of which it has arisen, and the position of this

this province are of no ordinary character, they would, I think, justify an extraordinary mode of proceeding, and one which, even if irregular, is so clearly for the public advantage.

I would beg to urge this matter on your Lordship's earliest and most earnest attention, as one by which our success in this province may be much affected, and on which it will be necessary that I should be able to make a communication to the legislature at their first meeting.

I have, &c.  
(signed) *Charles Bagot.*

— No. 12. —

(No. 112.)

COPY of a DESPATCH from Lord *Stanley* to the Right honourable Sir *Charles Bagot*, Bart., G. C. B.

No. 12.  
Despatch from  
Lord *Stanley* to  
Sir *C. Bagot*,  
2 April 1842.

Sir,

Downing-street, 2 April 1842.

AMONG the Acts of the late Session of the Canadian Legislature, there are none which have been more anxiously considered by Her Majesty's Government, than those numbered respectively 28 and 33, and intituled, (No. 28), "An Act to appropriate certain Sums of Money for Public Improvement in this Province, and for the Purposes therein mentioned;" (No. 33), "An Act to facilitate the Negotiation of a Loan in England, and for other Purposes therein mentioned."

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The objects contemplated by these Acts of relieving the finances and improving the credit of Canada, and, at the same time, of developing, by measures of extensive internal improvement, the vast natural resources of the province, are viewed by Her Majesty's Government with hardly less of interest than by the Legislature and people of the Province; and every consideration of good faith and of policy would lead Her Majesty's Government scrupulously to fulfil, to their utmost extent, the pledges of assistance held forth by their predecessors in office, and communicated to the Legislature of Canada by Lord *Sydenham*; and also to aid in the accomplishment of the objects sought to be attained by the Acts now under consideration.

I may add, that Her Majesty's Government are aware that these Acts were framed and submitted to the Legislature with the concurrence and sanction of the late Governor-General; and that it is therefore peculiarly desirable that they should so be dealt with, as to lead to no inconvenience to the province, and no disappointment of expectations justly entertained.

It is with these views that Her Majesty's Government have entered upon the consideration of the advice which it is their duty to tender to Her Majesty respecting the two Acts in question. And I proceed to communicate to you, for the information of the Legislature, the course which it has been deemed right to take, and the reasons by which that course has been suggested. In order, however, to place the matter fully before you, it is necessary that I should recapitulate the principal facts of the case.

In considering the question then pending, of the union of the provinces of Upper and Lower Canada, Lord *Sydenham* could not omit from his view the financial condition of the United Province, and in bringing the subject officially under the notice of the Home Government, on the 27th of June 1840, he suggested that on the completion of the union, measures should be taken for "guaranteeing a loan, which would remove a considerable charge, arising from the high rate of interest payable by the province on the debt already contracted, or which it would have to pay for raising fresh loans which may be required hereafter for great local improvements."

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On the 24th of the following month, my predecessor, in a letter to the Treasury, states as follows:

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"Your Lordships should be apprised that Her Majesty's Government have always had it in contemplation to support the credit of Canada, by guaranteeing the Upper Canada debt.

"Previously to quitting this country, the Governor-General was informed by Her Majesty's confidential advisers of this intention, and was left at liberty to announce it, if he thought it necessary, in Canada.

"Although Mr. Thomson abstained from making such an announcement, and Her Majesty's Government therefore stand unpledged and uncommitted, high motives of public policy render the proposal of such assistance to the finances of Canada scarcely less imperative on the Government than it would have been, had a solemn engagement been entered into on the part of the Crown.

"The utmost extent to which the Ministers of the Crown can proceed, is to promise to recommend to Parliament, in the next Session, such a guarantee of the actual debt of Canada as may enable the Legislature to reduce the interest now payable to a lower rate."

Pages 51 and 54. Lord Sydenham explained his view of the mode in which it would be advisable to render the proposed assistance, in two despatches, dated the 22d and 25th February 1841.

He states that nearly all the Canadian debt had been contracted for public works, begun, but not completed, from which, when completed, a revenue would be derived, but which, at the same time, could only be rendered productive by fresh expenditure.

The province was therefore represented by him as "sinking under the weight of engagements which it can only meet by fresh outlay."

And he mentions, in illustration of his meaning, the case of the Welland Canal, upon which £.400,000 (the real amount appears from the Report of the Canadian Board of Works to be £.491,777) had been laid out. The tolls on this Canal, in the preceding year, amounted to £.24,000, and would, "without the slightest doubt," amount to between £.40,000 and £.50,000 in each year, if the Canal could be kept open, "and to a far larger amount hereafter;" but in order to secure this advantage, a further outlay, "equal, almost, to that already expended," is required, and without this further outlay "this great work must inevitably go to ruin."

"If no means can be found," his Lordship remarks in the subsequent despatch, "to finish these works, either by an advance of money, or by so improving the credit of the province as to enable it to borrow in the market at a rate of interest not exorbitantly high, they must go to ruin and remain unproductive of any revenue, and in that case the annual charge for interest, (on the debt contracted for the purpose of executing these works), is as much a dead weight upon the income of the country as the interest of the National Debt in England."

The interference of Parliament, therefore, he adds, to be really useful, must not only go to the extent of reducing the rate of interest on the debt already contracted, but must also furnish the additional funds required to make the past expenditure productive by the completion of the works.

The plan proposed by him for the accomplishment of this double object is, that the British "Treasury should be authorized to raise a loan to the amount of a million and a half, the proceeds to be applied, first, to the liquidation, at *par*, of the Canadian debt, and the residue for the completion of such public works as might be deemed expedient.

"The debt to be made a first charge upon Canadian revenues before all other debt, if any afterwards be contracted by the province, and to be specially provided for as such by the Canadian Legislature.

"All tolls or other securities which had been mortgaged to the province as security for the present debt, to be made over in the same way. The Canadian stockholders to be compelled to receive their money at *par*, or new stock at a price proportionate to it.

"No portion of the fund applicable to public works to be expended on any work which was not wholly and absolutely under the direction of the Executive Government, whether private stockholders had or had not any interest in the undertaking."

By following this course, Lord Sydenham observed, the two-fold object would be accomplished, of relieving the province from an annual charge upon the whole debt of nearly Two per cent., and of preventing the stockholders from obtaining the unfair advantage which they would otherwise acquire from the greatly increased marketable value which their stock would undoubtedly obtain if the credit of Canada generally were materially raised through the assistance of the British Government.

To these despatches Lord John Russell returned the following answer, dated the 3d of May 1841 :

“ You have stated the debt of the United Province to amount to 1,226,000*l.*, and, with the sum required to complete public works necessary for the free passage between the western portion of the province, the St. Lawrence and the sea, to about 1,500,000*l.*

“ The Queen’s Government coincide in your views of the expediency of making such an arrangement as may employ the credit of this country for the benefit of the finances of Canada, and have given their best consideration to the plan proposed in your despatches.

“ They are of opinion that such an arrangement, if carried into effect, with the consent of the creditors, would be in every way desirable ; but they feel that the objections to a Bill compelling parties to receive payment of their money in breach of agreements entered into with them by competent authority, are insuperable.

“ Her Majesty’s Government are ready to give any assistance, in conformity with your proposal, which does not appear to them inconsistent with good faith. They are ready to propose to Parliament to guarantee a loan which may be required for public works (under the restrictions suggested by you) for the repayment of such part of the debt as may be now redeemable, or may be held by creditors, who shall declare themselves willing to accept reasonable terms.

“ With regard to this latter sum, it appears to the Government most expedient that you should fix such terms as you may consider sufficient to induce the creditors to accept the proposed equivalent (not of course exceeding 100*l.* for every nominal 100*l.* lent), that you should make known such tender in such way as may appear to you most advisable, giving the holders sufficient notice and information, and fixing a given day before which the willingness of the parties to accept such offer should be sent in.

“ To do this, an Act of the Canada Legislature will be necessary ; and when that is obtained, the subsequent arrangements might be made, or through some party deputed on the part of the Canadas to this country, with full instructions.

“ Upon receiving the information of the assent of the parties accepting the terms proposed, the necessary means may be taken in this country to raise the requisite funds ; and it may be expedient that you should fix the day for paying off such assenting creditors, and other claims, at a time when the Parliament of this country is sitting ; for should it be necessary to have recourse to a loan, such a measure has always been considered open to objection during the prorogation of Parliament.”

The subject was then laid by Lord Sydenham before the Canadian legislature, and the following is an extract of his speech upon that occasion :

“ Many subjects of deep importance to the future welfare of the province demand your early attention, upon some of which I have directed bills to be prepared, which will be submitted for your consideration.

“ Amongst them, first in importance at the present juncture of affairs, is the adoption of measures for developing the resources of the province by well considered and extensive public works.

“ The rapid settlement of the country, the value of every man’s property within it, the advancement of his future fortunes, are deeply affected by this question.

“ The improvement of the navigation from the shores of Lake Erie and Lake Huron to the ocean, the establishment of new internal communications in the inland districts, are works requiring a great outlay, but promising commensurate returns. To undertake them successfully, large funds will undoubtedly be required, and the financial condition of the province, as it stands at present, would seem to forbid the attempt. But I have the satisfaction of informing you, that I have received authority from Her Majesty’s Government, to state that they are prepared to call on the Imperial Parliament to afford their assistance towards these important undertakings.

“ In the full belief that peace and tranquillity will be happily re-established in this province, under the constitution, settled by Parliament ; and that nothing but a relief from its most pressing difficulties is wanting to its rapid advancement to prosperity, they will propose to Parliament, by affording the guarantee of the Imperial Treasury, for a loan to the extent of no less than 1,500,000*l.* sterling, to aid the province, for the double purpose of diminishing the pressure of the interest on the public debt, and of enabling it to proceed with those public undertakings

whose progress during the last few years has been arrested by the financial difficulties.

“ I shall direct a measure to be submitted to you, embracing a plan for this purpose, and I shall lay before you, for your information, and that of the people of Canada, extracts from the despatches which convey to me this most gratifying assurance.”

From these documents, it will appear that the object which Her Majesty's Government had in view in 1841, was to render such assistance to Canada as might enable the United Province to improve its financial position, and to advance the most necessary public works; and it was supposed that both these objects might adequately be effected by guaranteeing a loan to the United Province of 1,500,000.

The financial arrangements, however, actually proposed by Lord Sydenham to the Canadian Legislature, and adopted by them, is very different from this.

That arrangement, it is true, has for its basis the guaranteed loan of 1,500,000*l.* but there is added to this a further loan of 1,659,689*l.*, which is proposed to be raised exclusively for the execution of public works, making a total proposed debt of 3,159,682*l.*

Her Majesty's Government have given to this financial project, and the acts by which it is proposed to carry it into effect, their most deliberate and anxious consideration; and the result of that consideration has been to impress upon them a very strong conviction that the measures, if acted upon in their present form, far from relieving, would have the effect of seriously embarrassing the finances of the province, while they are happy to believe that, by the adoption of a different mode of applying the credit of the mother country, substantial relief may be afforded, and the great objects contemplated by the two Acts now before me, and recited in the Preamble to No. 33, may be as speedily, and more advantageously and economically effected.

The existing Canadian debt is stated by Lord Sydenham at 1,226,000*l.*, and the annual interest at 72,537*l.*; to pay off this debt, and to carry on certain public works, it is proposed to raise, under the guarantee of the British Government, a sum of 1,500,000*l.*, the interest upon which, at four per cent., will amount annually to 60,000*l.*

There would thus, no doubt, be a reduction of interest payable by Canada, to the amount of about 12,000*l.* a year, besides a sum applicable to public purposes of about 274,000*l.*

On the other hand, it appears, by a subsequent letter from Lord Sydenham, that the debt of the province has been since increased by a sum of 100,000*l.* for the purchase of shares in the Welland Canal, and 26,000*l.* authorized to be raised in East Canada for public works.

Setting these last-mentioned sums apart, Lord Sydenham calculated the surplus income of the province at 3,119*l.*, to which would have to be added the interest on the present debt, which would be paid off, amounting to 72,537*l.*, making in all 75,656*l.* to meet the interest on the substituted debt of 1,500,000*l.*, at four per cent., or 60,000*l.*; and the interest at five per cent. on the additional loan of 1,678,682*l.* or nearly 84,000*l.*, in all 144,000*l.*, leaving an annual deficit, exceeding 68,000*l.*

Lord Sydenham seems to have been fully aware that this second loan would be a severe trial to the finances of the province; and in his message to the Legislative Assembly, dated the 20th of August 1841, on the subject of the proposed public works, he alludes to the following, as means by which the burden of this additional charge might be considerably lightened.

1st. A reduction of interest to the extent of between 15,000*l.* and 20,000*l.* a year on the existing debt, to be effected by the guaranteed loan.

2d. The surplus on the guaranteed loan, after providing what is required to pay off the existing debt, by means of which Lord Sydenham calculated that a further saving of interest might be effected of about 6,000*l.* a year.

3d. The assumption by the province of the issue of paper payable on demand, which is now enjoyed by private bankers or by individuals.

4th. A wise and prudent re-adjustment of the custom duties, which the union of the two provinces has now placed within the control of the Legislature.

The reduction of interest on the existing Canadian debt, which is the first of these four items, has been already allowed for to the extent of 12,000*l.* in calculating the probable deficit.

The surplus on the guaranteed loan would certainly be an important fund; but the policy of borrowing 274,000*l.* more than is required, in order to enable new obligations to be contracted, is at least questionable.

The third resource calculated upon can now be of no effect, because Lord Sydenham, finding that he should be unable to carry his plan for the exclusive assumption of the issue of paper by the Provincial Government, prudently abandoned it, and an Act has been passed instead, confirming the privileges enjoyed by the Banks.

The fourth item, therefore, is the only one on which any reliance can be placed for a set-off to the new charge which would be imposed upon the province by having to provide for the interest of the additional loan. There is reason to expect that the recent revision of the Canadian custom system will be productive of an increase of revenue; but the result of this measure is, as yet, much too uncertain to render it safe to contract a load of debt, which, unless the measure should be completely successful, would entail the most serious consequences on the province.

These calculations, moreover, are founded on two suppositions, both of which appear to be open to grave doubt: 1st. That all the existing creditors will consent to be paid off; and 2d. That the additional loan can be raised on the credit of the province, at a rate of interest not exceeding five per cent. Unless these propositions can be established, the result to the province will be even more unfavourable than I have hitherto assumed it to be. Now, it appears obvious, with regard to the first, that in the event of the British Government guaranteeing the public debt of Canada, the stockholders will have no inducement to accept (and, unless willing, cannot be compelled to accept) a lower rate of interest than they have now a right to claim; and that the debentures, which are now, perhaps, nominally at 75 or 80, will immediately rise to par, and will, to that extent, augment the actual debt of the province; and as to the second point, if the existing debt of Canada has been contracted at a rate of interest varying from six to eight per cent., when it was a first charge upon the revenues, it is difficult to understand how a fresh loan can be raised on the credit of the province at five per cent., when the finances shall have been charged with an additional burthen of 1,500,000*l.* in the shape of debt to the mother country.

These combined considerations have led my colleagues and myself to the conclusion, that, consistently with our duty and with the interest of Canada itself, it will not be possible for us to advise Her Majesty to assent to the two Acts which are now under consideration; and it devolves therefore upon me to instruct you to take the earliest opportunity of bringing the whole subject, fully and unreservedly, under the review of the Provincial Legislature.

You will state to them that they and Her Majesty's Government can have in view but one and the same object, that, namely, of applying the credit of the mother country to the promised amount of 1,500,000*l.* in such a manner as most effectually, most economically, and most beneficially to the province, shall conduce to the maintenance of public credit, and to the promotion of those great undertakings of internal improvement, which may ultimately make an ample return for the original outlay, but upon which, unassisted, the province could not safely enter.

In pursuance of this view, I am to acquaint you that Her Majesty's Government are of opinion that it would be inexpedient to interpose the credit of this country between the province and the creditors under the existing debt; and that it is more for the advantage of the province that the aid to be rendered should be applied exclusively to the promotion of the great works intended to be undertaken, than to effecting any reduction in the interest of the debt as it stands at present. Her Majesty's Government are not unaware that by thus advancing their credit upon a secondary rather than on a first security, they are incurring a greater pecuniary risk than was contemplated by Lord Sydenham, but they are willing to incur this risk for the purpose of maintaining to its fullest extent the pledge given in the name of the British Government, and at the same time avoiding the

the probable inconvenience to the financial affairs of Canada, which they cannot but anticipate from a literal compliance with Lord Sydenham's engagements as interpreted by the two Acts of the Canadian Legislature, assented to by him the day before his death.

You will acquaint the Provincial Parliament that although Her Majesty's Government may entertain reasonable doubts as to the sufficiency of the estimated surplus, even after the augmentation which may be expected from the new customs duties, to provide for the interest of the two Loans proposed to be contracted, they do not doubt that the Provincial Revenue thus augmented, will enable the local Legislature to enter, if unencumbered with other obligations, into negotiations with the creditors under the existing debt, and either to continue during the terms of their respective engagements the present rate of interest, or to extinguish the debt by mutual agreement before the period stipulated under the present engagement, on far more favourable terms than the British Government could do, if they were to become responsible for the amount. That Her Majesty's Government therefore do not propose to interfere with the existing debt; but that with the view of furthering the important objects contemplated by the Act numbered 28, they propose to pledge the credit of this country to a sum not exceeding 1,500,000 *l.* to be advanced to the province from time to time in such proportions as may be required at 4 per cent., and with a provision to be made for a sinking fund at the rate of not less than 5 per cent. per annum of the principal, to be secured in the first instance upon the tolls of the works to be undertaken, and taking as a collateral security the ordinary revenues of the province, the charge to rank next in order to the obligations now by law permanently attaching to the consolidated fund.

It remains to be considered what are the public works towards the accomplishment of which it would be most desirable that the credit of this country should be applied; and I apprehend that there can be no doubt, as to the principle to be applied, in selecting such as partake least of a local, and most of a general character, as tend most to the extension of the great lines of communication, and the promotion of trade and intercourse rather than such as tend more to the immediate local advantage of particular districts. These last are objects perhaps for aid from the Provincial Treasury, but primarily to be promoted by local exertion. The former are objects of colonial, and I may even add, of national interest and importance.

Foremost among them stands the improvement of the navigation of the St. Lawrence; this mighty stream, with its chain of lakes and its tributary rivers, forms the great natural highway of Canada, and not only of Canada, but also of a great portion of the United States, and of very extensive tracts of unoccupied fertile country, belonging both to ourselves and our neighbours, which will form flourishing states and provinces in the time of our children and grandchildren.

To throw this great highway completely open, by means of substantial and permanent public works, would be an undertaking worthy of British enterprise, and one which, although chiefly and primarily essential to the advancement of Canada, would probably, both in a commercial and political point of view, not be without its advantage to the mother country.

The steps which have been already taken for this purpose have fully established the practicability of the plan; but they have likewise proved that it cannot be properly or economically accomplished by desultory and comparatively unskilled efforts, or without a more effective system of superintendence than has yet been applied to the undertaking.

The cost of the works on the direct line of the navigation of the St. Lawrence and the lakes, as estimated by the Canada Board of Works, is 1,200,182*l.*

Besides which, the following objects are properly included by the Canadian Board of Works in the first class of public works:

Harbours and lighthouses on Lakes Ontario and Erie, and roads leading thereto, 74,000*l.*

Burlington Bay Canal, the object of which is to keep open a natural inlet of Lake Ontario, stretching towards the important towns of Hamilton and London, 45,000*l.*

River Ottawa, to build bridges and construct slides, 28,000*l.*

Improvement of the navigation of the River Richelieu, 21,000*l*.

All which public works, taken together, amount to 1,368,182*l*.

I do not pretend to say that the above are the works to which the aid of the mother country ought to be exclusively directed; but they appear to comprehend those which may emphatically be called national, and are most properly included in the first class, enumerated by the Board of Public Works, which forms the basis of the Public Works Act. That report, however, divides works proposed to be executed into three heads, the second of which consists of what are called main trunk roads. I do not at all question the propriety of a public expenditure for objects of this description, and in authorizing you to state to the Provincial Parliament, that Her Majesty's Government will be prepared to sanction a loan of 1,500,000*l*. for the improvement of the public communications in Canada, whether by land or water, you will understand that the Legislature will exercise a discretion as to the works to be undertaken, so that the improvement of the St. Lawrence and the Lakes be the first object, and that the total amount to be raised on British credit do not exceed the stipulated sum of 1,500,000*l*.

As Her Majesty's Government have no wish to derive any profit from this advance of the capital and credit of this country, provision may be made in the Act which it will be necessary to introduce for vesting the works in the Provincial Parliament, whenever the original outlay shall have been repaid; and the province should be entitled out of the accruing proceeds, or otherwise, to pay off, from time to time, such portion of the debt as they may deem expedient, over and above the stipulated interest and sinking fund. The amount of tolls, whether on water communication or on roads made at the expense of the public, must of course be left to the discretion of the Local Legislature.

It can hardly be doubted that works so extensive, and calculated to produce such important results, ought to be superintended by the best professional assistance which it is possible to obtain. Her Majesty's Government entertain no doubt of the anxious desire of the Canadian Board of Works to discharge with fidelity the arduous duties which will devolve upon them; but I can as little doubt the anxiety which they must feel to have associated with them, in such a trust, the best professional assistance which it is in the power of the mother country to furnish. It is therefore my intention, in anticipation of the acquiescence, which I cannot for a moment doubt, of the Colonial Legislature in the general arrangements suggested by Her Majesty's Government, to send over an officer of engineers, whom, as Her Majesty's Commissioner, I trust the Legislature will have no difficulty in associating with the Board of Works in the superintendence of the works to be undertaken, and whose experience may probably enable the undertakings to be conducted with the efficiency and economy which must be alike the interest of the colony and of this country.

You will communicate this despatch to the Provincial Parliament at their meeting; and I trust that by laying before them thus fully and unreservedly the whole of the motives by which Her Majesty's confidential servants have been actuated in advising Her Majesty to suspend, for the present, the signification of Her pleasure upon the Acts to which I have referred, you will be enabled to convince them that the only object which they have in view is to apply the promised aid of the credit of this country in such a manner as shall be most advantageous and most economical for the province, and most conducive to the early development of those great resources which it possesses, and the extension of which cannot but tend to strengthen the bonds of affectionate connexion between Canada and Great Britain.

I trust that, with the assistance of those whose advice you can command in the province, you will have no difficulty in submitting to the Legislature such a measure as will carry out the views which I have indicated in this despatch.

I have, &c.  
(signed) *Stanley.*

— No. 13. —

(No. 90.)

EXTRACT of a DESPATCH from the Right honourable Sir *Charles Bagot*, Bart.  
G. C. B. to Lord *Stanley*.Government House, Kingston,  
28 April 1842.

YOUR Lordship's despatch of the 2d instant, No. 112, on the subject of the guarantee by the Home Government of a loan in aid of the resources of this province, reached me at Toronto on the 24th instant. The importance of the subject, and the little time which I have yet had for considering it, must prevent my expressing any decided opinion respecting the change at the present moment. As far as I can see, however, it is nearly if not quite as advantageous to the province as the arrangement proposed by Lord Sydenham; though to the mother country it is of course less so, inasmuch as the guarantee which they offer will no longer be secured as a primary charge on the provincial revenue.

There are, however, one or two points in your despatch to which I feel it my duty to call your Lordship's early attention. You direct me to lay your despatch before the Legislature at its next meeting; and you observe, that I am to understand that the Legislature will exercise a discretion as to the works to be undertaken, so that the improvement of the St. Lawrence and the Lakes be the first object. I would submit for your Lordship's consideration whether it would not be advisable to modify this instruction.

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There was at this time no officer within the province responsible for the estimates and plans of such improvements; and accordingly committees of the Assembly used to be appointed, composed of unprofessional persons, by whom the estimates and plans submitted to the House were revised and altered. It is well known that under this system many works were commenced on notoriously insufficient estimates, in the certainty that when the first outlay had been incurred, the province would not allow it to be altogether thrown away, but would grant the additional sums necessary to carry on the work. This was the case especially with the Welland and St. Lawrence Canals, on which a large portion of the debt of Upper Canada has been expended.

When Lord Sydenham arrived in Canada, he found a Board of Works established in the Lower Province under an ordinance of the special council, the chairman of which was a Montreal lawyer, and the members gentlemen engaged in commercial pursuits: in Upper Canada no such body existed at all. Early in 1840 he proceeded to reorganise the Lower Canada Board, and appointed as its chairman Mr. Killaly, a civil engineer, formerly employed under the Board of Works in Ireland, and selected as its subordinate officers individuals who had received a professional education. By an Act passed during the last session of the Legislature, this Board was entrusted with the duty of preparing all estimates and plans for public works within the entire province, and with the application of all monies voted for them by the Legislature. The system of irresponsible committees formerly prevailing in Upper Canada was thus got rid of, and a guarantee afforded that no work should be proposed to the Legislature except with an authentic estimate of its entire probable cost, and with a security for the due application of any sum that might be voted by them for it.

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It may no doubt be said that the clause of the Union Act by which the initiation of money votes is reserved to the Government, and the provisions of the Board of Works Act to which I have before referred, would enable the Government to resist any such irregular proceedings; but I would beg your Lordship only to consider what would be the pressure on the local Executive if it could be plausibly represented that they were using their legal powers to resist not only the provincial Legislature, but the Home Government, by whom the money was to be raised. Such a resistance would end in defeat, and in the most extreme unpopularity.

Under all these circumstances, I would request your Lordship's permission, instead of laying before the House your despatch *in extenso*, to lay before it only so much as explains the nature of and reasons for the change in the scheme proposed by Lord Sydenham; leaving to the Government to propose, on its own responsibility,

responsibility, and in conformity with English usage, the scheme of works to be proceeded with.

The other point on which I think it necessary to make some remarks, is the appointment of an engineer officer as Commissioner on the part of Her Majesty's Government to superintend the execution of the works. I have already mentioned that the present chairman of the Board of Works is a professional gentleman formerly employed under the Board of Works in Ireland, and I enclose herewith a copy of a communication which he has addressed to me upon this subject. I transmit this paper, because I fear that some misapprehension may exist in England, in regard to the present composition of the Board. Of course as Her Majesty's Government provide the funds with which the public works are to be conducted, it is but reasonable that they should have a share in the management of it, if so desired. To such an appointment Mr. Killaly would not I am sure object, but it would be highly desirable that the person to be selected should be a civil and not a military engineer. The rules of the military service render officers of the royal engineers responsible to their own immediate superiors, and to no one else; they correspond only through them, and receive their instructions in the same course. Where employed on civil works, this system inevitably produces delay and confusion, and not unfrequently collisions of authority. In every instance, I believe, in which civil and military engineers have been placed on the same works in this province, and the instances are not infrequent, these inconveniences have arisen. If, however, your Lordship would select a civil engineer to co-operate with the Board of Works as Her Majesty's Commissioner, I do not apprehend that any difficulty need exist; none I am sure would be made by Mr. Killaly. But I apprehend that the Legislature would view with some dislike the appointment of a military man, the rules of whose profession, as they know from experience, would prevent them from requiring from him that full information which they would at once obtain from a civilian.

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Enclosure in No. 13.

Kingston, Board of Works Office,  
28 April 1842.

Sir,

I TAKE the liberty of making a few remarks connected with the proceedings and organization of the Board of Works of this province, which strike me as being necessary to correct a misapprehension that (from portions of the despatches your Excellency laid before Council yesterday) appears to exist in England respecting that department.

Encl. in No. 13.

Upon Lord Sydenham's arrival in Canada, he found a Board of Works established in the Eastern portion of it, the chairman of which was a lawyer, and the other members gentlemen engaged in mercantile pursuits. Under their control and direction were the several works then being carried on. In the Western section (formerly Upper Canada) the management of public expenditure for such purposes was in the hands of several Commissioners, named from time to time by the Parliament for the respective works; the appointment of these Commissioners, the amount of appropriations entrusted to them, the objects on which they were to be expended, were all, in fact, dependent on Parliamentary influence, and too often regulated by political cabal, all of which gave rise to a system which, for profitless outlay of public money, could only be compared to the abuse of the grand jury presentment system which existed in Ireland prior to the formation of the Board of Works under Colonel Burgoyne in that country.

Lord Sydenham's first step was to recognise the Board of Works of Lower Canada, and upon the Union Act being passed, to extend its powers to the province at large. Pending the general establishment of the Board, and previous to the meeting of Parliament, I prepared, by order of the Governor, detailed memoranda respecting all the works of every description, either in progress or in contemplation, amounting to about ten millions of pounds. I had no difficulty in pointing out the inadequacy of the means of the province to those undertakings; the impropriety of many of them; the expediency of abandoning (at least for some years) others upon which very great outlay would be necessary, and of substituting those which, although involving comparatively but little cost, would fully meet the wants of the country, not only for the present, but for a long period to come.

Upon these memoranda were chiefly based the principles of the Appropriation Bill passed last session, and by them was governed the general estimate of all works then proposed to be undertaken, amounting to about one million and a half.

My being appointed to the highly responsible office of chairman of the Board of Works upon its reorganization, I presume was owing to the fact of my having exercised the profession of civil engineer for nearly 20 years previous to my coming to this country; to my full acquaintance with all the great works of Britain; my knowledge of this country and its

wants, acquired during a residence of eight years in it; to the position I hold in public estimation, evinced by my return as a member of the Assembly; but above all, to letters of recommendation from Lord Stanley to Sir John Colborne, from General Burgoyne, and the Irish Board of Works, under whom I had been extensively employed, and prior to the establishment of which I had the honor of being largely and confidentially employed by the Irish government for many years.

Until the last year or two the province laboured under a great dearth of engineering skill, the natural consequence of the system already alluded to, and the effects of which are but too evident from the present dilapidated state of most of the public works; but since the establishment of this Board professional men of high standing, chiefly from England and Scotland, have settled in the country, who have most creditable testimonials as to their capabilities from the late Mr. Telford, Messrs. Brunel, Walker, and others of the most eminent men in England; and under whose immediate superintendence all public works are now carried on; the detailed plans and construction of which will bear comparison safely with the most celebrated in Europe.

I would not have your Excellency infer that I am in the slightest degree indisposed to act in concert with any person that the Imperial Government may think fit to send out either as commissioner or engineer; but I am free to confess that in the former capacity I see much political difficulty, which it is not necessary to enter upon now, it having been stated by several of the Council yesterday. I foresee no embarrassment likely to be created by the appointment of an engineer to the Board, selected at home; the gentleman at present filling that office could be placed upon some of the works, for the management of which his practice and acquirements perfectly qualify him; but it may not be unnecessary to remark that the peculiar severity of the frost of this province, the nature of the materials, rates of labour and work, &c. &c. render it more than desirable that a professional man, however competent he may be, should, in order to practise or advise in Canada, with credit to himself and safety to the public interest, have had previous acquaintance with it, or with a country under similar circumstances.

To His Excellency Sir C. Bagot,  
&c. &c. &c.

I have, &c.  
(signed) *Hamilton H. Killaly.*

— No. 14. —

No. 14.  
Despatch from  
Sir C. Bagot  
to Lord Stanley.  
6 May 1842.

(No. 101.)

EXTRACT of a DESPATCH from the Right honourable Sir *Charles Bagot*, Bart.  
G. C. B. to Lord *Stanley*.

Government House, Kingston,  
6 May 1842.

SINCE I addressed your Lordship on the 28th ultimo relative to the course which Her Majesty's Government have decided to pursue in respect to the Acts passed by the Legislature of this province during their last session, for raising a loan and for carrying on public improvements, the subject has, I need hardly observe, engaged my most serious attention. As further reflection has convinced me that it would be much more advantageous to this province that the scheme proposed by the late Governor-general, and approved by the two Houses of the Legislature should not be interfered with, and that the difference between that scheme and what Her Majesty's present Government announce their intention to bring forward, is not essential, I feel it my duty to explain to your Lordship the grounds of that opinion, in the hope that my despatch may yet be in time to obtain from Her Majesty's Government a reconsideration of the subject. In performing this duty, it will be convenient that I should first address myself to the objections urged in your Lordship's despatch against the scheme embodied in the two Acts now under consideration.

Your Lordship, after recapitulating the correspondence between Lord Sydenham and Lord John Russell on the subject of the loan, and adverting to Lord Sydenham's message to the Legislature of the 20th August, proceeds as follows: "From these documents it would appear, that the object which Her Majesty's Government had in view in 1841, was to render such assistance to Canada as might enable the United Province to improve its financial position, and to advance the most necessary public works; and it was supposed that both these objects might adequately be effected by guaranteeing a loan to the United Province of 1,500,000*l.* The financial arrangement, however, actually proposed by Lord Sydenham to the Canadian Legislature, and adopted by them, is very different from this. That arrangement has, it is true, for its basis, the guaranteed loan of 1,500,000*l.*, but there is added to this a further loan of 1,659,682*l.*, which is proposed to be raised exclusively for the execution of public works; making a total proposed debt of 3,159,682*l.*"

If I rightly interpret these words, your Lordship here assumes that Her Majesty's former Government expected that, beyond the surplus arising on the loan of 1,500,000*l.* after paying off the debt, no immediate outlay would be required on public works. It is, of course, impossible for me to say whether this assumption be correct; but I feel convinced that it was not Lord Sydenham's own meaning, and that in his opinion there was no discrepancy between the arrangement which he always advocated, and to which he supposed himself to have obtained the consent of the Government, and that which he proposed to the provincial Legislature. In his despatch to Lord John Russell, of the 22d February 1841, he describes in the following terms the objects of the loan:—"What is required," he says, "is such aid as shall at one and at the same time diminish the annual charge upon the provincial treasury for debt already incurred, and, by raising the credit of the province, enable it to obtain the additional funds required to make its fresh expenditure productive." And, again, he observes, that the loan, by so greatly enhancing the credit of the province, any further sums it may be found necessary to raise, in order fully to complete the works, will be obtainable at a low rate of interest, even upon provincial security alone;" while, in illustrating the bad effects of the existing embarrassments, and the manner in which the loan should be applied to relieve them, he adduces as an example the Welland Canal, which he states would require an expenditure of 400,000*l.* (more than the whole surplus of the loan) to keep it open. But if any doubt could exist on the subject, it would be removed by adverting to the course adopted by him in communicating to the House of Assembly Lord J. Russell's despatch of the 3d May 1841. Feeling, apparently, that the first sentence of the portion of that despatch headed "Finance" might, when separated from the previous correspondence, seem to imply that the residue of the 1,500,000*l.* was considered as all that would be required for public works, his Lordship, in sending that despatch to the Legislature, added, in a note to the first paragraph, the words: "In addition to what can be raised by the province;" thus showing, in the most unequivocal manner, his own interpretation of the correspondence. It is only necessary to add, that the slightest reference to the works to be completed would have shown that a sum of 274,000*l.* would be altogether inadequate; nor would the Legislature have accepted the guarantee, had it been coupled with a condition that no fresh loans should be raised.

The next objection is, that Lord Sydenham's estimate of the means of meeting the interest upon the fresh debt is erroneous. Your Lordship observes that the existing Canadian debt is stated at 1,226,000*l.*, bearing an annual interest of 72,537*l.*; that to pay off this, and carry on certain public works, it is proposed to raise 1,500,000*l.*, the interest of which at 4 per cent. will be 60,000*l.*, and that there would thus be a reduction of interest of only 12,000*l.* a year, and that the interest on the new loan at 5 per cent. would amount to 84,000*l.*, making in all an annual interest of 144,000*l.*, and leaving an annual deficit on the existing revenue of upwards of 68,000*l.* It appears to me that these calculations are not altogether correct. The interest upon the existing debt of 1,226,000*l.* at 4 per cent. would amount to 49,040*l.*, being a saving of 23,497*l.* as compared with the present interest. There would then remain a sum of 274,000*l.* British sterling, equal to 295,920*l.* provincial sterling, raised at an interest of 4 per cent., or 11,836*l.*, to be applied to the purposes for which the new loan was intended, which, assuming the estimates in the Act, c. 28, to be correct, would leave only the sum of 1,363,762*l.* of that loan to be raised at 5 per cent., or 68,188*l.* a year. The interest, then, on the whole debt would stand thus:—

	£.	s.	d.
Interest on Debt paid off - - - - -	49,040	-	-
Ditto on portion of new Debt, at 4 per cent. - - -	11,836	-	-
Ditto on new Debt, at 5 per cent. - - - - -	68,188	-	-
<b>TOTAL - - - - -</b>	<b>£. 129,064</b>	<b>-</b>	<b>-</b>

making the total deficiency upon the reveue, supposing it to remain as estimated by Lord Sydenham, 53,408*l.*

The direct means by which Lord Sydenham proposed to meet this increased interest were the establishment of a bank of issue, and the readjustment of the

customs duties. The first of these measures did not, it is true, meet with the concurrence of the Assembly; but in lieu of it they imposed, by the Act 4 & 5 Vict. c. 29, a duty of 1 per cent. on the notes and bills in circulation by private banks, by which, assuming the circulation only to remain as it was at that date, and not to increase, an annual revenue of upwards of 10,000*l.* a year would be created. By the second, it was calculated that a revenue of 70,000*l.* a year would be obtained; and considering that Canada is almost entirely an untaxed country; that its population is daily and hourly increasing, and that the high rate of wages enables the great bulk of the lower orders to consume a much larger proportion of imported luxuries than are consumed by the same class in older countries, it is scarcely possible to believe that such an increase may not be depended on; and even if the increase did not arise, yet, as the loan was to be raised on the responsibility of the Governor, in proportion as it was required, it would be in his power at any time to arrest the issue of fresh debentures until the means of paying the interest upon them should be provided. It is, moreover, to be observed, that the tolls and other revenues directly arising from these works are in this calculation altogether set aside; though experience shows that, as far as the more frequented roads and bridges are concerned, the tolls are sufficient, not only to make repairs and pay the interest, but to afford a very considerable profit.

But your Lordship observes, that Lord Sydenham's calculations are founded on two suppositions, both of which appear to be open to grave doubt. First, that all the existing creditors will consent to be paid off; second, that the additional loan can be raised on the credit of the province at a rate of interest not exceeding 5 per cent. In respect to the first of these suppositions, I would observe that, as the residue of the loan was to be applied to public works, the arrangement contemplated by the Act would approach to that which Her Majesty's Government have now announced their intention to propose, in exact proportion as the existing creditors refused to be paid off; so that if the whole of those creditors should so refuse, the plan contemplated by the Act, and that sanctioned by your Lordship, would be exactly identical. With respect to the second supposition, any opinion must of course be conjectural; but considering that in 1835 the province of Upper Canada, at a time when it was already burdened with a considerable debt; when it was without the power of increasing its revenue by direct taxation, and when its political position was certainly not more favourable than that of the United Province at the present moment, was able to raise a sum of 400,000*l.* in the London market at 5 per cent., and to sell its debentures at a premium, it does not seem unreasonable to expect that United Canada might have been able to conclude an equally favourable bargain after its revenues have been relieved by the generosity of the mother country, and after it had established its financial character by showing in its revision of its customs duties, and in other measures, a determination to accompany the raising of fresh loans with a certain provision to meet the interest upon them.

Having thus noticed the objections urged by your Lordship against the scheme proposed by Lord Sydenham, and carried out in the Acts now under consideration, I proceed to advert to the arrangement which Her Majesty's Government desire to substitute in its place. In my despatch of the 28th ultimo, I expressed my opinion that this arrangement was "nearly if not quite as advantageous to the province as the arrangement proposed by Lord Sydenham." To a great extent I continue to adhere to this opinion; that is, I think that if the course now proposed had been adopted by Her Majesty's Government, and had been offered to the Assembly in the first instance, it would have been, to the full, as advantageous as that which was actually adopted. But the difference of the circumstances under which it is now brought forward, makes a most essential distinction between the two plans.

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But even if this embarrassment were obviated, a much greater and more fatal difficulty exists in the delay which the reconsideration of the matter by the Provincial and Imperial Legislatures must involve. On my arrival in Canada, the first and most popular duty which I undertook, was the putting into operation the public works which had received the sanction of the Legislature. In the addresses which I have from time to time transmitted to your Lordship, you will find ample proof of the approbation with which this course

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course has been viewed by all classes and all parties. I enclose a list of those works, with a report of the operations now in progress upon them, and a general estimate of their cost during the present year. The money necessary up to the present time, has been advanced by the banks on the faith of the Acts passed during the last session; but if the decision of Her Majesty's Government in this matter be persisted in, and the settlement of the provincial finances postponed until another meeting of the Imperial Parliament, these works must be at once arrested; the contracts which have been made must be abandoned, the money advanced by the banks must be repaid, and a state of confusion, disappointment and distress which it is impossible to exaggerate must be produced throughout the country. Add to this, that on the faith of these works unusually large bodies of emigrants are resorting to Canada, not from the mother country only, but from all parts of the United States. Already several thousands have arrived from the latter quarter, and every account leads us to expect that the number of emigrants this year will be greater than any year since 1832. By the sudden suspension of the public works, all these people would be left without employment, and no relief which private benevolence or public contributions can afford, would prevent their being reduced to the utmost destitution. But in such a state of things your Lordship will readily conjecture with what feelings the people of this country would regard the government by whose immediate action so much distress had been brought about. To men in this position, no explanation would prove that a breach of faith had not been committed. Considering the difficulties with which under any circumstances the Government will have to contend during the approaching session, I cannot but regard the disappointment which will follow the temporary suspension of the public works with the greatest alarm. It would be impossible for me to meet my first Parliament under more unfavourable auspices, than with an empty exchequer and a starving population.

Some portion of these evil effects might, no doubt, be obviated by an advance from the British Treasury of the sum necessary to go on with the works now in progress until the subject shall again have been submitted to the Provincial and Imperial Parliaments, such advance to be hereafter repaid out of the loan to be raised under the British guarantee. If, therefore, Her Majesty's Government should, after considering this despatch, continue to adhere to their decision in regard to the loan and Public Works Act, I most earnestly entreat your Lordship to urge upon them in the strongest manner the advance of such a sum as will enable us to continue the public works during the present year.

But I will not despair that Her Majesty's Government may reconsider the course which they have announced their intention to pursue. If there were any great and self-evident advantage to be obtained by the alteration, it might be reasonable to expect that the country would acquiesce in the momentary inconvenience for the sake of the permanent benefit. But after frequently and earnestly considering the subject, I am compelled to acknowledge that I do not perceive any vital difference between the operation of the two plans. By that embodied in the Acts, the province would have become liable to the British Treasury for 60,000*l.* a year as a first charge, and to private capitalists for 70,000*l.* a year, for the fresh loan, as a second charge. By the scheme of Her Majesty's present Government, these charges will continue to exist, although their order will be reversed. The risk to the Imperial Treasury under the latter is, it is true, much greater, because, under it, there is but secondary security; and there is, moreover, an absolute pledge to increase the provincial debt by 1,500,000*l.*, whether the yearly revenues of the province should or should not be equal to the payment of the interest. Under the first plan, if the old debt had been paid off, there would have been primary security for the whole guaranteed debt, and the surplus beyond what would redeem the old debt would have been more than sufficient for the present season; and next year, when the new loan would begin to be negotiated, it would be under the favourable circumstance of an ascertained revenue, beyond the current wants of the country, equal to the payment of interest on the new loan, as it would be gradually increased. If some of the present public creditors should refuse the redemption of the debt, then the surplus of the guaranteed loan would be greater, and the time would be postponed for borrowing on the provincial credit, and so on in proportion as the redemption of the old debt was refused.

refused. Again, although the present plan will enable the province to raise the money necessary for its public works at a low rate of interest, yet it leaves the provincial revenue burthened with the high rate of interest now payable upon the existing debt; so that, in this respect, no advantage is gained. It is true that the Canada debentures, now at 75 or 80 per cent., might probably, under the former scheme, have risen to par; but as those debentures were originally sold, none of them below par, and some of them at a premium, the Government has no right to expect to make a profit in their redemption.

The result to which, after the most anxious deliberation, I came in respect to the financial unimportance of the alteration, is so different from that which Her Majesty's Government appear to entertain, that I express my opinion upon it with much hesitation, fearing that I may have overlooked some important considerations which had occurred to your Lordship and your colleagues. Upon the political bearings of the question I feel more competent to speak, and these I wish particularly to urge upon your Lordship's consideration. If, in the preceding pages, I express myself at any time more strongly than the circumstances would seem to warrant, I beg your Lordship to believe that I do so solely under an urgent sense of the obligation imposed upon me, not to conceal from your Lordship any circumstances which I consider essential, nor to impair their weight by my manner of stating them. When I compare the enthusiasm with which the offers of Her Majesty's late Government were received by the people of this province with the distrust and disappointment which will follow any interference with those offers, I feel that nothing but a clear, palpable, and inevitable necessity can justify such a step. I cannot convince myself that such a necessity exists; and, in this persuasion, I should be wanting in my duty to your Lordship, and to the office which I have the honour to fill, if I were not to entreat your Lordship to reconsider the matter, and to satisfy yourself that you have no alternative before you adopt a course which will inevitably produce great discontent in this province.

Enclosure in No. 14.

Encl. in No. 14.

SCHEDULE of the PUBLIC WORKS now in progress in CANADA, by Order of the Governor-general and Council, showing the Operations now being proceeded with thereon, together with a general Estimate of the Sums which will be required to meet the Expenditure during the present Year, and the further Sums which will be necessary for their Completion.

WORKS.	Sums required to meet Expenditure this Year, on the portion of Work now in Progress or under Contract.	OBSERVATIONS AND EXPLANATIONS.						
St. LAWRENCE NAVIGATION,— <i>viz.</i>								
Cornwall, or Long Sault Canal.	<table border="0"> <tr> <td>£.</td> <td>s.</td> <td>d.</td> </tr> <tr> <td>40,000</td> <td>-</td> <td>-</td> </tr> </table>	£.	s.	d.	40,000	-	-	<p>- - The works generally are being proceeded with so as to ensure the opening of this portion of the St. Lawrence navigation to the trade this year. The balance, as per estimate, required to fully complete it next season is 17,500 £.</p>
£.	s.	d.						
40,000	-	-						
La Chine Canal	3,000 - -	<p>- - Work in progress; substituting turning bridges for the fixed ones, so as to permit the passage of steamers, &amp;c. It will be perceived that the works now in hands on this part of the navigation are merely to meet the present wants of the trade. But in addition to this, the Board are of opinion that the works upon the several portions of the St. Lawrence should go on simultaneously, so that the full benefit of the outlay might at once be had. With this view they recommend that provision be made towards the enlargement of this portion of the line, the sum to provide for which this year would be 10,000 £.</p>						

WORKS.	Sums required to meet Expenditure this Year, on the portion of Work now in Progress or under Contract.	OBSERVATIONS AND EXPLANATIONS.
<b>ST. LAWRENCE NAVIGATION—continued.</b>		
The Canal from the Coteau to the Cascade.	<p style="text-align: center;">£. s. d.</p> <p style="text-align: center;">500 - -</p>	<p>-- This sum is to cover cost of surveys, estimates, &amp;c. The Board would strongly recommend that some progress with the works of this section should be authorized this year, so that it may be completed</p>
		<p>in 1844, no work having been yet commenced on it. Several lines have been explored for its route, chiefly on the north side of the river, to which the Board of Works, conceiving there was much objection as to difficulty of construction and expense, have had the line, formerly selected by Mr. Stevenson, on the south side of the river, carefully re-surveyed by a competent engineer. The result of the survey fully confirms the view the Board had taken of it, the line being in every respect preferable to that on the north side, and the work can be executed at a very reduced cost. An objection has been raised by some in a military view to having it on the south side, to which the Board do not attribute any weight, more especially as the Cornwall portion of the navigation (nearly completed) is within musket-shot of the American territory, as will necessarily be other portions of the general line also; whereas this portion, as proposed, is about 20 miles from the frontier.</p>
Lake St. Peter	18,000 - -	<p>-- Work in progress, the more efficient lighting and marking the channels, preparing the steam dredge, discharging scows, apparatus for removing boulders, &amp;c. The balance of the sum estimated to cover the cost of this improvement is 40,500 l., half of which would be required in 1843, and the remainder in 1844.</p>
Welland Canal	25,000 - -	<p>-- Work in progress, increasing the capacity of the main feeder, so as to render the supply of water commensurate with the increasing trade, deepening sundry portions of the line, dredging the entrance of the canal, excavating the lateral branch to the Grand River Harbour. The balance of the sum estimated to cover the cost of the full completion of this work is 400,000 l., the expenditure of which should be divided between the years 1843 and 1844, but the Board most urgently recommend that, instead of the operations being confined to the work now in progress, a further sum of 20,000 l. be provided to procure materials this year for the reconstruction of the decayed locks.</p>
<b>MAIN ROAD from East to West through the Province,—viz.</b>		
Bridges over the river between Quebec & Montreal.	13,500 - -	<p>-- All the principal bridges of this communication have been destroyed. The piers and abutments of some stand, and can be secured and rendered available if promptly attended to. The Board recommend that 13,500 l. be provided for that purpose, and to procure materials this season, that the bridges may be all completed next year, balance of estimate then required for which would be 20,500 l.</p>
Improvement of the Section from the Cascades to the Glengarry Line.	150 - -	<p>-- This sum is to cover the cost of marking out, and other preliminary arrangements. This section should be drained and formed generally during the present season (cost 3,500 l.), so that it may be completed and tollgates established thereon next year. Balance of estimate in full, 11,350 l.</p>
Section from Brantford to London.	12,000 - -	<p>-- General draining and forming. The balance of estimate to complete this section next year is 43,000 l.</p>
Port Sarnia Road	9,500 - -	<p>-- General draining and forming. The balance of the estimate to complete this section next year is 5,500 l.</p>
From London to Chatham, Sandwich, & Amherstburg.	10,000 - -	<p>-- General draining and forming. The balance of the estimate to complete this section next year is 26,000 l.</p>
Hamilton and Port Dover Road (a main Road from Lake Ontario to Erie).	10,500 - -	<p>-- General chopping, grubbing, draining, and forming. Building bridge over the Grand River. Balance of full estimate required next year, 19,500 l.</p>

## PAPERS RELATIVE TO

WORKS.	Sums required to meet Expenditure this Year, on the portion of Work now in Progress or under Contract.	OBSERVATIONS AND EXPLANATIONS.
<i>MAIN ROAD, &amp;c.—continued.</i>		
	£.    s.    d.	
Main N. Road from Lake Ontario to Huron.	8,000   -   -	- - General draining and forming. Balance of full estimate required next year, 22,000 l.
Gosford Road, by a main line of communication from Quebec to the Eastern Townships.	6,000   -   -	- - The materials for the bridges are being provided, and the works generally of this important line proceeding. Balance in full to complete it next season, 4,000 l.
Bay of Chaleurs Road, by which and the Kempt Road the communication will be opened with the St. Lawrence from the tract of country north and west of the Bay of Chaleurs.	7,500   -   -	- - The works of this line are being proceeded with generally.
Direct Road from the St. Lawrence to the Ottawa.	1,500   -   -	- - The works of this line are being proceeded with generally.
Lighthouses and Harbours on the Lakes and Roads made thereto.	40,000   -   -	- - Materials are being provided and preparations making for these important works at Long Point, Gull Island, The Rondeau, Port Stanley, Port Burwell, Catfish Creek, Port Dover, Windsor, Cobourg. Balance of estimate to complete it, l.
Improvement of the Newcastle District.	15,000   -   -	- - The general draining and forming of the Road from Lake Scugog to Lake Ontario, from Rice Lake to Lake Ontario, completion of locks and dam on the Trent, the works of which are far advanced; construction of slides for the assistance of the lumber trade, &c. Balance of appropriation made for present outlay in this section, 35,000 l.
Construction of Bridges, Slides, and Roads in the Ottawa section.	14,000   -   -	- - General preparations. Balance of appropriation for present outlay, 14,000 l.
Completion of the Navigation of the River Richelieu from Lake Champlain to the St. Lawrence.	16,000   -   -	- - Works of the Chambly Canal approaching to completion; preparations for the lock and dam at St. Ours, on the Richelieu. Balance of estimate to complete the navigation, 17,000 l.
Burlington Bay Canal	15,000   -   -	- - Materials advertised for, and general preparations making for the prosecution of this very necessary work. Balance of estimate to complete it, 30,000 l.
Repairs of the Chaudiere Bridge (Quebec).	500   -   -	- - The approaches of this bridge require immediate repair.

From the foregoing will be deduced that the sum required this year to carry on the several works as proposed, and portions of which are in progress, amounts to 265,650 l. Halifax currency, of which sum the actual contracts entered into amount to 110,000 l.; but as most of these contracts will very shortly be completed, restricting the expenditure to them would be tantamount to a stopping of the works.

Board of Works Office,  
12 May 1842.

— No. 15. —

(No. 190.)

EXTRACT of a DESPATCH from Lord *Stanley* to the Right hon. Sir *Charles Bagot*, Bart. G.C.B.

No. 15.  
Despatch from  
Lord Stanley  
to Sir C. Bagot.  
2 July 1842.

Downing-street, 2 July 1842.

Pages 69, 76, and  
78.

I HAVE received your despatches, No. 90, of the 28th April, and No. 101, of the 6th May last, in both of which you discuss the arrangements proposed in my despatch (No. 112) of the 2d April, for carrying into effect the pledge given by the late Lord Sydenham to the Canadian legislature, regarding the guarantee by the British Treasury of a loan to be raised for the benefit of the province of Canada.

In the first of those despatches you stated your impression to be that the arrangement proposed by me would be "nearly, if not quite, as advantageous to the province as that proposed by Lord Sydenham, though to the mother country it would be less so, inasmuch as the guarantee which they offer would no longer be secured as a primary charge on the provincial revenue." In the second despatch, however, you state that "as further reflection had convinced you that it would be much more advantageous to the province that the scheme proposed by the late Governor-general and approved by the two houses of the legislature should not be interfered with, and that the difference between that scheme and what Her Majesty's present Government announced their intention to bring forward is not essential, you felt it your duty to explain to me the grounds of that opinion, in the hope that your despatch might yet be in time to obtain from Her Majesty's Government a reconsideration of the subject." You then proceed, in the first place, to remark upon a passage of my despatch, intimating that Her Majesty's late Government had not anticipated the application to public works of more than the balance of the proposed loan of 1,500,000*l.* remaining after paying off the existing debt; in the next, you comment upon my calculations as to the amount of interest which would be chargeable on the province under Lord Sydenham's arrangement; and, lastly, you press strongly upon my notice the inconveniences which you apprehend would result from my proposed abandonment of that arrangement.

To these topics I will advert in their order.

With regard to the first, whatever may have been the views of Her Majesty's Government at home, I freely admit that Lord Sydenham appears always to have contemplated an outlay on public works far beyond the amount of any balance which could remain out of the proposed loan of 1,500,000*l.* after providing for the existing Canadian debt. Whether or not Her Majesty's late Government took the same view it is unnecessary now to inquire, there being no intention, on the part of Her Majesty's present Government, of insisting upon such view being carried out in practice; but, in giving effect to the ulterior measures which were brought under the consideration of the legislature by Lord Sydenham, it is the duty of Her Majesty's advisers to suggest at least every precaution which in their judgment may tend to diminish the risk of endangering, by the extent of the contemplated operation, the great object of improving the credit of the province, for which primarily the assistance of this country was proposed to be given.

This consideration leads me to the second topic of your despatch; viz. the apparent discrepancy between our calculations as to the amount of interest which would be chargeable upon the province in the event of the Royal Assent being given to the two Acts now under discussion; and I am happy to find, by your despatch of the 6th of May, that this discrepancy is apparent rather than real, and capable of an easy explanation. The Act No. 28 having provided for the raising of a sum of 1,659,682*l.* for public works, in addition to the loan of 1,500,000*l.* provided for by the Act No. 33, I had assumed it to be the intention of the Canadian legislature that each of those sums should be raised in full, and that the balance remaining out of the 1,500,000*l.* (estimated at 295,920*l.* currency on 274,000*l.* sterling), after providing for the existing debt, was intended to be laid out in public works, in addition to the 1,659,682*l.* proposed to be raised under Act No. 28. I now find, that in that assumption I misunderstood your intentions. You explain that, although the sum which I had named

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is authorized to be raised by the two Acts, it is intended that the amount of debentures to be issued under the Public Works Act should be diminished by the surplus of 295,920*l.* currency, or 274,000*l.* sterling under the Loan Act, which being raised at four per cent., or 11,836*l.*, will reduce to 68,188*l.* the interest on the new debt at five per cent.; which, if the whole sum had been raised as I calculated, would have amounted to 83,934*l.* It must be observed, that although the sum named at the commencement of the Act No. 28 is, as above stated, 1,659,682*l.*, the aggregate of the sums granted in detail for each work amounts to 1,678,682*l.*, the interest upon which, at five per cent., amounts, as above, to 83,934*l.*

In order to make the two calculations correspond, the following steps must be gone through.

Aggregate of the appropriations in Act, No. 28 - - - - - 1,678,682*l.*

Deduct,

1st, 295,920*l.* Canadian currency, the estimated surplus of the sum to be advanced by this country under the Act, No. 33; and 2nd, 19,000*l.*, the sum in which the aggregate of the appropriations in Act, No. 28, exceeds the sum granted by that Act.

After making these deductions, there remains the sum of 1,363,762*l.*, the interest on which, at 5 per cent. is 68,188*l.*; the sum to which Sir C. Bagot states that the annual interest on the loan to be raised under the Act, No. 28, will be reduced.

I receive with satisfaction this explanation of the intentions of the Canadian executive, which, if strictly adhered to, as I trust they will be, will, to a certain degree, diminish the apprehensions which I cannot but entertain as to the charge about to be imposed on the revenues of Canada.

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I now proceed to the third and most important portion of your last communication to me. I think I do not misrepresent your views in assuming you to admit that the arrangement proposed by me in my despatch of the 2d April, No. 112, would be, in principle, equally beneficial to the province with that of Lord Sydenham (though less advantageous to Great Britain); but to object to its now being carried into effect on account of the inconveniences which you anticipate as likely to ensue from disturbing the settlement made by the Act No. 28 of the difficult question, what shall be the public works to be undertaken by the province, in addition to the still greater practical evil, which you fear may be the consequence, of your being obliged to suspend some of those works now actually in progress.

From these apprehensions, whatever be the arrangement ultimately adopted, I am happy to believe that I shall have no difficulty in relieving you. In my despatch of the 2d April, I certainly proceeded on the supposition that a new Act would be passed by the Canadian legislature on the subject of the public works. Such a course, however, is by no means a necessary consequence of my proposal. You will perceive that the list of works enumerated by me in that despatch as deserving of the first consideration from the legislature (involving an estimated expenditure of nearly 1,400,000*l.*), is taken from that Act; and though I may entertain doubts of the expediency of including some of the remainder of the works there provided for, as not being of sufficiently general utility to merit being undertaken by the province at large, still as they have received the sanction of the provincial legislature, I do not feel called upon on that account to advise Her Majesty to disallow the Act. On the contrary, as it provides for that for which, under whatever arrangement adopted, provision must be made; namely, the enumeration of the public works to be undertaken, and the raising of a loan to furnish the funds for carrying them on. And as the question, whether that loan is to be raised under guarantee from the mother country, or solely on the credit of the province, though a material, is a distinct one, the uncertainty upon which (the mode of raising the loan being left to the executive government) need not oppose any obstacle to the confirmation of that Act, I do not hesitate to empower you to proceed under it as about to be confirmed; although, in case I may have overlooked any considerations which require to be attended to, I shall delay advising Her Majesty to take the formal steps necessary for that purpose, until after I shall have received your answer to this despatch.

Having thus, as I hope, rendered it impossible that any embarrassment should be experienced by your government, in consequence of the suspension of Her Majesty's formal decision on the Public Works Act, and of the signification of Her pleasure on the Loan Act; while I am not prepared to say that Her Majesty's Government are determined upon adhering, in opposition to your opinion and the sense of the province, to the views explained in my former despatch of April the 2d, I am bound to state to you that those views remain unaltered, as to the comparative advantages of my proposal and that of Lord Sydenham, for the purpose of accomplishing economically, certainly, and beneficially to the province, the objects sought to be obtained.

According to Lord Sydenham's arrangement, the execution of the public works of every description is made mainly to depend upon funds to be raised upon

upon the sole responsibility of the Canadian government. If the cost of the local works should, in many instances, exceed the estimate, or if, in consequence of the priority given to the loan of 1,500,000*l.*, and of the general management of Canadian finance, the credit of the province should not continue to be such as to enable it to raise the whole of the second loan of 1,678,682*l.* at five per cent., funds might be wanting to complete those great works, with a view to which mainly the assistance of this country was originally given. And I am compelled to acknowledge, although, as you truly remark, any opinion on such a subject can only be conjectural, that, when I find in Lord Sydenham's despatch of the 22d February 1841, that the sum necessary for a work in Lower Canada, of which the tolls were represented to be an ample security for the amount, could only be raised on the double security of those tolls and the credit of the province, at a rate of interest of from six to eight per cent., I entertain serious apprehensions as to the practicability of carrying into effect the objects of the Public Works Act, by sums raised on the provincial security only within the terms authorized by that Act. You will of course understand that you are not authorized in any case to issue the provincial debentures below par; such a step would be, in fact, a violation of the spirit, if not of the letter, of the provincial Act, which limits the rate of interest to five per cent.

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It is, I hope, equally unnecessary that I should caution you against sanctioning any vague estimates, or excess of outlay, under the expectation of a further advance of the credit of the mother country beyond that which has been so liberally afforded; and although it is no doubt true, that in the exercise of the discretion vested in you by the Public Works Act, you might abstain from issuing debentures beyond the means of the province to bear the charge, yet this step on your part, or the inability to raise the money at the prescribed rate of interest, might leave unfinished the most important works, and thus frustrate the object contemplated by the British Government.

In order to guard against the possibility of such a result, and to secure the application of the liberal assistance of this country in the most direct manner to the benefit of the province, it is proposed by my arrangement that the existing Canadian debt should remain a first charge upon the revenue of the province, and should be paid off, as it became due, from the produce of the current revenue, and that the 1,500,000*l.* to be raised under the guarantee of this country should be applied directly to the execution of the public works, beginning with those which have for their object the opening of the navigation of the St. Lawrence and the lakes. Under this arrangement, the credit of the province would be strengthened by the continuance of the priority of the present debt, and by the prospect of early repayment at or before the expiration of the existing bonds. The province would not have to appear at all as a borrower in the general market; and the public debt of Canada (in addition to the existing debt, which would be gradually paid off as funds became available for the purpose,) would be limited to the sum appropriated for the completion of the public works, of which there would be at least 1,500,000*l.* raised, at a rate of interest not exceeding four per cent. This arrangement no doubt would require this country to give up its priority of claim upon the provincial revenue. But Her Majesty's Government willingly consented to make this sacrifice, because they felt convinced that this arrangement was more conducive to the financial prosperity of Canada than that proposed to be adopted under the two Acts; and that, setting aside higher considerations, priority of claim upon the provincial revenue was an inferior security to that derived from the prosperity of the province.

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— No. 16. —

(Separate.)

EXTRACT of a DESPATCH from Lord *Stanley* to the Right hon. Sir *Charles Bagot*, Bart. G.C.B.No. 16.  
Despatch from  
Lord Stanley  
to Sir C. Bagot.  
2 July 1842.

Downing-street, 2 July 1842.

IN your despatch of the 28th of April you advert to the necessity of appointing an engineer officer as commissioner on the part of Her Majesty's Government, to superintend the execution of the works which may be undertaken,

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and point out the reasons which induce you to prefer a civil to a military engineer.

On this subject I have only to observe, that if provision be made by the legislature for the payment of such an officer (which I agree with you would be very desirable), Her Majesty's Government would have no preference for a military over a civil engineer, nor any wish on the subject but to procure the services of the most competent person who could be engaged for this purpose.

— No. 17. —

(No. 157.)

COPY of a DESPATCH from the Right honourable Sir *Charles Bagot*,  
Bart. G.C.B. to Lord *Stanley*.

No. 17.  
Despatch from  
Sir C. Bagot to  
Lord Stanley.  
9 July 1842.

Government House, Quebec,  
19 July 1842.

My Lord,

IN deciding on the steps to be taken during the present season for carrying on the public works, which had received the sanction of the legislature, and more especially those for completing the navigation of the St. Lawrence, to which Her Majesty's Government attach no less importance than the people of this province, my attention has been strongly drawn to the necessity of at once commencing the canal which is to form the communication between Lakes St. Francis and St. Louis. When the Cornwall Canal shall have been completed, which will probably be in the course of the present, or early in the next season, the rapids between these two lakes will form the only interruption to the navigation from Lake Huron to the sea. Other parts of that navigation will still require improvement; but the cedars and cascades rapids will then be the only obstruction, which would compel the transhipment of heavy goods, and the employment of land-carriage, or the use of the circuitous route by the Ottawa and Rideau.

It is evidently, therefore, of great importance, with a view to render the large expenditure on other parts of the St. Lawrence immediately productive, that this short obstruction should be overcome as soon as possible, and I have accordingly decided on at once commencing the work. I was further induced to this decision by the great influx of emigrants at the beginning of the season, and the impossibility of finding employment for them in the neighbourhood of Montreal, without having recourse to such an undertaking.

The question then arose as to the side of the river on which the canal should be dug. The north side offered the plausible advantage of being better protected in the event of war; the south promised much greater facilities in the execution, with a very reduced expense both in the original construction and the annual maintenance.

The economical advantages of the two routes may be best presented to view in the following table; viz.

	North.	South.
Length of canal in miles - - - - -	15	12
Depth of excavation, in feet - - - - -	9½	6
Number of bridges - - - - -	7	3
Ditto - aqueducts - - - - -	3	2

which latter on the south side will be only 10 feet in width, while those on the north will be about 50 feet span. The nature of the excavation will be nearly the same on both sides, viz. clay, except for less than a mile at the lower entrance, which, on both sides, will be rock. The canal, for half its length on the north side, would be in a deep ravine, the banks of which at one part are 60 feet high, and subject of course to all the land floods and the drainage of the adjacent country, which, occasioning great deposit, would involve the expense of clearing the canal out every year; while that on the south side, except immediately at the upper and lower entrances, is a flat table land, the excavation just about sufficient to make the banks.

Under

Under these circumstances, and after having before me the Report of an eminent civil engineer, and the opinion of the Chairman of the Board of Works, I decided on making the canal on the south side, and operations for that purpose have already been commenced. By the intervention of the agents of the Beauharnois Company, who have of course a strong interest in the work, the land necessary for its execution has been given up gratuitously, and funds have been advanced for the first expenses. The final arrangement as to the terms on which these funds are to be advanced, must await the decision of Her Majesty's Government as to the Loan Act.

It was not to be expected that a measure in which so many had a direct interest could be decided without much discussion, or without opposition from those whose interests would have been promoted by an opposite course. Accordingly, soon after my decision became known a meeting was called of the inhabitants of Coteau du Lac, on the north shore, by whom an address was presented to me, of which, and of my answer, I enclose copies. I afterwards received a similar address from the county of Glengarry, of which, and of my answer, I also annex copies.

The principal points put forward by the objectors are, first, that by reason of the shallowness of the water, the dangerous rocks, an almost constant surf, and a want of anchorage, no available or safe navigation can be established on the south shore: and, secondly, that from the proximity to the United States, the canal would be liable to be seized by the Americans in time of war; that if so seized, it would assist them to invest the city of Montreal, and enable them to cut off the communication between Upper and Lower Canada.

To the first objection it is sufficient to answer that, while it is maintained solely by gentlemen who have not had the advantage of professional education or experience as engineers, and whose personal wishes and interests may be supposed to be not altogether inactive in the matter, it is contradicted by engineers of great experience and scientific acquirements, who being strangers to the country can have no local bias. The latter officers, moreover, in their representations to the Government, act under a responsibility of the most serious kind, a responsibility which involves not only their immediate credit, but their future advancement. I could not, therefore, on this point put the vague assertions of the objectors into competition with the Reports of the engineers.

In respect to the second objection, the question involved in it is one of policy, on which there was no difficulty in forming an opinion. *Ceteris paribus*, I should probably have myself selected the north shore, for the reason stated in this address; but when the great additional expense on that side is taken into account, there is no sufficient advantage to compensate for it. Assuming Canada to be invaded from the United States by the line of Lake Champlain, the battle will have to be fought on the south shore of the St. Lawrence. Any force which could drive Her Majesty's troops across the river would have little difficulty in getting possession of Montreal. But in such a case the canal in question would afford the invaders no advantages or facilities of any kind. It would never be used for the transport of troops or stores to Montreal, because such troops or stores could be sent down the rapids, which are perfectly navigable downwards, with much greater ease and quickness. It would not be used for ascending vessels, because it would be much more easy to communicate with the States by the Richelieu and Lake Champlain. It would not affect the communication between Upper and Lower Canada, because that is secured by the Ottawa and Rideau, which in case of war must always be the line of communication. It would be subject, if taken, to be injured or destroyed; but in the improbable event of our being driven from the south shore, the canals on the north would be scarcely more secure. They would of course be the object of attack, and it would be impossible to protect them from a force which it is assumed would have been powerful enough to drive the British army across the river

After fully weighing these considerations, it appeared to me that there was no sufficient ground to justify me in incurring the larger expense where the lesser would be equally advantageous. I could not convince myself that with one incomparable military communication, established by the munificence of Great Britain, I was bound to attach a similar character to the minor communications destined for commercial purposes. I have been supported in this view by the entire acquiescence in my decision of the inhabitants of every section of

No. 1.

No. 2.

the province, except those whose addresses I enclose. The mercantile bodies of Montreal and Quebec are as much interested in the success of this navigation as any other parties in the province, yet I have not received a single remonstrance or objection from any one of them; and with the exception of the old Quebec Gazette, none even of the papers of this section of the province have complained of the decision. I therefore feel justified in believing that the opposition may be attributed to the natural bias produced in every man's judgment by a strong personal interest.

I have desired the chairman of the Board of Works to furnish me with a copy of the engineer's report on the south shore line, to be forwarded to your Lordship; but I fear that I shall not receive it in time to accompany this despatch.

I have, &c.  
(signed) Charles Bagot.

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Enclosure 1, in No. 17.

Encl. 1, in No. 17. To His Excellency the Right honourable Sir *Charles Bagot*, G. C. B. Governor-General of the Province of Canada, &c. &c. &c.

May it please your Excellency,

THE undersigned, the chairman and committee, duly named and appointed at a public meeting of the county of Vaudreuil, held this day at Coteau du Lac, beg leave most respectfully to approach your Excellency, to express their unfeigned regret in learning that it is your Excellency's intention to assent to the junction of Lakes St. Francois and St. Louis, by the construction of a canal on the south shore of the River St. Lawrence.

That from the personal knowledge of the committee, as well as the majority of those who deputed them, they can assure your Excellency that no available, practicable, or safe navigation can be found on the south shore to communicate with the projected canal.

That the shallowness of the water, the dangerous rocks, the almost constant surf, the want of anchorage and safe harbourage, on the south shore are familiar and notorious to every navigator of the River St. Lawrence.

That apart from the difficulties of a navigation so beset with natural dangers, they cannot view without alarm the expenditure of so large a sum, in such near proximity with the American territory, without offering their most earnest remonstrance against a risk, which no obstacles or difference of cost on the north shore render it expedient or necessary to incur.

That in the event of hostilities with the United States, the first object of that power would be to secure the possession of the canal, the more easily to transport their army and munitions of war, thereby the more speedily to invest the city of Montreal.

That by the possession of the canal, the more easily acquired by its land and water proximity to the American frontier, the enemy would command both lakes, and at once cut off all communication between the upper and lower parts of the Province, whether by the River St. Lawrence or the Rideau Canal.

That in communicating the apprehensions entertained by the county of the contingent danger of the selected route, they should ill discharge the duty entrusted to them if that apprehension could be misinterpreted into a doubt of the power of the Crown to maintain the integrity of the empire, or to shield with its protection the meanest of its subjects; but although such a confidence is a ground of congratulation to them as forming part of that empire so capable of defending every inch of its soil, or avenging its violation, it does not appear as any ground for courting danger in the selection of a locality of easy approach and acknowledged risk in preference to one unencumbered with any such obstacles.

That sensible of the impolicy and danger of placing the canal on the south shore, the Parliament of Lower Canada, in granting the funds for the survey and plans for the improvement of the navigation between these two lakes, restricted that inquiry and survey by exacting that the survey should be between La Chine and the province line of Upper Canada on the north shore.

That the north shore presents the most obvious facilities for the construction of a canal connecting the two lakes, by cutting in a straight line from the upper lake to the rear of the church at the Cedars, a distance of eight miles, through an easy soil, principally of clay and sand; there it falls into a deep ravine, forming a natural and deep canal from the rear of that village to Lake St. Louis, within about ten acres of the Cascades.

That if there is a possibility of the canal being, as they assert, inaccessible or dangerous in its approach, whether from the want of water anchorage, depth of water, set of the current, or the prevailing winds, the outlay will be both inexpedient and unproductive; to be hereafter abandoned or only made available by the imposition of great additional burthens on the people to remedy the defect, by the formation of harbours and breakwaters, at an expense perhaps exceeding the original cost of the canal.

That the undersigned therefore most respectfully beg leave to submit to your Excellency the propriety of ordering a nautical survey of the harbours and approaches of the contemplated canal by officers of the Royal Navy, as competent and disinterested persons, as the only

only safe mode of confirming the propriety of the route at present decided on; or that your Excellency will be pleased to defer the consideration of its locality until the opinion of the Provincial Legislature can be ascertained.

All which is most respectfully submitted with unfeigned respect by your Excellency's most obedient humble servants,

*John Simpson*, Chairman.

*R. Harwood.*

*G. Beaudet.*

*W. Duncan.*

*J. Watier.*

*Robert M'Intyre.*

*Orton Pease.*

*J. J. Loz.*

*J. B. Christin.*

*A. Perry.*

*Edward Sullivan.*

*Charles M'Pherson.*

*W. Duckett.*

*W. Waters.*

*A. Roy.*

*P. J. Masson.*

*E. Hays.*

*J. Birmingham.*

*W. Roebuck.*

Coteau du Lac, 29 June 1842.

*John Birmingham*,  
Secretary.

*John Simpson*,  
Chairman.

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ANSWER.

Gentlemen,

I HAVE considered with much attention the arguments which you urge against the construction on the south shore of the St. Lawrence of the canal which is to connect the lakes St. Francis and St. Lewis.

In respect to the physical difficulties on which you insist, I can assure you that, previously to adopting my decision, I had had before me the report of a competent engineer, totally unconnected with this province, and therefore free from all local bias. From his report, confirmed by the opinion of the Chairman of the Board of Works, I gather that a canal can be made both more cheaply and more easily on the south than on the north shore, and that you are mistaken in your estimate of the physical obstructions to such a work. Incompetent myself to pronounce an opinion on a question of this nature, I must rely, and I do so with confidence, on the representations I receive from those whose professional reputation is involved in the correctness of their statements, and who can have no personal motive to mislead me.

With respect, however, to the political considerations adduced by you, I feel no such difficulty. Should hostilities unfortunately arise between Great Britain and the United States, it would be the duty of the government of this province to protect Her Majesty's subjects living on the south no less than those on the north shore of the St. Lawrence, and the whole power of Great Britain would be put forth to do so. I cannot contemplate the possibility that Her Majesty's troops might be driven from the south side of the St. Lawrence; but even were such a misfortune to occur, the communication between Upper and Lower Canada by the Rideau Canal would still remain open, and the enemy would derive no greater facilities for his operations by possession of the canal now in question. The munificence of Great Britain has provided the Rideau line of communication as a defence in time of war, and so long as that remains open, the intercourse, between the upper and lower parts of the St. Lawrence cannot be cut off.

Under these circumstances I must decline to interfere with the decision already taken in this matter. I cannot consent to impose on the province the unnecessary additional expense of making the canal on the north side, with a view to future possible hostilities; nor do I see any reason for delaying the commencement of the work till the meeting of the Legislature, whereby we should lose the whole of the present season.

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Enclosure 2, in No. 17.

To His Excellency the Right hon. Sir *Charles Bagot*, G. C. B. Governor General of the Province of Canada, &c. &c. &c.

Encl. 2, in No. 17.

May it please your Excellency,

WE, the undersigned chairman and committee, appointed at a public meeting of the county of Glengarry, held this day at Williamstown, beg leave most respectfully to express our unfeigned regret on learning that it is your Excellency's intention to effect the junction of Lakes St. Francis and St. Lewis, by constructing a canal on the south shore of the St. Lawrence.

From the personal knowledge of the committee, as well as of a great majority of those who have deputed us, we can assure your Excellency that no available or practicable navigation can be found on the south shore, by which a safe communication can be obtained with the projected canal.

The shallowness of the water, the many dangerous rocks, the almost constant surf, the

want of anchorage, and a total absence of any safe harbour on the south shore at the western extremity of the proposed canal, are insurmountable obstacles to its adoption.

We cannot view the expenditure of so large a sum, so near the American territory, without offering our respectful remonstrance against so unnecessary a risk, which no obstacles or difference of cost on the north side renders it expedient to incur.

In the event of hostilities with the United States, the first object of that power would be to secure the possession of the canal, and thus facilitate the invasion of the city of Montreal.

With the possession of this canal, so easily acquired by its proximity to the American frontier, the enemy would command both lakes, and at once cut off all communication between the upper and lower parts of the province, not only by the route of the River St. Lawrence, but also by that of the Rideau Canal. The danger of this is too apparent to need further comment.

The impolicy and danger of placing the canal on the south shore were apparent to the Parliament of the late province of Lower Canada; and in granting funds for the survey and plans for the improvement of the navigation between these two lakes, they restricted the survey to the north shore.

From the reason we assigned we are decidedly of opinion, that the contemplated route must be abandoned, or else great additional burthens must be imposed on the people to remedy the defects by the formation of harbours and breakwaters, and by deepening the bed of the river at an expense exceeding the original cost of the canal.

To guard against this certain loss we would most respectfully submit to your Excellency the wisdom of ordering a nautical survey of the approaches to the intended route to be made by competent persons, assisted by officers of the navy and experienced pilots, as the only safe mode prior to its adoption, or that it may please your Excellency to postpone the measure until the opinion of the Provincial Legislature can be obtained.

We have, &c.

(signed) *John M'Gillivray*, Chairman.

*Alexander Fraser*, J. P.

*Daniel E. M'Intyre*, M. D.

*Hugh M'Gillis*, J. P.

*James M'Donald*.

*Alexander M'Kensie*, J. P.

} Committee.

#### ANSWER.

Gentlemen,

THE arguments which you urge against the construction of the canal between lakes St. Francis and St. Louis, on the southern shore of the St. Lawrence, have already been brought under my notice by the address from certain inhabitants of Coteau du Lac and its vicinity.

In respect to the physical difficulties on which you insist, I can assure you that, previously to adopting my decision, I had had before me the report of a competent engineer totally unconnected with this province, and therefore free from all local bias. From his report, confirmed by the opinion of the Chairman of the Board of Works, I gather that a canal can be made both more cheaply and more easily on the south than on the north shore, and that the obstructions to the approaches to which you advert, and for the examination of which you suggest a nautical survey by officers of the navy, assisted by experienced pilots, do not really exist. Incompetent myself to pronounce, an opinion on a question of this nature. I must rely, and I do so with confidence, on the representations made to me by those whose professional reputation is involved in their correctness, and who can have no personal motive to mislead me; and I feel assured that when the Legislature shall have before them the grounds on which I have proceeded, they will be satisfied that I have taken every necessary precaution before commencing this work, so important to the future commerce of the country.

With respect to the political considerations adduced by you, I feel no difficulty in forming my opinion. Should hostilities unfortunately arise between Great Britain and the United States, it would be the duty of the Government of this province to protect Her Majesty's subjects living on the south no less than those on the north shore of the St. Lawrence, and the whole power of Great Britain would be put forth to do so. I cannot contemplate the possibility that Her Majesty's troops might be driven from the south side of the St. Lawrence; but even were such a misfortune to occur, the communication between Upper and Lower Canada by the Rideau Canal would still remain open, and the enemy would derive no additional facilities for his operations by possession of the canal now in question. The munificence of Great Britain having provided the Rideau line of communication as a defence in time of war, and so long as that remains open the intercourse between the Upper and Lower parts of the St. Lawrence being secured, I cannot consent to impose on the province the unnecessary additional expense of constructing a second canal in the same section of the province with reference to the possibility of future military operations in its neighbourhood; nor do I see any reason for delaying the commencement of the work till after the meeting of the legislature, whereby the whole of the present season would be lost.

— No. 18. —

(No. 235.)

COPY of a DESPATCH from Lord *Stanley* to the Right Honourable Sir  
*Charles Bagot*, Bart., G. C. B.

No. 18.  
Despatch from  
Lord *Stanley*  
to Sir C. *Bagot*,  
26 Aug. 1842.

Sir,

Downing-street, 26 August 1842.

I HAVE had the honour to receive your despatch of the 19th of July, on the subject of the canal between Lakes St. Francis and St. Lewis.

I am glad to have received this exposition of your views on a subject which has given rise to inquiries on the part of persons in this country interested in the progress of the public works in Canada, and which I have hitherto not had the means of satisfying; and I shall also be glad to receive the report of the civil engineer, which you promise me.

I observe that your despatch does not state the amount of saving in expense which will be effected by making the canal on the south side of the St. Lawrence, instead of on the north. Probably the report of the engineer will supply this omission. I confess that it is not without regret that I assent to the sacrifice of the military advantages which would have resulted from carrying the canal on the north bank; but I am bound to admit that, on the grounds stated by you, the inconvenience will be considerably less than would at first sight appear; and on the whole, after due consideration of the reasons which have influenced you in making your selection, and adverting to the local knowledge requisite in a case of this description, I am disposed to leave the decision of the question in your hands.

I have, &c.  
(signed) *Stanley*.

P. S. 2 September.—Since the above was written, I have received your subsequent despatch of the 6th August, No. 165, enclosing a report from the President of the Board of Works on the subject. The evidence which it furnishes fully justifies the conclusion previously adopted by me.

— No. 19. —

(No. 162.)

COPY of a DESPATCH from the Right hon. Sir *Charles Bagot*, Bart., G. C. B.,  
to Lord *Stanley*.

No. 19.  
Despatch from  
Sir C. *Bagot* to  
Lord *Stanley*,  
26 July 1842.

My Lord,

Government House, Quebec,  
26 July 1842.

I HAVE the honour to acknowledge the receipt of your Lordship's despatch of the 2d instant, No. 190, explaining the decision to which Her Majesty's Government have come in regard to the Public Works and Loan Acts of the last session, in consequence of the representations contained in my despatches to your Lordship of the 28th April and 6th May last.

Page 85.

I learn with very sincere satisfaction that Her Majesty's Government have decided on not re-opening in the Provincial Legislature the question as to the works to which the public resources should be first made available. I rejoice at this, because I am convinced that the decision come to last session was as free from local biases and sectional interests as can possibly be expected in a popular body, while it left out none of those more important works in which the future prosperity of the country is involved. It would not indeed be difficult, if it were necessary, to show that the apparently minor works included in the Act are of essential importance to the opening and settlement of the country, while they are far beyond the unassisted means of the several districts in which they are situated. But it is unnecessary for me at present to enter on that discussion.

The most serious embarrassment, however, anticipated in my despatch of the 6th May, arose from the fact, that "the money necessary up to that date had been advanced by the banks, on the faith of the Acts passed last Session;" but

that, should "the settlement of the provincial finances be postponed until another meeting of Parliament, the works must be at once arrested, the contracts which have been made must be abandoned, the money advanced by the banks must be repaid, and a state of confusion, disappointment, and distress, which it is impossible to exaggerate, must be produced throughout the country." From this embarrassment your Lordship expresses your satisfaction at being able to relieve me; and with that view, you empower me to proceed under the Public Works Act, as about to be confirmed, although you postpone taking the formal steps for its confirmation until you shall have received my answer to your despatch. But, retaining your opinion as to the relative advantages of the schemes proposed by Her Majesty's late and present Government, you direct me to bring each of those schemes under the consideration of the Provincial Legislature, leaving to them the decision as to which shall be ultimately adopted.

Page 78.

For the discretion thus entrusted to me I have to tender my acknowledgments; but there is one omission in the arrangement to which I must solicit your attention. The stoppage of the public works adverted to in my despatch of the 6th May, I expected to arise from the failure of funds, rather than from the disallowance of the Act 4th & 5th Victoria, c. 28. It was therefore against the delay in regard to the Loan Act that I particularly desired to remonstrate, as in fact the pivot on which the whole arrangement turned. But your Lordship appears to consider that the authority to proceed with the public works, is all that is required; and you omit entirely all notice of the means by which funds for those works are to be procured. It is true that the Public Works Act contains an authority to the Government to issue debentures to the extent therein specified; but I need not point out that that authority is necessarily coupled with the guarantee of the loan in England; that it was based upon it, and is inoperative without it.

Your Lordship has truly observed that I should not be justified in issuing the debentures authorised by this Act under par, or at a higher interest than 5 per cent. Had an Act been already passed by the British Parliament to guarantee the existing debt of Canada, and by that means both to relieve her finances by the diminution of interest, and to improve her credit by showing the confidence of the Imperial Legislature in her solvency, I have no doubt that the money might have been obtained on those terms. But without such a guarantee, with her finances still incumbered by the heavy interest of the old debt, and her credit not unaffected by the delay which has taken place in respect to the guarantee, such a transaction would be altogether hopeless. In the meantime, the banks who have advanced the money on the understanding that it would not be required for any lengthened period, are becoming impatient to be paid, and I am utterly without the means of discharging their claims. I trust therefore that your Lordship will, at your earliest convenience, inform me in what way this difficulty is to be overcome.

The course pointed out in my despatch of the 6th May was the advance by the Imperial Treasury of the sum necessary to carry on the public works during the present year; and this would appear to be almost the only way in which the assistance of the British Treasury, in the present stage of the matter, could be given. The guarantee of a loan to the amount required, which under other circumstances would appear the most convenient course for the British Treasury, would in fact anticipate the decision of the Legislature on the question which it is desired to submit to them; and although, as I have before stated, I do not look upon the two plans, abstractedly considered, as differing much from each other, yet as Her Majesty's Government have determined that the choice between them should be left to the Provincial Legislature, it is right that those bodies should have the opportunity of considering them unfettered by any previous proceedings. The advance from the British Treasury, whatever might be the decision of the Legislature, would be very temporary. If they should adhere to the original plan, it would be repaid out of the proceeds of the debentures issued under the existing Public Works' Act; if they should prefer the new plan, out of the proceeds to be raised under the Act which must then be passed to appropriate the guarantee of Great Britain towards the works.

In respect to the other topics adverted to in your despatch, it seems hardly necessary for me to detain your Lordship. I need scarcely say that I shall endeavour

endeavour to act up to your caution regarding the sufficiency of the estimates of any works that may be in contemplation: indeed, the Act by which the Board of Works is constituted and entrusted with the superintendence of such undertakings, appears to be an effectual guarantee against laxity on this point. I shall also, of course, strictly observe the provisions of the law in respect to the amount to be appropriated to each of the several works, and the rate at which that amount is to be raised; and I shall continue to endeavour, as I have hitherto done, to secure the priority of those works which are of more general rather than of comparatively local importance. Upon the argument respecting the two plans of employing the British guarantee, it is unnecessary for me to enter, as the question is no longer one for my decision; but I must observe that that part of the scheme which contemplates the creation of a sinking fund of 5 per cent. per annum for the redemption of the debt, if it be insisted on immediately and while the works are still unfinished, and therefore altogether unproductive, will press most severely and I fear injuriously on the resources of the province. It would be equal, in the first instance, to the payment of 9 per cent. instead of 4, on the whole sum raised; and although the effect of such a pressure would be gradually to diminish and eventually to wipe out the annual interest, it would be almost insupportable at first. The annexation of this condition would probably induce the Legislature to prefer the former scheme, of which it formed no part.

I am much obliged for your Lordship's suggestion in respect to the mode of bringing the matter before the Legislature. I am inclined to think that it would be more consonant to the practice of this country that an address should be presented to me by the House, requesting communication of the correspondence. Upon that point, however, it is unnecessary for me to adopt any immediate decision.

I have, &c.  
(signed) *Charles Bagot.*

— No. 20. —

(No. 240.)

COPY of a DESPATCH from Lord *Stanley* to the Right honourable Sir  
*Charles Bagot*, Bart. G. C. B.

Sir,

Downing-street, 1 September 1842.

I HAVE to acknowledge the receipt of your despatch (No. 162) of the 26th July, in reply to mine of the 27th of that month (No. 190) communicating to you the decision of Her Majesty's Government with regard to the Public Works and Loan Acts passed by the Legislature of Canada in their last session.

With regard to your proposal that the Imperial Treasury should advance a sufficient sum in anticipation of the new loan, to enable you to discharge the claims on the provincial governments arising out of the works which have been commenced this year by your authority, I enclose for your information a copy of the correspondence which has passed between my department and the Board of Treasury on the subject.

I have, &c.  
(signed) *Stanley.*

Enclosure 1, in No. 20.

Sir,

Downing-street, 15 August 1842.

WITH reference to your letter of the 17th June last, I am directed by Lord Stanley to transmit to you the enclosed copy of a despatch from the Governor of Canada respecting the decision of Her Majesty's Government on the subject of the loan of 1,500,000 *l.* to be raised for the service of that province under the guarantee of the Imperial Parliament; and I am to request that you would, in laying this despatch before the Lords Commissioners of the Treasury, call their Lordships' immediate attention to the application made by Sir Charles Bagot for an advance from the British Treasury of a sum of money to enable him to liquidate claims arising out of the public works which he had authorised to be commenced this year.

C. E. Trevelyan, Esq.

I have, &c.  
(signed) *G. W. Hope.*

No. 20.  
Despatch from  
Lord Stanley to  
Sir C. Bagot,  
1 Sept. 1842.

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Col. Off. 15 Aug.  
Treasury, 23.

Encl. 1, in No. 20.

## Enclosure 2, in No. 20.

Sir,

Treasury Chambers, 23 August 1842.

Encl. 2, in No. 20.

IN reply to your letter of the 15th instant, respecting the loan of 1,500,000 *l.* to be raised for the service of Canada, under the guarantee of the Imperial Parliament, I am directed by the Lords Commissioners of Her Majesty's Treasury to request that you will state to Lord Stanley that my Lords having adverted to that part of the despatch of the Governor-general of Canada which recommends an advance from the British Treasury of the sums necessary to carry on the public works of that province during the interval which must elapse before the final decision of the Canadian Legislature as to the loan can be ascertained, they have only to observe, that as Parliament has neither given any authority to my Lords to sanction such an advance, nor provided the funds from which it could be made, my Lords have no power of meeting the views of the Governor-general in this respect. But my Lords do not anticipate from this inability on their part the inconveniences which the Governor-general was led to apprehend at the time when his despatch was written.

The Governor-general could not then have been aware that the authority of Parliament had been obtained for the guarantee of a loan of 1,500,000 *l.* for the service of the province.

Whatever uncertainty therefore might have previously existed as to the determination of the Imperial Legislature on this point, or whatever might be the mode in which the Legislature of Canada might prefer to raise such a loan, there could, after the passing of the Act 5 & 6 Vict. c. 118, be no longer a doubt of a loan to that amount receiving the guarantee of Her Majesty's Government.

The effect of this legislative proceeding on the credit of the province could not but be most advantageous; and my Lords apprehend that the additional security thus afforded that the funds necessary for the execution of the public works already commenced would be ultimately provided by a loan under the guarantee of Great Britain, would greatly diminish if not altogether allay the anxieties of those who had made large advances to the colonial government.

C. W. Hope, Esq.

I am, &c.  
(signed) C. E. Trevelyan.

## — No. 21. —

(No. 165.)

COPY of a DESPATCH from the Right honourable Sir Charles Bagot, Bart., G.C.B., to Lord Stanley.

No. 21.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
6 August 1842.

My Lord,

Government House, Montreal, 6 August 1842.

WITH reference to my despatch to your Lordship of the 19th ultimo, I have the honour to transmit to your Lordship herewith a copy of the Report made to me by the Chairman of the Board of Works, as to the relative advantages of constructing the canal between lakes St. Francis and St. Louis, on the north or south shore of the St. Lawrence. I trust that the statements contained in this Report will convince your Lordship of the propriety of my decision to undertake that work on the south side.

I have adopted what appeared to me to be the necessary precautions to prevent misunderstandings between the inhabitants of the country through which the canal will run, and the labourers employed on the work.

I have, &c.  
(signed) Charles Bagot.

1 August 1842.

## Enclosure in No. 21.

Sir,

Montreal, 1 August 1842.

Encl. in No. 21.

I HAVE the honour to acknowledge, through you, the protest or remonstrance forwarded to His Excellency the Governor-general by Mr. Simpson, against what he states to be "the recently selected line" of the St. Lawrence Canal. The general tour of inspection on which I have been engaged for some time has prevented my receiving that document until within the last day or two. I now hasten to lay before you such facts and information connected with the matter as will, I trust, fully satisfy his Excellency that the opinion of Council upon which he has acted in giving his sanction to the proposed canal being constructed on the south side of the river was not adopted without full and mature consideration; that my departmental report, upon which principally the Council founded that opinion, was not made without due examination and abundant and well-ascertained data; and, finally, that in acting upon that report, the Council was but carrying out the plan as estimated

mated for, and submitted to, and approved of by the Legislature. No expression of disapproval of the south side was used in the House, as I understood, but it did strongly express its disinclination to have the completion of any portion of the navigation of the St. Lawrence deferred for or contingent upon the procuring of a loan from any private company.

The selection of the most eligible route for this canal has received a great deal of attention, professional and otherwise, for a long time. It is more than 20 years ago, I understand, since the first survey was instituted; and there have been in all 10 surveys made from that time to the present, of which the following is an abstract:—

1. The first was made about 20 years ago by a French engineer, who having generally examined both sides of the river, located the work on the south side. This gentleman's report I have not been able to obtain, but the result of it, as stated, I have had from highly respectable authority.

2. The second was made in 1833 on the north side, by Mr. Mills, under the direction of the then commissioners, among whom were Messrs. Harwood and De Beaujeu, the seigniors of the properties adjoining, and through which it was proposed to run the canal. This line entered the river from "McDonald's Point," near Mr. Simpson's house. It was to be maintained partly in the river and partly by artificial cuts, and terminated at the foot of the Cascades: the estimate 235,782*l.* The objections to this line are strongly and fairly set forth in the reports of Messrs. Baird and Stevenson, and are, in my judgment, insuperable. Its entrance is represented to be obstructed by shoals, and being on the lee shore of Lake St. Francis, with the much prevailing south-west wind blowing on, sailing craft frequently could not get out, when they could, without difficulty, leave the opposite side. Of this line (about 14½ miles in length,) nearly eight miles are in the river, having in places a velocity of five miles an hour, and there are three parts of canal alternating with two of river. The canal portions are principally effected by cutting across projecting points, and by building locks; and in sundry parts, in order to avoid deep cutting into the high banks of the river, which are here composed of a sleetchy clay, with veins of sand, and are very much given to slide, it was intended to form the canal by moles or dams to an extent of about 13,000 feet in length, and in some cases in very deep water and in rapid currents. The foundations of all the locks, as well as those of the dams, are under the immediate influence of the river, and the difficulties of construction generally on this line would be so great, that I am confident it could not be effected for the estimate. In this opinion I am joined by Colonel Philpotts, who estimates it at little less than 500,000 *l.* and who I have every reason to believe selected it as the best the north side afforded, with reluctance.

3. The third survey was also made by Mr. Mills on the north side, commencing and ending at the same points respectively, as No. 2: the estimate for this route is 324,943 *l.* This line Mr. Mills himself did not recommend; and among other practicable objections, is liable to that of having the whole of the lockage (82 feet) combined in one spot.

4. The fourth survey was made again on the north side by Mr. Mills. Starting from the same point as Nos. 2 and 3, but crossing through the seigniories of Messrs. Harwood and de Beaujeu, it terminated at the lake of the two mountains, near the village of Vaudreuil, about a quarter of a mile from Mr. Harwood's house. Mr. Mills's estimate for this line was 442,762 *l.*, and it also was not recommended by that gentleman.

5. The fifth survey was made by Mr. Stevenson in 1833, on the south shore, passing through the seigniorie of Beauharnois—the estimate 224,444 *l.* In speaking of this route, Mr. Stevenson says, "The whole of this line, taken together, therefore presents perhaps one of the most advantageous that can be imagined; the excavation is comparatively easy, and the greater part of it extremely so: no embankments required but what may be made up from the proceeds of the excavation; no large culverts necessary." In reporting on this line, Mr. Baird (an engineer of considerable experience, and who was employed on the works of the Rideau), states, "In all the course of my experience in practical engineering I never traced a more eligible line for the same distance—the formation, quality (with little exception), and direction, being every thing that could be wished."

This is the line with some trifling improvements, now being executed. It will be constructed on the scale adopted for 255,000 *l.*; but in drawing a comparison between it on the same scale, and the cost of that on the north side, which Mr. Harwood states to be the cheapest, viz. 389,932 *l.*, the estimate for No. 5 (the one adopted), should be taken at 285,000 *l.*

6. The sixth survey was made in 1835 by Mr. Baird. Mr. Baird also gives the preference to the south side, and in his report fully corroborates Mr. Stevenson's survey (No. 5) and report; but Mr. Baird was disposed to go still more south, so as to adopt part of the river St. Louis, and terminate at Beauharnois village.

7. The seventh survey was that made on the south side by Mr. Keefer in March last, resulting in the full confirmation of No. 5.

8. The eighth survey was made in April last by Mr. Tate, and sustains equally with Messrs. Baird and Keefer, Mr. Stevenson's survey and report No. 5.

9. The ninth survey consisted of the marking out of the line (No. 5) for execution, in the course of which more favourable features developed themselves daily.

10. The tenth survey was made lately by Mr. Keefer, of the line pointed out by Mr. Harwood on the north side, as being "the cheapest, and one not previously explored."

All these several lines of levels, in the Board's possession, taken from the year 1833 to the present, and crossing the country in all directions; the information derived from their engineer, who is intimately acquainted with the locality, especially on the north side, having

been at the time Mr. Mills's assistant in the surveys; the very satisfactory nature of the documents of Mr. Stevenson in favour of the canal on the south side; the full corroboration of those documents by Messrs. Baird, Keefer, and Tate, together with my whole general acquaintance with the country, and nature of the strata, fully convinced me long since that the south side was the proper site upon which the canal should be constructed. This conviction is daily more and more confirmed by the result of the several steps now being taken in making out the whole of the work for execution, as well as by the actual excavation which is rapidly being advanced, there being about 700 men at work for some time. This opinion I stated in a report to Lord Sydenham two years ago; but the memoranda also which I furnished to that nobleman previous to last session, and which were laid before the House of Assembly, and printed by its order, and upon which the appropriations agreed to by that body were made, distinctly refer to the canal being made on the south side, and must, therefore, satisfactorily refute the assertion in Mr. Simpson's letter as to "the line being recently selected."

Notwithstanding all these sources of positive information to which I have referred, and my perfect conviction, founded thereon, that the country was sufficiently examined, seeing the continued interested mis-statements and misrepresentations which appeared in the public papers, and that Mr. Harwood had stated publicly, and in print, that "there was yet another line unexplored on the north side, and which, he was certain, could be executed at less cost than any other;" in order to set that point at rest, the engineer to the Board was directed to proceed to Vaudreuil, and having got Mr. Harwood to point out this line to him, to proceed to take the levels of it, so as to be enabled to form a comparative estimate of its cost. This duty has been effectively performed by Mr. Keefer; but as I do not consider it necessary to inflict upon His Excellency the wading through a mass of professional minutiae, I will confine myself to making three extracts from Mr. Keefer's report, viz. :—

"The water in the bay at the debouchement of the river Quinchien, where Mr. Harwood's line terminates, and for a quarter of a mile all round it, will not average more than six feet water. I consider it necessary, therefore, to allow for a bank, or mole being continued about 200 feet from the shore, down to the point where Mr. Mills's line (No. 3) enters, (a distance of 3,700 feet); this bank should raise the water in the basin formed by it about six feet. Total length of Mr. Harwood's line 15½ miles. It is, therefore, 5-8ths of a mile longer than Mr. Mills's, and three miles and a quarter longer than that on the south side." Again,

"The accompanying plan will at once convince you that Mr. Harwood has discovered nothing worthy the serious attention of Government, nor has he pointed out any favourable feature in the country that was not fully considered in the surveys that have been already made." Finally, "It would therefore appear, that the cost of the route proposed by Mr. Harwood would exceed that of Mr. Mills's inland route by about one-fifth (and would therefore amount to 389,932/). This I imagine is sufficient to show that it would be a fruitless task to go any further into details, or to spend any more time in making more elaborate examinations. The north side of the St. Lawrence between the Lakes was thoroughly examined by Mr. Mills in 1833; and in that duty I assisted him, and made out all his plans. From the intimate knowledge I have thus acquired of that part of the country, I feel a good degree of assurance in expressing the opinion, that no line on the north side can be found to equal in economy, in facility of navigation, or in freedom from the disturbing causes of flood and ice, the route intended to be pursued on the south side."

His Excellency, in his reply to the Vaudreuil address, has so fully exposed the insufficiency of military and political reasons adduced by the opponents of the canal on the south side, I feel it only remains for me to notice the assertion of Mr. Simpson, that "water cannot be found at the entrance and exit of the depth contemplated in the canal; consequently vessels which the canal would be capable of bearing, will be incapable of getting in or out."

Now, first, as regards the proposed entrance to the canal from Lake St. Louis, Mr. Stevenson thus speaks :

"It commences in a cove above M'Pherson's Point, in the south branch of the river, about half a mile below the upper end of Grande Ile, where the bank is low, and 10 feet of water is found at 150 feet from the shore."

On the same point Mr. Baird says :

"The first duty became the ascertaining of the most eligible points of departure from the lakes for the depth of water required (nine feet on the Mitro Cile), with a due regard to the distance between these points. These requisites I found to exist in Lake St. Francis, at or near the commencement of the south channel at B. and H. respectively, the former having been fixed on by Mr. Stevenson on his survey as the most eligible, and in which I perfectly coincide."

On the same point Mr. Tate, who was sent by the Board to take levels, soundings, &c. preparatory to the commencement of the work, thus speaks :—

"At the foot of Lake St. Francis, a point on the south-eastern side, extending from the shore of Hungry Bay, called Grosse Point, forms one side of a small bay called Chartier's Bay, which is the mouth of the South Channel, or of that portion of the river which runs between the Grande Ile and the mainland of Beauharnois. The other side of this bay is formed by an island called 'Ile aux Chats,' or 'Clarke's Island.' Upon considering the capabilities of this bay as a harbour or entrance to a canal, it will appear to be sheltered by Grosse Point from the prevailing wind, which is south-west, as well as from the surf and swell of Hungry Bay, from which it is quite distinct and separate. It has an entrance of sufficient extent and depth of water, in the whole breadth of which, about 1,188 yards, there are two shoals of small extent; upon one of which is a rock with but five feet over it.

There

There is every facility for removing these shoals if necessary; but from the fact of there being three entrances of from 600 to 1,200 feet in width each, and with a depth of water varying from 12 to 20 feet, it may be deemed sufficient to place buoys over them.

"Pursuing the channel down, there is a fine reach, extending a mile and a quarter, with a good clay bottom, and sheltered from the winds; the current does not exceed two miles an hour, and there are 10 feet of water at 120 feet from the shore. Here, therefore, is a safe and good anchorage, from Chartier's Bay to a point called M'Pherson's Point, a distance of two miles and five chains. This harbour, then, fully comes up to the standard of an unexceptionable entrance."

The elaborate chart of Mr. Thompson, a hydrographer of deservedly high standing, fully sustains the foregoing description of Mr. Tate.

With respect to the entrance from Lake St. Louis, Mr. Stevenson thus speaks:—

"Having examined very minutely the coast of Lake St. Louis, from the harbour at Beauharnois village, up to the foot of the Rapids, a distance of about two miles, and found more than sufficient water for any vessel plying on the lakes, with a clear coast and smooth bottom; and near the foot of the Rapids, I found a little cove at the landing of one Couvillon, offering the most convenient spot wherein to construct the entrance to a canal of this description."

The opinion of Mr. Tate on this position is as follows:—

"The position of this point, called Couvillon's Landing, affording as it does a sufficient depth of water at a distance of 132 feet from the shore, and being a cove between two ridges of rock, is likewise rendered further desirable for a debouchement from being at the upper end of an eddy, which extends nearly from St. Louis Point; a very favourable feature, and one which will be calculated to assist the navigation up to the canal in a material degree."

Mr. Tate concludes his report with the following general observations:—

Considering the distance between the two levels of water in the lakes, and the extent of the fall which has to be overcome, it appears as if nature had, in a singular degree, made compensation for the great impediments in the watercourse, by affording on the land by its side unusual facilities for establishing at a moderate cost an efficient and permanent artificial navigation. The fall of the land very closely accompanies the fall in the water. The watercourses crossing the line are unimportant, and there are no gullies of any consequence. The soil is of a kind to render cutting easy, and for the last 79 chains the line passes occasionally on a bed of sandstone rock, which rock, long used for dwelling-houses in the neighbourhood, appears to stand the climate well, and will, I have every reason to believe, produce from the excavation a sufficient quantity of good backing stone for the masonry of the locks, whilst the refuse of it will be most convenient for the construction of the piers at the entrance to the canal."

Mr. Keefer also describes Couvillon's Landing as a suitable and the fittest spot to select for the entrance. The deep water he finds to run in close to the shore, as described by the other gentlemen. The eddy near the shore being auxiliary to vessels beating up in scant winds, and the outer current equally so in beating down, and the construction of two moderate piers on the ridges of rock on each side of the deep channel, one to serve as a wharf or landing, the other to afford shelter from a wind blowing up the lake, will completely afford all the necessary convenience and accommodation.

I have thus, without noticing the various anonymous misstatements which have been circulated, confined myself simply to giving the facts and the essence of the several reports made from time to time since 1833.

I feel sanguine that they will fully satisfy his Excellency upon the subject, and, I trust, will, when known, remove from the public mind any false impressions which may have been made upon it. As deeply connected with the quiet and satisfactory progress of the work to which the foregoing relates, I would take the liberty of offering a few suggestions for the consideration of his Excellency, and the adoption of which I would respectfully urge upon his Excellency's serious attention, as tending, in my humble opinion, materially to prevent collision upon the works of this canal between the different races which it must be expected will necessarily be congregated there, and which collision might lead to deplorable consequences.

The peculiar circumstances of this work seem to me to require some peculiar arrangements on the part of the government. An extensive public work is for the first time undertaken, through a district entirely settled and inhabited by Canadians of French origin. A large temporary population of strangers will be introduced and brought into immediate contact with the settled inhabitants, and with whom the difference of language will not only be a bar to friendly intercourse, but it may too reasonably be apprehended that those strangers, whether labourers, contractors, or officers of Government, will, from being ignorant of the language, usages, and peculiar feelings of the people, be likely to give them offence, or do them wrong unintentionally. With respect to this point, it unfortunately happens that there is no capable engineer of French Canadian origin, but I have taken all the precaution in my power, by appointing two junior assistants of that race, and by the selection of a paymaster and accountant who understand the people and language. It is further to be feared that petty trespasses, such as the pilfering of the gardens of the habitans, &c. &c. may frequently be committed, and engender irritation and hostility.

To guard against these evils which I apprehend, as well as to render the first commencement of extensive public works popular with the habitans, a few steps appear to me advisable to be taken.

1st. Although I conceive that to ensure economy and certainty in the execution of public works of this description, general competition and the contract system founded thereon is absolutely necessary, I think that a certain portion of the line, say three or four miles, ought to be laid off in small contracts. These I propose to apportion among the residents at a valuation of the engineer, and thereby by giving a large portion of the habitans employment on their own account, lessen the probability of collision. As this course is directly departmental, I shall not hesitate to take the responsibility of acting on it, although in so doing I am sure to encounter further attack and obloquy.

The second point I consider to be the having an Irish Roman-catholic clergyman resident for the time being near the work, who from his acquaintance with the language and habits of that class, which, judging from the extensive emigration, will be in large numbers on the work, can exercise the salutary influence over them that such clergy are admitted to possess.

3dly. It would be of importance to have a French Canadian gentleman, perfectly conversant with the English language, upon the line generally, to attend at the payments and explain between the parties, and who would give his whole time to keeping peace and promoting a friendly feeling, and to the arrangement of petty differences. He should be in the commission of the peace. The respectable remuneration for the services of these two gentlemen I consider can be borne from the estimate for the work.

4thly. It would be necessary to have a few of the steadiest of the police force close to the work, to prevent petty trespasses and the other little causes alluded to as likely to create bad feeling.

5thly. Finally, in consideration of the circumstances which have recently taken place upon the Cornwall and Welland Canals, I think it would be necessary to have, not on the work, but in the neighbourhood of it, a party of military, (the regular force I would much prefer). Such arrangements being made, I entertain strong hopes that the direct interference of the latter would not be required.

Should his Excellency, upon consideration, be pleased to adopt these suggestions, or any of them, he can easily have them carried into effect.

T. W. C. Murdoch, Esq.  
Chief Secretary, &c. &c. &c.

I have, &c.  
(signed) *Hamilton H. Killaly*,  
President Board of Works.

— No. 22. —

(No. 211.)

COPY of a DESPATCH from the Right hon. Sir *Charles Bagot*, Bart. G.C.B. to Lord *Stanley*.

No. 22.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
10 October 1842.

My Lord,

Government House, Kingston, 10 Oct. 1842.

HAVING brought before my Executive Council the purport of your Lordship's several despatches, relative to the Acts No. 28 and 33 of last session, for the advancement of public works in Canada, and the negotiation of a loan under the guarantee of the Imperial Parliament, they were unanimous in agreeing with me that it would be expedient to adopt the views of Her Majesty's Government, as propounded in your despatch of the 2d July, and to bring the question in the shape proposed by your Lordship before the provincial Legislature.

Accordingly, I availed myself of the latitude which your Lordship had allowed me, and communicated the views of Her Majesty's Government in a message (of which I enclose a copy), adopting very nearly, though not in juxtaposition, the words of your Lordship's despatches; and I instructed my Council to introduce at the same time a Bill framed upon those views.

The result has proved perfectly satisfactory. The House of Assembly acquiesced readily in all the suggested provisions; and I have the honour of transmitting herewith the bill in question, which has passed the Legislative Council, received my assent, and only awaits Her Majesty's confirmation to become a law.

The first clause applies the proceeds of the loan to the public works specified in the Act of last session, No. 28, as far as the amount will suffice; the Government retaining, as under that Act, the power of selecting the works which should first be executed.

The second clause, after providing for a sinking fund, not exceeding five per cent. per annum, and the order of charging the debt upon the revenue, enacts that the loan shall be raised by any persons to be appointed by Her Majesty, or by the Governor-general. It is my desire, as already expressed to your Lordship, that the negotiation should be effected by the Lords of the Treasury,

OR

For Act 6 Vict.  
c. 8, vide p. 11.

or any person deputed by them: I have therefore to request that your Lordship will move Her Majesty to be graciously pleased to appoint, under this clause, such persons as to Her Majesty may seem fit to negotiate the loan.

The third clause enacts, among other things, that the sinking fund shall be managed in such manner as shall be agreed upon when the loan shall be negotiated, or shall be left to the discretion of the Governor.

As the question of the amount of the proposed sinking fund is one of serious importance, and I propose to address your Lordship upon it by the next mail, I would suggest that no agreement should be made respecting it, at least in the first debentures to be raised, except that these and all future debentures (if such be the form adopted, and under the circumstances, it appears the best, as the Act of the Imperial Parliament does not provide for the case of terminable annuities) should be granted with a clause to enable the province to redeem them after six months' notice.

The remaining clauses call for no comment, being merely formal or explanatory.

It only remains for me, therefore, to recommend this Act, and No. 28 of the last provincial session, for Her Majesty's sanction, and to request that the Lords of the Treasury will raise by debenture, or otherwise, as they may deem expedient, the sum of 200,000 *l.*, of which 107,045 *l.* is to be applied to the payment of the bills which I have drawn on their Lordships, and the remainder to be transmitted to the account of the receiver-general of this province, or, preferably, be held to meet such bills as I may draw after being apprised of the money having been raised.

I have, &c.  
(signed) *Charles Bagot.*

Enclosure in No. 22.

CHARLES BAGOT,

THE Governor General, in conformity with the intention expressed in his Speech at the opening of the Session, and in compliance with the desire of Her Majesty's Secretary of State for the Colonies, makes the following communication to the House of Assembly, upon the subject of the Acts, cap. 28 and 33 of last Session, relating to Public Works and the proposed Loan.

Encl. in No. 22.

His Excellency is instructed by the Secretary of State to assure the people of Canada, through their representatives in the House of Assembly, that the objects contemplated in the above Acts, of relieving the finances and improving the credit of Canada, and at the same time of developing by measures of extensive internal improvement the vast natural resources of the province, are viewed by Her Majesty's Government with hardly less of interest, than by the Legislature and people of the province; and every consideration of good faith, and of policy, would lead Her Majesty's Government scrupulously to fulfil to their utmost extent the pledges of assistance held forth by their predecessors in office, and communicated to the Legislature of Canada by Lord Sydenham, and also to aid in the accomplishment of the objects sought to be obtained by the Acts now under consideration.

Her Majesty's Government have given to the financial project proposed to be carried into effect by the Acts in question their most deliberate and anxious consideration, and the result of that consideration has been to impress upon them a very strong conviction, that with the view of most effectually and most economically benefiting the province, and conducing to the maintenance of public credit, and to the promotion of those great undertakings of internal improvement which may ultimately make an ample return for the original outlay, but upon which, unassisted, the province could not safely enter, it would be inexpedient to interpose the credit of the mother country between the province and the creditors under the existing debt; and that it would be more for the advantage of the province that the aid to be rendered should be applied exclusively to the promotion of the intended public works,

According to the arrangement proposed by Lord Sydenham, and the Acts under consideration, the execution of the public works of every description is made mainly to depend upon funds to be raised upon the sole responsibility of the Canadian government. If the cost of the local works should, in many instances, exceed the estimate, or if, in consequence of the priority given to the loan of 1,500,000 *l.* and of the general management of Canadian finance, the credit of the province should not continue to be such as to enable it to raise the whole of the second loan of 1,678,682 *l.* at 5 per cent., funds might be wanting to complete those great works, with a view to which mainly the assistance of Great Britain was originally given; and her Majesty's Government is compelled to acknowledge that where it appears that the sum necessary for a work in Lower Canada, of which the tolls were represented to be an ample security for the amount, could only be raised on the double security of those tolls, and the credit of the province at a rate of interest of from 6 to 8 per cent., they cannot but entertain serious apprehensions as to the practicability of carrying into effect the objects of the Public Works Act by sums raised on the provincial security only, within

the terms authorized by that Act. It will of course be understood that there is no authority in any case to issue the provincial debentures below par; such a step would be, in fact, a violation of the spirit, if not of the letter, of the provincial Act, which limits the rate of interest at 5 per cent.

Her Majesty's Government hopes it is equally unnecessary to offer a caution against any vague estimates, or excess of outlay being sanctioned, under the expectation of a further advance of the credit of the mother country beyond that which has been so liberally afforded, and, although it is no doubt true, that, in the exercise of the discretion vested in the governor by the Public Works Act, he might abstain from issuing debentures beyond the means of the province to bear the charge, yet this step on his part, on the inability to raise the money, at the prescribed rate of interest, might leave unfinished the most important works, and thus frustrate the objects contemplated by the British Government.

In order to guard against the possibility of such a result, and to secure the application of the assistance of Great Britain in the most direct manner, to the benefit of the province, it is proposed by Her Majesty's Government, that the existing Canadian debt should remain a first charge upon the revenue of the province, and should be paid off, as it became due, from the produce of the current revenue, and that the 1,500,000*l.* to be raised under the guarantee of the Imperial Parliament, should be applied directly to the execution of the public works enumerated in the Act already referred to.

Under this arrangement the credit of the province would be strengthened by the continuance of the priority of the present debt, and by the prospect of early repayment at or before the expiration of the existing bonds. The local legislature, thus unencumbered with other obligations, would be enabled to enter into negotiations with the creditors under the existing debt, and either to continue during the terms of their respective engagements, the present rate of interest, or to extinguish the debt by mutual agreement, before the period stipulated under the present engagement, on far more favourable terms than the British Government could do if they were to become responsible for the amount. By this course, also, the public debt of Canada, in addition to the existing debt, which would be gradually paid off as funds became available for the purpose, would be limited to the sum appropriated for the completion of the public works, of which there would be, at least, 1,500,000*l.*, raised at a rate of interest not exceeding 4 per cent.

This arrangement, no doubt, would require Great Britain to give up her security of priority of claim upon the consolidated provincial revenue, that is to say, the payment of the new loan of 1,500,000*l.* would become chargeable after the payment of the existing debt, instead of becoming the first charge, by the extinction of that debt, as first proposed. But Her Majesty's Government willingly consent to make this sacrifice, because they feel convinced that this arrangement is more conducive to the financial prosperity of Canada than that propose to be adopted under the two Acts, and that setting aside higher considerations, priority of claim upon the provincial revenue is an inferior security to that derived from the prosperity of the province.

Her Majesty's Government, therefore, do not propose to interfere with the existing debt; but with the view of furthering the important objects contemplated by the Act numbered 28, they propose to pledge the credit of Great Britain to a sum not exceeding 1,500,000*l.*, to be raised by the province at a rate of interest not exceeding 4 per cent., under the guarantee of the Imperial Parliament, and with a provision to be made for a sinking fund at the rate of not less than 5 per cent. per annum of the principal, to be secured in the first instance upon the tolls of the works to be undertaken, the ordinary revenues of the province being pledged as a collateral security, and the charges to rank next in order to the obligations now by law permanently attaching to the Consolidated Fund.

Government House, Kingston,  
28 September 1842.

— No. 23. —

(No. 308.)

COPY of a DESPATCH from Lord *Stanley* to the Right hon. Sir *C. Bagot*,  
Bart. G.C.B.

Sir,

Downing-street, 30 Dec. 1842.

I HAVE received your despatch, No. 211, of the 10th of Oct. last, transmitting the copy of a Bill, which has been subsequently passed into an Act, by the legislature of Canada, for authorising the raising, by way of loan in England, the sum of £1,500,000, for the construction and completion of certain public works in that province.

This Act having been passed in conformity with the instructions contained in my former despatches, Her Majesty in Council was pleased, on the 10th inst., to give Her assent to it in the manner prescribed by the Act of Parliament, 5 & 6 Vic., c. 118; and I transmit herewith the order so passed by the Queen in Council.

I am

No. 23.

Despatch from  
Lord *Stanley* to  
Sir *C. Bagot*,  
30 December 1842.

(No. 103.)

Page 11.

I am awaiting the further communication promised in your despatch, relating to the sinking fund to be provided for the redemption of this debt; and in the meantime I have had under my consideration your suggestion, that the debentures to be issued should be rendered liable to redemption at any time at six months' notice.

The great object which Her Majesty's Government have in view in conducting the negotiation of this loan on behalf of the province, is to obtain the greatest possible advantage for Canada.

It has been thought necessary, therefore, that the debentures should be presented to the public in a form calculated to make them a desirable investment; and we are satisfied that that would be more effectually obtained by specifying a period before which the debentures in question should not be redeemable, and by making that period sufficiently distant to give a character of permanence to the security.

Her Majesty's Government have, therefore, fixed twenty years as the period during which the debentures, now about to be issued at the rate of four per cent., should be irredeemable; believing, from all the information which we can procure, that a larger sum would be offered for a debenture of such description and duration than could be obtained on any other similar security.

On the other hand, we do not apprehend that the province would have the means previous to 1863, of redeeming the debt now about to be incurred. The five per cent. and six per cent. debt of the province, amounting to a sum of above 1,200,000 £, is redeemable at various antecedent periods, terminating in 1860, and would be undoubtedly the first debt to which the means of redemption at the disposal of the province would be applied.

For these reasons, we have therefore considered that the power to redeem the new debentures at six months' notice, while it would affect materially their market value, could not be exercised with advantage, if at all, within the period which has been specified.

We have also deemed it inexpedient to make any precise stipulations as to the sinking fund, which shall be annually provided for their redemption; that being rather a question to be settled between this country and the province on a joint consideration of what is due to the provincial resources on the one hand, and to the security of this country on the other.

For, whilst we felt that we had a right to claim the establishment and regular maintenance of a sinking fund for the extinction, within a reasonable period, of the debt, of which we have guaranteed the interest, we are equally sensible that its annual amount ought not be such as to cripple the resources of the province, or so to aggravate the burthen of the debt as to induce financial distress, or serious embarrassment.

Her Majesty's Government, therefore, willingly defer, until the receipt of the further communication promised in your despatch, the discussion of the amount of the sinking fund, and of the regulations under which it should be placed, in order to ensure its due and regular application.

I am, &c.  
(signed) *Stanley.*

— No. 24. —

(No. 309.)

COPY of a DESPATCH from Lord *Stanley* to the Right hon. Sir *C. Bagot*,  
Bart. G.C.B.

Sir,

Downing-street, 3 January 1843.

IN my despatch, No. 308, of the 30th ultimo, I announced to you that the Queen had been pleased to assent to the Act of the legislature of Canada, authorizing a loan to the extent of 1,500,000 £, to be raised in this country on account of the province.

I have now to acquaint you that Her Majesty has further been pleased to appoint the Lords of the Treasury to negotiate that loan on behalf of the province.

A notice, the copy of which I enclose, having been accordingly issued to the public, the bidding for the loan took place on the 16th ultimo. The result

No. 24.  
Despatch from  
Lord Stanley,  
to Sir C. Bagot,  
3 January 1843.

was, that bonds to the amount of 300,000*l.* were disposed of at the following rates :

£.	£.	s.	d.	£.	s.	d.
5,000	at 110	2	6	producing	5,506	5 -
295,000	at 108	-	-	,,	318,600	- -
Making a Total of				- -	£. 324,106	5 -

Directions have been given that this sum, as it is paid into the bank, shall be carried to the account of the province of Canada, and be applied to meet such bills as have been already, or may be hereafter, drawn upon the Lords of the Treasury by your order.

Her Majesty's Government having deemed it advisable to make the interest of these bonds payable at regular periods at the Bank of England, it is essentially necessary that the remittances by the province of Canada to the Bank of England, of the sums necessary to pay the half-yearly interest, should be made at periods sufficiently early to meet each payment, I must, therefore, enjoin you to observe the utmost punctuality in this respect, as upon it will materially depend the character of the province, and the power of advantageously raising the remainder of the loan.

Her Majesty's Government are further of opinion, that immediate measures should be taken for investing half yearly, at the time when the interest is payable, as large an amount of sinking fund as the means of the province may be able to maintain; and they conceive that it would be most for the general advantage that a sum of 5*l.* per cent. at the least should be annually provided to pay the joint interest and sinking fund. I have, therefore, to instruct you to make the requisite arrangements for the purpose as soon as practicable.

The terms on which the Bank of England have undertaken to pay the interest on these bonds are, that they shall receive a commission at the rate of one half per cent. on the amount of dividends paid, exclusive of the expense which has been already, or may be hereafter, incurred in the preparation of the bonds, which will be defrayed out of the produce of the loan, and of which an account will be duly transmitted to you.

In compliance with your suggestion, orders will be given to the Bank to invest; from time to time, in Exchequer Bills, any sums which they may hold on account of the province of Canada.

I have, &c.  
(signed) Stanley.

Enclosure in No. 24.

Treasury Chambers, Whitehall, 12 December 1842.

Encl. in No. 24.

WHEREAS by an Act passed in the sixth year of Her Majesty's reign, intituled, "An Act for guaranteeing the payment of Interest on a loan of 1,500,000*l.* to be raised by the Province of Canada," Her Majesty was empowered to guarantee the payment of the interest on any loan, to an amount not exceeding 1,500,000*l.*, which might be raised for the service of the province of Canada under an Act to be passed by the legislature of the said province, in the manner and under the conditions in the said Act mentioned.

And whereas by an Act of the legislature of the province of Canada, intituled, "An Act to authorise the raising, by way of Loan, in England, the sum of 1,500,000*l.* sterling, for the construction and completion of certain Public Works in Canada," Her Majesty is empowered to appoint any person to raise and borrow, with the guarantee aforesaid, the said sum of 1,500,000*l.*

And whereas Her Majesty has been pleased by warrant to appoint any three or more of the Commissioners of Her Majesty's Treasury to borrow by debentures such sums as may from time to time be required for the service of the said province, not exceeding in the whole the said sum of 1,500,000*l.*

This is to give notice that the Lords Commissioners of Her Majesty's Treasury will be ready to dispose of debentures or bonds to the amount of 300,000*l.*, and that tenders for the purchase of the same, addressed to the Secretary to the Treasury, with the words "Tender for Canada Debentures," written on the outside, will be received at the Treasury between the hours of 12 and 2, on Friday the 16th December.

The tenders must state at length the sums proposed to be paid for each 100*l.* contained in the debentures; with the name and address of the party.

No tenders will be accepted for any sum less than 5,000*l.*

The bonds will be redeemable at the expiration of 20 years from the 1st January 1843, and will bear interest until redeemed, at the rate of 4 per cent. per annum, payable half-yearly at the Bank of England, on the 1st day of July and the 1st day of January.

The

The bonds will be made out in such sums of not less than 500 l. each, as may be required by the purchasers.

One half of the sum tendered and accepted will be payable at the Bank of England on Thursday the 22d instant, when a scrip receipt will be given for the same to the party; and on the payment of the other half, on or before Monday the 9th of January 1843, the debentures will be delivered.

The tenders will be opened in the presence of the governor and the deputy governor of the Bank of England; and previously to the opening of the tenders, the Lords Commissioners of Her Majesty's Treasury will place in the hands of the governor and deputy governor of the Bank of England a sealed paper, containing the lowest price per cent. which their Lordships would feel that they should be justified in receiving for the debentures.

The tenders will be all opened at the same time, when a list will be made of them, and preference will be given successively to the highest tenders above the price in the sealed paper; and if such tenders should in their aggregate exceed the amount of 300,000 l., the excess above that amount will be struck off the least advantageous of those tenders.

In case of equality of tenders in respect of the premium per cent., and their amounting together to more than the sum required, the amount of debentures will be divided in proportion to such tenders.

Notice will be given to the parties whose tenders are accepted, and they will be requested to attend at the Treasury at an appointed time, to sign the contracts for the debentures.

I certify that this is a true Copy.

Treasury Chambers,  
2 January 1843.

(signed) *Edward Walpole.*

— No. 25. —

(No. 213.)

EXTRACT of a DESPATCH from the Right hon. Sir *Charles Bagot*, Bart. to Lord *Stanley*, dated Government-House, Kingston, 11 October 1842.

No. 25.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
11 October 1842.

I HAVE the honour to transmit to your Lordship a copy of the Report of the Select Committee upon the Beauharnois Canal, between the lakes St. Francis and St. Louis.

The evidence will not be printed for some time, and therefore I am unable myself to express an opinion upon the merits of the case as resulting from the present investigation; but when I find that, out of a committee avowedly appointed with a view to prove the inexpediency of the selection made, and consisting of seven members, four of them were compelled to acknowledge that, with ample time and opportunity of procuring what evidence they pleased, they could elicit none to invalidate the choice, while the other three allowed the report to pass, entering a dissent upon the grounds that the evidence in their judgment fully justified the selection of the line adopted; I cannot but believe and express my opinion that the superiority of the south side is fairly established, and that the Board of Works stands fully justified in its recommendation of that line.

When the evidence is printed, I shall lose no time in transmitting a copy of it to your Lordship.

Enclosure in No. 25.

THE Special Committee to whom were referred the Documents laid before the House, relating to the Beauharnois Canal, beg leave to Report:

Encl. in No. 25.

THAT your Committee, with a view to facilitate references to maps, plans, and documents, in the custody of the Board of Works, deemed it advisable to accept the use of a room in the department, placed at their disposal by the honourable Chairman, and in which the inquiry and deliberations of the Committee have been conducted.

That, after a most patient and careful investigation upon the important subject referred to them, your Committee find themselves unable to form any conclusive opinion, owing to the peculiar nature of the subject-matter to be inquired into, and to the contradictory statements both from practical and scientific men, whose evidence or opinions have been heard or referred to in the course of the inquiry.

Under these circumstances, and taking into consideration the termination of all the other business before the Legislature and the immediate prorogation that is to take place, your Committee have resolved to close their proceedings, and report the evidence and documents laid before them; and, without expressing any further opinion thereon, humbly submit the same.

(signed) *G. Moffatt*,  
Chairman.

Committee-room.

Tuesday evening, 5 o'clock, 11 October 1842.

The Committee again met.

Present: Messrs. Moffatt, Chairman; Simpson, Merritt, Cameron, Dunscomb, Parent, Sir A. Macnab.

The Hon. H. H. Killaly, Chairman Board of Works, appeared before the Committee, and handed in a statement in reply to the charges of Mr. Simpson and the evidence taken thereon.

Mr. Parent, seconded by Mr. Simpson, the foregoing Report; which was carried.

Dissentient: Mr. Merritt, Mr. Dunscomb, Mr. Cameron.

Adjourned till 9 A.M. to-morrow.

(signed) Alfred Todd, Clerk Committee.

— No. 26. —

No. 26.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
8 November 1842.

(No. 230.)

COPY of a DESPATCH from the Right honourable Sir Charles Bagot, Bart., G. C. B. to Lord Stanley.

Page 100.

My Lord,

Government House, Kingston, 8 November 1842.

WITH reference to my despatch of the 10th ultimo, No. 211, in which I stated my desire that the Lords Commissioners of Her Majesty's Treasury would undertake to raise the sum of 200,000*l.* for the use of the province, under the Acts passed by the imperial and provincial legislatures in their (respectively) last session, I have now, in consequence of being better informed as to the future necessities of the board of works, to request that the sum named may be increased to 300,000*l.*, which will meet the demands of the above board until the spring.

I have mentioned in a previous despatch that I hope soon to be able to furnish your Lordship with a report upon the progress of the public works; but I may now state, for your Lordship's satisfaction, that almost the whole of the sum now required will be applied to meeting the past or accruing expenditure on works connected with the Welland Canal, and the St. Lawrence navigation.

As the present operations on these works are being prosecuted with money borrowed from the banks, and the same inconveniences to the public, which I have mentioned on former occasions, are again arising rapidly, and will become earlier and more onerous on account of the increasing commercial depression in the province, I have to request that no time may be lost in raising the amount, and enabling me to draw for it in the manner which may seem most advantageous to the Lords of Her Majesty's Treasury.

I have, &c.  
(signed) Charles Bagot.

— No. 27. —

No. 27.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
11 December 1842.

(No. 244.)

COPY of a DESPATCH from the Right honourable Sir Charles Bagot, Bart., G. C. B. to Lord Stanley.

My Lord,

Kingston, 11 December 1842.

I have the honour to transmit herewith, for your Lordship's information, a Report which I have received from the President of the Board of Works upon the progress of the public works carried on in this province during the past summer:

It will be satisfactory to Her Majesty's Government to learn, that the works on the line of the St. Lawrence navigation have been pushed forward with as much energy as the means at the command of the provincial government have permitted, and that one of the important canals between the lakes and Montreal has been completed.

The navigation is now open from Kingston to Coteau-du-Lac: the Beauharnois Canal will open the remainder of the line from the latter place to Montreal.

The proposed operations in Lake St. Peter and the canal near Prescott will complete the works on the St. Lawrence, which, with the Welland Canal, on which the works are also advancing rapidly, will complete the highway from the inner lakes to the Atlantic.

The Report furnishes likewise the information sought in your Lordship's despatch of the 8th August, No. 220, relative to the works in progress for the improvement of the lake navigation.

I have, &c.  
(signed) Charles Bagot.

## Enclosure in No. 27.

Sir,

Board of Works, 8 December 1842.

Encl. in No. 27.

I HAVE the honour to acquaint you, that the annual general Report and statement of expenditure upon all the public works under the control and direction of this department, is now being prepared, and will be completed prior to the next meeting of the Legislature. The accounts of the several works, made out in triplicate, will be closed up to the 31st of this month, that I may be enabled to have a uniform system adopted throughout the province.

The severity of the season having now suspended nearly all our operations (except so far as relates to the procuring of materials), and pending the preparation of the documents referred to, I am induced, by the warm interest evinced by his Excellency the Governor-General in the advancement of these various improvements, to furnish you, for his information, with a short outline of what has been effected this year.

The attention of the Board has been especially directed to the advancement of the works necessary to the full completion of the entire line of the St. Lawrence navigation throughout; with this view contracts for the building of the whole of the locks of the Welland Canal have been entered into; the feeder to it enlarged, so as not only to ensure an ample supply of water, but also to serve as another entrance from Lake Erie, terminating at the mouth of the Grand River. The situation of this entrance is such as to enable the navigation to be opened from three to four weeks earlier in spring, thereby obtaining one trip of the Lake Craft before the navigation to Buffalo, &c. is opened, the advantage of which in tolls may be rated, in proportion to the *present* trade alone, at 5,000*l.* per annum. Several of the new locks will be completed next year, and the whole of the line will be ready the succeeding year, and all will be accomplished without interrupting the navigation.

The section of the St. Lawrence navigation, called the "Cornwall Canal," is completed. I had the satisfaction of having one of the finest steamers in the province passed through it last week.

The works of that portion of this navigation between Lake St. Francis and Lake St. Louis, called the "Beauharnois Canal," are advancing rapidly; three miles of it are nearly completed; the whole of the earth-work will probably be finished next year, and the masonry so much advanced as to ensure the entire being ready for navigation in the fall of 1844. The quarries have turned out very fine, and the section throughout even more favourable than I had anticipated; and, notwithstanding the excitement which interested parties succeeded in getting up against this line, it will prove to be one of the finest specimens of canal navigation in this or in any other country.

The enlargement of the part between Montreal and La Chine is also now being proceeded with; the portion in hands being chiefly through quarry, the works can be advantageously carried on during the winter, and will thereby afford employment to many of the immigrant labourers, who have necessarily been discharged during the suspension of the other works.

A very extensive and efficient dredge establishment will be prepared against the spring to remove several bars in the channel through Lake St. Peter, and will be available for its improvement generally, but to what extent it is impossible to calculate with certainty; it must depend on and be governed by the practical experience which will be obtained during the operations of next year.

The only other part of the St. Lawrence navigation requiring improvement is that between Prescott and Dickenson's Landing, in which about four locks, with short lengths of canal, will be required; the necessary survey, plans, &c. are now in hands, and no time will be lost in having the works of these portions also undertaken, so that the whole line may be completed simultaneously; until this is effected, no return or advantage can be derived from the previous expenditure, and much economy and facility in the management will be obtained by having the entire in progress together.

Connected with this most important work, are the harbours upon the lakes, towards the improvement of which also much has been done this season. The materials for the construction of the harbours at Rondeau, Port Burwell, Catfish Creek, Port Dover, the Grand River, Port Colborne, and Port Stanley, on Lake Erie, are being procured and delivered; and at the last-mentioned port considerable progress has been already made in the dredging and construction of the piers.

The better lighting of this lake has also occupied the attention of the Board, especially about Long Point, where two new lights will be established against the opening of the navigation.

The harbours about to be constructed, or improved, on Lake Ontario, and for which much preparation has been made are, Port Dalhousie, the canal at Burlington Bay, Windsor Harbour, and Cobourg Harbour.

The steam-boat lock and dam at St. Anne's, on the Ottawa, are also finished, and will be ready for the trade in spring. By this work, the past monopoly of the navigation of the Ottawa and Rideau is put an end to. The most formidable difficulties which presented themselves in the course of this work have been surmounted in a very creditable manner by the spirit and perseverance of the contractors.

The next work of importance is the Chambly canal, which had been commenced long since, but from certain difficulties which occurred, was suspended for some years. I have the satisfaction to announce to you the completion of this work also. By the navigation of Lake Champlain, the river Richelieu is opened with Quebec, Montreal, &c. In extreme low water a shoal or bar in the river Richelieu, near St. Ours, would prove an obstacle

obstacle to deep vessels ; to obviate which, preparations are now being made towards the construction of a lock and dam there, which will fully complete this fine line of navigation.

In addition to the foregoing works of primary importance, a very considerable progress has been made in the various other improvements embraced in the estimates of last year. Several large bridges upon the main line of road have been completed, and the others so much advanced as to insure their completion next year.

The works on the various lines of main roads in the western section of the province, necessary to the development of its resources, and the conveyance of its products to market, the Port Dover and Hamilton Road, the Lancaster Road, the Gosford Road, the Gaspé Road, have been put under contract, and much progress made thereon, several of them being more than half completed ; and in the Newcastle district, the lock at Whitlas Rapids, on the Otonabee river, has been finished, and that at Crooks' Rapid nearly so, by which about 50 miles of internal navigation will be effected, opening up several back townships of excellent land, and communicating with harbours on Lake Ontario by a short portage road of about 12 miles.

The number of men employed on the works, when in full operation, exceeded 6,000, which accounts for there being no pressure felt from the unusual number of immigrants this year.

The low price of provisions has enabled the Board to set the works on very advantageous terms.

The foregoing summary will, I trust, satisfy his Excellency that a vast deal has been effected this year ; much more indeed than could reasonably have been calculated upon from the very advanced period of the season, when we received our authority to proceed ; and I am happy to say, that in no case have our estimates been exceeded for the completion of the respective works, but in some a considerable balance remains unexpended. The cost of management will, when the accounts are furnished, prove to be unprecedentedly low.

I have, &c.

Rawson W. Rawson, Esq.  
Chief Secretary, &c.

(signed) *Hamilton H. Killaly,*  
Pres<sup>t</sup> B<sup>d</sup> of Works.

— No. 28. —

(No. 312.)

COPY of a DESPATCH from Lord *Stanley* to the Right honourable Sir  
*Charles Bagot*, Bart., G.C.B.

No. 28.  
Despatch from  
Lord Stanley to  
Sir C. Bagot,  
14 January 1843.

Sir,

Downing-street, 14 January 1843.

I HAVE received your despatch of the 11th December, No. 244, enclosing a Report of the President of the Board of Works upon the progress of the Public Works in Canada during the past summer ; and I have much satisfaction in learning from this account that the public works in the province have made such considerable progress, and that the aid which has been afforded by the mother country has been so judiciously applied.

I have, &c.

(signed) *Stanley.*

— No. 29. —

(No. 6.)

COPY of a DESPATCH from the Right honourable Sir *Charles Bagot*, Bart. G.C.B.  
to Lord *Stanley*.

No. 29.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
18 January 1843.

My Lord,

Government House, Kingston, 18 January 1843.

I HAVE the honour to transmit to your Lordship, with reference to the several despatches which I have addressed to you upon the subject of the Beauharnois Canal, a copy (in duplicate) of the printed Report of the Select Committee of the House of Assembly, which sat during the last session upon that subject, together with the evidence taken by them.

This document appears to me fully to justify the selection of the south side for the construction of this canal, and the experience which has been since gained in the prosecution of these works strongly corroborates the choice.

I have, &c.

(signed) *Charles Bagot.*

## Enclosure in No. 29.

## REPORT.

Encl. in No. 29.

THE Special Committee to which were referred the copy of the Estimate made by Mr. Samuel Keefer, Civil Engineer, dated 19th June 1841, of the probable Cost of constructing a Canal for Steam-boats between Lake St. Francis and Lake St. Louis, laid before the Legislative Assembly on the 20th September 1842; the Petition of G. Beaudet, and others, of the County of Vaudreuil, and the Message of His Excellency, the Governor-general, of the 30th September 1842, relative to the appointment of a Military Engineer, to inspect, report, or superintend the construction of the St. Lawrence Canal; with power to report from time to time, have the honour to Report:

THAT your Committee, with a view to facilitate references to Maps, Plans, and Documents, in the custody of the Board of Works, deemed it advisable to accept the use of a room in the Department, placed at their disposal by the Honourable Chairman, and in which the inquiry and deliberations of the Committee have been conducted.

That after a most patient and careful investigation upon the important subject referred to them, your Committee find themselves unable to form any conclusive opinion, owing to the peculiar nature of the subject-matter to be inquired into, and to the contradictory statements, both from the practical and scientific men whose evidence or opinions have been heard or referred to in the course of the inquiry.

Under these circumstances, and taking into consideration the termination of all the other business before the Legislature, and the immediate prorogation that is to take place, your Committee have resolved to close their proceedings, and report the evidence and documents laid before them; and without expressing any further opinion thereon, humbly submit the same.

G. Moffatt,  
Chairman.

12 October 1842.

## MINUTES OF EVIDENCE.

The Honourable GEORGE MOFFATT, Esq. in the Chair.

Saturday, 24th September, 1842.

William Stewart, Esquire, called in; and Examined.

1. STATE your residence, and profession, and whether you have any interest for or against the Beauharnois Canal?—I am a merchant at Bytown. I have no interest whatever, for or against the canal.

2. Are you acquainted with the south shore of Lake St. Francis, namely, that part opposite to the steam-boat landing at Coteau du Lac?—I am generally, but not particularly acquainted with it, having been frequently up and down it in boats before steam-boats were introduced.

3. Have you been 30 or 40 times down the St. Lawrence?—I do not think I have.

4. Will you state, as near as you can, how often you have been up and down the St. Lawrence?—12 or 15 times.

5. Do you know M'Pherson's Point, below Isle aux Chats, or Cushing's Island?—No, not particularly.

6. Are you acquainted with Hungry Bay?—Yes, I have been on that shore once or twice.

7. Do you think Hungry Bay affords good anchorage for vessels going down the St. Lawrence; if so, why?—My impression is, that when the wind is down the river, a heavy sea, with surf, blows down that way, therefore it does not always afford safe anchorage.

8. Would you think a raft safe within seven or eight miles from Isle aux Chats, on the south side, the wind blowing north or north-west?—I should hardly think it safe, as rafts have great difficulty, when blown into that shore, in getting out again; but I have never accompanied a raft myself down that part of the river.

9. Can rafts blown into Hungry Bay get out without a steam-boat or a strong south wind?—I should think not without waiting for a favourable wind; pilots are generally very careful to avoid being blown into Hungry Bay.

10. Is it not at all times considered dangerous for a raft to get into Hungry Bay?—I think it is.

11. Have you passed down the channel between Chartier's Point and Isle aux Chats, and if so, describe it?—I have not sufficient knowledge of the channel of the river to give any information on that point.

12. Do you know Hungry Bay; that is, personally; and do you think it would afford good shelter for vessels in the event of high winds?—I am generally, but not thoroughly, acquainted with it; when the wind blows down the river I should think it would not afford good shelter.

13. Have you a knowledge of the north side of Lake St. Francis, particularly that part of it at which the steam-boats now arrive and depart?—I have only a general knowledge of it, so far as have acquired by going up and down it repeatedly.

14. Are you of opinion that the Rideau Canal is sufficient for all the purposes of trade in this province for some years to come, and the making a canal between St. Louis and St. Francis lakes a needless expenditure of public money?—In the present commercial state of the country, with a good navigation downwards, I think it is.

*Jacques, an Indian Pilot, called in; and Examined.*

*Answer to Question 1.*—I live at Cocknawaga, and am a steam-boat pilot; I have been 20 years a pilot.

15. Do you know Isle aux Chats, and that part of the river?—Yes.

16. Can boats go down the channel between Isle aux Chats and the main shore, on the south side?—Boats can pass down, but not barges.

17. How large a barge can you take down that channel?—A batteau containing about 200 barrels of flour.

18. Is there good anchorage or safe harbourage within seven miles of Isle aux Chats, on the south side?—With a light wind a raft may ride there, but a strong wind would break it to pieces; the nature of the anchorage is such that six or seven years ago we could not get up our anchor, and the chain broke.

19. Do you know M'Pherson's Point, below Isle aux Chats?—Yes.

20. Supposing M'Pherson's Point the mouth of a canal, could you take a barge carrying 1,400 or 1,500 barrels of flour into it?—I would not undertake to do it.

21. Do you think it possible to take such a barge in without endangering the crew and cargo?—It is not from the danger of going down, but a barge would run aground before she arrived there.

22. Could you take an empty barge into M'Pherson's Point, on a dark night?—I could not; I would rather take a barge carrying 1,500 barrels down the north side than an empty barge on that side.

23. Could an empty barge get into Lake St. Francis from M'Pherson's Point, if the wind were contrary?—It would not be possible.

24. Could a vessel stay with safety at M'Pherson's Point, heavily laden, during a wind down the river?—It could not, as the waves coming in from the lake are stronger than the rapid.

25. Were you the pilot selected to take the first steam-boat from Upper Canada to Lower Canada, and through what channel did you go?—I was; I took the steam-boat "Lord Sydenham" from Prescott to Montreal, and I passed down the north channel by Coteau du Lac.

26. Why did you go by the north channel?—Because there is no passage on the south for a boat of that size.

27. Can you inform the Committee what is the depth of water on the shoals lying between Chartier's Point and Isle aux Chats?—In some places it is deep, in others not two feet.

28. Can a barge drawing five feet water go down the south side?—A vessel of three feet draught might pass down, but not one drawing five feet.

29. Are you well acquainted with the lower end of Lake St. Francis, on the north side of the lake, particularly near the place where the steam-boats now arrive and depart?—Yes.

30. Is there a sufficient depth of water within seven or eight miles of the place, and good anchorage?—There is plenty of water and an excellent bottom for anchorage.

31. Can boats and rafts arrive downwards at the Point, and boats proceed upwards at all hours of the night?—Yes, at any hour of the night.

32. Is the anchorage much exposed, and have you heard of any boats or rafts being wrecked in that vicinity?—The anchorage is good; I never heard of any vessels being wrecked there except rafts which were without anchors.

*Wednesday, 28th September 1842.*

THE Chairman laid before the Committee copies of certain correspondence between his Excellency the Governor-general and the Secretary of State for the Colonies, respecting the Beauharnois Canal, which he had received from his Excellency's Secretary.—(Appendix, No. 16.)

*William Roebuck, Esquire, called in; and Examined.*

*Answer to Question 1.*—I reside at Coteau du Lac, and am Superintendent of Pilots, and Salvage Agent for the St. Lawrence Inland Marine Assurance Company; I was educated at Woolwich as an engineer, and was draftsman to Lord Dalhousie for five years, I have no interest for or against the Beauharnois Canal.

33. Do you know the south shore near Hungry Bay, between M'Pherson's Point and seven miles above?—I do.

34. State your opinion as to the anchorage, and whether that shore affords a safe harbour for vessels lying there?—There is no anchorage; the harbour may be good, but there is no getting into it.

35. How deep a draught of water can be found between Hungry Bay and M'Pherson's Point, and what description of barge could navigate it?—I have frequently sounded it, but never found more than 8½ feet draught of water; where the channel is marked 690 feet wide on the plan, the difficulty is over; the real width of the channel above is not over 100 feet. It must be a very light barge to navigate it, not drawing over three feet water.

36. Could a vessel entering the river, within three miles of M'Pherson's Point, in case of the shift of the wind, anchor and remain in safety in any part of Hungry Bay?—A vessel cannot anchor in safety above the shoals.

37. Could an ordinary vessel, loaded or unloaded, get from M'Pherson's Point to the lake, unassisted by a tug-boat, unless in an easterly gale?—Certainly not, with her usual complement of men.

38. Could any complement of men, in a fresh wind from the west, south, or north point, of the compass,

compass, get a barge up, loaded or unloaded, from M'Pherson's Point to the Lake St. Francis?—They could not.

39. Can a barge from the west enter at M'Pherson's Point after or before daylight?—It would be impossible.

40. Could a barge drawing five feet find a passage to M'Pherson's Point, from the west?—I think not.

41. Could a barge go from the steam-boat landing at Coteau du Lac, across to M'Pherson's Point in ordinary wind?—No; it might with an east wind.

42. What is the set of the current, and what are the prevailing winds on the St. Lawrence; describe what you know on that subject?—The set of the current is from the south shore towards the northern entrance; it divides some distance above Coteau du Lac, and by far the greater part passes on the north side. The prevailing winds are from the west and north-west, with occasional southing.

43. Which would you call the lea shore of Lake St. Francis?—Hungry Bay.

44. Are there any dangers in going between Hungry Bay and M'Pherson's Point; and if so, in what do they consist?—There are great dangers, viz. from violent winds, a whole rake of 40 miles of lake; it is the most boisterous place on the River St. Lawrence; the surf running, when a northwest wind blows, a quarter of the height of the trees on Grosse Point, shoal water, rocky bottom, no anchorage, and a crooked channel.

45. How many channels are there for barges or rafts from Hungry Bay to M'Pherson's Point; and what sized boats or rafts (of what draught) could be navigated between those places?—For rafts or boats drawing three feet water there are two channels.

46. Are there three channels, of from 600 to 1,200 feet, on the south side, entering to M'Pherson's Point, of from 12 to 20 feet depth?—No, decidedly not.

47. Do you know any place on the St. Lawrence more dangerous than Hungry Bay and the vicinity of M'Pherson's Point, with relation to anchorage, harbourage, and heavy winds, from any point on the compass?—No place on the St. Lawrence is so bad in a gale of wind, except, perhaps, Lake St. Peter.

48. Will you look at the chart of the south channel, and say whether it is, in your opinion, correct; and if not so, in what respect do you consider it incorrect?—In the lower part of the channel, nearest to Isle aux Chats, it is incorrectly stated both in width and depth; the width of the channel being only 100 feet, with a depth of eight feet and a half, taken when the water was six inches higher than it is at present. The upper part of the channel is also incorrectly laid down, both in width and depth. Between Grosse Point and Isle aux Chats, there exist shoals, not laid down in the plan, which would prevent boats taking a direct course into the channel. I consider the plan incomplete, inasmuch as it does not lay down the set of the current. The depth of water on the centre shoal is stated to be much greater than it really is; I could get out of a boat and walk on the shoal for nearly half the length of it; the width and depth of water in the southernmost channel is also much less than therein stated.

49. By your channel of eight feet and a half, do you mean a practicable channel for barges propelled by wind or oars?—No, decidedly not; by a practicable channel, I mean a channel sufficient to correspond with a canal.

50. What is the depth of the practicable channel between Grosse Point and M'Pherson's Point?—Three feet.

51. Do you know the steam-boat landing, and Asslin's Wharf, at Coteau du Lac?—Perfectly well.

52. Can vessels get into Asslin's or the steam-boat landing at any hour of the night with perfect safety?—Generally, but in extreme cases it might be necessary to cast anchor.

53. Does the north shore afford good anchorage and safe harbourage?—Perfectly good anchorage is to be found all the way down from M'Laughlan's Point, above 30 miles above the landing place.

54. Should a strong wind from the east or west arise while vessels are lying at Asslin's or the Steam-boat Wharf, would either one or the other endanger the boat?—Never, with proper care.

55. How long have you been acquainted with the navigation of the river St. Lawrence?—Since the spring of 1823. I have been frequently down in boats, rafts, and canoes, on both sides of the river.

56. Is it possible, without an enormous expense, to make a channel by artificial means between Chartier's Point and Isle aux Chats?—It is not.

57. Did the committee understand you to say that, after you were inside of Chartier's Point, the surf would have no injurious effect?—Yes, a boat would there be beyond the force of the surf.

58. You state that you found no more than 8  $\frac{1}{2}$  feet water in the channel laid down. Can you inform the committee whether this 8  $\frac{1}{2}$  feet water was from rocks or shoals; and if rocks, of what extent; and if shoals, of what composed?—I should think it consisted of immense boulders, with loose stones.

59. Did you intend the committee to understand that there was a safe harbour and anchorage between Chartier's Point and M'Pherson's Point?—I do not know what the anchorage is, but a boat may be tied to a tree on the shore.

60. What is the reason that an anchor will not hold in the vicinity of, or above the shoals?—Because it is rocky bottom, and also from the immense swell and surf, and the violence of the winds.

61. Why could not a boat drawing five feet water find a channel up, when you say there is 8  $\frac{1}{2}$  feet water?—Because the channel is so crooked and difficult to keep, and the sets of current so likely to drift a boat on to the shoals, either from loss of headway or making leeway; therefore I have chosen this light draught in case I should touch any point of the shoals; a boat of so small a size as to draw but three feet could be commanded better by the poles of the men, than a heavy packet like those suited to the present size of the canal.

62. Are you aware whether the height of water is affected by the winds, or not; if so, to what extent?—The height of water is affected by the winds; an east wind will lower the water in the rapids, and will raise the lake; when this wind shall abate there will be a rise in the rapids, corresponding with the fall. I surveyed the channel between Isle aux Chats and Grosse Point twice during a slight east wind.

63. Do you consider the eastern entrance to the canal as eligible for the purpose, that is, affording good entrance, good exit, shelter and anchorage?—To my personal knowledge it is unexceptionable, and I wish the other terminus was as good.

64. Would the placing the canal on the south side instead of the north, injure the value of property on the latter side; that is to say, at and in the neighbourhood of Coteau du Lac?—I think not; if I owned a farm there, I would give a large sum of money rather than have the canal pass through it; I should think it would lower its value 50 per cent.

65. Are you aware of the effect the making of the canal has had on the value of property at Cornwall?—I have no positive knowledge about it.

66. Would the placing the canal on the south side seriously affect the emoluments of the office of Mr. Simpson, the collector at Coteau du Lac?—I think it would not, for if the intercourse were removed to the other side, the collector would be removed with it.

67. Would the completion of the canal affect the interest of your brother, who is a pilot at Coteau du Lac?—I think not.

68. Can you give the committee any other information of the relative advantages of the two sides for the junction of the two lakes by a canal?—Pilots, as good as are now used for the Cedar Rapids, must be found to meet the boats a long distance up, on the south side, and conduct them through this intricate entrance to the canal. This will be dangerous at all times, and always inconvenient and expensive; dangerous from the surf, and want of good anchorage for the barges; inconvenient, from the uncertainty of the arrivals of boats; and expensive, from the necessary small craft, and hands to go to the boat having ever to be on the alert, and at wages which must come out of the merchant or forwarders, as at Quebec or other seaports. Most of all the men now employed on the river are well acquainted with the north side, and hardly any with the south, therefore much loss will occur before the necessary knowledge is obtained. The depth of water by the map of the Board of Works, now in their room, is not as much as is to be in the canal; and all must know that from 18 to 24 inches, at least, must be allowed for the plunge of the boat in a heavy wind; all this is ready at hand on the north side. On reflection, from having passed down on foot, to the contemplated entrances, the current is exceedingly swift by them, and boats would be apt to run past, as they do now at Lachine, where more damage is done getting into the canal than in all the route down, except at the Cedars. Nothing of this kind would happen at Coteau du Lac, the water being smooth, and without current of any consequence at the mouth of the canal at M'Intyre's Bay.

Should rafts arrive at the usual place of anchorage before descending the rapids, and a contrary wind spring up, they could still go down in the north canal, whereas no steamer ever could tow them to the mouth of the south canal; this would often take place in the fall, when rafts had been badly strained, and this alone would be a considerable source of revenue. On the north side there is a ravine, extending, as per plan of Mr. W. R. Casey,  $5\frac{1}{2}$  miles, which, by nature, forms a fine line if not a natural canal. I am aware that the south side presents, on the land, many facilities, but I have to learn that there is enough there to counterbalance this natural cut. Some objections have been urged to this line, as being the watercourse of a large tract of country, and that it would gradually fill up; but it is of so much greater depth than needed, that it will take a series of years before it could be filled so as to infringe upon the depth of water needed; and all superfluous or waste water can be carried away by means of aprons or slides, without injury to the works. It has been the custom to deride the military point of view that this canal should be run in, but since having read the despatch of the colonial secretary, I hope I may touch upon this without the usual taunts. Looking at it, therefore, in this light, the north shore presents incalculable advantages. In time of war, it would require a large army for the defence of the one on the south shore, and thereby paralyze a body of forces that would have to remain on the defensive, instead of being able to co-operate with the rest of the army in active service against the enemy. I am aware of the answer of his Excellency Sir Charles Bagot to the Vaudreuil address; but this kind and parental promise, however pleasing to our feelings, experience has taught us to know is not at all times feasible. In all the troubles of the late unfortunate times, no body of men ever crossed the St. Lawrence and returned with impunity; but whoever committed invasion or excesses on the south side of this river, generally escaped without punishment; added to this, so rapid a river as the St. Lawrence is, at all points of this canal, it becomes a strong defence of itself—boats could not be collected, or men assembled for its attack, without our knowledge; on the other hand any body of hunters or good woodsmen could be told to rendezvous at any point on the line of canal most assailable, commit what damage they thought proper, and return before daylight through the woods. I can pick out, from Ogdensburgh to the line of this canal, from 200 to 300 capable of doing this. The canal being in the hands of an enemy, could enable him to assemble, concentrate and organize, any force of troops and flotilla, for an attack on Montreal, or to gain the command of the Lake St. Louis, and thereby cut off all communication with the Rideau, unless we had the naval ascendancy on that lake; whereas without a canal, no boat could descend the river without being subject to a fire all along the line of the river, as nothing like an armament can go down the south side from the dreadful rapids. On the north side there is always a fort at Coteau du Lac, containing troops for its defence, already built, without the expense of erecting one on the south. In saying this, let me not be understood that a canal on the north side would be any defence, but that on the south side it would weaken instead of strengthening our means.

*Hubert Sauve, dit La Plant, a Pilot, called in; and Examined.*

*Answer to Question No. 1.*—I live at Coteau du Lac. I have been for 23 years a pilot between Montreal and Cornwall; but my principal employment is between Cornwall and Coteau du Lac. I have no interest in the Beauharnois Canal.

*Ans. to Q. 15.*—Yes.

*Ans. to Q. 16.*—I think not, especially during the prevalence of certain winds.

*Ans. to Q. 17.*—I would not undertake to conduct a barge down drawing four feet.

*Ans. to Q. 18.*—No, on account of there being no shelter against prevailing winds.

*Ans. to Q. 19.*—Yes.

*Ans. to Q. 20.*—No.

*Ans. to Q. 21.*—No. I would not risk it.

*Ans. to Q. 22.*—No craft of any kind, however small, could safely go down at night.

*Ans.*

*Ans. to Q. 23.*—No, not at all.

*Ans. to Q. 24.*—Yes; Point M'Pherson is not very bad.

*Ans. to Q. 27.*—The depth of water is from eight to one feet and a half from Chartier's Point to the upper end of Isle aux Chats; there are holes of greater depth.

*Ans. to Q. 28.*—No, on account of the crooked direction of the channel, the force of the current, and the violence of the wind.

*Ans. to Q. 29.*—Yes, I know it intimately well.

*Ans. to Q. 30.*—Yes, there is a sufficiency of water, and excellent anchorage near the shore.

*Ans. to Q. 31.*—Yes, it is of every day occurrence.

*Ans. to Q. 32.*—The anchorage is good, and I never heard of any vessel or raft being wrecked there.

*Ques. 70.* Have you ever taken down barges through the rapid from Coteau du Lac to Lachine?—Before I was employed as a steam-boat pilot, I took down several batteaux and rafts.

71. Were you on board the steamer Neptune when she took the troops over to Beauharnois in 1838, and did she get aground at M'Pherson's Point or near it?—I was on board the Neptune: our intention was to go to M'Pherson's Point, but we could not get down there. I made two trips on that occasion; during the first the weather was rather calm; in the second I anchored the boat between Grosse Point and Chartier's Point; and while the troops were being landed, which occupied some time, a strong wind arose, and the anchor drifted, carrying the boat upon the shoals between Chartier's Point and Isle aux Chats, where she drifted from shoal to shoal; and while I was there a barge employed on the occasion was wrecked on the same shoals.

72. What water did she draw?—Three feet.

73. Why, if you desired to go to M'Pherson's Point, did you go into the bay, near Grosse Point, instead of following the raft or batteau channel?—There is no channel there for boats or rafts, that is, on the south side.

74. What is the direction of the current between Grosse Point and Isle aux Chats?—It takes a northerly direction.

Captain *Ashahel Whipple*, called in; and Examined.

*Answer to Question No. 1.*—I am proprietor of steam-boats and stages between Dickenson's Landing and Montreal; I reside in the latter place; I have no interest in the canal, but my business is altogether on the north shore.

*Ans. to Q. 33.*—I am tolerably well acquainted with it, having frequently landed there from a small boat.

*Ans. to Q. 34.*—I think that part of the lake is most exposed; it is very sandy, and shoal about the shore.

*Ans. to Q. 35.*—I think that, without deepening, it could not be navigated by a vessel drawing more than six or seven feet water; a vessel of that draught might accomplish it by following the deep water, but the channel is very crooked.

*Ans. to Q. 36.*—I think the anchorage is not good, and it is not sheltered; the bottom is sandy.

*Ans. to Q. 37.*—I think not.

*Ans. to Q. 38.*—I think not, unless the boat was so light that they could pole her up in-shore.

*Ans. to Q. 39.*—Perhaps not safely, without the assistance of a lighthouse.

*Ans. to Q. 40.*—I am not aware that it could.

*Ans. to Q. 41.*—I doubt it; the current is so strong that it is as much as a steam-boat can do to get across.

*Ans. to Q. 42.*—The current sets to the north; the prevailing winds are west, south-west, and north-west.

*Ans. to Q. 43.*—The south side.

*Ans. to Q. 46.*—I am not aware that there are three such channels, but I think there are not.

*Ans. to Q. 47.*—I think it is the most exposed part on that end of the lake.

*Ans. to Q. 48.*—I think there is a shoal above those on the plan, which is not laid down.

*Ans. to Q. 49.*—I do not conceive that there is, at present, a practicable channel.

*Ans. to Q. 51.*—Yes.

*Ans. to Q. 52.*—Steam-boats can come in at all hours of the night, but sailing craft depend on the wind.

*Ans. to Q. 53.*—It is.

*Ans. to Q. 54.*—No, not at all; it is sheltered from the east.

*Ans. to Q. 59.*—I do not think the anchorage very good, but below the shoals it is sheltered.

*Ans. to Q. 64.*—I am not aware that it will make much difference in the value of property.

*Ans. to Q. 65.*—I do not think the value of property has increased there in consequence of the canal, except at the entrance and exit.

*Ques. 75.* Do you own any real estate on the north shore, at Coteau du Lac, or between that place and the Cascades?—None, except a wharf and eight or nine acres of land.

76. Would the completion of the canal affect staging from the Cascades to Coteau du Lac?—I am not aware that it would.

77. Do you know of any of the rafts (to which you have alluded as being in Hungry Bay) having been broken up and wrecked by the winds?—I know that there have been a great number since I have been acquainted with that part of the lake.

78. Do you know what the shoals and points in the current opposite Isle aux Chats are composed of?—The shoals are rocky.

Dr. *John Joseph Loy*, called in; and Examined.

*Answer to Question No. 1.*—I reside at Coteau du Lac, where I have lived upwards of ten years as a practising physician. I have no interest either for or against the Beauharnois Canal.

*Ans. to Q. 33.*—Yes.

*Ans. to Q. 34.*—I am no engineer, and am not acquainted with the bottom; but I do not think the anchorage from Grosse Point above to be good, on account of the violence of the winds.

*Ans. to Q. 35.*—I do not think a barge carrying 200 barrels of flour could find a safe passage, as the channel is very crooked and the shoals almost lap each other.

*Ans. to Q. 36.*—By no means.

*Ans. to Q. 37.*—It could not; I was there myself about three weeks ago, in a small boat with four oars, and we were unable to row against the current, and had to pull in to the shore and tow the boat.

*Ans. to Q. 39.*—I should not think so; it would be a hazardous undertaking.

*Ans. to Q. 41.*—I do not think a heavy barge could do it, unassisted by a steamer.

*Ans. to Q. 42.*—The current sets in a northerly direction from Grosse Point towards Isle aux Chats; the prevailing winds are north-west and south-west.

*Ans. to Q. 43.*—The north shore.

*Ans. to Q. 44.*—I think I have already answered this question. The current is very crooked, and the shoals numerous; there is a shoal, not on the plan, which is right across the lower end of the channel, of five feet water, more or less; I did not sound this part of the channel, but I could see the rocks very plain.

*Ans. to Q. 45.*—The rafts which pass down that part of the river are principally of cord wood, and do not draw over three to three and a half feet water. I conceive there are only two channels.

*Ans. to Q. 46.*—No.

*Ans. to Q. 47.*—I do not; I consider it the most dangerous on the lake.

*Ans. to Q. 48.*—I have already pointed out the incorrectness of the chart in regard to the south channel, which I believe to be no channel at all; there are also shoals which are not mentioned, both above and below those laid down.

*Ans. to Q. 51.*—I do.

*Ans. to Q. 52.*—Since I have resided at Coteau du Lac they have come in at all hours of the night.

*Ans. to Q. 53.*—It does, below Point Moliere, Point M'Gee, and Point au Foine.

*Ans. to Q. 54.*—No, they are sheltered there.

*Ques. 79.* What is the rate of the current, in the quickest place, between Hungry Bay and M'Pherson's Point?—I consider the strongest part of the current to be at the lower end of Isle aux Chats; and have already stated that a boat with four oars could not stem it. I should suppose it to be upwards of three miles per hour.

*Ans. to Q. 64.*—I think not.

*Ans. to Q. 71.*—I was not on board of her, but I was in a boat in tow of her; the steamer grounded above Chartier's Point.

*Ans. to Q. 72.*—I cannot.

*Ques. 80.* Do you think a vessel with good anchors could ride in safety anywhere within three miles west of Grosse Point, on the south side, in ordinary gales of wind?—I think it would be dangerous to do so, on account of the heavy swells.

81. Are rafts frequently wrecked in that lake?—Yes: there was one wrecked a short time ago above Grosse Point, on the south shore.

82. Do you think if lights were placed on Grosse Point, Cat Island, or M'Pherson's Point, that boats could enter the south channel in the night?—I think not.

83. What do you think is generally the difference of time in the breaking up of the bourdage ice on the north and the south side (Coteau du Lac and Beauharnois) in the spring, and in the formation of the ice in the fall?—The channel on the north side is generally open later in the fall, and earlier in the spring than that on the south: I do not know what is the difference of time, but it is not great.

*Ans. to Q. 75.*—I own one quarter of an acre at Coteau du Lac.

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*Thursday, 29th September, 1842.*

Mr. Allan Perry, called in; and Examined.

*Answer to Question 1.*—I have resided for upwards of 40 years at Coteau du Lac. I am a farmer and boat pilot. I have no interest for or against the canal.

*Ans. to Q. 33.*—Yes, I am acquainted with that part of the lake, having been up and down several times.

*Ans. to Q. 34.*—Vessels may anchor there in calm weather, but in a gale of wind it is almost impossible.

*Ans. to Q. 36.*—Not with safety.

*Ans. to Q. 38.*—No, they cannot.

*Ans. to Q. 39.*—It cannot.

*Ans. to Q. 40.*—It might, in calm weather, by following the crooks of the channel among the shoals, but in a high wind it would be impossible.

*Ans. to Q. 42.*—Towards Chartier's, or Knight's Point, on the Beauharnois shore. The prevailing winds are south-west, north, and north-west.

*Ans. to Q. 43.*—The south shore.

*Ans. to Q. 46.*—No, they cannot be found.

*Ans. to Q. 51.*—I do.

*Ans. to Q. 52.*—It has been done frequently.

*Ans. to Q. 53.*—It does.

*Ans. to Q. 54.*—Not in the least.

*Ans. to Q. 59.*—Below the shoals a boat may anchor, but the current is strong.

*Ans. to Q. 78.*—Rocky shoals.

*Ans. to Q. 62.*—An east wind will lower the rapids five or six inches, and a west wind will raise them.

*Ans. to Q. 60.*—Because of the heavy winds and bad anchorage.

*Ans. to Q. 75.*—I do; I have a farm there.

*Ans. to Q. 72.*—Probably from eight to ten miles per hour, off Chartier's Point, running northerly. I have poled a canoe up, but I do not think I could paddle her.

*Ans. to Q. 83.*—The navigation is open about three weeks later in the fall, and a fortnight earlier in the spring, on the north side than on the south.

Mr. Joseph Asslin, called in; and Examined.

*Answer to Question 1.*—I was born at Coteau du Lac, and have resided there all my life; I am 28 years of age. I have no interest for or against the canal.

*Ans. to Q. 33.*—I know it pretty well.

*Ans. to Q. 34.*—There is no good anchorage or harbourage.

*Ans. to Q. 36.*—It is impossible.

*Ans. to Q. 38.*—A light canoe, with seven or eight men, might paddle up; I have often paddled up a small canoe, with four men.

*Ans. to Q. 42.*—Were a boat set adrift at Grosse Point, it would pass between Isle aux Chats and Chartier's Point. The prevailing winds are north, north-west, and south-west.

*Ans. to Q. 46.*—Not to my knowledge.

*Ques. 84.* Do you own the wharf and property known as Asslin's wharf, at Coteau du Lac?—I do.

85. Can you tell the committee why it is that all your neighbours are so opposed to the canal being on the south side?—Because they are opposed to a misapplication of public money.

Mr. Robert McIntyre, called in; and Examined.

*Answer to Question 1.*—I have lived for the last 11 years at Coteau du Lac, and have been engaged in lumbering and farming. I have no interest in the construction of the canal on the south side, but would wish, both on public and private grounds, to have it on the north shore.

*Ans. to Q. 33.*—I do.

*Ans. to Q. 34.*—From Grosse Point downwards there is no safe anchorage; above Grosse Point there may be anchorage, but it is very much exposed to the rake of the lake, bottom sandy; below Grosse Point the general character of the bottom is rocky.

*Ans. to Q. 36.*—I should think it would be very much exposed, and in great danger.

*Ans. to Q. 39.*—It is quite out of the question.

*Ans. to Q. 43.*—The north shore, because the prevailing winds are northerly; I have been frequently obliged to lie on the north shore for shelter, for fear of being blown into the dangers of the south.

*Ans. to Q. 46.*—I do not think there is one channel, and I doubt whether the whole width, between Isle aux Chats and the main land, would amount to so much.

*Ans. to Q. 48.*—There is a shoal, below those down on the plan, which is not laid down; there is another above, between Grosse Point and Isle aux Chats, of great size, running northerly, also omitted; I have frequently sounded it, and found little over three feet water.

*Ans. to Q. 51.*—I do.

*Ans. to Q. 52.*—They come in at all hours of the night.

*Ans. to Q. 53.*—It does.

*Ans. to Q. 54.*—No.

*Ans. to Q. 82.*—I should consider it almost impossible to do it, even in day-time, with a fair wind; two out of twenty-five vessels could not get in with any wind.

*Ques. 86.* Is it practicable to remove the obstructions at present existing in those channels?—It might be done, at a large outlay.

87. Have you had any opportunity of estimating the expense of removing those obstructions?—I have not.

88. If so, what, in your opinion, would be the cost of deepening the channel to nine feet water?—(Inapplicable.)

*Ans. to Q. 75.*—I own property at Coteau du Lac.

*Ans. to Q. 78.*—Large rocks.

*Ans. to Q. 79.*—I consider the quickest part of the rapid to be opposite the upper end of Grand Island, where the current is full three miles per hour, perhaps four.

Friday, 30th September, 1842.

W. R. Casey, Esq., Civil Engineer, called in; and Examined.

*Ans. to Q. 1.*—I reside at New York, and have practised as a Civil Engineer for the last 12 years.

*Ans. to Ques. 43.*—The south or east side. I speak from experience acquired on the south side of the St. Lawrence, at Laprairie, in 1834, 1835 and 1836.

*Ques. 80.* Can a good route be obtained by keeping on the table land to the Cascades?—There can; a very good route.

90. Having seen the documents from the Board of Works relating to this canal, are you prepared to give any opinion as to the comparative cost on the two sides?—I have examined all the documents at present before the Committee, and see nothing in them to warrant the assumption, that an equally efficient canal can be made cheaper on the south side than on the north.

91. Have you any remarks to offer, or suggestions to make, for the information of the Committee, on any of the documents furnished by the Board of Works?—In Despatch No. 157, from the Governor-general to Lord Stanley, there is a comparison of the two routes, in which he states the length of canal on the north side at 15 miles, and that on the south at 12 miles. I object to this statement; because the canal on the south side, though the shortest, terminates at the foot of a strong current, while the canal on the north side terminates in the comparatively still water of Lake St. Francis. The despatch states, further, that the aqueducts on the south side will be only 10 feet in width, while those on the north will be 50; my opinion is, that the width of those on the north side will only require to be 15 feet. It is also stated in the despatch, that the excavation on both sides is clay, with the exception of nearly a mile of rock at the lower entrance; and

further, that there is a ravine extending nearly half the length of the northern route; whereas the fact is, that if the ravine route on the north side be taken, the rock is avoided, except the rock under water, which is common to the termination of all the routes. With reference to the wash of the ravine, the canal will require cleaning out 10 times oftener than the ravine, owing to the great additional depth and width.

92. Have you examined the western terminus of the canal, between Isle aux Chats and the main shore?—I have examined it, but not thoroughly.

93. To what extent, and with what result?—In examining the channel indicated by the buoys, on the south side, I searched for a shoal place, and found the shoalest to be nine feet water.

94. Does it form a practicable entrance for vessels which can navigate the canal?—It does not; in the canal there is nine feet in the sill, and 10 feet in depth; in the river, the depth should be 11 feet in the channel to correspond.

95. Can the shoals be easily removed?—I think not; but I cannot speak decidedly, as I have not thoroughly examined it. I do not think that removing the shoals is the proper way of improving the navigation, but that the canal should be carried to some point several miles higher up; by removing the obstructions, the current would be increased.

96. Could vessels get in or out of the canal on the south side, without the assistance of tug-boats, or fair winds?—Not with the ordinary crew.

97. Do you consider a knowledge of the depth of water at the termini indispensable, before deciding on the route of the canal?—Most decidedly; because on that hinges the length of the canal, and on that again, the cost.

98. Which side of the river affords the greater facility for navigation?—The north side, at the lower end of Lake St. Francis, on account of the better channels, and also from being on the windward side.

99. Would a wind necessary to take a vessel into either entrance be favourable for the departure of that vessel from the canal on the south side?—I should think it would.

100. If steam-boats are necessary to the Beauharnois side, what is the objection to the river plan recommended by Mr. Mills?—The difficulty of construction, on account of much under-water work, is the only objection that I am aware of.

101. How many rivers are there on the north side, and how wide, and how are they to be crossed?—There are three rivers, viz. the River De l'Isle, the River Rouge, and the River à la Graisse; the first must be crossed by a dam; the two others may be crossed by culverts, or aqueducts.

102. Are there rivers of equal extent on the south side?—I cannot answer that question at present.

103. What was the nature of the shoals you examined between Isle aux Chats and Chartier's Point?—Stoney, covered with large boulders; the bottom I suppose to be rock, from its appearance at Isle aux Chats.

*Ans. to Q. 48.*—I believe the north channel to be stated correctly, but I know nothing of the others; the soundings, as far as I examined on the north channel, near Isle aux Chats, I found also correct; but I could not state positively as to the correctness of the plan without an examination which would occupy three weeks.

*Ques. 104.* Will the southernmost channel make a good entrance to the canal?—If the plan be correct, it will make a good entrance for vessels drawing eight feet water.

105. Will a north wind be a leading wind outwards from the terminus of the canal, through the southernmost passage?—A good sailing vessel, with a strong wind can go out.

106. Will you state to the committee your opinion of the relative merits of the eastern termini on both sides of the Lake St. Louis, touching the expense of making the entrance, and the period of formation and breaking up of the ice?—Of that I have no knowledge, personally.

107. Are you acquainted with the country between Lakes St. Francis and St. Louis; if so, state generally your opinion of the comparative engineering merits of the two sides, with a view to the connexion of those lakes by a canal?—I am well acquainted with the land on the north side, and have a general acquaintance with the ground on the south side. The north side admits of river and inland routes; the south side of inland routes only. Admitting the 12 miles of canal on the south side to be 50,000*l.* cheaper than the 15 miles of canal on the north side, there must be deducted from this sum the cost of the works between the canal and the lake. I have already declined giving any estimate of the cost of these works; but it is easy to show that it cannot be much less than 40,000*l.* supposing the channel free from rock. The expenses, repairs and renewals of a tug-boat would not be less than 1,500*l.* per annum, or five per cent. on a capital of 30,000*l.* to which must be added the 5,000*l.* for removing the shoals, in all 35,000*l.* Two miles of the ordinary tow-path, 15 feet high, with slope wall on both sides, will cost at least 30,000*l.*\*; and adding 5,000*l.* as above, we have 35,000*l.* besides the additional cost of towing against the current, an objection which increases with the business. If the bed of the river to be excavated be solid rock, the difference will be in favour of the north side; but whether rock or not, I feel very safe in repeating the opinion, that judging from the information now before me, I see nothing to warrant the assumption that an equally efficient canal can be made more cheaply on the south than on the northside.

per mile.  
 £. 7,700  
 7,326  
 £. 15,026  
 \* 123,200 c. yds. embankment, at 1*s.* 3*d.*  
 19,336 " wall,  
 at 7*s.* 6*d.*

Mr. Joachim Wattier, dit Lanoix, called in; and Examined.

*Ans. to Q. 1.*—I am a merchant, residing at Coteau du Lac, and have no interest for or against the canal.

*Ques. 108.* Would the same wind that takes a vessel in the canal, take her out?—There is no wind which will take a vessel into the canal that will not take her out.

109. On which side of the river does the ice form earliest, and last longest?—At the western extremity there is no difference; if the eastern termination of the canal is conducted to Point à Fauclles, it is at that point the navigation is opened earliest in the spring.

110. If there were a canal completed on the south side, and you were conducting a boat down from Cornwall to Montreal, what course would you take down the lake, and how near Coteau du Lac would you necessarily have to go?—There is no necessity for a vessel going down the river to pass within a mile and a half of Coteau du Lac, but it is necessary in passing Knight's Point, to give it a wide berth as it extends two and a half or three miles up the lake; and since the establishment of the navigation of the St. Lawrence, boats and rafts have not attempted to go down the south channel, and any carried into that channel have been generally given up as lost.

Monday, 3d October, 1842.

Mr. William Bowron, called in; and Examined.

*Ans. to Ques. 1.*—I have lived for the last 20 years at Huntingdon, and am a farmer and miller. I have no particular interest as to the location of the canal.

*Ques. 111.* Are you particularly acquainted with the south shore at the lower end of Lake St. Francis, and have you ever gone down the channel between Isle aux Chats and the main land?—I am very well acquainted with the shores, but I never went down the channel between Isle aux Chats and the main land.

112. What is the prevailing wind in that neighbourhood during the summer season?—Generally down the stream, or south-west.

113. Do you know the channel to the western entrance of the canal; and do you consider it a good practicable entrance for all the purposes of the canal?—I cannot state from personal knowledge.

114. Would the winds, from a quarter serving vessels or boats up and down the lakes, also serve boats passing through the canal?—I should think they would; the canal is almost in a line with the channel of the river and the lake.

115. Will you state to the Committee the difference of time in the formation and breaking up of the ice on the north and south sides of the river, at both entrances of the canal?—I cannot state from personal information.

116. Will you state to the Committee the probable effect on the value of land, on either side of the St. Lawrence, that the canal may pass; that is, in its immediate neighbourhood?—I think it would enhance the value of land at the entrance and terminus of the canal materially, more particularly at the western entrance; I think that a lot at present worth 100 *l.* would then be worth 1,000 *l.*

Tuesday, 4th October, 1842.

Mr. W. R. Casey, again called in; and Examined.

117. You have informed the Committee that, in order to obtain a good entrance to the canal, on the south side of the St. Lawrence, it must be carried into slack water; would a dam placed across the channel, at M'Pherson's Point, effect that object; if so, what would, in your opinion, be the cost of the same?—With reference to the effect of the proposed dams, I have to observe, that the additional depth of water thereby secured would be greater at the mouth of the canal, where least, if at all required, and least at the shoals ahead of the inclined plane, were most wanted. The removal of the shoals would be still necessary; and as the river falls fast below M'Pherson's Point, "the head and fall" of the dam, or rather dyke (for no water must pass over,) would be greatly increased, several, perhaps many feet, thus requiring additional caution in the construction. Assuming the dimensions to be 2,500 feet in length, and average height 15 feet, the cost would range from 20,000 *l.* to 40,000 *l.*, according to the style of the work, difficulties encountered, &c. To this must be added the cost of removing the shoals. On the other hand, the depth of water on the shoals would be somewhat increased, and the quantity of excavation correspondingly reduced; a narrower channel, without current, would answer the purpose, turns would be less objectionable; and unless the current, which now sets northward from Knight's Point, should be materially increased, the effect would be every way advantageous. Taking, however, into consideration that the cost would equal, if not exceed, that of a canal, that the advantages to the trade would be less, and that there is always some risk with such dykes, I am only confirmed in my previous opinion.

118. Would a tow-path from M'Pherson's Point, in your opinion, obviate the disadvantage of the entrance being placed there; and if so, what would be the probable cost thereof, and the yearly expense of towage into slack water?—A tow-path could scarcely be carried above Chartier's Point; hence it would only be of partial benefit. I am unable to answer the second part of the question.

119. What would, in your opinion, be the probable expense of continuing the canal to a point in the lake, which would afford a good entrance?—I cannot answer that question.

120. If the canal were continued to that point, would the entrance, with reference to depth of water, anchorage, and harbourage, be as good as may be obtained on the north shore, at or near the present Steam-boat wharf?

Upon the above question being put, Mr. Casey answered it in part, but was desired by the Committee to take it with him and consider it; to which course of proceeding Mr. Dunscombe (a Member of the Committee) objected, and desired that his objection might be recorded. The answer was subsequently given in writing, as follows:—

This is already answered, in as far as I feel myself warranted in giving my opinion.

Charles De Witt, Esq. called in; and Examined.

*Answer to Question 1.*—I have resided for the last two years at Godmanchester, and have been engaged in navigating Lake St. Louis since 1833. I am not aware that I have any interest in the canal, except as regards the public welfare.

*Ans. to Q. 2.*—I am.

*Ans. to Q. 5.*—I do.

*Ans. to Q. 9.*—They can in calm weather, or with a favourable wind.

*Ans. to Q. 11.*—I have passed up and down repeatedly in a log canoe drawing from three to six inches water; I do not know the exact depth of water, but I never remarked any shoal in the channel that would obstruct the navigation; I have always kept close in to Knight's Point.

*Ans. to Q. 16.*—I believe so; I have been down myself in a canoe, and from the observations I took, and the apparent depth of the water, I think that there would be no difficulty in passing down.

*Ans. to Q. 18.*—I cannot say.

*Ans. to Q. 20.*—I think so.

*Ans. to Q. 21.*—I think it is.

*Ans. to Q. 24.*—I believe it could.

*Ans. to Q. 27.*—I cannot say.

*Ans. to Q. 28.*—I believe that a barge drawing more than five feet could do so; but I have never taken the soundings myself.

*Ans. to Q. 29.*—Not particularly.

*Ans. to Q. 34.*—With some winds the harbourage would be good, but with a south, or south-west wind, it would be exposed.

*Ans. to Q. 37.*—It could, with an east, or north-east wind.

*Ans. to Q. 43.*—The lee shore depends on which way the wind blows; the prevailing wind being south-west, I consider the north to be the lee shore.

*Ans. to Q. 112.*—Answered in the preceding reply.

*Ans. to Q. 48.*—As far as I am able to judge, it is nearly correct.

*Ans. to Q. 63.*—I think it is a good deal exposed to a north-east wind; the entrance is good.

*Ans. to Q. 64.*—I think it might, but cannot say exactly.

*Ans. to Q. 76.*—I do not know but it would, but cannot say precisely.

*Ans. to Q. 83.*—I think there is very little difference between Coteau du Lac and Beauharnois in that respect, but at the east entrance, at the Cascades, the navigation is open two or three weeks longer on the Beauharnois side in the fall, and opens two or three weeks earlier in the spring.

*Ans. to Q. 104.*—I should think it would.

*Ans. to Q. 108.*—Certainly.

*Ans. to Q. 113.*—I do.

*Ans. to Q. 114.*—I should think they would.

*Ans. to Q. 116.*—I think some parts would be benefited, whilst others would be injured.

Wednesday, 5th October, 1842.

*Hubert Sauve, dit La Plant, again called in; and Examined.*

*Answer to Question 110.*—From Cornwall to Grosse Point, a vessel can come down in a direct line.

*Ques. 121.* Would the shoal which is not laid down at the upper end of the channel prevent you getting into the south channel?—No; by coming to Grosse Point the shoal is avoided.

*George Crawford, Esq. called in; and Examined.*

*Answer to Question 1.*—I live at Cornwall, and am a contractor on the public works. I have no interest in the canal.

*Ques. 122.* Have you ever examined the route of the Beauharnois Canal?—I have examined the land route.

123. Have you ever made any calculations as to the practicability and expense of deepening and preparing a channel from Grosse Point to M'Pherson's Point, with ten feet water; and if so, can you inform the Committee of your views, and the amount of such probable expense?—The only calculations I made were from the plan of Mr. Rubidge; assuming the quantities in the engineer's report to be correct, and adding 100 yards of excavation for contingencies, I was induced to make a calculation by an old friend who is also a contractor, and who had applied to me to join him in undertaking to deepen the channel, he having the apparatus necessary for the purpose. I consider that the channel could be increased to 300 feet in width and 10 in depth for 7,000 £, provided there be no solid rock; and I would undertake in that case to do it for that sum.

124. Have you any idea of the comparative expense of lockage on the north or south shore, at Beauharnois and Coteau du Lac?—There are five locks at the lower end of the southern route which will be in rock, and one in clay; supposing the same number to be required on the north side, and all in clay, the locks on the south would yet be cheaper, because on that side the backing stone would be on the spot, which would cause a saving of at least 1,000 £ a lock. I think also that an additional 1,000 £ will be saved by having the locks located in rock instead of clay, which will prevent the necessity of having any work at the bottom of the lock.

125. Are you related to any of the persons employed under the Board of Works, and if so, to whom?—Mr. Keefer, the engineer, is my son-in-law.

126. Are you a contractor under the Board of Works, and if so, where?—I am a contractor on the canal at St. Ann's, and at Cornwall; the former is by contract, and the latter under a new arrangement based on an old contract.

127. Have you any work contracted for unfinished, or if finished, not yet received by the Board of Works?—I have, finished and unfinished, and none of it yet received by the Board of Works.

128. You say you could remove the shoals provided they are not of solid rock; do you know of what the foundation of Isle aux Chats is composed?—I do not.

*Thomas A. Begley, Esq. Secretary to the Board of Works, called in; and Examined.*

*Answer to Question 1.*—I am living at Kingston; am secretary to the Board of Works, and have been so ever since the union of the Canadas.

*Ques. 129.* Are the daily proceedings of the Board of Works entered in the minutes?—The Board have no daily meetings, the president being sometimes absent for a month.

130. Are the proceedings of the Board entered in a book?—There are proceedings entered in a minute-book.

131. Are the decisions of the Board on each separate work entered, with the reasons for such decisions?—Not always.

132. Produce the book in which the entries or proceedings of the Board of Works are entered. (*Witness produced the minute-book, instructions book, and reports.*)

133. Inform the committee what surveys and estimates were before the Board when it came to the resolution of placing the canal on the south side of the river?—The Board of Works could not resolve to place the canal where they chose; they could only recommend: (See 4 & 5 Vict. cap. 38, sec. 14.) It was the duty of the executive to determine, and the Board to act on the authority received. The surveys and estimates in possession of the Board of Works, previous to their recommending the construction of the canal to connect Lake St. Francis with Lake St. Louis, on the south side of the river, were

Messrs. Stevenson's and Trudeau's, of the south side,	} Received in October 1839.
Mr. Baird's, of the south side - - - - -	
Mr. Mill's, of the north side, in the Journals of the Assembly.	
Colonel Phillpotts', received in 1841.	
Mr. Tate's, of the south side - - - - -	} Received in the winter and spring of 1842.
Mr. Keefer's, of the north and south sides - - - - -	
Mr. Thompson's charts of survey - - - - -	} Received in November 1840.
Mr. La Rue's - ditto - ditto - - - - -	

The Board likewise acquired a great deal of information verbally from Mr. Keefer; that gentleman having become intimately acquainted with the north side while assisting Mr. Mills in his surveys.

134. Show the committee the entry of the proceedings of the Board when they determined to adopt the line on the south side of the river?—I am not aware that there are any entries in the books of the Board except instructions.

135. Are entries made in the books without your knowledge?—No.

136. Are minutes made of the meetings and proceedings of the Board; and if so, will you lay before the committee an extract of the entries which relate to the adoption of the south side of the St. Lawrence in place of the north, for the canal to avoid the rapids between lakes St. Francis and St. Louis?—I am not aware that the Board of works ever contemplated making a canal on the north side of the St. Lawrence to avoid the rapids alluded to, since the question was first referred to them on the 12th October 1839; from the information from time to time acquired, they always considered the south side the best and least expensive route; but neither at the time nor since their determination to finally recommend the canal, has there been any minute recorded of a meeting of the Board for the purpose referred to.

Mr. W. R. Casey, again called in; and Examined.

137. Did you run your level over the line marked on the plan?—I did; the line in the ravine is winding, and I did not take the courses by the compass.

138. Did you take soundings in M'Intyre's Bay, and from thence out into the lake; if so, where is the chart?—I sounded out for about 400 feet, and found 10 feet water. I made no chart.

139. Did you examine the soil, and did you discover any rock?—I examined the soil by means of the ravines and wells, and found rock at French's Rift, about a mile and a half from the steam-boat landing at Coteau du Lac; I also found rock in the ravine, about a mile from the Ottawa.

140. Did you take soundings about the mouth of the Quinchean; and if so, where are they?—I did not.

141. Where do you terminate the canal on the Ottawa River?—At the Military Locks near the steam-boat landing.

142. How much excavation is there under water, and what portion of it is rock?—I cannot answer that question.

143. Do you construct any works to defend your river bank against the ice and current in the Ottawa?—Yes; I allowed for a protection-wall in the estimate.

144. What length of reach have you from the mouth of the Quinchean to the end of the canal, and what sum have you set down for pumping it?—Four thousand feet. I have allowed 7,400 *l.* for the embankment and protection-wall, from the locks to the mouth of the ravine. I have not estimated for the coffer-dam and pumping, but consider that the expense will be the same on both sides.

145. Did you take the bearings of the ravine, and is it laid down in your plan from them?—I did not.

146. Did you make any allowance for waste weirs in your estimate?—I did not, supposing them the same on both sides.

147. Where is your guard lock?—At M'Intyre's Bay.

148. Why did you leave out the calculations for waste-weirs, ditching, grubbing and clearing, fencing, toll collector's houses, lock-houses, bridge-houses, damages, or compensation for bridges?—Because I supposed that, with the exception of the damages, they could not materially differ. I can give no opinion as to the amount of damages to property on either side. I did not attempt to make an estimate of the whole of the works; it would take three months to do so.

Charles Manuel, Esq. called in; and Examined.

Answer to Question 1.—I have resided for 26 years at Beauharnois, and am a surveyor. I have no interest in the canal.

Ans. to Q. 2.—I am.

Ans. to Q. 5.—I do.

Ans. to Q. 11.—I have, in a canoe. I went with Mr. Tate as an assistant, and expected to give evidence. I took soundings across direct from Chartier's Point to Isle aux Chats and other lines

below. I let my canoe drift with the current from the channel half way between Grosse Point and Isle aux Chats; it drifted into the south channel, and there I found the following soundings, viz.: 21, 19, 20, 15, 12, 11, 11, between the shoals; below the shoals, 21, 21, 30, 14. We sounded with a sounding line while the canoe was drifting.

*Ans. to Q. 16.*—Yes.

*Ans. to Q. 17.*—With a guide I could take a boat of any size through the battures.

*Ans. to Q. 24.*—Yes; the situation is sheltered by Isle aux Chats.

*Ans. to Q. 29.* Not particularly, having only been there two or three times, and having never sounded.

*Ans. to Q. 44.*—Vessels coming down the river leave Hungry Bay six miles to the right; they have no business near it.

*Ans. to Q. 48.*—I think the shoals are laid down larger than they really are; I would myself undertake to remove them.

*Ans. to Q. 59.*—Yes; the current is about two miles and a half an hour, from actual measurement, which I ascertained by putting a log of wood in the water, and measuring its speed on the land. The bottom is good.

*Ans. to Q. 63.*—It may be made very safe by art.

*Ans. to Q. 78.*—The head of the shoals consists of large boulders (not rock); then come smaller stones, and then sand.

*Ans. to Q. 83.*—With respect to the upper end of the canal, I can say nothing; at the lower end, the ice leaves Beauharnois in the spring 10 or 15 days earlier than the Cascades, and forms earlier at the Cascades in the fall.

*Ans. to Q. 98.*—Yes; they can pole up at any time.

*Ans. to Q. 104.*—Yes.

*Ans. to Q. 112.*—I cannot say.

*Ques. 149.* You state that you ascertained the depth of the channel by soundings; how often in a minute did you sound?—About every three English chains of 66 feet.

*150.* You state that barges can go down through the battures; did you ever see one go down?—I never saw one go down; but I have seen small wood barges on the south shore, old Durham boats.

*Ans. to Q. 128.*—I cannot say what the foundation is, but there are large boulders round the island.

*Resolved,* That the chairman do make application to the acting clerk of the Executive Council for extracts of any proceedings on the minute-book of the council, relating to the Beauharnois Canal.

*Pierre Le Duc, Senior, called in; and Examined.*

*Ans. to Ques. 1.*—I live at St. Timothy, opposite the cedars. I am a farmer, and have been a pilot 30 years. I have no interest respecting the canal.

*Ans. to Ques. 2.*—I am.

*Ans. to Ques. 5.*—I know it well.

*Ans. to Ques. 11.*—I pass them three or four times a week. I have taken several rafts down the river, from the upper part opposite Grosse Point, and from Hungry Bay, and went down the south channel; the last raft I took down only two or three weeks ago. I consider there is no more danger there during a storm, than in any other part. I have often been there with a raft in a strong wind. I was one of the party who sounded the shoals, and we in no place found less than  $8\frac{1}{2}$  feet water.

*Ques. 151.* Would you undertake tomorrow to take a steam-boat, drawing eight feet water, down the south channel, and be responsible for damages, if you wrecked it?—If the channel were marked with buoys, I would do so.

*Ans. to Q. 24.*—It can, being sheltered from wind by Isle aux Chats.

*Ques. 152.* You have said that you would take down a steam-boat, drawing eight feet; would you consider it equally safe for a vessel under sail, of the same draught?—I should, if the wind were favourable.

*Ans. to Q. 63.*—There could not be a better.

*Ans. to Q. 114.*—Of course.

*Ans. to Q. 83.*—The difference is three weeks in favour of the south shore, both in the spring and fall.

*Ques. 153.* Do you think a vessel could hold her anchors near, and within six miles of Grosse Point, on the south side, in a north, or north-west, or north-east wind, as well, and with as much safety, as a vessel could lie or hold her anchors on the north side in a south, south-east, or south-west wind?—I think a vessel could hold her anchors as well on one side as the other. I have staked rafts there myself in safety.

*Pierre Le Duc, Junior, called in; and Examined.*

*Ans. to Ques. 1.*—I am a farmer, and reside at St. Timothy; I am not a pilot, but have been employed by engineers on the river.

*Ans. to Q. 2.*—I am.

*Ans. to Q. 5.*—Yes.

*Ans. to Q. 11.*—I have passed down with canoes and rafts, and also in company with the engineers. I found, by sounding, 11 feet of water, an acre and a half from the shoal. I let a canoe float from the centre of the water, and it floated down the south channel; I there found no less than  $8\frac{1}{2}$  feet, and at other places lower down, from 11 to 20 feet. From what I know of the channel, I consider that it is good and safe for large barges; if the persons on board the steamer Neptune, when she grounded, had kept the channel, they could have gone down in safety.

*Ans. to Q. 17.*—I might take down a barge drawing eight feet water.

*Ans. to Q. 104.*—It could not be excelled.

*Ans. to Q. 114.*—Certainly.

*Ans. to Q. 63.*—Yes.

*Ans. to Q. 24.—Yes.*

*Ans. to Q. 83.—At the eastern entrance of the canal there is a difference in the breaking up of the ice of from 15 days to 3 weeks in favour of the south side; at the western, both sides are about equal; there is the same difference in the formation of the ice in the fall.*

*Charles La Rocque, Esq. called in; and Examined.*

*Ans. to Ques. 1.—I reside at Riviere St. Louis, near St. Timothy. I am a merchant, and have no interest in the Beauharnois Canal.*

*Ans. to Q. 2.—Yes.*

*Ans. to Q. 5.—Yes.*

*Ans. to Q. 11.—I have, in a barge, drawing four feet water, and I found it to be a practicable channel.*

*Ans. to Q. 17.—I cannot say, never having sounded.*

*Ans. to Q. 104.—From the appearance of the ripples on the water, I should think that a very eligible channel might be found there.*

*Ans. to Q. 24.—Yes.*

*Ans. to Q. 63.—It is a most excellent entrance.*

*Ans. to Q. 83.—I cannot speak respecting the western entrance; at the other extremity there is a difference of from 10 to 15 days in favour of the south side in the spring.*

*Ans. to Q. 114.—Certainly.*

The chairman laid before the committee a letter which he had received from the acting clerk of the Executive Council, with a copy of a report of a committee thereof, relative to the extension of public improvements.—(Appendix, No. 24.)

Also, a letter which he had received from the Secretary of the Board of Works, respecting the detention of witnesses for cross-examination by the President of the Board.—(Appendix, No. 25.)

Thursday, 6th October, 1842.

*Solomon Y. Chesley, Esq. a Member of the House, called in; and Examined.*

*Ans. to Ques. 1.—I am a Member of the Legislative Assembly for the town of Cornwall, where I have lived for 42 years.*

*Ques. 154. Have you personally examined the entrance to the Beauharnois Canal, between Grosse Point and Isle aux Chats; and if so, describe it?—I have, on two several occasions during the past summer. I found the channel exceedingly crooked, with a speed of current averaging, in my opinion, three miles an hour; I found in the mouth of it what I conceive to be seven distinct shoals, and innumerable large boulders on and between them. In that which was represented by the engineers as the middle channel, and indicated by buoys, I found an angle, bearing at least 40 degrees to the north, running over from above Chartier's Point, nearly in the direction of Isle aux Chats. There is a large shoal which appears to me to intersect the channel, and which is not laid down on Mr. Rubidge's plan.*

*155. Do you know how wide it is from Grosse Point to the shoal, which the committee understands you to say is not properly laid down?—As near as I could judge, I should think it to be about a mile across from Grosse Point to Isle aux Chats; the southern extremity of the shoal is about a third of a mile from Grosse Point; it may be more. I think it lies just where a boat would cross in coming down the lake to that arm of the river. I also consider the shoal exceedingly dangerous, from being hidden; and the strong current that sets in from Hungry Bay, together with the south-west wind, would render it very dangerous for a boat to get in; I do not, however, think that the prevailing wind; I think that part of the river the most exposed to the prevailing westerly winds of any under my knowledge. I found the southernmost point of the shoal the most shallow; in several places there was not more than three feet water.*

*Ans. to Q. 48.—I do not consider it correct; it does not represent all the shoals I found there. I found, in not less than 40 places, a depth not exceeding  $3\frac{1}{2}$  feet, while I see but two such places indicated on the plan. On the shoal intersecting the uppermost line of soundings, in place of eight feet, as marked thereon, I found a depth of water ranging from  $3\frac{1}{2}$  to 9 feet. Leading from Chartier's Point to the southernmost red line, I followed a shoal, in the shape of a crescent, on which I found  $3\frac{1}{2}$  feet in several places. In the centre channel I found a flat bottom, with  $8\frac{1}{2}$  feet water, as low down as the bend described in my former answer.*

*Ques. 156. You say you had no means of measuring distances; what means had you of taking the depth of water; had you a sounding line; if so, did you keep any note book of your soundings, and can you furnish it to the committee?—I took an iron bar, five-eighths of an inch square, marked in feet with white paint, with two wooden measures, 12 feet in length, also divided off into feet; the boat was under my own direction. The first time I took soundings we crossed the channel at five different points; the second time, the middle channel being then indicated by buoys, we went to the head, and followed it downwards; we landed on Isle aux Chats, and followed the deepest water we could find, upwards to the uppermost shoal on the north side of the channel indicated on the plan; we followed that shoal, taking soundings, crossed over to the middle shoal, and dropped down the channel.*

*157. Are you well acquainted with the north side of the lake, at and near the present steam-boat wharf; and if so, inform the committee what is the velocity of the current there, and whether, in other respects, it offers an easier and better access for the entrance of a canal than the south side of the river?—I know it well; at M'Donell's Bay it is nearly still water. I think it affords a free access in every respect; the entrance on the south side is not to be compared with it.*

*Alexander M'Lean*, Esq. a Member of the House, appeared before the Committee, and stated as follows:

I visited the entrance to the canal once with Mr. Chesley, for the express purpose of forming an opinion myself; and the testimony of Mr. Chesley having been read to me, I concur generally in his statements, but he has been more minute than I have it in my power to be.

*Ques. 158.* Who accompanied you and Mr. Chesley, when you went with him to examine the entrance to the canal?—Captain Sterns, of the steam-boat, *La Plant*, the pilot, Mr. William Roebuck, Dr. Loy, Mr. Robert M'Intyre, and the boatmen.

*Thomas A. Begley*, Esq. again appeared before the Committee, and handed in the following documents, which he had prepared at their desire.

Extract from proceedings of Board of Works, on 13th December 1839.—(Appendix, No. 26.)

Report of Board of Works to his Excellency the Governor-general, relative to the Beauharnois Canal, 14th December 1839.—(Appendix, No. 27.)

Extract from a further Report of the Board on the same subject.—(Appendix, No. 28.)

Extract from that part of the Report of the President of the Board of Works to the Governor and Council, dated 12th May 1842, relating to the Canal from the Coteau to the Cascades.—(Appendix, No. 29.)

Extract from a Report of Colonel Phillpotts, Royal Engineers, respecting the location of the Canal, 24th October 1838.—(Appendix, No. 30.)

*Mr. Begley*, further Examined.

*Ques. 159.* Produce the Departmental Report referred to in the report of the Chairman of the Board of Works, dated 1st August last?—I know of no other report than that which I have handed in this morning (marked 29.)

160. In the said report, reference is made to the sundry surveys and estimates, made by parties therein named; can you inform the committee whether the chairman himself has personally examined both sides of the river, with reference to the present undertaking; and if so, when?—I cannot say, as I do not accompany Mr. Killaly when he leaves town.

161. Are the extracts that you have laid on the table the only entries in your books of the proceedings of the Board on the Beauharnois Canal?—With those given in previously.

162. Will you state the names of the members of the Board of Works?—Messrs. Killaly, president, Harrison, and Davidson.

163. Will you refer to your books, and state how many meetings there have been of the Board, on the subject of the Beauharnois Canal?—I have already answered this question; no meetings are recorded.

164. Before any expenditure was made on the Beauharnois Canal, was the same submitted to the Board; and was there an order of the Board made before such expenditure was paid?—(This question was rejected by the Committee as going beyond the powers entrusted to them).

165. Do you keep a book in which all the authorities for the payment of money on the Beauharnois Canal are entered?—(Rejected, for the same reason as the foregoing).

*Samuel Keefer*, Esq. Civil Engineer, called in; and Examined.

*Ans. to Ques. 1.*—I am engineer to the Board of Works.

*Ques. 166.* Can you briefly point the items which constitute the great difference in you estimates for the south and north shore, for the canal at the lower end of Lake St. Francis?—I can; excavation, embankment, (particularly in the Ottawa river), waste-weirs, (none required on the south side), ditching and fencing, (the canal is three miles longer on the north side than the south), lock-houses, bridge-houses, damages for land, locks (which are more expensive on the north side than the south), coffer dams, (one more required on the north side than the south), protection wall for the bank in the Ottawa river; these are the chief items.

167. Will you state to the committee your opinion of the general accuracy of Mr. Thompson's chart, and how far you found the soundings and width of the river to be correct?—As regards the position of the middle shoal, Mr. Thompson's chart is correct, but I have not found the depth of water to correspond; Mr. Thompson's survey was made in 1839, when the water was high; my soundings were taken when the water was nearly at its lowest.

168. Can you state positively the rate of current from Grosse Point to M'Pherson's Point?—Not from my own measurement.

169. When did you give your opinion to the Board decidedly in favour of the adoption of the south side?—In February last.

170. In what respects do you think Mr. Casey's report is deficient?—Inasmuch as by his own confession he has not made a thorough survey, and he has not made up an estimate of the whole cost of the north side, without which I think it impossible to draw any fair comparison of the cost of the two sides; I do not think that even in the partial estimate which he has sent in, the quantities of excavation and embankment are sufficient, and I know his plan and section to be incorrect. (*Witness showed, by his own plan of 5th July last, that the bearings of the ravine on Mr. Casey's plan were incorrect.*) Mr. Casey makes no allusion to the difficulties to be surmounted in entering Lake St. Louis, the removal of which forms a very large item in my estimate. His report contains very little information on the subject under examination; his avowed object is to prove that the Board of Works is wrong in stating that the canal will cost 100,000 *l.* more on the north side than on the south; and this he undertakes to do without having examined both sides, as would obviously be necessary, and even without fully surveying and estimating the north side.

171. Are you of opinion that he had the means of making an estimate from his reports which you have seen?—I am of opinion that he had not the means of doing so.

172. What is the difference of level between the two sides of the river, and why do you estimate for ten locks on the north side and only nine on the south?—The difference of level is only six inches, but from the peculiar nature of the ground on the north side it is necessary to have a lock entering into Lake St. Louis, of six feet lift, and another requires to be of nine feet lift; so that if the number of the locks was the same on the north as the south side, some of them would necessarily be over 11 feet lift, which I consider dangerous. The peculiarity of the ground alluded to is, that the water at the mouth of the Quinchean, and for a considerable distance down to Lake St. Louis, averages only from four to six feet in depth, and I conceive the best way of surmounting the difficulty here presented is by constructing a bank parallel with the shore, by which the water may be raised six feet; I resort to this mode to avoid excavation under water, and pumping a long reach of canal, which would otherwise be necessary. The embankment would be 3,700 feet in length.

173. What would be the saving in your estimate for the north side, if the ravine were adopted as part of the line?—I have made no estimate of that, but in my opinion, even if we were to use the ravine by damming it, the waste-weirs that we should have to construct, and which I conceive indispensable, would very nearly, if not quite equal the saving.

*Ans. to Q. 123.*—I have; it is embraced in my estimate, which is before you.

174. Could you obtain a slack-water navigation between M'Pherson's Point and Lake St. Francis by placing a dam below the Point, and another between Grand Isle and Isle aux Chats; and if so, what would be the probable expense?—Certainly; but I am unable to state the probable expense.

175. Would a tow-path from M'Pherson's Point, in your opinion, obviate the disadvantages of the entrance being placed there; and if so, what would be the probable cost thereof?—I conceive that the tow-path would entirely obviate the difficulties. A statement of the probable expense will be found in my estimate.

176. What would, in your opinion, be the probable expense of continuing the canal to a point in the lake which would afford a good entrance into slack water?—It would not cost far short of 20,000 *l*.

177. Do you think the termination which would there be obtained would be as good as the present?—It would be as good, but no better.

*Ans. to Q. 120.*—I conceive it would be better.

*Ques. 178.* Do you know anything of a shoal or a line from Grosse Point to Isle aux Chats, which is not laid down?—I do; there are shoals not laid down in the chart, because they do not interfere with the navigation.

179. Did you make the soundings which are marked upon Mr. Rubidge's plan, and can you vouch for their accuracy?—I did make them, and can vouch for their accuracy.

180. You state that the canal on the south side is three miles shorter than on the north; if, however, the south canal were continued to slack water; that is, to equal the comparatively still water of Lake St. Francis, what would then be the difference in the length?—One mile only in favour of the south side.

181. Would the additional two miles thus made be through rock, or through soft cutting?—I have not examined the soil, but in my opinion it would be chiefly earth and boulder stones.

182. What is the soil at M'Pherson's Point, where the canal now terminates?—Clay, with a few boulder stones.

183. Between your calculation of the excavation required, and that of Mr. Casey, there is a difference (on the north side) of a million of cubic yards; how does this difference arise?—It arises, in the first place, from Mr. Casey not cutting so deeply as I do. I perceive, on comparing his section with mine, taken in July last, that it does not show so much cutting. In the next place, from his making use of the ravine, by damming it, he avoids cutting; whereas I have continued my canal along the ravine, not descending into it, but cutting the canal in the edge of the bank, thereby obviating the necessity of having a waste-weir at each lock. Lastly, he takes no notice of the excavation under water, nor of the bank required at the lower end of the canal.

184. The plan you exhibit is dated 5th July 1842; how came it then that the south side was determined to be the proper route before this survey was made?—I do not know that I can answer respecting the decision of the Board of Works.

185. Could not all the locks on the north side be placed in the ravine and below it, if Mr. Casey's levels are correct?—Yes.

186. Why, then, will one additional lock be required on the north side?—I have answered that question already.

187. You state that a tow-path would be necessary from M'Pherson's Point to overcome the obstacles between that point and the lake; why then should not the canal on the north side terminate at the locks at Coteau du Lac, and a tow-path be made from the locks to the lake, and thus render the canal route shorter even on the north side than on the south?—Because the current on the north side exceeds that on the south a very great deal.

188. What is the velocity of the current between the government lock at Coteau du Lac and Lake St. Francis?—I have not actually ascertained the velocity of the current, but from appearance I believe it to be from four to seven miles an hour.

189. Are you aware that boats have for years been towed up from that lock to the lake?—I am.

Friday, 7th October, 1842.

The Honourable R. M. Harwood, called in; and Examined.

*Ans. to Ques. 1.*—I am Seigneur of Vandreuil, where I reside.

*Ques. 190.* Would your private interest be affected by a canal made on the north side, and if so, how?—The only way it could be affected would be to my disadvantage; in the first place, I hold no property on the whole line of the canal; the reason why I consider it would be to my disadvantage is this: that a canal cut on the plan recommended in Mr. Casey's survey would create an immense hydraulic power at the river De Lisle and River Rouge, which would be a power created in opposition to hydraulic works which I am now erecting at the Cascades, and would probably

over-glut the market for grue and offal. I conceive that the cutting of the canal will not increase the value of even village lots through which it passes. By saying that I hold no property on the whole line of the canal, I mean that I have no land in my possession bordering on the line of canal or dyke at the Cascades, for I consider the outlet would be in the deep water opposite the existing canal; and Government owns the land for 200 feet on each side of that canal; nor would there be anything gained by taking the canal lower down, for the ice is all gone away opposite the mouth of the Cascade Canal before any inland canal could be opened or free from ice and frost, either on the north or south: for what right have we to expect that these inland canals would be fit for use, going through earth excavations, before the Lachine Canal, or the Western Canal in the United States are open and are fit for use. Yet for many years I have noticed that the river is clear of ice, even through all the Lake of Two Mountains, and here at the Cascades, before any barge can go down the Lachine Canal, and, I believe, almost always before even boats can navigate the Western Canal.

191. Have you examined the official reports and surveys of the Board of Works, or their engineers, on the subject of the St. Lawrence Canal upon either the north or south shore, or both at or opposite Coteau du Lac?—I have this morning for the first time read over the official reports of Samuel Keefer, Esq., engineer of the Board of Works, of the probable cost of constructing a canal, both on the north and the south shore, dated "Office of the Board of Works, Kingston, 1st October 1842.

192. Did you doubt the correctness of a survey and report made under the authority of the Board of Works: if so, why?—I doubted the correctness of a survey and report made under the authority of the Board of Works, by Mr. Keefer, of the line for the canal on the north shore from Lake St. Francis, through the ravine to Lake St. Louis, from the perusal of a letter, dated 1st August 1842, of the Honourable Hamilton H. Killaly, president of the Board of Works, wherein he states that from Mr. Keefer's Report, the line of canal pointed out to him by me would cost one-fifth more, or 64,930*l.* more than Mr. Mills' estimate for his inland route.

193. Have you seen a letter dated 1st August 1842, from Hamilton H. Killaly, Esq., president of the Board of Works, forwarded to Mr. Simpson, of Coteau du Lac, regarding the Beauharnois Canal; are the statements in the same correct; if not, state in what particular?—I have seen such a letter, published in the Montreal Gazette of the 12th of August last, and I think that Mr. Killaly is in error when he states that "the first survey was made about 20 years ago by a French engineer, who, having generally examined both sides of the river, located the work on the south side;" for as far as I can learn, the survey alluded to was made by a Canadian surveyor, and not a French engineer; and that survey was at the expense of the seignior of Beauharnois, and confined to the south side. In Mr. Killaly's comments on Mr. Mills' river front plan, he states "the objections to the plan are strongly and fairly set forth in the reports of Messrs. Baird and Stevenson, and are, in my judgment, insuperable. Its entrance is represented to be obstructed by shoals, and being on the lee shore of Lake St. Francis." I think it incorrect to give the protective force of his opinion, as president of the Board of Works, by supposing the reports made by Mr. Stevenson and Mr. Baird to be perfectly correct with regard to shoals spoken of, when he must have known that both Mr. Baird's and Mr. Stevenson's were *ex parte* surveys, made many years ago at the expense of the proprietor of Beauharnois; and that Mr. Mills' was an authorised public survey, and that he represented the entrance to be good; and there is no doubt that there is a good entrance as stated by Mr. Mills. It is incorrect to call the north shore the "lee shore," when it is known that the winds that blow are mostly north, north-east, and north-west; south winds being generally moderate in that section of the country. It is incorrect to state, when speaking of Mr. Mills' inland route, that "this line Mr. Mills himself did not recommend, and, among other practical objections, is liable to having the whole of the lockage (eighty-two feet) combined in one spot;" when Mr. Mills, from his published report, places

"4 Locks 8 feet lift located separately;  
3    "   8 feet lift combined;  
2    "   8 feet lift combined;  
1    "  10 feet water-lock;"

And when it would not, from the level of the land, be possible to put all the locks combined into one spot, or within the compass of some miles, and when Mr. Mills did not recommend his inland route because he recommended his river route in preference, but expressing in the same report, that for an inland canal from lake to lake, he considers it the best to be found, and as preferable to one on the Beauharnois side; for in speaking of that side, Mr. Mills says, "I believe it to require a longer canal, and, although very feasible, yet possessing no advantages, and no extraordinary facilities to construction." It is not correct, nor consistent with the high calling of the president of the Board of Works, in drawing a comparison between the cost of a canal on the south side, then constructing, and the cost of a canal on the north side, to compare it with the route through the ravine, thereby showing a difference of 104,932*l.* in favour of the south side, supposing Mr. Keefer's estimate of that route to be correct (which Mr. Casey's survey and estimate proves to be most egregiously erroneous) when in the same letter Mr. Killaly states, that the route by the ravine will cost more than Mr. Mills' inland route on the north side by one-fifth, or 64,930*l.*; thereby showing that Mr. Mills' estimate or survey on the north, made by authority of the legislature, from still-water of Lake St. Francis to still-water of Lake St. Louis, would only cost 39,948*l.* more than the *ex parte* estimate on the south side by Mr. Stevenson, made by order of the seignior of Beauharnois, from strong currents below Lake St. Francis, to water that cannot be considered the still-water of Lake St. Louis. Mr. Killaly says that, "the seventh survey was made on the south side by Mr. Keefer in March last, resulting in the full confirmation of No. 5. The eighth survey was made in April last by Mr. Tate, and sustains, equally with Messrs. Baird and Keefer, Mr. Stevenson's Survey and Report, No. 5." It appears to me utterly impossible that any engineer could, at that season of the year, come to any conclusions, when the whole country was frozen up or covered with snow; much less that they could find out the particular line there run so many years ago by Mr. Stevenson, for Mr. Killaly to state that, "these surveys resulted in the full confirmation of No. 5. If Mr. Keefer's estimate (now before me), dated Kingston, 1st October, 1842, was made at that period, I am at a loss to know how he could ascertain whether he would find rock or earth to excavate, for I have made every inquiry, and no  
holes

holes were then sunk. If Mr. Tate was as far from being correct in his land survey as he, from Mr. Keefer's chart, is in his water survey, I cannot say how he could confirm Mr. Stevenson's survey, for Mr. Tate says that there are three entrances of from 600 to 1,200 feet in width each, and with a depth of water averaging from 12 to 20 feet; so Mr. Killaly's letter informs us, and is given by him as a full answer to our representation to the Governor-General, that there was no available entrance to the south side canal from Lake St. Francis.

194. Did you point out a line of canal to Mr. Keefer on the north side; and did Mr. Keefer run out the line of canal you so pointed out to him?—From the reiterated assurance I gave the Governor-General that the Board of Works had made no examination or survey on the north shore, and that there was a ravine that could be used to very great advantage, Mr. Keefer received orders to run out the line of canal that I would point out to him, as he informed me in a letter requesting me to meet him at Coteau du Lac. On the survey, it became impossible for me to decide whether it would be better to take advantage of certain low grounds running in the required direction, or to keep upon the higher land, unless I was permitted to know the difference of level between the lake water and the ground we were on, which difference Mr. Keefer refused to give me. I then gave him written instructions, as near as I can recollect, to the following effect: to leave the lake at good navigation, or near the steam-boat landing, and to run a line for a canal with the least excavation to the head of the great ravine, in the rear of the church of the Cedars, and from thence using the ravine to Lake St. Louis. From the report of Mr. Keefer of that survey, he either did not run the line with the least required excavation, or he must be very incorrect in his statement of the quantity of yards to be excavated; for, from not being satisfied with the report in Mr. Killaly's letter of the 1st August last, we employed Mr. Casey to run the survey, whose plan and estimate are in your possession, and Mr. Casey makes them to be more than one million of yards less to excavate than Mr. Keefer states: Mr. Keefer cannot, therefore, have correctly run out the line I pointed out to him, or such difference could not exist.

195. What is the nature of the ravine, and of the excavations, on the line as surveyed by Mr. Casey?—The ravine is one, as far as I have seen it, at each end, and in several places near the middle, peculiarly adapted to forming a canal, and of sufficient width for the plying of any steam-boat, without the same fear of injury to its banks as on an excavated canal; it gradually descends in level, as you will observe by Mr. Casey's plan. There is also but little water runs down this ravine, as is evident by the small and low bridge made to cross the water in it on the St. Antoine Road; and this is accounted for from there being another ravine, about a mile higher up, that intersects any land water coming from the interior. At the bottom of the ravine, on Mr. Robertson's farm, and on that adjoining, there is plenty of stone suitable at least for backing stones, and possibly even for building locks; and I feel confident that from River De Lisle down the whole excavation, on Mr. Casey's plan, will be nothing but sand and clay of the easiest kind for excavation, as is evident by the ditches sunk, and the several wells made by the inhabitants for water.

196. Did Colonel Phillpotts ever make any actual survey of the land on the north shore, to your knowledge, to enable him to conclude that, in estimating at little less than 500,000*l.* what Mr. Mills estimated at 235,782 *l.*, he would select that route as the best the north shore afforded with reluctance?—I have no knowledge that Colonel Phillpotts ever made any actual survey of the land on the north shore, and I think he could not have done it without my hearing of it; indeed, but shortly before Colonel Phillpotts left this country, he called upon me, at Vaudreuil, and during dinner our conversation was chiefly upon the St. Lawrence improvements; and, as far as I can recollect, he was speaking in favour of Mr. Mills' river front canal, which I cannot reconcile with his opinion of the great cost of that route, which he is, by Mr. Killaly's letter, said to have expressed; had he then made any land survey, he would, I feel sure, have spoken of it; nor could any engineer survey that country inland, and not give it a vast preference over the river front, if thinking the river front plan to cost little less than 500,000*l.*

*John Davidson*, Esquire, called in; and Examined.

197. Are you a member of the Board of Works; and if so, when were you appointed?—I was Gazetted as such about the 14th December 1841.

198. What do you consider the duty of a member of the Board of Works?—To attend when summoned.

199. Will you state how often you have attended meetings of the Board on the subject of the Beauharnois Canal?—Never.

200. Have you ever been summoned to attend a meeting of the Board of Works on the subject of the Beauharnois Canal?—I have not; if any summons had been directed to me in June last, I could not have attended, having been absent at that time from Kingston.

201. Will you state how often you have attended meetings of the Board of Works, and who were present at such meetings?—I never attended any meeting of the Board. I was a member of the Board under the Ordinance of Lower Canada, before the union, and have been so ever since; but have never been officially summoned to a meeting of the Board.

202. Does the Act establishing the Board of Works require meetings of the Board; and if so, how many members form a quorum, and for what purposes are these meetings required?—If I had been called upon to take an active part in the business, I should have studied the Act; but never having done so, I know nothing of its provisions.

The Honourable *Hamilton H. Killaly*, appeared again before the Committee, and handed in the following documents:

Report of Mr. H. G. Thompson on survey of the River St. Lawrence, between Coteau a Coulouge and Coteau du Lac, dated 22d Sept. 1836. (No. 31.)

Report of ditto on survey of south side of St. Lawrence, between Lakes St. Francis and St. Louis, dated 31st Dec. 1836. (No. 32.)

*William Roebuck, Esq.* again called in; and Examined.

203. What is the strength of the current between the upper entrance of the canal at Coteau du Lac and the steam-boat wharf above?—The most rapid part of the current does not exceed four miles per hour; there are many places where it is nearly still water for an upward boat.

204. What is the distance between these points and the depth of water at a convenient towing distance from the shore?—The distance from these points to the deep water does not exceed 100 feet, except in one instance, viz. on the shoal at M'Donald's Point; this could very easily be bridged over, as is already done on part of the route. The bays present the most difficult places, being further from the deep water, and consequently requiring a longer tow-line.

205. Does the north shore of the river, between these points, present as favourable features as the south side for constructing a tow-path, and what would be its cost?—If it were not for the difficulty at the entrance of the south shore, it would be the best side for a tow-path, as far as I have seen; but, from a great part of one on the north side being already made, and the main road running for a distance on the side of the river, it becomes the most feasible side to put it on. I will contract to make one, fit for all upward navigation, from the fort to the smooth water of the lake, where the steamers can come and take the boats in tow, or where they do now sail from it, say to the present place of landing, for the sum of 3,000*l.*

*Ans. to Q. 173.*—I think so, if a sufficiently tight dam be constructed to raise the water, so as to turn it round Isle aux Chats.

*Ans. to Q. 175.*—In my opinion, it would not.

*Ans. to Q. 176.*—One-third more of excavation, independent of lockage.

*Ques. 206.* Do you think there is a shoal lying in a direct line from Grosse Point to the head of Isle aux Chats, which is not fully laid down on Mr. Rubidge's plan?—I do.

207. Would that shoal be at all in the way of boats passing directly down from Lake St. Francis by the south channel; and can you say how far the southern limit of the shoal is from Grosse Point?—It would be in the way; and to avoid it you must hug Grosse Point pretty close.

208. Do you think, if lights were placed on Grosse Point and M'Pherson's Point, that boats could enter the south channel in the night, if it were deepened, and the canal finished?—I do not.

*Ans. to Q. 108.*—There are winds that would do it, but not the prevailing ones.

*William R. Casey, Esq.* being again called in, made the following remarks, in addition to his former evidence.

In looking over the estimates just submitted by the Board of Works, in order to answer a comprehensive question put to me some days before those documents were received, I perceive that the line on the north side, on which the Board base their estimate, by which they are enabled to show a difference of 100,000*l.* against that side, and by which a reluctant assent to the location of the canal on the south side has been wrung from the Right Honourable the Secretary for the Colonies, is far, very far, inferior to another line connecting the same points, and well known to the Board of Works.

By the "inland route," surveyed by directions of the commissioners, in 1833, for a canal 100 feet bottom, by 10 deep, one-sixth larger than the present canal, there are—

	CUBIC YARDS.
Excavation - - - - -	2,788,913
Embankment - - - - -	310,139
	3,099,052
Less one-sixth - - - - -	516,508
Total quantity by route of 1833 - - - - -	2,582,544
By the route of the Board of Works, there are—	
Excavation - - - - -	3,076,000
Embankment - - - - -	239,066
Total quantity by route of 1842 - - - - -	3,365,066
Do. do. do. 1833 - - - - -	2,582,544
Difference in favour of route of 1833 (N.B. See "Note" to Document 22.)	782,522

This, at 1*s.* per yard, would amount to nearly 40,000*l.*; but I pass this by at present.

The entire investigation rests, and necessarily so, on the assumption, that the Board have, in their comparison, brought forward the best line on each side; for there is no more justice in charging one line with difficulties, which it is known can be avoided, than in giving another line credit for facilities of which it is known it cannot avail itself. You will please observe, that I refer exclusively to surveys made by Government, in 1833 and 1842, the former of which are confirmed by my examinations of this year. The difference is sufficiently remarkable, both as to amount and direction, and I beg leave respectfully, but earnestly, to call your immediate attention to it.

*Saturday, 8th October 1842.*

The Honourable *S. B. Harrison*, a Member of the House, and Provincial Secretary for Canada West, called in; and Examined.

*Ans. to Ques. 197.*—I am; I was appointed about the 14th December 1841.

*Ans. to Ques. 198.*—My idea of the Board of Works is, that it is the Executive Government. It was originally intended that the Board should be composed of the principal officers of the Government.

ment. The duties of each member of the Board are to give such information as lies in his power, relating to the general bearing of the works.

*Ques. 209.* Do you conceive that, as a member of the Board of Works, you are bound by the Act of Incorporation?—The Board of Works being a corporation, the individual members thereof are, of course, bound by the Act incorporating them.

*Ans. to Q. 199.*—I have attended no regular meetings of the Board on that subject.

*Ans. to Q. 200.*—I have not.

*Ques. 210.* Will you state how often you attended meetings of the Board of Works, and who were present at such meetings, and whether the subject of the Beauharnois Canal was at either meeting submitted to the Board?—I have attended no regular meetings; but I have frequently had conversations with the chairman on that and other subjects relating to the duties of the Board.

211. At the conversations you allude to, name the members that were present, and state if the plans, estimates, &c. were produced, and where these conversations took place?—The members present were generally the chairman and myself; other members of the government have also been present on some occasions, but I cannot positively state their names.

212. You state that Mr. Davidson is a member of the Board of Works; is he also a member of the Executive Council?—He is not.

213. Did you, as a member of the Board of Works, ever examine the several lines of canal, or did you ever attend with the president when the same was inspected?—I never attended, nor did I ever examine into the scientific part of the different improvements.

214. Did the Board report upon the line now adopted, and if so, were you present when that report was agreed upon by the Board?—The Board reported to the Council; but I was not present when the report was made.

215. Can you state what information the Board had before them when they adopted their report?—I cannot.

216. Can you inform the committee whether the commander of the forces had been consulted, with reference to the policy, in a military point of view, of placing the canal on the south side of the river?—I cannot.

217. Can you state the time when the report was submitted to the Governor-general?—I cannot.

218. If the discussions to which you have alluded, on the subject of the canal on the Beauharnois side, took place in the Executive Council, would not minutes be found on the books of that council?—No.

219. Has the provincial government obtained a loan from the city bank for the purpose of commencing the Beauharnois Canal?—It has.

220. Inform the committee the terms and conditions on which the loan was obtained?—I cannot say; the receiver-general will be able to furnish that information.

221. In the estimates for the public works accompanying the Governor-general's message, and submitted to the legislature last year, the expenditure on the St. Lawrence navigation, between Lake St. Francis and Lake St. Louis, was only to have commenced in the year 1843; state to the committee the reasons for commencing it a year sooner?—A strong pressure from emigration at Montreal; it being represented that money could be obtained from the city bank for the purpose, the immediate prosecution of the work was determined on, in order to give employment to the destitute emigrants.

222. From whom did this proposition come?—Through Mr. Secretary Daly.

223. Did you see Mr. Rubidge's chart, now shown you, before the determination to place the canal on the south side?—No.

*Ans. to Q. 202.*—The Act speaks for itself, but I believe not; the Board of Works has always been looked upon as a department of the government.

*Ques. 224.* Travelling expenses and disbursements are allowed by the Act to the members of the Board; have any such payments been made to you?—No, not as regards any work connected with the Board of Works.

*John W. Dunscomb, Esq. a Member of the Committee, Examined.*

225. Can you inform the committee who tendered the loan from the city bank of Montreal?—I did, on the part of the city bank.

226. Was the tender made by you in writing?—The tender was made by the cashier in writing.

227. To whom was the tender directed?—I believe to the receiver-general.

228. Are you a director of the city bank, and were you present when the loan was granted?—Yes.

229. State the conditions fully on which the loan was made?—To be used as the public service might require, in constructing a canal to connect Lakes St. Francis and St. Louis, at an interest of six per cent; the money to be spent on the work, and taken out in the notes of the city bank.

230. Was the place or line of canal on which this money was to be expended, made the subject of conversation at the Board?—No.

231. Was there no other condition than those you have stated?—Not that I am aware of.

232. Could there be any condition attached to this loan without you being aware of it, as you state you were present at the Board when the loan was made?—I do not think there could; there was no other condition at any meeting at which I was present.

233. Was there any discussion before the Board as to the side of the St. Lawrence upon which the canal was to be made; and was there any condition imposed as to the location of the work?—Not any whatever.

234. Will you state the time this loan was made?—I think in the month of July.

235. Were you present at any meeting in Montreal before the Beauharnois line of canal was adopted?—I waited on the Governor-general with the Board of Trade with a petition from that body on the part of the trade of Montreal, to urge upon his Excellency the necessity for the immediate prosecution of the work, immediately after his Excellency's arrival there in the month of May last.

236. Was not the route of the canal determined to be on the south side before the proposition to advance the money was made by the city bank?—It was.

The Honourable *Dominick Daly*, a Member of the House, and Provincial Secretary for Canada, called in; and Examined.

237. Are you aware of the terms on which the loan of 20,000 *l.* was made by the city bank of Montreal to the government, and if so, state them?—I am not aware of the terms.

238. Will you state any information you possess with regard to that loan?—The proposition for the loan was made to me for the information of the government by Mr. Dunscomb; having very shortly after left for England, I know nothing further of the transaction.

239. Are you aware of any application having been previously made by the government to the city bank for that loan?—I am not.

The Honourable *John H. Dunn*, a Member of the House, and Receiver-general of the Province, called in; and Examined.

240. From whom did you receive the first intimation on the subject of a loan of 20,000 *l.* from the city bank of Montreal?—An authority from the government. (*Witness handed in a copy of a letter from C. H. Castle, Esq. cashier of the bank on the subject.*)—Appendix No. 34.

241. In the letter you have produced, dated Montreal, 16th June 1842, from Mr. Castle, he says "in pursuance of the understanding come to with you;" will you state what that understanding was?—It was an understanding that took place between Mr. Castle and Messrs. Harrison and Killaly, and not with me. I was invited by Mr. Harrison to meet Mr. Castle on the subject, but did not attend as there was no object for my going.

242. In acknowledging Mr. Castle's letter, did you notice that part of it wherein he says, "in pursuance of the understanding come to with you" for the purpose of carrying out the order of the government?—(*Witness handed in a copy of his letter to Mr. Castle in reply.*)—Appendix No. 33.

243. Had you any communication, verbally or otherwise, on the subject of the Beauharnois Canal, or the loan from the city bank, with Mr. Edward Gibbon Wakefield?—I never had any conversation with him on the subject, to the best of my recollection.

*Samuel Keefer, Esq.* again called in; and Examined.

244. Is there any peculiar difficulty in constructing a towing-path on the shore above the Cedars?—I will remark before answering this question, that something more than a towing-path will be required past Point au Diable, where the current runs from four to seven miles per hour, making it impossible to draw up large barges freighted. It appears to me therefore that a canal and lock through this point would be indispensable. There are other points in the river besides this, where the current is from three to five miles per hour, which it would be very desirable to avoid. At various places along this bank slides have taken place. These slides are caused by the springs which make their exit near the base of the bank. There are other places again where the water is deep close in shore, as for instance at the widow Taylor's, and below the River à la Grasse. In the first case the towing-path, when made, would be liable to be shoved into the river, or else covered over by the slides; and in the next, piling would have to be resorted to in order to prevent the newly formed bank from sliding into deep water. Where the towing-path is made round a point, it would have to be faced with a strong protection wall to secure it from abrasion by the current, and from the force of running ice.

245. What is the objection against piercing or making a solid wall below Pointe au Moulin to Pointe au Chinette, and then descend by a lock?—This work being intended to connect Mr. Mills' projected improvements at the Cedars and Cascades, it would have to be carried down to the Pointe à Coulonge. The objection to this plan is its cost. The cost of a solid wall would be enormous, because we cannot prepare a foundation for it at any reasonable expense, and the wall itself (being 1½ miles in length and founded in water at an average depth of 10 feet) would cost a great deal. A pier of timber cribs loaded with stones would be cheaper, but still it would cost five times as much as the same length of canal on the south side, taken where the cutting averages six feet in depth.

*John Jones, Esq.* called in; and Examined.

246. You were chairman of a commission appointed to superintend the survey of the St. Lawrence Canal, and had before you the plans of survey of Mr. Thompson and Mr. Mills; what was the opinion of yourself and colleagues as to the relative merits of the line of canal on the north and south sides of the river St. Lawrence?—By the Act 5th Will. 4, cap. 23, various portions of the lakes St. Louis and St. Francis and of the river St. Lawrence were directed to be surveyed under a commission, of which I was chairman. The survey was for the purpose of ascertaining the most eligible route for canal improvements on a scale corresponding with the canal and locks at Cornwall. The survey of the two lakes was to be confided to Mr. A. Larue, and that of the river to Mr. Henry G. Thompson; having found that both lakes had sufficient depth of water, the question next in importance was to ascertain the best route for connecting them. On the one hand, we had Mr. Mills' plans of a survey on the north side exhibiting three locations for the contemplated canal, with estimates and reports; on the other hand, we had Mr. Henry G. Thompson's plan of the south channel, also Messrs. Stevenson's and Baird's plans and estimates of a projected canal, as surveyed for the proprietor of Beauharnois; and after bestowing on these several documents every consideration, my colleagues and myself were of opinion, that the canal ought to be located on the north side for the following reasons: M'Donald's Point on the north side afforded a good site in the still water for the entrance of a canal, and admitted of a good harbour; our own survey had demonstrated the fact that six miles out of the whole distance of 14½ miles was on really good navigable water, with a margin offering great facilities for a towing-path; whereas no portion whatsoever of the south channel appeared susceptible of being used, and hence a continuous canal from lake to lake became necessary; the next point naturally looked to was Hungry Bay, as the only place at which a canal could enter the lake; and here again it was found from Larue's soundings, and other sources of information, that the depth of water was insufficient, consequently all idea of using the south side was abandoned.

Monday, 10th October, 1842.

David Thompson, Esq. again called in; and Examined.

247. Are you sufficiently acquainted with the country on both sides of the St. Lawrence between Lakes St. Francis and St. Louis, to enable you to state on which side the proposed canal for avoiding the rapids in that part of the river would be most advantageously placed, with reference to the cost, efficiency and security of the work?—Being a sworn surveyor, I consider myself as under oath, and as such shall answer. From early youth to the present, my whole life has been spent, with some intervals, in the survey and examination of this continent, from Lake St. Peter and Hudson's Bay to the Pacific Ocean. To an eye so long and deeply accustomed to the stratum of the formation of any section of country, it is not necessary that he should have the level always in his hand. From Lake St. Francis to Lake St. Louis, a distance of 14 miles and 54 chains, I have very often travelled over it. In the year 1833, Mr. Mills and myself were employed on the survey, &c. of a line of canal from Lake St. Francis to Lake St. Louis; Mr. Mills on the land and myself on the water, with mutual communications with each other, and confidence in each other. I have often calmly reflected on the capabilities of the north side and the south side becoming a public canal, its cost, its efficiency and security. The survey of 1833, was under the order of the high authority of the legislature of Lower Canada, and I am personally acquainted with no other survey. The survey of Mr. Mills, confirmed and approved by Mr. Wright, the celebrated engineer of the Erie Canal, is before me; and to your honourable committee I have to remark, that the view of the formation of a canal, from Lake St. Francis to Lake St. Louis, was then, 1833, founded upon the belief of those engineers, that steam-boats, for every purpose of passage or freight, would entirely supersede the use of all other kind of vessels. Time and experience has proved the contrary; therefore, the estimates they made for a navigation by steam-boats, of 6½ miles in canal and 7¾ miles of river, of strong current for steam-boats, is a failure; as it is now acknowledged that, for vessels of 9 feet water, a continuous canal from Lake St. Francis to Lake St. Louis is required. Mr. Mills has divided the 14 miles and 54 chains into 5 sections, on which I shall be as brief as possible. The expense of section No. 1, 2 miles 67½ chains, 2 locks, 69,210 l. 4s. 6½d. currency; these two locks are of 17 feet lift. He remarks, "The river improvement, as is proposed, interferes with, and will destroy all the improvements which have been effected by the British Government." Section No. 2, from River Rouge to the Cedars, 6 miles. Of this section Mr. Mills says, "In this distance are three points that require notice: Pointe au Diable, the current, by repeated experiments, 6½ miles per hour, for 452 feet; Pointe à Wattier, current 4 miles per hour; and Pointe à Biron, at 5 miles per hour." He considers this section well adapted for steam-boat navigation, and adds, "It is worthy of remark, that for nearly the whole length of this section the north bank is from 20 to 30 feet high, composed of clay, with some veins of sand, frequently sliding off in very large bodies, showing the destruction which would be consequent upon constructing a canal along near its foot, or upon the top and near its brow." For heavy loaded vessels, it is fully allowed by all parties, that a continuous canal for these 6 miles must be made; the cutting will be very deep; the expense, with one lock of 7-600 feet lift, amounts to 227,530 l. 6s. 6d. currency. This part of the canal, for security, must pass behind the houses and barns, and separate the farms from them; and to the above sum must be added the purchase of the ground for six miles in length by 60 yards in width, from many individuals, a work of time and expense, and several bridges. Section No. 3, 1 mile and 57 chains, cutting across the Cedar Village, &c.; by Mr. Mills; the expense is 80,176 l. 3s. 5d. currency. Section No. 4, from below Pointe à Moulin to Pointe Coulonge, a distance of 1 mile and 64 chains, with high ruinous banks, as section No. 2, and intended for steam-boat navigation, must be a canal of deep cutting, the expense of which will be 64,641 l. 12s. currency, to which must be added the purchase of ground, and the bridges, &c. Section No. 5, beginning at Pointe à Coulonge and ending in Lake St. Louis, a distance of 2 miles 25½ chains; by Mr. Mills; the expense 86,395 l. 15s. 3d. currency. Hence, by Mr. Mills, sections Nos. 1, 3, and 5, 6 miles and 70 chains, at an expense of 235,782 l. 3s. 2½d. currency. No estimate for the purchase of ground, &c. Sections No. 2 and No. 4, 7 miles and 64 chains, deep cutting, 292,171 l. 18s. 6d. currency. Total, 527,954 l. 1s. 8½d. currency. For sections Nos. 2 and 4, no estimate for the purchase of ground, &c. By Mr. Mills bringing sections Nos. 1 and 3 into the river, they occasion cutting to the depth of 30 feet on sections Nos. 2 and 4. By Mr. Mills, sections Nos. 1, 3, and 5, require 515,177 cubic yards of embankment in the river, exposed for 5 months to drift ice; therefore not secure nor efficient. But, throwing aside the fallacious view of steam-boat navigation for 7 miles, 64 chains, and from Lake St. Francis to Lake St. Louis make a continuous canal, without entering the river; the levels can be regulated to save half the deep cutting of sections Nos. 2 and 4. The estimate for the canal may then be:—

	£.	s.	d.
Sections Nos. 1, 3, and 5	235,782	3	2½
Sections Nos. 2 and 4	162,221	8	2½
	388,003	11	5
To this must be added the purchase of ground, 14 miles 54 chains in length, by 60 yards in width, equal to 404 square French arpents; taking into consideration the expense, arbitration, &c. of ground, each arpent will cost on an average 12 l. 10 s. currency	5,050	—	—
For 15 bridges, each about 1 mile distant from each other, at 1,500 l. per bridge	22,500	—	—
	£.	415,553	11 5cy.

I very much doubt if any contractors will take the different sections at the estimates. On the south side of the river the only objection is the entrance from Lake St. Francis, between Cat Island and the south shore, of which I made a survey and soundings in November 1839. The water

was probably about three feet higher than now. By the plan before you, this entrance can be rendered safe at all times, and the improvement permanent. I have passed over most of the ground on the south shore, and always admired the easy construction of a canal, its security and efficiency; on that side it is free from embankments, and other chances of decay requiring frequent repairs. In my view, a canal on the south shore may be constructed, in a first-rate manner, under 240,000*l.* currency; but I have no practical data to go on.

248. Have you examined the bottom of the river in the channels between Grosse Point and Isle aux Chats, and if so, what kind of bottom is it?—The soundings show it to be rock *in situ*, or the ordinary rock of the country, with loose boulders on it.

249. Have you ascertained what quantity of rock it will be necessary to remove to make the channel?—I have not.

250. Will the removal of the boulders make the channel sufficiently deep without removing part of the rock?—No; in my opinion, it will not.

251. How many yards must be removed to give a channel of ten feet deep, and what would be the cost of the same?—This channel has 6 shoals that require to be deepened. I have allowed to each shoal a sufficient space, and divided them into their separate calculations; collectively, the quantity of rock to be excavated is 68,570 cubic yards; the expense 11,477 *l.* currency; to which add 12 per cent. for contingencies, engineering, &c., the sum total is 12,854 *l.* 4 *s.* currency. This is only an approximation for want of a sufficient data.

252. What is the nature of the bottom of the river for a mile above Grosse Point, and would it afford good anchorage?—Being alluvial, I think it would.

253. Are you in the employment of the Board of Works?—I am. I received orders on the 22d of August last to sound the shoals in the Lachine Canal; since which time I consider myself in the employment of the Board.

254. Is your son Henry in the employment of the Board of Works, and if so, how long has he been so employed?—He was sent for eight or ten days ago, by Mr. Holmes, to be employed in the office of the Board of Works.

255. Would it not be possible, by a slight variation of the line of survey on either side, to add 800,000 or 1,000,000 of yards of excavation?—Yes, it would.

256. What will excavation of rock, eight feet under water, cost per yard, say limestone rock?—Limestone rock, in thin strata, may be worked at 1 *s.* 6*d.* per cubic yard, and if in thick strata may require 5*s.* per cubic yard; also, rock from the surface to eight feet deep in the water may be worked at less expense per cubic yard for 1,000 yards than for 100 yards: the average may be 3 *s.* 6*d.* to 4*s.* per cubic yard.

257. The scale of the work proposed by Mr. Mills, for the river line, being larger than the scale adopted for the Beauharnois line, what would be the difference of expense between these scales for the river line, on the data furnished by Mr. Mills' report?—The very short time allowed me to answer this question, which involves tedious calculations, gives, on Mr. Mills' estimate, on section No. 1, a reduction of 6,754 *l.* 9*s.* currency; on section No. 3, a reduction of 6,652 *l.* 13 *s.* 10*d.* currency; on section No. 5, from the too low estimate of rock excavation on this section, I have placed it at its probable low value, and balancing this addition with the reduction of scale, find a balance of addition to section No. 5, of 1,192 *l.* 8*s.* 7*d.* currency. The sections of Mr. Mills, by approximation, are:

	£.	s.	d.
Section No. 1	-	-	-
— No. 3	-	-	-
— No. 5	-	-	-

£. 223,567 8 11 reduced to Beauharnois Canal.  
235,782 3 2 on the scale of Mr. Mills.

Difference - - £. 12,214 14 3 of reduction.

258. Would such a canal afford corresponding advantages with the Beauharnois Canal; if not, what additional expenses would be necessary to make it afford corresponding advantages?—The intention of this question appears to be, whether a tow-path on sections No. 2 and No. 4 cannot be made safe towing-paths for vessels of burthen, and at what expense. Time does not permit me to make the calculations necessary to give a clear view of the expense of a tow-path. On Mr. Mills' section No. 2, of six miles in distance, from River Rouge to the Cedar Village; in this distance the river descends 7 feet 7 inches, which descent has to be overcome by a lock of 3 feet lift, in the canal, cutting 110 yards across Pointe à Diable. 2*d.* Pointe à Wattier; a lock of 2 feet lift, in the canal, to be cut through this point, of 120 yards in length. 3*d.* Pointe à Biron; a lock of 2½ feet lift in the canal, of 120 yards in length, to be cut through this point. Each of these points with all the necessary works, may be estimated to average 5,000*l.* each to 15,000*l.* currency. For the two-path, the far greater part from River Rouge to the Cedar Village will require a well-driven pile every 10 feet, on the outside of the path, which I propose shall be of 3-inch plank, and 8 feet in width, resting upon 3 sleepers; each mile may cost about 800 *l.* currency per mile to 4,800 currency. Thus the cost of these 6 miles will be 19,800 currency; and section No. 4, a distance of 1 mile and 64 chains, with a good plank tow-path, may cost 1,100*l.* currency. Total 20,900 *l.* currency. It must be remembered this tow-path of 7 miles and 64 chains is at the foot of high ruinous banks.

Mr. Alex. Stevenson, Surveyor and Civil Engineer, called in; and Examined.

*Ans. to Ques. 1.*—I reside at Rouville Mountain, and am a land surveyor and civil engineer  
259. Did you survey the south shore, opposite Coteau du Lac, with the view to the constructing a canal connecting Lake St. Francis with Lake St. Louis, and have you any additional information offer to the committee on this subject, relative to the entrance, or construction, or comparative expense between the north and south shore?—I did survey the south shore in the months of September and October, in 1834, from M'Pherson's Point, looking out into Lake St. Francis, down to the foot of the intervening rapids, to the little cove at Couvillon's, looking into Lake

Lake St. Louis, through part of the seigniorship of Beauharnois, with a view of constructing a navigable canal between these two lakes. With respect to the lower entrance, there are two fathoms of depth of water, from the entrance to the harbour at the village of Beauharnois, up along the coast in Lake St. Louis, all the way to Couvillon's; and there but little projection of piers will be sufficient to guard it against injury from ice or any storm from the north or north-east; the north-west wind having to blow across a very strong current, can never have much effect upon works constructed at this place; the west and south-west, none at all. The line of this canal, from one extremity to the other, is but 11½ miles through the ground, the most advantageous possible to ensure durability and cheapness of construction; and from the little cove, immediately above M'Pherson's Point, at Lecheuf's farm out into the open lake, to above the Grande Pointe or Longue Pointe, in a direct line, at about mid-channel, the soundings are, commencing at 60 feet from shore, 18, 15, 12, and 8 feet, on a reef opposite the lower end of Isle aux Chats; then 24, 18, 12, and 8 feet, to a reef opposite the middle of Isle aux Chats, and opposite the point below Long Point; then 12, 18, 20, 24; and opposite Long Point in the offing, where the counter-currents make the water ripple very much, there is 30 feet water; this place (Saranac) is completely land-locked, and well defended against all winds, except the south-west, which, being in the same direction as the current, can never make any swell to obstruct or injure the works, or impede the safe navigation of the channel; in fact, it is one of the best harbours to be found anywhere upon the St. Lawrence or lakes. As to the comparative expense of constructing a canal on the south or north sides of the rapids, I am not so well prepared to state particularly; I have seen Mr. Mills' report and estimate, and from what knowledge I have of that side of the country, I must say that I cannot either approve of the route chosen by that gentleman, or his manner of terminating his projection at either extremity; and there being one mile and over, of difference of distance, all other facilities being considered, I really believe the canal can be (or could have been) constructed about at about 100,000 *l.* less cost on the south side than on the north, and be much more permanent and convenient in the former case than in the latter.

260. For whom was such survey made?—The above survey was made at the joint instance of the Commissioners of Lower Canada for improving the navigation between the two Provinces, and Mr. Ellice, the latter of whom paid me through his agents at Montreal and Beauharnois.

261. What is the position of the place you call "Saranac"?—The mouth of the intended canal.

262. Is your estimate based on the supposition that the bottom of the channel is rock, and if so, what kind of rock?—Trapstone, otherwise called grey wache.

263. What would it cost per yard to excavate such rock as you describe, eight feet under water?—12 *s.* 6 *d.* per cubic yard.

264. Did you make a personal examination of the three lines on the north side of the river?—I did not.

*Ans. to Ques. 253.*—I am not.

*Ans. to Ques. 251.*—I do not think it would be 200 yards. The latter part of the question I have already answered.

265. You state in your answer to No. 259, that the canal on the south side will cost 100,000 *l.* less than on the north; were the estimates upon which you formed your opinion made by yourself, from surveys made by you, or upon information received from other persons?—They were not made from surveys of my own, but from my general knowledge of the geology of the country, and of the existence of two rivers, one of which would be exceedingly difficult to cross; there are also about four miles of rock on the upper end of the north side, which would be very hard cutting.

*W. R. Casey, Esq.* again called in; and Examined.

266. Will you state the works that you have been employed on as an engineer?—As sub-assistant engineer on the German-town and Philadelphia Railway and the New York Croton Water-works, as assistant engineer on the Long Island Railroad; and also on the Chambly Canal, for five or six months in 1834, and as chief engineer on the railway from St. John's to Laprairie, from the commencement to the completion thereof; I have also made numerous surveys, both as assistant and chief engineer, in various parts of Upper and Lower Canada, and several of the United States.

267. In what state were the works of the Chambly Canal when you left it?—In an unfinished state.

268. What was the occasion of your leaving that canal?—Because my services were not required during the winter, and in the following spring I was employed on the railroad; I was not however required to return to the canal.

269. When were the works on the canal resumed?—I do not know, but two of the commissioners applied to me in 1838 to take charge of the canal, in case money could be procured to go on with the work.

270. Are you aware of the confused state in which the works on the canal were then left; and do you know that a large account is now pending between the commissioners and the contractors?—I do.

271. Are you aware that the contractors are now putting forth claims to the amount of more than 20,000 *l.* for extra work which they say you authorised?—I authorised no extra work, being only assistant engineer, and I do not know the amount of the claim now made.

272. Have you been examined before the arbitrators sitting upon the claim above mentioned?—I was examined about three weeks ago.

273. What was the purport of your examination?—The principal object I proved was, that the embankment and protection wall, at the upper end of the canal, were to be considered principally as extra work.

274. Did the contractors found any claims on your evidence?—Yes; they brought forward my letter stating that a large portion of this work was done under my superintendence, as assistant engineer.

275. Do you understand that the contractors based a large portion of these claims upon irregular orders given by the engineer and assistant-engineer?—Some portion is based on irregular orders given by Mr. Hopkins, the chief engineer, but the chief item was agreed to by the commissioners also;

also; any orders given by me were authorised by the chief engineer, but the contractors hold a friendly letter from me, stating that I considered them entitled to additional compensation.

276. When was that letter written?—In the autumn of 1835.

277. What do you mean by a friendly letter?—A letter to aid them in obtaining a grant of money to fulfil their engagements and complete the canal.

278. Were you in the employment of the Chambly Canal Commissioners when you wrote that letter?—No; it was nearly a year after I left the canal.

279. Did you consider at the time you gave the letter alluded to, that the contractors were justly and honestly entitled to the money?—Yes; I considered them entitled to a large portion of the 20,000 *l.* for extra work; but there was a great deal of the work to be performed under contract, which remained unfinished.

280. You state that two of the commissioners applied to you to take charge of the work; was this application made after or before the letter in question was written?—The application was made in the summer of 1838, nearly three years after the letter was written.

281. Have you been desirous of obtaining employment under the Board of Works?—Yes.

282. Do you know of any application to that effect having been made to the chairman of the Board?—Yes; I believe the Honourable Peter M'Gill, who was chairman of the commissioners on the railroad of which I had charge, laid my name before the chairman of the Board of Works, as did also the Honourable Mr. Hatt, who was chairman of the Commissioners of the Chambly Canal, when I was employed on it.

283. What answer did you receive to those applications?—None.

284. Have you received any employment from the Board of Works, in consequence of those applications?—I have not.

285. Were the commissioners who applied to you to return to the Chambly Canal aware that you had written the letter alluded to?—They were.

286. In virtue of the appointment you held on the Chambly Canal, had you anything to do with the accounts or contracts?—I had nothing to do with the contracts; I aided in making up the monthly estimates.

287. Did you ever give any orders while employed on the Chambly Canal, except by order of, and through, the principal?—No.

288. What will it cost per yard to excavate rock (say limestone rock) eight feet under water?—I have known rock in a tunnel cost \$ 5 a yard, and I should think that with coffer dams this would cost quite as much.

289. Can the rock be excavated without coffer dams?—I suppose it could.

290. Do you consider the bottom, which would have to be excavated, as loose rock or continuous rock?—I do not know.

291. Have you had much experience in removing rock under water?—Not much.

292. Have you ever removed any rock under water?—I have not.

293. Have you ever used the patent fuse and patent cartridge, which now so much facilitate work of that nature?—No, I have not.

294. In comparing the cost of removing close rock with that of tunnelling, what is the comparative cost of removing rock in a close tunnel with that of open quarry?—About four to five times the amount.

295. Were you employed by Mr. Simpson and Mr. Harwood to survey the line of a canal on the north side, and do you consider that you have furnished them with the proper estimates, surveys and professional data, to commence the said canal?—I was employed by them, but I have not furnished them with those things.

296. What do you consider then is the precise value of the information that you furnished to Mr. Simpson and Mr. Harwood?—That the difference in the cost of the canal on the two sides can be but a fraction of 100,000 *l.* in favour of the south line.

297. What do you mean by a fraction of 100,000 *l.*?—£. 30,000 *l.* or 40,000 *l.*

298. When you gave that opinion, had you not estimated for a canal of less dimensions on the north side, than that commenced on the south?—Yes.

299. State distinctly whether you have made a full and detailed estimate of what it would cost to make a canal on the north side of the river?—I have not.

300. Are there not several items of great importance connected with the construction of the canal on the north side, which you have not ascertained; I allude particularly to the excavation under water at the eastern entrance?—The first lock will be so arranged as to clear the rock in the bed of the river, and all deep cutting under water; I did not sound at the eastern entrance, but Mr. Harwood did, and his soundings corresponded with those of Mr. Keefer.

301. Is the map of the ravine line, submitted by you, correct?—The map is not correct, but the profile is.

302. Are the sections of the banks of the rivers correctly laid down on the profile?—They are.

303. Would not the incorrect manner in which the ravine is laid down in the plan, mislead the committee as to its eligibility to a certain extent?—I think not; there would be no objectionable curves.

304. Does not the incorrectness tend to shorten the distance?—No, it does not.

305. State the reasons why you have not correctly laid down the course of the ravine, on the map?—I had no time to spare, and thought it could have no bearing whatever, worthy of notice, on the question at issue.

306. Do you consider it a professional course to send in a map, especially in a disputed case like the present, admitted to be incorrect?—I think it of no importance, when the incorrectness has no bearing on the question at issue.

307. Is not the incorrectness in the laying down of the line of the canal proposed?—It is.

*Ans. to Ques. 255.*—It would.

*Ques. 308.* By a diligent search might not a better line be found on the north side than that surveyed by you?—The line could be improved at various points.

309. Do you know whether the Honourable Messrs. M'Gill and Hatt received any reply to their application in your favour from the Board of Works?—I do not.

310. Were the inaccuracies in the plan made with any particular view, and if so, state the object?—They were on account of want of time.

311. What is the object of making the ravine appear perfectly straight on the map, when you have just pointed it out with your finger to be quite circuitous?—I did not know which way the curves ran. I have alluded to this fully in my report.

312. You state that the map was made contrary to your own wish; by whose desire was it made?—By desire of Mr. Harwood; I considered a map quite unnecessary in the case.

*John Jones, Esq.* again called in; and Examined.

313. Did you in your remarks, intend the committee to understand that you approved of Mr. Mills' water route throughout?—No; because in that portion between Pointe au Moulin and Pointe au Coulonge Mr. Mills recommends that the river should be used.

314. Was the lower part of the route, that is, from Pointe au Moulin to Pointe au Coulonge, recommended by Mr. Mills, found, on examination, to afford sufficient water, and to be otherwise practicable for such a canal as he proposed; or was not that part of his route condemned by your commission?—It was condemned by them, there not being sufficient water.

315. How do you conceive that difficulty could be obviated, and what other route do you propose in lieu thereof?—I proposed a route by forming a canal by embankment on the margin of the river.

316. Do you mean the committee to understand that the canal on the north shore should be continuous inland?—I do not; we adopted Mr. Mills' line from the Cedars upwards.

317. Do you think it should be inland from the Cedars?—I do; that is, along the margin of the river, cutting through the points.

318. Was the survey considered in such a state as to afford your commission the means of determining its truth and correctness; and did your commission ever report on the subject?—Our commission never reported, because the survey was not completed.

*Tuesday, 11th October 1842.*

*Samuel Keefer, Esq.* again called in; and Examined.

319. Did you receive instructions from the Board of Works to survey the line of canal on the south side of the river?—I did.

320. Were your instructions in writing?—No, they were not.

321. Did you receive orders to survey the different lines on the north side?—I received orders only to survey a particular line on that side; the line suggested by Mr. Harwood.

322. Were the directions, so given to you, in writing?—They were not.

323. Produce the plan and estimate of your survey on the south side of the river?—(*Witness selected the documents in question from those already before the committee.*)

324. State the time you received your instructions to survey the north and south lines of canal?—With respect to the south side, I received instructions some time in January last to make a preliminary examination with the former surveys in my hand, but not to make a survey.

325. Is there no entry in the books of the office by which you can inform the committee of the date of your instructions?—There is no such entry.

326. Did you make a report to the Board of Works after your preliminary survey?—I did.

327. Was that report in writing; if so, produce it?—(*Witness referred the committee to his report already before them*)

328. Was the report you have now produced approved of; and did you receive further instructions?—It was approved of at the time, but I did not receive further instructions until about the 20th or 21st of June last.

329. Were the instructions you received on the 20th June last in writing?—They were not; my instructions were to examine a portion of the line which the engineer in charge was to have laid out; to see if the same was correct, in order to afford employment for the emigrants who were then arriving in great numbers.

330. When did you receive your instructions to survey and estimate the whole line of the Beauharnois Canal?—On the 19th July I received instructions from the chairman to run a proof level through the line, for the purpose of ascertaining if all was right; but it was not until about the 1st of August that I received directions, verbally, to survey and establish the whole line.

331. When did you commence the survey, under the instructions of the 1st of August?—Immediately.

332. When did you complete the survey?—It is yet incomplete; it will take the engineer who is now in charge about two months to complete it. The line and the completion of the section in the centre has been effected, which is sufficient to base an estimate of the probable cost of the work. That section and estimate is before the Committee; but the further survey referred to is merely to lay out the work for practical operations.

333. When was your estimate for the south side completed; and when was it laid before the Board of Works?—It was completed on the 1st October, and submitted to the committee, the chairman of the Board of Works not being here.

334. Was your estimate examined and approved of by any member of the Board, previously to its being submitted to the committee; and if so, name the member or members who examined the same?—It was not submitted to any member of the Board, but I made it out in a particular form, for the information of the committee, and conceived myself obliged to submit it to them, without waiting for the return of the chairman.

335. Did the president or any of the members of the Board of Works attend you, after or before your survey, over the line on the south or north side?—They did not attend me, except that the chairman accompanied me over the most important part of the line on the south side.

336. Was your estimate based on the supposition that the bottom of the channel, at the western entrance on the south side, was rock?—Boulder stones, and not solid rock.

337. What would it cost per cubic yard to excavate the rock, if solid rock be found at the entrance of the canal, for the purpose of forming a channel 10 feet deep?—About 1 l. a cubic yard.

338. Did you take any means to ascertain the nature of the bottom of the river at the western entrance, under the boulders?—No, I did not.

339. Did you examine the first section from M'Pherson's Point, by boring; and what was the nature of the ground?—I did, by sinking a shaft in two places, and found clay and boulders in the proportions mentioned in my estimate.

340. Did you, from that examination, consider that it indicated the nature of the bottom in the channel?—To a certain extent, I conceive it did.

341. What are your grounds for saying that there is no solid rock within 10 feet, in the channel between Chartier's Point and Isle aux Chats?—I conceive the shafts which I sank at Chartier's Point, give some general indication of the channels; and in the course of taking the soundings reported on the chart, I took the pains, when sounding in eight feet water, by means of a graduated wooden rod, of feeling the nature of the bottom; and from that I concluded that the bottom immediately under the eight feet soundings was composed of a mass of boulder stones, varying from 10 to 40 cubic feet in size, between which I could thrust down the rod, and in seven feet water I could see them, but of the nature of the bottom below those boulder stones, I have no positive information; but I conceive, if they were cleared away, it would matter little what the bottom was composed of. The method in which I ascertained the nature of the bottom of the channel was, by examining in passing up while I was taking soundings, and feeling with the rod in several places, as already mentioned.

342. What do you think it would cost per cubic yard to blast such rock and boulder as you think is in the channel?—About 5 s. per cubic yard.

343. Did you make your estimates, submitted to this committee, from your own original rough estimates, to meet the form of question submitted by this committee, or did you make them, after you got that question, from other sources of information?—I did not make the estimate for the north side, submitted to the committee, from original rough estimates, but made it to meet the form of questions submitted by the committee, from my own survey of July last, taken in connexion with a portion of the survey made by Mr. Mills in 1833, of which I made the section at that time. With reference to the south side, I did not make up my estimate submitted to the committee from original rough estimates, but from the survey, which I had only completed a few days before I was summoned by the committee. I depended upon no other sources of information than those mentioned.

344. When did you complete your plan and estimate of the north side?—I completed the plan and rough estimate of 389,000 l. of Mr. Harwood's line, which I was sent to survey, on the 5th July last.

345. From what survey did you compile the estimate for a canal on the north side which you prepared for the information of the committee?—In order to meet the views of the committee, and give them the information desired in their questions, I threw aside Mr. Harwood's line, and selected what I considered the best and cheapest route to be found on the north side for a continuous inland canal, which I conceived the best line that could be selected between the two lakes.

346. When was your final estimate of the line you surveyed on the north side completed and presented to the Board of Works?—It was completed on the 1st October, and submitted at once to the committee, in the absence of the chairman of the Board of Works.

347. Was that estimate completed by information acquired by yourself personally, or from information obtained from others?—From information acquired by myself personally, for that derived from Mr. Mills' survey I had a personal knowledge of myself, having assisted him in that survey.

348. Was your estimate, so made, ever approved of by the Board of Works?—It has been approved of since it was submitted to the committee.

349. Did you sink shafts on the north side, and if so, how many?—I did not; I have attached such prices to the quantities in the estimate as would perform the work if the whole of it should prove the same as is indicated by external appearances. The quantity of rock in the estimate is taken from the shafts sunk by Mr. Mills in 1833.

350. Should the bottom of the channels at the western entrance, on the south side, turn out to be solid rock, would the canal not require to be protracted to Grosse Point?—No, by no means, because the solid rock cannot be within 10 feet of the surface, according to my knowledge of the situation, so that there would be no necessity for carrying the canal to Grosse Point, particularly as the space between the shoal and Grosse Point varies from 12 to 20 feet in depth.

351. What appointment do you hold in the Board of Works?—Engineer to the Board, and, as such, head of the engineering department.

352. Was the decision determined upon by the president of the Board of Works, regarding the line of canal, founded on your estimates, surveys, and reports?—I have every reason to believe that the chairman has been influenced by my representations. I am not competent to say whether they exclusively influenced his decision.

353. What are the committee to understand by your statement, that the survey for the south side is not yet completed, yet that you made your estimates from your own survey, completed only since you came to Kingston?—The estimate was made from my established line, and the levels taken upon the centre, which are sufficient to afford a near approximation of the actual cost. The survey, so far as relates to the centre line, was completed some time last month; but, inasmuch as all the cutting stakes and out slope stakes for the bank are not yet placed, the survey cannot be said to be completed, because all those levels must be taken before we can determine the actual quantities to be removed.

354. It has been stated to this committee that a tow-path can be made from the western entrance of the locks, at Coteau du Lac, to the steam-boat landing; what is your opinion of that fact, and its probable cost?—The towing-path can undoubtedly be made; but it would answer no practicable purpose whatever, when done, except for drawing up the present small craft which navigate the river, partially loaded. The fall here in  $2\frac{1}{4}$  miles is  $8\frac{1}{2}$  feet, and the current runs from four to seven miles per hour, so that for the large class of vessels that will navigate the Cornwall Canal, it would be of no service. The towing-path, to accommodate a draught of 10 feet water, would have to be carried out into the river some distance, or else a channel must be sunk under water near shore. For the want of sufficient soundings on this part of the river, I will not attempt to give the committee an estimate of the probable cost.

355. What do you conceive it would cost to make a channel from the western entrance of the lock, at Coteau du Lac, to the steam-boat landing at Coteau du Lac, independent of the tow-path, for boats drawing 10 feet water?—For the reasons contained in the last answer, I cannot answer this question.

356. What works have you been employed upon, and in what capacity were you so employed?—I commenced my engineering as rod-man, on the Welland Canal, 14 or 15 years ago; I was afterwards assistant engineer on the Cornwall Canal for six years, which is the extent of my experience until I was employed by the Board of Works.

357. Where did you obtain your professional education?—By experience on the public works which I have mentioned.

The Honourable *H. H. Killaly*, a Member of the House and Chairman of the Board of Works, called in; and Examined.

358. In your report of the 1st August last, referred to the committee, and which has been published, you allude to sundry surveys and estimates made by parties therein named, and to your general acquaintance with the country and nature of the strata; will you inform the committee whether you have personally examined both sides of the river, with a view to the location of the canal; and if so, when?—I have repeatedly, during the last three or four years, examined the section of country generally through which the lines on the north side were proposed to be severally carried; in fact, from being obliged to pass over this tract by the high road, which is close to these projected lines almost throughout their whole extent, so often every year, in going and returning from Montreal, and my attention being of course naturally taken up in making observations thereon, with reference to it as the location for a canal, and as the banks of the river for the whole distance, gives at once a correct idea of the nature of the strata, I have been, for a long time, perfectly well acquainted with the course; I have also more minutely examined it, especially the ravine alluded to, a large portion of which I walked over two years ago. The south side I examined twice; first in the spring of 1840, and again in the early part of the present year.

359. Will you furnish the committee with a copy of the Departmental Report, referred to in your said report of the 1st August last?—It is already before the committee. (*Vide Appendix 29.*)

360. Mr. Keefer's estimate for the canal on the south side of the river, amounts to 255,900*l.*, and that of Mr. Mills for the river line on the north side to 235,782*l.* 3*s.* 2½*d.*; state your objections to the latter line, and whether you have made an estimate for it?—I object to Mr. Mills' river route, in comparison with that now in progress on the south side of the river, for many reasons. In the first place, the object for which they were intended, the purposes for which they would be available, are so entirely different, that they cannot properly be compared at all, without making several and expensive additions to Mr. Mills's project. The south side canal is a continuous inland route, not exposed to injury by ice, rise of water, shoving or sliding of the high banks, as must be the other. The south side line having a towing-path from end to end, is suited to any description of vessel, while that of Mr. Mills is only adapted to steamers; and there can be no doubt that the great bulk of the agricultural products, which will ever constitute the downward freight, will, upon the completion of the navigation, be transported in large barges of 200 tons burthen or upwards, aided, when necessary, by powerful tug-boats. Besides these general objections, I object to the north side line on account of the difficulties of construction, which are of such a nature as to render it extremely unsafe to depend on any estimate of it. It consists, in fact, of three separate canals of about two miles in length each, thereby requiring six distinct coffer dams, and separate sets of pumping machinery. The difficulties we have encountered in constructing the works at St. Ann's Lock, nearly in the same neighbourhood, will make me ever cautious to avoid, when it can be done, undertaking works of masonry, subject during their construction to the influence of the St. Lawrence or Ottawa Rivers. During the execution of the north side line, most, if not all, of the works of masonry would be in that difficult position; nine locks and three guard locks are necessary on it. The moles or dams which are required to maintain the navigation for a considerable portion of its length, are extremely objectionable. Mr. Mills's estimate for his river route is as follows:

	£.
Section 1. - - - - -	69,210
"    2. - - - - -	
"    3. - - - - -	80,176
"    4. - - - - -	
"    5. - - - - -	86,396
	£. 235,782 currency.

My estimate for the same route, but with the necessary additions already alluded to:—

	£.
Section 1 - - - - -	60,516
Guard lock - - - - -	11,000
Section 2, tow-path - - - - -	30,000
Canal and lock, at Point au Diable - - - - -	25,000
Section 3 - - - - -	77,176
Guard lock - - - - -	11,000
Section 4, tow-path in deep water - - - - -	20,000
Section 5 - - - - -	84,146
Guard lock - - - - -	11,000
	£. 320,838 currency.

In this estimate I take Mr. Mills's prices as correct, and calculate thereon; but after incurring this increased expenditure, the north side line could not be compared to that on the south side; as in the former there would have to be encountered in several places currents running at from four to six miles an hour; and the cost of maintaining this line would be infinitely more than the corresponding expense on the south side. Colonel Phillpotts estimates this river route as follows:—

Section 1 - - - - -	£.
Add for removal of Fort - - - - -	117,050
	3,250
	<hr/>
£.	120,300

Section 2, said to be navigable for steam-boats; but there are points at which there are currents of five miles, of four miles, and five miles respectively.

Section 3 - - - - -	£.
Section 4.	125,000
Section 5, through the split rock and the Cascades Points; the canal to be cut through rock - - - - -	129,000
	<hr/>
Total, exclusive of towing-path - - - - -	£. 374,300 sterling.

or 415,900*l.* cy. Nothing can more fully show the difficulty, expense, and danger—of either the tow-path, required in any case to make Mr. Mills' route available for all description of boats, or to construct such a work as Mr. Jones proposes, namely, a canal along the margin of the river, from the Cedars to the Cascades—than the language of Mr. Mills, with respect to the soil and banks, which I beg leave here to quote: "Above the Cedars, the banks are from 20 to 30 feet high, composed of clay, with some veins of sand, frequently sliding off in very large bodies, showing the destruction which would be consequent upon constructing a canal along or near its foot, or upon the top. Here, also, below the Cedars, it would be impossible, with any reasonable expense, to maintain a canal, either upon or at the foot of the bank of the river, on account of the great bodies of it which frequently slide into the ravine." This opinion is fully sustained by Judge Wright, who states, "That the shores are a formation of clay and loam, underlaid with quicksand, which occasions yearly very considerable slips; and that a canal carried on such ground would be in great danger, if any where near the river."

361. The scale of the work proposed by Mr. Mills for the river line being larger than the scale adopted for the Beauharnois line, what would be the difference of expense between these two scales, applied to the river line, on the data furnished in Mr. Mills' Report?—In the upper section, the saving in the earth work, by adopting the lesser scale, would be  $\frac{2}{3}$ ths; there is not any other saving in this branch of the work. The saving in the locks would be about 750*l.* each. In my answer to question 360, full allowance is made in the estimates for the difference of scale.

362. What extent of the canal at Cornwall is within musket shot of the United States?—I cannot tell what length of canal, but I consider that several portions of the work are so much exposed to annoyance from the American side, that it would not be possible, in the face of an enemy, to work a boat on.

363. State what portions of the work are so exposed?—I principally allude to the part opposite Barnhart's Island and Chimney Island. I consider the whole of the narrow navigation of the St. Lawrence, above Cornwall, to be so much exposed, that it cannot be relied on as a communication in time of war, for which reason, I apprehend, the Rideau Canal was made.

364. Are you aware that there was no other water communication during the last war with the United States than the St. Lawrence?—Yes.

365. Did you ever go over the line of canal on the north side, pointed out by Mr. Harwood?—Yes; the line of Mr. Harwood only differs from the other inland routes at the eastern extremity, as will be seen in my answer to question No. 358.

366. Who made up the estimate for the south line; did you examine it, and when?—Mr. Stevenson made up an estimate, as likewise did Mr. Baird. I examined these estimates some time last fall, again about Christmas, and again in the spring. Mr. Keefer also made an estimate. These several estimates are before the Committee.

367. Did you examine the estimates for the two sides made by Mr. Keefer, and when?—I have examined them within the last few days.

368. Did any of the members of the Board of Works attend with you to inspect the line of canal on the south and north sides; if so, name them?—They did not.

369. Did you make a report with the surveys and estimates to be laid before the Board before the present Beauharnois line was determined upon?—Having fully satisfied myself as to the comparative cost of the two lines, I made my report to the Governor in Council before it was in contemplation to commence the work this season.

370. Was your report, together with the evidence upon which you founded it, laid before the Board of Works, and when?—I conceive that by the constitution of the Board the Act requires no quorum, and that therefore any document before me as Chairman is before the Board.

371. What is the duty of a member of the Board of Works?—Members of the Board are also members of public departments; and I conceive the object of having them members of the Board is, not that it was intended that they should interfere in professional matters, but when circumstances should require it, afford to the chairman of the Board any assistance in their power when general policy was likely to have any influence in the operations of the department.

372. Did you ever summon a meeting of the Board on the subject of the Beauharnois canal; and if so, when and who attended?—Having satisfied myself as to the comparative cost of these canals, I made a report thereon to the Governor in Council, leaving them to decide whether it should be on the north or south side. I would here wish to remark, that the Board has never em-

barked in any work without the special order of the Council; and that when the Board is once ordered to proceed with a work, I conceive the carrying of it on to be the ordinary duty of the department, and no more requiring minutes to be made thereon than the inspector-general or Crown Lands commissioner are expected to make minutes of the proceedings in their respective departments.

373. Did you submit to the Governor and Council in writing the evidence and reasons which induced you to give a preference to the south side; if so, please produce the paper or a copy of it?—The report called for in that question is the report given in my answer to question No. 359.

374. Do you keep an entry in any book or books in your office wherein you record the proceedings of your meetings, and the reasons for any decisions the Board may arrive at; and if so, produce the book?—We keep three books; there are estimate books, report books, and letter books; and in one or other of them all proceedings of the Board are entered.

375. Are the extracts laid before the committee by Mr. Begley, secretary to the Board, the only entries in your books relating to the Beauharnois Canal?—I believe so; I gave directions that every document in the office or entry in the books relating to the Beauharnois Canal should be laid before the Committee.

376. When the Governor and Council approved of your recommendation for adopting the line on the south side of the river, were the estimates and the evidence which induced you to recommend the same, laid before the Council?—No.

377. How was the decision of the Governor and Council communicated to you; if in writing, produce it?—(Witness referred the committee to the report of the committee of the Executive Council already before them. *Vide Appendix, No. 24.*)

378. Was the estimate for the western entrance of the canal on the south side founded on the supposition that the bed of the river between Chartier's Point and Isle aux Chats was rock?—No, it was known that shoals existed there.

379. Should the bottom of the channel turn out to be rock, would it not materially add to the expense?—Yes, to a certain extent; but from the depth of water in the channel there would be under any circumstances very little excavation.

380. What would be the price per cubic yard for excavating rock eight feet under water in that passage?—Boulder rocks can be removed at from 3 s. 6 d. to 5 s. per cubic yard, connected rock at from 5 s. to 10 s. I have, in the course of my professional practice, removed rock in a much greater depth of water at nearly the same price as I would on land.

381. Did you verbally state before the council your views on the subject of the Beauharnois Canal, and explain to them the information you had received, and the conclusions to which you had come?—Fully.

382. The Governor-general, in his despatch of the 19th of July, states that the report of an eminent civil engineer, and the opinion of the chairman of the Board of Works, decided him in making the canal on the south side. To whom does his Excellency refer in the first instance, and which report of yours in the second?—He must have referred either to Mr. Keefer or Mr. Tate; and the report I conceive must be that to which I have already alluded in my evidence.

383. In the same despatch it is stated that "the objections urged by the petitioners from Coteau du Lac are contradicted by engineers of great experience and scientific acquirements, who being strangers to the country, can have no local bias." To whom does his Excellency refer?—I presume his Excellency refers to the authorities I have already stated, and to whom I alluded in my report.

384. The Governor-general, in his despatch, dated the 6th August, forwards to Lord Stanley your report of the relative advantages of the two sides; to which of your reports does this apply?—To my report of 1st August.

385. Who is the French engineer alluded to in your statement dated Montreal, 1st August?—I can state no more than what is stated in that report.

386. Did you make any of the estimates alluded to in your memoranda, dated 12th August 1841?—I refer to the said memoranda for my answer to this question.

387. What induced you to commence the canal in 1842, when in your own project it was deferred till 1843?—The Order in Council.

388. The employment of emigrants was the cause assigned for the early commencement of the canal at Beauharnois; what is the number of the emigrants so employed?—When I was upon the works I inquired the number of men then employed, and was told about 1,200, of whom about somewhat more than half were emigrants.

389. The Governor-general, in his despatch to Lord Stanley of the 19th July, states, "By the intervention of the agents of the Beauharnois Company, who have of course a strong interest in the work, the land necessary for its execution has been given up gratuitously, and funds have been advanced for the first expenses." Will you name the agent or agents of the Beauharnois Company with whom you have so treated, and explain what is meant by the statement, "and funds have been advanced for the first expenses?"—I wrote to Mr. E. G. Wakefield as an influential person residing at Beauharnois, and through his intervention obtained the relinquishment of about 200 persons through whose land the line of canal would pass. I have personally no knowledge of the terms on which the money was provided.

390. Have you had under your consideration the report of a committee of the House of Assembly of Lower Canada, of which Andrew Stuart, Esq. was chairman, on the subject of the St. Lawrence Canal?—I have had under consideration all the reports connected with it, and I will deliver in a copy of the report in question.—(Witness subsequently gave in a copy of the said report.—Appendix, No. 35.)

391. With reference to question No. 383, do you not think that the Governor-general must principally have alluded to yourself as an "engineer of great experience, a stranger to the country, and having no local bias"?—I believe so.

392. What was the proportion of emigrants employed at the commencement of the Beauharnois Canal?—I conceive that I have already answered this question.

393. You have stated that you began working the canal at Beauharnois in order to employ the emigrants; why then did you not commence working on the 73,500 l. for roads in Upper Canada, and 97,000 l. for roads in Lower Canada, intended to be expended in 1842, on which the emigrants might have been employed?—Such of the roads as are in the western section of the province, the working details of which were prepared, were in progress, the works on the Gosford Road were in full operation, those on the Gaspé Road, from being obliged to furnish provision, and other causes, were necessarily retarded; those on the Cascades were not in progress owing to the want of the practical details.

394. What prevented those practical details from being acquired?—The first cause of those details not having been acquired was, that an application from Mr. Simpson to give to his step-son, Mr. Roebuck, the management of it, and which was at first agreed to by me, was subsequently declined upon making inquiries; another gentleman was sent upon the works to procure them, whose proceedings were interrupted by his being obliged to leave for Washington.

395. When was that application made, and when was it declined?—The applications were made in the early part of January; they were declined early in February.

396. Was not Mr. Wells kept here six or seven weeks waiting for orders on this very road?—Certainly not.

397. What is the amount expended on the canal to the present time?—Expenditure on the Beauharnois section of the St. Lawrence Canal to the 6th October 1842 - - - - £. 24,198  
To this has to be added the present fortnight's returns, about - - - - 3,000

£. 27,198

Besides the above are to be embraced damages to lands, and consequential damages, which have not been ascertained.

398. Did you consider the early completion of this navigation of equal importance to the roads referred to?—Infinitely more so, as from the rapidity with which the completion of the Cornwall Canal had been proceeded with, I considered it most expedient and advisable that this, the only remaining interruption to the navigation, should be removed as soon as possible, by which means the former heavy expenditure would immediately become remunerative.

Mr. Killaly having perused the evidence taken by the committee, handed in the following statement which he had prepared in reply thereto:

The Hon. Geo. Moffatt, Chairman.

Sir,

Board of Works, Monday Evening, 10 Oct. 1842.

Before proceeding to make some remarks upon the evidence which has been adduced before the Committee of which you are chairman, in support of the charges brought against the Board of Works by Mr. Simpson, I am desirous of expressing to you, sir, and to the rest of the Committee, my sincere thanks for the course adopted by you, in allowing me to examine and comment upon that evidence.

I received a copy of the evidence from the clerk of the committee, on yesterday (Sunday) afternoon, at five o'clock.

Before looking at those voluminous documents, I had expected to find in them, at least, some testimony bearing upon the question at issue worthy of my most serious attention; but a very cursory examination of it has been sufficient to convince me that the evidence itself is of a character to preclude me, or any other professional engineer, from attempting to analyse it, with a view to useful results. That portion of it adduced in support of Mr. Simpson's charges consists, for the most part, of matter which I may term a sort of ignorant gossip, almost wholly irrelevant to the subject. It is not, indeed, wanting in bold assertions of opinion; but those are made in language which is alone sufficient to prove to a man of experience that the witnesses by whom they have been made are profoundly ignorant of the very nature of the question, with respect to which they speak so confidently. The evidence is curiously characterised by vagueness, self-contradiction, confusion of ideas, gross exaggeration, and positive misstatements.

There is but one point in which the witnesses are constant and consistent with themselves, and with each other: they all display, in a manner that must be obvious to any observer, a keen anxiety to establish Mr. Simpson's charges, by means of reckless assertion. I think I may safely add, judging from internal evidence alone, that the testimony of the witnesses has been concocted among themselves, or that their minds have been under the guidance—not to say direction—of some one or more persons, whose business it has been to get up a case in support of Mr. Simpson's accusation against me. These witnesses would seem to have been, as it were, well drilled for the occasion. From this description I do not except either the written or verbal testimony of Mr. Casey, the engineer, employed by Messrs. Simpson and Harwood, and brought forward by Mr. Simpson as a witness against me. This gentleman himself states (I use his own words,) "the object of my examinations and report was not to furnish an estimate of the probable cost of a canal on the north side, but merely to show that the Hon. H. H. Killaly was wrong, in leading the public to believe that a canal on the north side would cost 100,000*l.* more than the south side;" and accordingly, up to this very day, he had not made any estimate in full of the cost of constructing a canal on the north side: on the south side, he states he has not been for seven years; and, in answer to a question, he says, that when he came before the Committee, he was not aware of so important a point as the scale upon which the present canal is being constructed. These two statements are characteristic, in all respects, of the whole of his testimony, namely, the absence of any valuable or even available information, with respect to the particular subject which he pretends to examine. He might well say that his only object was to criticise a report of mine; for the greater part of his entire testimony consists of a sort of literary strictures on my report to the Governor-general, of the 1st of August last, and is far more fit to form articles in a newspaper opposed to the government, than to be submitted to a committee of the legislature, with a view of guiding their judgment upon a scientific point. I am sure that, in my long professional career, I never met with anything, purporting to be the production of an engineer, which so clearly evinces a determination, *fas aut nefas*, to make out and bolster up a case for the employers, and so utterly undeserving of serious notice.

The other witnesses brought forward by Mr. Simpson, although they do not pretend to science, like Mr. Casey, are disqualified, by their utter ignorance of the subject, from offering any opinion to which I can pay respect. They consist of pilots, wharfingers, farmers, a stage-coach proprietor, a store-keeper, a doctor, a timber merchant residing at Bytown, and the agent of an insurance company, the latter being Mr. Simpson's step-son; and the whole of them, not excepting the merchant at Bytown, are deeply interested persons.

It is requisite, and I am sure that the committee, considering that I am placed upon my trial, will allow me, in my defence, to explain the grounds on which I question the credit of those witnesses, on the score of personal interest.

There

There can be no doubt that the St. Lawrence navigation will have the effect of diminishing the value of property at Bytown, and affecting the profits of persons engaged in trade there. The evidence of Mr. Wm. Stuart, the merchant of Bytown, is really devoid of all value, as regards the question at issue; nevertheless it evinces the bias with which persons interested in the Ottawa must view this subject, and also the *animus* with which such a witness has been brought forward. In a still higher and more obvious degree, other witnesses have an interest in putting a stop to this work. Mr. Simpson's step-son, Mr. Wm. Roebuck's, income depends upon the continuance of a dangerous navigation, requiring the expensive protection of insurance. His brother, Mr. Henry Roebuck, is known to be a pilot of the rapids, and engaged in the management of a towing establishment, for hauling barges up that part of the river, which would never be used after the completion of an inland canal. A near relative of Mr. Roebuck, viz. Mr. Simpson's own son, is the collector of customs at Coteau du Lac, where he, and his father before him, have been in the habit of exacting fees, contrary to law, from barges passing down the river; and it is certainly more than probable that, when the navigation shall be completed, the customs' establishment at Coteau du Lac will be deemed worse than useless, and that the large revenue which has been derived by Mr. Simpson and his son, from salary as customs' officers, and the illegal exaction of fees, will entirely cease. The first interest of the whole family above named, and of the pilots of the rapids, who have been examined, is, if possible, to stop the work now in progress; but if they should fail in that object, then their next interest would be to get the canal on the north side, where Mr. Simpson owns a considerable property, near to the proposed entrance. It is true that Mr. Simpson's step-son, Mr. Wm. Roebuck, says, that "if I owned a farm at, or in the neighbourhood of, Coteau du Lac, I would give a large sum of money rather than have the canal pass through it, as its value would, I think, be thereby lowered 50 per cent.," and there can be no doubt that Mr. Harwood as boldly states, that the only way in which his property could be affected, by taking the canal through his seignior, would be "to my disadvantage;" but the committee will know how to estimate such statements. The self-interest of the witnesses is only less evident than their want of scruple in denying it. Mr. Whipple, the stage-coach proprietor, though he says, that his only property at the Coteau du Lac is "a wharf and eight or nine acres of land," has omitted to add, that the very entrance of a canal on the north side would be close to those acres, to which an additional value of several thousand pounds would thereby be given; and that the completion of a canal, on either side, would put an end, for a great portion of the year, to the stage-coach business, in which he is largely engaged. It would be easy to prove that the other witnesses, being residents of Coteau du Lac, would have their fortunes improved, if the canal was to be established there; and however unwilling I may be to weary the committee, by dwelling on this most disagreeable part of the subject, it yet remains for me to make one statement, for the purpose of discrediting Mr. Simpson's witnesses. Of these, the two who speak with the greatest confidence and pretence to knowledge are Mr. Casey, the engineer, and Mr. Wm. Roebuck, Mr. Simpson's step-son. Unsuccessful applications for employment in favour of each of them have been made to me within the last 12 months: I did not disregard the applications made to me on behalf of Mr. Casey, but, on the contrary, was inclined by them to make inquiry respecting his professional abilities, and came to the conclusion that it would be wrong in me to trust him with any employment of consequence, under the Board of Works. With respect to Mr. Wm. Roebuck, I am under the painful necessity of stating that, upon application from Mr. Simpson, not many months ago, being made to me for employment on a public work, I expressed a sincere wish to comply with the application; but upon making such inquiries as I judged necessary, before placing any one, who was a stranger to me, in an office of trust under the Board, I gave up all thought of meeting Mr. Simpson's wishes.

In confirmation of the high probability that these witnesses have been actuated by motives of personal interest, if not of ill will towards me, I would recal the attention of the committee to their professions of having no object in view except the love of truth and the public good. As one instance of these very suspicious professions of disinterestedness and public spirit, I beg leave to draw the attention of the committee to the evidence of Mr. Asselin, who, having said that he had "no personal interest for or against the canal," and admitted that he was the owner of the wharf and property known as Asselin's Wharf, at the Coteau du Lac, had the effrontery to add, that the reason why all his neighbours were opposed to the canal being on the south side was, "because they were opposed to the misapplication of the public money!"

Such testimony as that, which I cannot comment upon less severely, is of a piece with a fact, which, as it is perfectly notorious, and has a close bearing upon the question submitted to the committee, I may properly notice, namely, the practice which has been systematically pursued by the Simpson family, of waylaying travellers, and especially members of the legislature, at Coteau du Lac, and endeavouring, by the most unscrupulous assertions, to prejudice their minds in favour of the charges against me, which Mr. Simpson has submitted to the House of Assembly. If it should be unknown to members of the committee, there are yet hundreds of people who know that, in the pursuit of this system of detraction, the persons whom I am exposing did not confine themselves to mis-statements of fact with respect to engineering matters, but that they cast imputations, and made positive charges of dishonesty and corruption, not only upon myself, but upon several gentlemen of long-established and unimpeachable character, whose assistance it is my good fortune to have as officers of my department.

Such is, then, the nature of the testimony got up for the purpose of establishing that I have committed either a gross blunder, or the wilful crime of choosing for a canal which is to cost 250,000*l.* a situation presenting insurmountable obstacles to the use of the work for navigation. I will not pretend to prove that this testimony is false; I cannot even bring myself to look at it, in comparison with that of the able and experienced engineers, upon whose elaborate surveys, made from time to time during a long term of years, in conjunction with my own observation, my deliberate opinion, as to the selection of this line of canal, was formed, and the decision of the Governor and Council was founded. It is hardly with patience that I can write down the names of Mr. Wm. Roebuck, Mr. Whipple, and Pilot Perry, or even that of Mr. Casey, by the side of those of Mr. Stevenson, Mr. Baird, Mr. Mills, Colonel Philpotts, and Mr. Keefer; nor is it, indeed, requisite that I should either claim the authority of the gentlemen last named, or allude to my own extensive experience, in order to defend myself against Mr. Simpson's charges: these accusations have been broken down by the very testimony adduced in support of them. This testimony I venture humbly, but confidently, to submit to the Committee, leaves wholly unaffected my decision in favour of the superior cheapness and efficiency of the south side line.

If, in making the above observations, I have been betrayed, by a natural feeling of indignation, into the use of too strong expressions, I should beg pardon of the Committee for having failed in proper respect towards them. I have endeavoured to keep within the bounds of decorum, and cannot but trust that every member of the committee, imagining himself to be placed in my situation, and subjected, as I am, to accusations which, if they are admitted, would be fatal to my professional reputation and personal character, will find excuses for the warmth with which I have expressed myself.

In defending myself against Mr. Simpson's charges, I have purposely abstained from noticing the testimonies in my favour which, during my absence, have been laid before the Committee. I have thought that no such evidence was required to demolish the self-destructive statements of the witnesses against me; nor am I now disposed to attach any weight to the statements of unprofessional persons who have given opinions before the Committee in favour of the south side. I rely with confidence on the full, calm, and intelligible testimony of the engineers who have been examined. I declare, upon the honour of a gentleman, that my firm belief, after having anxiously reflected upon this subject for more than a year, entirely concurs with the opinions of those gentlemen. I am convinced that, if twice the number of engineers were to make surveys and reports upon this subject, no other conclusion can be come to than that which I firmly maintain, namely, that the line of canal on the south side, now in progress, is greatly superior in point of efficiency to any line on the north side, and cheaper to an extent of about 100,000*l.*

In conclusion, I will merely add, that notwithstanding all the political intrigue and party feeling with which this question has been so industriously mixed up, the points in which, in my judgment, the country is alone interested, are simply, First, Is the line in course of construction a good one? Against its being so not one scintilla of assertion has been made. Secondly, Is it the cheapest? By the testimony of Mr. Casey, the only person brought forward by Mr. Simpson who pretends to speak as to cost, it appears that the saving by adopting it may be under 50,000*l.*; but, shortly after, he admits an omission of the value of the difference of scale, which he guesses at 20,000*l.* more. In another part of his evidence, he says, the saving may be the fraction of 100,000*l.*, by which he states he means 30,000*l.* or 40,000*l.*; but by Mr. Keefer's detailed and elaborate estimate of the lines on both sides, the saving is shown to be 103,000*l.* Finally, Are there any natural obstructions to it which are serious and insurmountable? There are not; for Mr. Keefer's careful examination shows the shoals to be large boulders, stones, and sand, with two channels, with not less than eight feet six inches water; and we have an old, experienced, and solvent contractor, who offers to give ample security, and contract to form a suitable channel, of 400 feet wide, for 7,000*l.*

I beg leave to append Mr. Keefer's conclusive observations upon the evidence adduced in support of the charges against the Board of Works.

Respectfully submitted,  
*Hamilton H. Killaly.*

**Mr. Keefer's Remarks on the Evidence adduced before the Committee, against the Location of the Canal on the South Side of the River.**

The evidence of the pilots, and others, from the north shore, is very contradictory; some stating that the current from Grosse Point to M'Pherson's Point is three miles per hour, and others, that it is from 8 to 10 miles per hour. Some of them admit that there is a channel of 8½ or 9 feet, and others deny the existence of any channel whatever. One witness says that he can get out and walk on the shoal for nearly half the length of it, and that the surf at Grosse Point runs from 10 to 12 feet in height. All the north-shore people, however, concur in stating that the prevailing winds are either west, north-west, or north.

It is an easy matter to procure evidence contradictory of everything these witnesses have stated on the above points, but it is of no consequence whatever to do so. The current, in fact, (notwithstanding this evidence) does not exceed, by measurement, two miles per hour, and when the towing-path, provided for in the estimate, has been made, all the difficulties they have started vanish, for this current offers no sensible impediment to steamers, and when considered in reference to the general line of navigation between Lake Ontario and the sea, this rate of current cannot, with fairness, be objected to, when there are a hundred other places in the river and lakes where the current is the same, and it was never thought necessary to obviate them.

In the present unimproved state of the channel, it is perfectly practicable to conduct a steamer of seven feet draught of water from Grosse Point to M'Pherson's Point, and back again, having first put down buoys to indicate the channel.

That the testimony of pilots cannot always be relied on, has been proved by the fact, that barges and steam-boats are now descending the Lachine Rapids every day, where it was declared by them that no practicable channel existed.

In reference to their testimony in this instance, I will simply state, that the chart is made from soundings taken by myself, with the greatest care, and I can vouch for their accuracy. I did not undertake to lay down all the shoals, both above and below those lying between Chartier's Point and Isle aux Chats, but confined my labours to the place where the channel presented the greatest difficulties, inasmuch as the other shoals do not interfere with the free navigation of the river, leading to the entrance of the canal.

These soundings were taken in a large canoe, with one man to row, one to steer, two others and myself, five in all; and so far from finding the current as strong as these witnesses represent it, I found no difficulty whatever in going from side to side, up or down, or which ever way I pleased. I have often paddled up from M'Pherson's Point, in crossing to the Coteau du Lac.

In the estimate it will be seen that I have provided for removing the points of the shoals next the centre channel, to afford a clear entrance of 400 feet in width, and 10 feet in depth. The shoals consist of a mass of boulder stones, in some places imbedded in sand, and they can therefore be easily removed.

In reference to the prevailing wind, I will barely remark, that every one at all acquainted with the great lakes Erie and Ontario, knows perfectly well that the prevailing wind is from the south-west; and it is not reasonable to suppose that only 160 miles of eastern longitude is sufficient to give another prevailing wind. I know that impartial and uninfluenced evidence will state the contrary; and such being the case, Coteau du Lac must be more frequently the lee-shore of the lake,

lake, while Grosse Point shelters the southern entrance. But it appears to me ridiculous to be setting forth all this nautical reasoning about the entrance to a canal on the River St. Lawrence, the same as if we were on the coast of France or Ireland. It seldom occurs that vessels cast anchor before entering such canals. The usual practice is to come to, and fasten themselves alongside a pier or wharf, which saves all the trouble.

The evidence offered by Mr. Casey's criticism, called a report, is very meagre. It appears from it that he has not made a proper survey of the north side, and that he had only seen the south side about seven years ago; and that in reference to the subject under examination, he did not examine the south side at all. Before he could estimate the difference in cost between the two sides, it is obviously necessary that he should make an estimate of what each would cost; but this Mr. Casey thinks unnecessary, and thinks to satisfy the public, and the committee, without giving an estimate of either. The committee order him to give in an estimate for the north side, and he gives only a partial one; still maintaining that the principal difference lies in the excavation, which he supposes to amount to 50,000 £, neglecting altogether the increased expense on the north side of the embankment, waste-weirs, ditching, and fencing, locks, and lock-houses, bridges and bridge-houses, damages, protection walls, coffer-dams, and pumping.

It is idle to be drawing any comparison, without an estimate full and complete of each side. A careful and rigid examination of my estimates for the north and south side, I trust, will convince the committee, that the Board of Works was not wrong in stating that the canal on the north side would cost 100,000 £. more than on the south.

Mr. Casey thinks it unfair to state that the canal on the south side is three miles shorter than on the north; because, he tells us, "the Beauharnois Canal ends at the foot of a strong current." This is not the case; the canal terminates at the head of an eddy, settling up the lake nearly two miles. The map will show that the south side may represent the chord and the arc of a circle, which accounts for the difference in length.

Mr. Casey has been betrayed into a singular fallacy in estimating lockage at so much per foot lift. He should have known that two locks of five feet lift will cost nearly double a lock of 10 feet lift, but by his method they would cost the same; moreover a guard-lock, which has no lift, by his rule would cost nothing at all. He is wrong, also, in assuming the lockage on the Cornwall Canal at 3,000 £. per foot lift. How, then, can his calculation be relied on?

In reference to using the ravine on the north side, although Mr. Casey makes his estimates supposing the canal placed in it, he is very guarded in giving an opinion; and as he makes no provision for waste-weirs, it is to be presumed that he considers them unnecessary. But Mr. Roebuck is more confident, and considers the using of the ravine a great advantage; that it would take a series of years to fill up the reaches between the locks, and that "aprons" might be constructed to carry off the flood-water.

It is unnecessary to repeat the objections I urged against using the ravine by damming it, in my report of 5th July last. I will now add the following:

I consider waste-weirs indispensable for the discharge of sudden freshets without injury to the locks. In the engineer's art waste-weirs are one of the most difficult structures to be rendered permanent. But placed in a bank of newly-formed earth, or in the original clay bank (equally as unsafe), the least imperfection in the foundation or workmanship, the slightest settlement of any part of the structure, or the loosening of the earth by frost in spring, may, in the time of violent and sudden freshets, be sufficient to create a leak, which, unless detected at once, and stopped, would inevitably become the means of carrying away the dam, which done, every succeeding dam must go too.

It rarely happens that a ravine affords the opportunity of placing the locks so advantageously as that vessels can approach and depart from them by easy curves, which are necessary in order to prevent vessels from coming in contact with the corners of the locks, and doing damage to the walls.

Again, in placing the locks in the side of a hill, as must necessarily be the case if the ravine be used, every engineering precaution must be taken, by piling and otherwise securing the foundations, to prevent partial settlement; precautions that will add greatly to the expense of the locks on the north side.

With respect to Mr. Harwood's evidence, I wish it to be distinctly understood, that the line upon which I made out my estimate for a canal on the north side, is not that pointed out to me by Mr. Harwood, but the cheapest inland route that I could select. Had I taken Mr. H.'s line, there would have been upwards of three miles at the upper end, averaging 17 feet cutting; whereas, my line, for that distance, scarcely averages 12 feet cutting.

I desire further to remark, emphatically, that it was not until after I had completed my survey of Mr. Harwood's line, according to his written description of it, that he requested to have the levels.

Any connected improvement by the river bank, on the north side, will cost still more than the inland route, which I have estimated at 359,490 £. The inland canal on the south side, with the exception of the slight obstruction at the entrance (which can easily be removed) is most singularly favourable, and far preferable to any other line that can be selected to unite the two lakes. It is shorter, safer, more efficient, and cheaper by upwards of 100,000 £.

STATEMENT of the comparative Advantages and Disadvantages of the Inland Canals on the North and South Sides of the River.

#### NORTH SIDE.

The canal is 14  $\frac{1}{2}$  miles long. The canal receives into it the formidable freshets of the à Delisle; and if carried into the ravine of Quinchiens, receives the wash of all the land floods of a large tract of flat table land, rendering necessary the construction and maintenance of waste-weirs. The lock foundations are chiefly on clay. This canal will cost 359,490 £.

#### SOUTH SIDE.

The canal is 11  $\frac{1}{2}$  miles long. It is above and independent of all water-courses; consequently, requires no waste-weirs. It can be navigated two or three weeks more every season than the one on the north side. The repairs and superintendence will be less on this side. The lock foundations are chiefly on rock. This canal will cost 255,900 £.

Board of Works, Kingston, 10th October 1842. Samuel Keefer, Engineer, Board of Works.

## APPENDIX.

- No. 1.—Return to an Address of the Legislative Assembly, for the Estimate made by Mr. Keefer for a Canal to connect Lakes St. Francis and St. Louis, of 255,900*l.*, alluded to in a Message of the late Lord Sydenham, laid before the House on the 20th September 1842 - - - p. 143
- No. 2.—Petition of G. Beaudet, and others, of the County of Vaudreuil, presented to the House on the 23d of September 1842 - - - - - p. 143
- No. 3.—Message from His Excellency the Governor-General, with Extracts from various Despatches relative to the appointment of an Engineer in England, to superintend the Works on the River St. Lawrence; 30th September 1842 - - - - - p. 144
- No. 4.—Comparative Statement of the Routes proposed by different Engineers for a Steam-boat Canal, between Lakes St. Francis and St. Louis, extracted from the respective Reports, by Samuel Keefer, Civil Engineer - - - - - p. 146
- No. 5.—Report on the several Routes proposed for a Canal through the Seignior of Beauharnois, to connect Lakes St. Francis and St. Louis, 17th February 1842; by Samuel Keefer, Civil Engineer - - - - - p. 148
- No. 6.—Report of the Survey of a Route for a Canal through the Seignior of Beauharnois, with Estimates, 10th February 1835; by Alexander Stevenson, Civil Engineer - - - - - p. 149
- No. 7.—Report on the Practicability of constructing a Canal through the said Seignior, with Estimates, 27th February 1835; by N. H. Baird, Civil Engineer - - - - - p. 152
- No. 8.—Instructions from the Board of Works to Mr. Tate, to survey the South Channel of the River St. Lawrence between Grand Isle and Beauharnois, and also a Route for a Canal through the Seignior of Beauharnois; 12th February 1842 - - - - - p. 156
- No. 9.—First Report of Mr. Tate on the above, 21st March 1842 - - - - - p. 157
- No. 10.—Second Report of Mr. Tate, on 13th August 1842 - - - - - p. 158
- No. 11.—Third Report of Mr. Tate, on 1st September 1842 - - - - - p. 159
- No. 12.—Fourth Report of Mr. Tate, on 15th September 1842 - - - - - p. 159
- No. 13.—Letter from Secretary of Board of Works to Mr. Tate, containing further Instructions, 6th July 1842 - - - - - p. 160
- No. 14.—Report of the President of the Board of Works on the Beauharnois Canal, 1st August 1842 - - - - - p. 160
- No. 15.—Report of a Survey for a Canal on the North Shore of the St. Lawrence, on a Route suggested by the Honourable Mr. Harwood, Seigneur of Vaudreuil, 5th July 1842; by Samuel Keefer, Civil Engineer - - - - - p. 164
- No. 16.—Specification of the Earth-work and Rock-work on the Beauharnois Canal, by Samuel Keefer, Civil Engineer - - - - - p. 166
- No. 17.—Correspondence between His Excellency the Governor-general and the Colonial Secretary, relative to the placing of the Canal on the South Side of the St. Lawrence - - - - - p. 167
- No. 18.—Statement of the Objections to the Location of the Canal on the South Side of the St. Lawrence, by John Simpson, Esq., a Member of the Committee - - - - - p. 167
- No. 19.—First part of a Report of a Survey for a Canal on the North Shore, made by Order of Messrs. Simpson and Harwood, 5th September 1842; by William R. Casey, Civil Engineer - - - - - p. 168
- No. 20.—Second Part of the said Report, 17th September 1842 - - - - - p. 170
- No. 21.—Estimate of the probable Cost of constructing a Canal on the South Shore of the St. Lawrence, 1st October 1842; by Samuel Keefer, Civil Engineer - - - - - p. 172
- No. 22.—Estimate of the probable Cost of a Canal on the North Shore, 1st October 1842; by Samuel Keefer, Civil Engineer - - - - - p. 174
- No. 23.—Detailed Estimate of the probable Cost of a Canal on the North Shore of the St. Lawrence, 3d October 1842; by W. R. Casey, Civil Engineer - - - - - p. 175
- No. 24.—Letter from the Acting Clerk of the Executive Council, enclosing Copy of a Report of a Committee of the Council on the Necessity for an immediate Extension of the Public Works, 13th June 1842 - - - - - p. 176
- No. 25.—Letter from Secretary of Board of Works, respecting the Detention of Witnesses for Cross-examination by the President of the Board, 4th October 1842 - - - - - p. 177
- No. 26.—Extract from Proceedings of Board of Works, 13th December 1839 - - - - - p. 177
- No. 27.—Report of the Board of Works to His Excellency the Governor-General, relative to the Beauharnois Canal, 14th December 1839 - - - - - p. 177
- No. 28.—Extract from a further Report of the Board on the same subject, 20th February 1840 - - - - - p. 178
- No. 29.—Extract from that Part of the Report of the President of the Board of Works to the Governor and Council, dated 12th May 1842, relating to the Canal from the Coteau to the Cascades - - - - - p. 178
- No. 30.—Extract from a Report of Col. Phillpotts, Royal Engineers, respecting the Location of the Canal, 24th October 1838 - - - - - p. 178
- No. 31.—Report on a Survey of the River St. Lawrence between Coteau à Coulonge and Coteau du Lac, 22d September 1836, by Henry G. Thompson, Surveyor and Civil Engineer - - - - - p. 179
- No. 32.—Report on a Survey of that portion of the St. Lawrence between Lakes St. Louis and St. Francis, 31st December 1836, by Henry G. Thompson, Surveyor and Civil Engineer - - - - - p. 180
- No. 33.—Letter from the Receiver-General to the Cashier of the City Bank of Montreal, respecting a Loan of 20,000*l.* for Public Improvements on the River St. Lawrence, 16th June 1842, p. 180
- No. 34.—Letter from the Cashier of the City Bank of Montreal, to the Receiver-General, in reply - - - - - p. 181
- No. 35.—Copy of Fourth Report of the Standing Committee of the House of Assembly of Lower Canada on Roads and Public Improvements, 10th February 1834 - - - - - p. 181

— No. 1. —

RETURN to an Address of the House of Assembly, of 19th September 1842, praying the Governor-general to order the proper Officer to lay before the House the Estimate made by Mr. Keefer, of 255,900 L alluded to in the late Lord Sydenham's Message of last Session (in a Memorandum of the Chairman of the Board of Works,) with any Plans, Surveys, Reports or Estimates, relating to the connexion of Lakes *St. Francis* and *St. Louis*, by means of a Canal, with a Copy of such parts of any Despatch or Despatches from the Colonial Secretary, referring the same subject.

Kingston, 20 September 1842.

S. B. Harrison, Secretary.

ESTIMATE of the probable Cost of constructing a CANAL for Steam-boats between Lake *St. Francis* and Lake *St. Louis*.

The distance of the River *St. Lawrence* being 14  $\frac{1}{2}$  miles, and the difference of level 82  $\frac{1}{2}$  feet; locks, 45 feet wide, 170 feet long, and 9 feet of water on the mitre sills; canal, 80 feet wide at bottom, and 10 feet deep, with slopes 2 to 1.

If Mr. Mills' river route be adopted, (*vide* his Report Route, No. 1,) then we shall have 6  $\frac{3}{4}$  miles of canal, and 7  $\frac{1}{8}$  of river navigation, as follows:—

	£.	s.	d.
<b>At Coteau Rapids :</b>			
2 $\frac{3}{4}$ miles of canal, averaging about 12 feet, cutting in clay chiefly, at 12,000 L.	34,500	—	—
One lock, 7 feet lift, and one ditto, 10 feet lift	21,000	—	—
One guard lock	9,000	—	—
	£.	64,500	—
<b>At Cedar Rapids :</b>			
1 $\frac{1}{2}$ miles of canal, averaging about 18 feet, cutting in clay and loose rock for half the distance, the other half being river embankment, 26 feet high, at 14,000 L.	24,500	—	—
One lock, 8 feet lift	£. 11,000	—	—
One ditto, 12 feet lift	12,500	—	—
One ditto, 10.80 feet lift	11,500	—	—
	£.	59,500	—
<b>At the Cascades :</b>			
2 $\frac{1}{4}$ miles of canal navigation, in earth and rock, and embankment in river, averaging 25,000 L. per mile	56,250	—	—
One lock, 7 feet lift	£. 10,000	—	—
One ditto, 8.22 feet lift	11,000	—	—
One ditto, 10 feet lift	12,000	—	—
	£.	80,250	—
<b>ABSTRACT :</b>			
The Coteau Rapids	64,500	—	—
The Cedars	59,500	—	—
The Cascades	80,250	—	—
	212,250	—	—
Superintendence and contingencies, 20 per cent.	42,050	—	—
<b>TOTAL</b>	£.	255,900	—

A saving of about 50,000 L. may probably be effected by taking the south side of the river.

Kingston, 19 June 1841.

(signed) Samuel Keefer, C. E.

— No. 2. —

PETITION of *G. Beaudet*, and others, of the County of *Vaudreuil*, presented to the House on the 23d September 1842.

To the Honourable the Knights, Citizens, and Burgesses of Canada, in Provincial Parliament assembled.

The humble Petition of the undersigned Inhabitants of the County of *Vaudreuil*.

Humbly sheweth,

THAT your petitioners, on seeing the Report of the chairman of the Board of Works, were fully certain it was based on false statements as to the facility afforded on the south side of the River

St. Lawrence over the north side, on the depth of water at the western entrance, on the width and number of channels, and on the cost of the work; in short, that he had taken a most prejudiced and erroneous view of the case, losing sight of the judge in the advocate.

That being sensible of these facts, they, at their own cost, have directed a survey of the route on the north shore to be made by a skilful and successful engineer, which report and levels, now sub-joined, bears out most of the above assertions.

That at their own cost also they have directed soundings to be taken, and search made for the three channels named by the chairman as existing with 12 to 20 feet water at the western entrance, without avail, finding nothing of the alleged depth and width, or anything like a practicable channel.

That the chief engineer desired buoys to be laid down in nine feet water, to guide boats coming in with supplies to the canal whilst making; but nothing of this depth was to be had, and he was obliged to desist, and make a new survey of this boasted entrance, to bear out the report of the chairman, which he is unable to do. That, on the contrary, he has discovered only one, instead of three channels, which is well known to be dangerous, narrow, crooked, shallow, and impracticable for anything but small light boats.

That, under all these circumstances, your petitioners plead that justice has not been done, but that a system of favouritism has been dealt out, to the detriment of the public interest, and with a wasteful expenditure of the people's money.

That they therefore pray witnesses may be examined, and a full investigation of the case may be gone into, and that a naval and land survey may be made on both sides of the river, by disinterested and competent persons, unconnected with the Board of Works, (in which they must declare their want of confidence,) and that the prosecution of this vast work may be stayed until such report is made to and determined on by your Honourable House.

And petitioners, as in duty bound, will ever pray.

(signed) *G. Beaudet* (and others).

Vaudreuil, September 1842.

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— No. 3. —

MESSAGE from His Excellency the Governor-general, with Extracts from various Despatches, relative to the Appointment of an Engineer in *England* to superintend the Works on the River *St. Lawrence*.

CHARLES BAGOT.

The Governor-general informs the House of Assembly, in reply to the Address which they have presented to him this morning, that no correspondence has taken place with the Colonial Secretary during the years 1841 and 1842, on the subject of the appointment of an engineer, to inspect, report on, or superintend the construction of the St. Lawrence Canal, specially; but that a correspondence has taken place on the subject of the appointment of an engineer officer as commissioner, on the part of Her Majesty's Government, to superintend the execution of all the public works about to be undertaken by the province with the funds to be raised upon the guarantee of the Imperial Parliament.

His Excellency feels some scruple as to the propriety of communicating this correspondence to the House of Assembly without the permission of the Secretary of State: but being desirous of furnishing the fullest information to the house, his Excellency lays before them herewith extracts of the correspondence which has taken place upon the subject, trusting that the Secretary of State will, upon being informed of the occasion, sanction the course he has adopted.

Government House, Kingston,  
30 September 1842.

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EXTRACTS from CORRESPONDENCE between Her Majesty's Secretary of State for the Colonies and his Excellency the Governor-general, respecting the Appointment of an Engineer Officer, as a Commissioner on the part of Her Majesty's Government, to superintend the Public Works about to be undertaken with the Funds to be raised under the Guarantee of the Imperial Parliament.

EXTRACT from a DESPATCH from Lord *Stanley* to Sir *Charles Bagot*, dated 2 April 1842.

It can hardly be doubted that works so extensive, and calculated to produce such important results, ought to be superintended by the best professional assistance which it is possible to obtain. Her Majesty's Government entertain no doubt of the anxious desire of the Canadian Board of Works to discharge with fidelity the arduous duties which will devolve upon them; but I can as little doubt the anxiety which they must feel to have associated with them in such a trust the best professional assistance which it is in the power of the mother country to furnish.

It is therefore my intention, in anticipation of the acquiescence, which I cannot for a moment doubt, of the colonial legislature in the general arrangements suggested by Her Majesty's Government, to send over an officer of engineers, whom, as Her Majesty's Commissioner, I trust the legislature will have no difficulty in associating with the Board of Works, in the superintendance of the works to be undertaken, and whose experience may probably enable the undertakings to be conducted with the efficiency and economy which must be alike the interest of the colony and of this country.

EXTRACT FROM DESPATCH from his Excellency Sir Charles Bagot to Lord Stanley,  
dated 28 April 1842.

I THINK it necessary to make some remarks on the appointment of an engineer officer as Commissioner, on the part of Her Majesty's Government, to superintend the execution of the works.

Of course, as Her Majesty's Government provide the funds with which the public works are to be conducted, it is but reasonable that they should have a share in the management of it, if so desired. To such an appointment Mr. Killaly would not, I am sure, object; but it would be highly desirable that the person to be selected should be a civil and not a military engineer. The rules of the military service render officers of the Royal Engineers responsible to their own immediate superiors, and to no one else; they correspond only through them, and receive their instructions in the same course. Where employed on civil works, this system inevitably produces delay and confusion, and not infrequently collisions of authority. In every instance, I believe, in which civil and military engineers have been placed on the same works in this province, and the instances are not infrequent, these inconveniences have arisen. If, however, your Lordship would select a civil engineer to co-operate with the Board of Works as Her Majesty's Commissioner, I do not apprehend that any difficulty need exist—none, I am sure, would be made by Mr. Killaly; but I apprehend that the legislature would view with some dislike the appointment of a military man, the rules of whose profession, as they know from experience, would prevent them from requiring from him that full information which they would at once obtain from a civilian.

EXTRACT FROM DESPATCH from Lord Stanley to his Excellency Sir Charles Bagot,  
dated 2d July 1842.

IN your despatch of the 28th of April you advert to the necessity of appointing an engineer officer, as Commissioner on the part of Her Majesty's Government, to superintend the execution of the works which may be undertaken, and point out the reasons which induce you to prefer a civil to a military engineer.

On this subject I have only to observe, that if provision be made by the legislature for the payment of such an officer (which I agree with you would be very desirable), Her Majesty's Government would have no preference for a military over a civil engineer, nor any wish on the subject but to procure the services of the most competent person who could be engaged for this purpose.

COMPARATIVE STATEMENT of the ROUTES proposed by different Engineers, for a STEAM-BOAT CANAL between Lake St. Francis and Lake St. Louis, on the same Scale as the St. Lawrence Canal in *Upper Canada*; viz. Canal, 100 Feet at Bottom, 140 Feet at Surface, and 10 Feet Deep.—Locks, 200 Feet long in the Chamber, 55 Feet wide, and 9 Feet of Water in the Mitre Sills.

1st.—Routes proposed on the NORTH Side of the River.

TABLE showing the Result of Mr. Mills's Survey of Three Routes, to unite Lakes St. Francis and St. Louis, one by the River and two Inland.

DIVISIONS.	Length of Natural Navigation.	Length of Artificial Navigation.	Number of Locks.	Lockage.	Cost, estimated by Mr. Mills in 1833.	REMARKS.
						Miles.
Route No. 1.—On River Route: Mr. Mills divides this route into five sections, in the following manner: Sec. No. 1.—Canal past Coteau Rapid, from M'Donnell's Point to Point Fa Le Chival, below the fort Sec. No. 2.—From the Fort to the Cedars Sec. No. 3.—Canal at Cedar Rapids, from the village to Pointe à Moulin Sec. No. 4.—From Pointe à Moulin to Pointe au Coulogne Sec. No. 5.—Canal from Pointe au Coulogne to Lake St. Louis	6 00 — — 1 64 —	2 68 — 1 57 — 2 25	2 — 4 — 3	0 17 — 30 81 — 25 22	69,210 — 80,176 — 86,396	1st Lock, 7 feet, 2d lock, 10 feet lift. Proposed works will destroy the fort, and prevent Military Canal. Banks low and favourable. Dam at Mouth of River à Delisle, 350 feet long and 11 feet high. (Amount, according to Colonel Phillipott's estimate, 130,200 £.) The fall in this distance is 7'03 feet, channel varying from 12 to 36. The velocity of the current at Pointe au Diable, for 452 feet, is 6 <sup>1</sup> / <sub>2</sub> miles per hour; for 1,286 feet, five miles per-hour. 1st Lock, 8 feet; two combined, 6,405 feet each; 4th, 10 feet lift. (Amount, according to Colonel Phillipott's estimate, 160,810 £.) Fall in this distance, 1'84 feet. Current from two to three miles per hour. Channel deep, from 10 to 35 feet. Consists chiefly of river embankment. 1st lock, 7 feet; 2d, 8'22 feet; 3d, 10 feet lift. Rock cutting at Cascades Point. (Amount, according to Colonel Phillipott's estimate, 158,862 £.)
TOTAL	7 64	6 70	9	73 03	235,782	The damages (which are not embraced in these estimates) would be less by this Route than by either of the two following; and by purchasing Pointe au Moulin and Cascades Pointe no bridges would be required. (Amount, according to Colonel Phillipott's estimate, 445,932 £.) This Route runs parallel with the bank of the River, and about half a mile from it, and would require two aqueducts and six bridges.
Route No. 2.—Inland, beginning and terminating at the same Points as Route No. 1	—	14 52	10	82 50	324,943	This Route begins at M'Donald's Point; is common with Routes Nos. 1 & 2, as far as River Rouge; thence proceeds in a straight line to Vaudreuil. Two aqueducts and six bridges are required on this part. Cutting averages about 17 feet. Soil chiefly clay. Some dredging required. Estimated in Sec. No. 1. Canal required to be only 50 feet at bottom and 70 feet surface. Excavation chiefly rock.
Route No. 3.—Inland, Coteau to Ste. Ann's; Sec. No 1.—Coteau to Lake of the Two Mountains at Vaudreuil Sec. No. 2.—Vaudreuil to Sainte Ann's Sec. No. 3.—Canal at Sainte Ann's	— 3 53 —	13 40 — 0 48	10 — 1	78 32 — 3 13	403,164 — 40,599	Total distance, 17 miles, 61 chains. Total fall, 81, 45 feet.
TOTAL	3 53	14 8	11	81 45	442,763	

Note.—Mr. Mills says it is generally agreed that the St. Lawrence is open two or three weeks earlier in spring and later in fall than the Ottawa, the St. Lawrence passing through a more southern latitude; and that these two or three weeks in spring and fall are the most important in the whole year; he therefore, on every account, gives a decided preference to Route No. 1, or River Route.

2d.—Routes proposed on the South Side of the River.  
TABLE showing the Result of Mr. Baird's and Mr. Stevenson's Survey of Two Routes through the Seignory of Beauharnois, to unite Lakes St. Francis and St. Louis.

DIVISIONS.	Length of Natural Navigation.	Length of Artificial Navigation.	Number of Locks.	Lockage.	Estimated Cost. (Currency.)	R E M A R K S.	
						£.	
Mr. Stevenson's Route from McPherson's Point (2½ miles below McDonald's Point, on the North side of the River) to Couvillon's Landing, at the foot of Cascade Rapids, passing through the first concession of the Seignory of Beauharnois	M. chs. 2 40	M. chs. 11 69	{ 8 lift 1 guard }	Feet. 83 32	£. 224,441	This Route runs about three quarters of a mile from the River, and nearly parallel with it, thus heading all the small streams and gullies clay cutting. Three bridges required. Aqueducts required over the Petite Riviere, Marcheterre, and the River St. Pierre. Route otherwise favourable, as any required depth of cutting may be selected. This estimate includes the purchase of 436 acres of land (valued at 4,360 £), and every other expense. Mr. S. proposes locks 110 chs. X 23 wide X 7 feet water. This Route would then cost 187,708 £.	
Mr. Baird's Junction Route across the country, from River St. Lawrence to River St. Louis; thence along that River to Beauharnois Bay, leaving the St. Lawrence 14 miles below McPherson's Point, or 3½ below McDonald's Point, below Coteau, on the North side of the River	M. chs. 3 60	M. chs. 15 00	9	82 00	194,800	Canal forming junction nine miles long, averaging nine feet cutting. Six miles navigation by the River St. Louis rendered navigable by three dams. Beauharnois Bay recommended as a very good harbour, having 10 feet water, 125 feet from shore. Mr. Baird considers the scale too large; that the locks would be unmanageable. He proposes a better-proportioned Canal, locks 184 chs. X 33 wide, X 8 feet water, which would cost, by this Route, 186,900 £, including every expense. He thinks Mr. Mills's River Route would create steam-boat monopolies, as only large and powerful steamers could ply on it.	

MR. BAIRD'S:

	M. chs.	Feet.
Whole distance	14 29	83 32
Whole fall	- - -	82 00

MR. STEVENSON'S:

	M. chs.	Feet.
Whole distance	14 29	83 32
Whole fall	- - -	82 00

ABSTRACT FROM THE FOREGOING STATEMENT.

PROPOSED ROUTES.	Length of Natural Navigation.	Length of Artificial Navigation.	Total.	Number of Locks.	Lockage.	Estimated Cost. (Currency.)
North side—Mr. Mills's River Route, Route No. 1	M. chs. 7 64	M. chs. 6 70	M. chs. 14 54	9	73 03	£. 285,782
Ditto - ditto - Inland Route, No. 2	M. chs. 3 58	M. chs. 14 52	M. chs. 14 52	10	82 50	824,943
Ditto - ditto - Inland Route to Vandreuil, No. 3	M. chs. 3 53	M. chs. 14 8	M. chs. 17 01	11	81 45	442,768
South Side—Mr. Stevenson's Route	M. chs. 2 40	M. chs. 11 69	M. chs. 14 29	9	83 32	224,441
Ditto - Mr. Baird's Junction Route	M. chs. 3 60	M. chs. 15 60	M. chs. 19 40	9	82 00	194,800

The foregoing summary of the various Reports, made upon the projected improvements of the River St. Lawrence, between Lake St. Francis and Lake St. Louis, was drawn up by the undersigned in March 1841.

Office of the Board of Works, Kingston, }  
1st October 1842.

Samuel Keefer,  
Engineer, Board of Works.

REPORT on the several ROUTES proposed for a Canal through the Seignior of Beauharnois, to connect Lakes St. Francis and St. Louis, by *Samuel Keefer*, Civil Engineer.

Sir,

West Hawkesbury, 17 February 1842.

On the 28th and 29th ultimo I made an examination of the routes proposed by Mr. Baird and Mr. Stevenson for a canal through the Seignior of Beauharnois, to unite the waters of Lake St. Francis and Lake St. Louis; and particularly of the south channel of the river, in order to see if the idea which had been suggested, of making one or more dams on that channel, for the purpose of making it navigable to the lower end of Grand Isle, was one that could be carried out.

I took with me the reports and estimates made by those gentlemen, and Mr. H. G. Thompson's report on his survey of the south channel.

With reference to damming the river: I find but one dam at the lower end of the island would raise the water 23 feet, and flood a great extent of cultivated land on the main shore; and the houses being built all along the bank of the river, which varies from 4 to 12 feet above the surface of the water, the thing is therefore impracticable.

But again, in order to pass in rear of the village of St. Timothy, (we cannot go in front), the full height of the level of Lake St. Francis must be maintained, or nearly so; consequently we cannot resort to two or more dams. All, therefore, that can be done in the way of availing ourselves of this channel will be to dam it somewhere about the great bend, a little above the river Marcheterre, where there is a shoal and high banks on each side; the fall from the lake to that place being about 6 feet, and the back water would therefore do but little damage to the land and property on the shores above it. For this small advantage, however, I would consider it unwise to incur the risk of making a dam, which, do the best we could, might be subject to some unforeseen disaster that would destroy the navigation, particularly if evil-disposed persons, or an enemy in time of war, should endeavour to do so.

There is still another reason against a dam: by Mr. Thompson's survey it appears that even now there are gravelly shoals at the entrance of this channel, formed, undoubtedly, by the action of the westerly winds. It is quite evident, therefore, if the current at the head were checked by a dam, the formation of shoals would go on more rapidly. I have, for these reasons, therefore, abandoned the idea of a dam.

The inland route, by the River St. Louis, and coming out at Beauharnois village, is recommended by Mr. Baird, solely on the score of cheapness. His estimate for that route is 194,800*l.*, and the estimate of Stevenson is 224,444*l.*, making a difference in his favour of 29,644*l.* But by his route the distance is 15½ miles, and that by Stevenson's 11¾, making a difference of 4 miles in favour of the latter.

A careful examination of the estimates has convinced me, that in respect to cost, Stevenson's route is the cheapest.

Mr. Baird enters all his rock excavations at 3*s.* per yard, and in Stevenson's estimate (approved by Mr. Baird) this item is set down at 10*s.*; and for rock under water surface, 15*s.* a yard. (See the estimates.)

Upon the whole, I think the line run out by Mr. Stevenson a very judicious one, and one which I think the nature of the country points out. Mr. Baird, too, has given his full assent to Stevenson's report, and, as I said before, only recommends the inland route on the score of economy.

There are two reasons more that may be advanced against the route by the River St. Louis:—

1st. Drowning lands, by raising the dam at the saw mill, as Mr. B. proposes, 3 feet. I am informed that the present dam causes serious floods every spring, which injure the lands; and to raise it 3 feet more might drown and destroy so much land as to make this a very serious objection to the inland project.

2d. The Locks at Beauharnois, if not combined, must be placed very close together, which, on so great and important a thoroughfare as this canal will be, should be avoided.

The locks on Stevenson's route can be disposed at convenient distances, by descending the hill more gradually.

The best route to unite the waters of these two lakes has long been a subject of consideration with me. You are aware that I assisted Mr. Mills in the survey of the three routes on the north side, and should therefore have a perfect knowledge of them; and I have now no hesitation in expressing the opinion, that Mr. Stevenson's route, or one corresponding with it very nearly, will be found not only the cheapest but the best in every respect. Generally, throughout this line, we shall have such command of the ground as to lay the canal so that the excavation shall just make the banks. The line is continuous, and away from the river, free from the disturbing causes of ice and high water, and is perfectly under command.

I would wish to see a more particular survey made of the mouth of this channel than that of Mr. Thompson's, which was made in very unfavourable weather. The position and extent of all the shoals should be accurately ascertained, in order to see if there is any impediment existing here to the adoption of this route; but I do not think that any other surveys are required, and nothing more, in my opinion, need be done until the work is to be laid out, when much skill will be required to determine the line of minimum expense. It would also be necessary to examine the quarry at St. Timothy, to see if the stone will do for the locks, and to search the country for other quarries, if this will not answer.

Respectfully submitted, &c.

(signed) *Samuel Keefer*.

The Hon. H. H. Killaly,  
Chairman of the Board of Works.

— No. 6. —

REPORT of the Survey of a Route for an Inland Canal for Steam-boats, to communicate between the Lakes *St. Louis* and *St. François*, through the First Concession of *Beauharnois*, together with Plans, Sections, and Estimate of the probable Cost of effecting the same, on the Scale of 100 feet wide at bottom, with 10 feet depth of water; the Locks to be 200 feet long, by 55 feet in breadth, and to have 9 feet Water on the Mitre Sill.

Sir,

In obedience to your commands, I have examined very minutely the coast of Lake *St. Louis*, from the harbour at *Beauharnois Village* up to the foot of the rapids of the *Cataroqui*, or *St. Lawrence*, a distance of about two miles, and found more than sufficient water for any vessels plying on the *St. Lawrence*, with a clear coast and smooth bottom; and near the foot of these rapids I found a little cove, at *A.* on the plan accompanying this Report, at the landing-place of one *Couvillon*, offering the most convenient spot wherein to construct the entrance to a canal of the above description.

I next went to *Lake St. François*, and from a distance out into the lake I sounded the channel downwards to half a mile below the upper end of the *Grande Isle*, and there, finding the water to become too shallow for the purposes required, I landed in a little cove, at *Le Bœuf's farm*, next above *M'Pherson's Point*, where the bank is low, and 10 feet of water is found at 150 feet from the shore.

At the point *B.* (on the plan) I commenced taking a level inland, to pass all the rapids in one continuous line, and far enough back to avoid all the principal ravines, with which the banks near the river abound very much; and having continued the level downwards to the point *A.*, at *Couvillon's landing*, I found the difference to be 83 feet and  $\frac{3}{100}$ , and the distance 11 miles and 69 chains, passing through cultivated fields in the greater part of the way, crossing over a small river at *C.*, called *Petite Riviere Marcheterre*, and another at *D.*, called *River St. Pierre*, over each of which an aqueduct would require to be constructed: that at *C.* would not be either extensive or costly, but that at *D.* would be both, and form a considerable item in the total probable cost.

The first mile on this route (as almost always is the case) would be the deepest cutting, but the deepest part of that would not amount to 17 feet: it is a tufa soil, somewhat rocky, but there is no bed of rock in it; but still it must be called hard cutting. The 2d, 3d, 4th, 5th, and nearly all the 6th, would be of the easiest excavation possible, no where exceeding four or five feet in depth, and being just enough to form the necessary embankments, which constitutes level cutting, as shown upon the transversal section No. 2. There next succeeds one mile and three-quarters of primitive soil, rather stony, but without any bed of rock in it,—but from the nature of the soil, and its loose texture, it cannot be ranked with the most difficult, especially as there would not be any deep cutting in that distance, which will appear by examining the section No. 1.

This piece of hard cutting is opposite *St. Timothy Church*, and the new mill, and requires a lock to be located there at station 120.

The remaining three miles and a quarter, to arrive at station 144, the uppermost of the seven lifts, is oblique cutting, being in the side of a clay hill the whole way, and consequently the very easiest excavation possible; as shown upon the transversal section No. 3. In order to give a more perfect idea of the depths of cutting required from station 144 to station 150, a distance of 1,166 yards, and comprehending the space allotted to the seven locks, I have laid that down on a natural scale, in section No. 4, showing the location of each lock, and have marked the quality of the soil under each reach and lock, by which it will be seen that from station 144 there is a distance of 693 yards, consisting of clay soil, and 473 yards of hard grit rock, besides about 40 yards of rock under water, to be excavated for the entrance.

The whole of this route, taken together, therefore, forms perhaps one of the most advantageous that can be imagined; the excavation is comparatively easy, and the greater part extremely so; no embankments required but what may be made up by the proceeds of the excavation of the side ditches; several culverts will be required of about 100 yards long each, but as the water courses are not large, those culverts would not require to be very wide: the line surveyed crosses three public roads, over which substantial draw or swing bridges would have to be erected, but private ones (of which there would be required one at every half mile, at least,) might be made less substantial; I should recommend turning bridges, however, in the first case, both on account of the great breadth of the canal, as well as its being required for steam-boat navigation; but, for the reason above stated, I think it would be better to dispense with the service bridges altogether, and allow the farmers to make recesses in the banks of the canal, and keep small scows there for crossing in whenever they may require it. The breadth of land required for this canal will be an object of some consideration; for it will occupy 300 feet in breadth for the canal, its banks, tow-paths, side-ditches, and a road upon each side. Much may depend upon legislative enactment, but if the regulating the price of land be left to arbitrators, it is impossible to give more than a mere guess at what the cost may be; but the total quantity of land required to be occupied for this purpose will be 436 acres. There is a lime-stone quarry, near the location of the lock at *St. Timothy*, which may greatly facilitate the construction at that place: the lime produced at this quarry is of good quality; but, from the quarries not having been explored to any great extent, it is not known whether it will produce good building stone or not. The seven locks at the entrance, however, being so near the *Lake St. Louis*, the building stone for them may be brought from the very best quarries in the district, at comparatively small expense, by water; while the best of lime, sand, rubble stone, &c. may be had in the immediate neighbourhood of the works.

ESTIMATE:

			£.	s.	d.
Section of first mile	- - - - -	274,560 yards,	a' 1s.	13,728	- -
2d - 4 $\frac{1}{2}$ miles	- - - - -	481,530	" a' 6d.	12,038	8 -
3d - 1 $\frac{1}{2}$ ditto to 7 $\frac{1}{2}$	- - - - -	221,760	" a' 2s.	22,176	- -
4th - 3 $\frac{1}{2}$ ditto 16 chs.	- - - - -	429,792	" a' 6d.	10,744	16 -

		£.	s.	d.	
Upper locks, Nos. 6, and 7, and 5	- - - - 99,792	„	a'	8d.	3,326 8 -
Extra in lock No. 5, 10 feet rock	- - - - 5,785	„	a'	10s.	2,592 10 -
Lock No. 4	- - - - 5,185	„	a'	10s.	2,592 10 -
Reach between No. 4 and 3	- - - - 5,120	„	a'	9s.	2,254 - -
Lock No. 3	- - - - 5,185	„	a'	10s.	2,592 10 -
Reach between No. 2 and 3	- - - - 1,270	„	a'	9s.	571 10 -
Lock No. 2	- - - - 6,222	„	a'	10s.	3,111 - -
Lock No. 1 to water edge	- - - - 11,666	„	a'	10s.	5,833 - -
Under water for entrance	- - - - 1,426	„	a'	15s.	2,527 10 -
Head entrance of canal ditto	- - - - 1,944	„	a'	15s.	
24 miles side ditches, a' 20 l. per mile	- - - - -	-	-	-	480 - -
TOTAL for Excavation		-	-	-	£. 84,568 2 -
Masonry of all the locks, including the guard-lock, and comprehending side-walls, piers, centreforts, wing-walls, breastwork, and inverted arches—61,949 cubic yards, a' 25s.					
Aqueduct over River Ste. Pierre		-	-	-	77,436 5 -
Ditto - - Marchenterre		-	-	-	6,000 - -
6 stone workwaste weirs, a' 1,000 l. each		-	-	-	2,500 - -
3 large culverts, 300 yards, 5 feet diameter, a' 40s. per yard		-	-	-	6,000 - -
3 small ditto. 300 yards, 2 feet „ a' 7s. per yard		-	-	-	600 - -
7 pairs of gates, for 8 locks, a guard lock, a' 850 l.		-	-	-	105 - -
3 turning bridges, 1,000 l. each		-	-	-	5,950 - -
436 acres of land, at 10 l. per acre		-	-	-	3,000 - -
2 dwelling-houses for lock-keepers		-	-	-	4,360 - -
Engineer, assistant-engineer, clerk of works, overseers of works, &c. &c.		-	-	-	400 - -
		-	-	-	4,250 - -
Contingencies, a' 15 per cent. on 195,169 l. 7s.		-	-	-	195,169 7 -
		-	-	-	29,275 8 -
		-	-	-	£. 224,444 15 -

## RECAPITULATION:

	£.	s.	d.
Total excavation, comprehending lock pits and side ditches	84,568	2	-
Masonry in all the eight locks	77,436	5	-
Aqueducts	8,500	-	-
Waste weirs	6,000	-	-
Culverts	705	-	-
Lock gates	5,950	-	-
Bridges	3,000	-	-
Purchase of land	4,360	-	-
Dwelling-houses for lock-keepers	400	-	-
Superintendence, &c.	4,250	-	-
Contingencies	29,275	8	-
	£. 224,444	15	-

The immense breadth of this canal, as it is proposed to be constructed, and the great disproportion between the breadth of the several reaches, and the length and breadth of the locks, added to the unnecessary depth of water mentioned, together with the consequences attendant thereon, form the principal reason for the estimate of the probable cost being so high; for were it a canal of more just proportion in all its parts, and the depth of the water such only as in all probability might be required for the commercial intercourse between the two Provinces, the estimate might be reduced at least two-fifths. The favourableness of the route, and the easiness of the excavation generally, warrant this assertion; and I feel confident that, if the canal (or any canal) be constructed upon the proposed scale, the country, and all concerned, will find great disappointment, as far as regards revenue from it, and almost as much obstruction as facility in the communication.

The map accompanying this Report, and sections, shows both sides of the River Cataroqui or St. Lawrence, on the north-west side of which is laid down the route of a survey for a canal, made last year by Mr. Mills, as well as that made this present year on the south-east side, through the seigniorie of Beauharnois, by myself, and to which I would now beg leave to refer you for the more perfect understanding of this Report. The distance on the S. E. side is nearly as short as on the other; and possesses this particular advantage over it, that the excavation is much easier,—will cost considerably less in the first instance,—is continuous throughout from one lake to the other, and therefore not liable to such interruptions as will, and must necessarily, be incident to the navigation of the other, from there being one break of about five miles, and other interruptions in other parts of the whole distance there, which, besides the inconvenience, risk of property, and danger of life, from being exposed to tremendous rapids in case of the slightest accident, must occasion stoppages from the times and periods and different modes of being propelled, and perhaps transshipments also, which cannot be the case upon a continuous canal. I have taken every pains in fixing the prices in the above estimate, and I feel quite confident that, were it thought proper to have the canal constructed on the route here mentioned, there is not an item in that estimate, but

contractors

contractors may be found to execute the work for, and in some cases probably for less than what is mentioned.

But in consequence of the great diversity of opinion that exists on the subject of the dimensions necessary for a canal and its locks to have, in order to produce the most beneficial effects for the least outlay; in the first instance, after having examined the best French as well as English authorities thereon, and taking into consideration the dimensions of those canals already constructed in Upper and Lower Canada, particularly those of Chambly, Lachine, Rideau, Greenville, Carrillon, and that of the Welland; and also seeing that an engineer, said to be one of the first class of the United States, has lately (when called upon for his opinion as to the dimensions proper for a canal to connect the waters of Lake Ontario with those of the Hudson, through the state of New York) given it as his opinion, that the canal now constructing in Upper Canada, by which to pass the rapids of the Long Sault, &c., as well as that recommended by himself to communicate between the Lakes Saint Louis and Saint François, in the Lower Province, are mere experiments, at least from his statement such a conclusion is quite natural; and as if to counteract all the beneficial effects of works of such large dimensions to these Provinces, he has recommended a canal through the state of New York to draw off the business, which otherwise was intended to occupy those contemplated Canadian canals, to the New York market, through an immense tract of country, through and by means of a canal of half the dimensions of those recommended for Canada. His proposition, however, to his own countrymen, being found within the strictest rule of economy and propriety, and in conformity with the common rule in such cases, namely, that of adopting something similar in dimensions to what is already established to good effect as to revenue; and also such, as much as possible, as can supply the wants of commercial intercourse, and considering it better for all concerned to have two parallel canals of a moderate size, such as the Welland, Chambly, or Ottawa (those are among the largest class), provided the face of the country admits of their being constructed with facility, and at a comparatively small expense, rather than to lay out a great sum of money to construct a disproportioned canal, which from the unwieldiness of its moveable parts, the power required to manage it, and consequently the great loss of time in the transit from one level to another, by which almost as much obstruction as facility would be proved, and the costly experiment be found of but little effective good.

Seeing, I say, that all these things and circumstances concur to justify me in what I have already often had the honour of stating to yourself on the subject, I have taken the liberty of computing and drawing up another estimate of the expense of constructing a better, and for many and the most cogent reasons, by far the most efficient canal, to follow the same route, and to terminate at the same points, both ways, as the one of which we have been speaking above, for eight feet depth of water: locks to be 23 feet wide by 110 feet long within the chambers, and to have seven feet of water on the mitre sill; the distance being 11 miles and 69 chains, and the guard lock to be combined with a lift. This proposition, with respect to the dimensions of the locks, may be made to vary considerably as to the length and breadth of locks, without incurring much additional expense; the work being the same, the level, after the first mile and three quarters, is the same, consequently the depths and prices per yard are the same in corresponding sections; there would be required one more lock in this case than in the other; but even admitting that, it will be seen the expense bears but little proportion to the foregoing estimate:

ESTIMATE, for		£.	s.	d.
19,404 cubic yards excavations, first 1 $\frac{1}{4}$ miles	a' 1s.	9,702	-	-
202,752 - ditto - next 4 -	a' 6d.	5,068	16	-
123,200 - ditto - next 1 $\frac{1}{2}$ -	a' 2s.	12,320	-	-
293,040 - ditto - next 3 $\frac{1}{2}$ -	a' 6d.	7,326	-	-
66,984 - ditto - upper locks, No. 7, 6, 5	a' 8d.	2,032	16	-
2,444 - ditto - rock in lock No. 4	a' 10s.	1,222	-	-
2,444 - ditto - ditto No. 4	a' 10s.	1,222	-	-
5,388 - ditto - rock in reach between No. 4 & 3	a' 10s.	2,424	12	-
2,444 - ditto - ditto lock No. 3	a' 10s.	1,222	-	-
2,320 - ditto - ditto between No. 2 & 3	a' 9s.	1,044	-	-
2,933 - ditto - rock in lock No. 2	a' 10s.	1,466	10	-
11,266 - ditto - in lock No. 1 to water edge	a' 10s.	5,633	-	-
977 - ditto - under water for entrances	a' 15s.	732	15	-
1,466 - ditto - ditto at canal head	a' 15s.	1,099	10	-
24 miles side ditches - at 20 l. per mile		480	-	-
<b>TOTAL for Excavation</b>		<b>£.</b>	<b>52,995</b>	<b>19 -</b>
Masonry of nine locks, including the guard lock, and comprehending side walls, piers, centre-forts, breast-work, and inverted arches; 32,023 cubic yards, a' 25 s. per yard				
			40,028	15 -
Aqueduct over the River St. Pierre			5,000	- -
Ditto over Petite Riviere Marcheterre			2,500	- -
6 stonework waste wiers, a' 800 l. each			4,800	- -
3 great culverts, 240 yards, a' 2 l. per yard			480	- -
3 small ditto 240 yards, a' 7 s. per yard			84	- -
8 pairs of gates for nine locks, and regulating gate			4,000	- -
3 swing or draw-bridges, a' 800 l. each			2,400	- -
266 acres of land, at 10 l. per acre			2,660	- -
3 dwelling-houses for lock-keepers, a' 200 l. each			600	- -
Superintendent of engineer, assistant, clerk of works, &c.			4,250	- -
Contingency on 119,798 l. 14 s., a' 15 per cent.			17,969	16 1
<b>TOTAL Probable Cost</b>		<b>£.</b>	<b>137,768</b>	<b>16 1</b>

The scale here proposed, although so much smaller than the one before treated of, is still what is called the largest class of canals; it can be varied, however, in the dimensions of the locks considerably, without any material augmentation of the cost. As to the question of how far it will answer the purposes of the probable transport between the two Provinces, for a long time to come at least, and of its lucrativeness, there can hardly a doubt be entertained on either of these subjects. To be convinced that it will answer all the purposes of transport, we have only to compare it with the Welland Canal, the dimensions of the locks of which are the same, but the depth of water less; yet schooners, and other sailing craft, go through it with their lading, to sail upon either of the lakes. The Lachine Canal (and the business of the Ottawa, as well as that of the Cataroqui or St. Lawrence, are both done upon it, without there appearing to be any necessity for a larger), has locks of the same dimensions, except this proposed has three feet more in breadth, and three feet more of depth of water. The Rideau Canal, upon which steam-boats are constantly plying in the proper season, is somewhat larger locks, but not so great depth of water. The Chambly Canal is not very different in the dimensions of its locks, but it also has less depth of water. Canalizing experience in the United States recommends such dimensions to be the most effective, and the experience of Europe shows plainly that there is a manageable limit in such cases, beyond which it would be a waste of means to go, when the object in view can be so fully attained at so much less of an outlay. It will be admitted, then, that the proposed dimensions, with perhaps little variation, are capable of obtaining all the commercial intercourse required; and from the peculiar nature of its local situation, a canal on either side could have but little more than the ascending trade to sustain; which, not being the case with the Lachine Canal, it cannot be adduced in proof against the general principles here laid down, which, having shown to be correct, the consequences follow, as a matter of course, as to the return to be expected from it; for the cost of the present transport from Lake St. Louis to Lake St. François, amounts to more than the interest of the sum required to construct the above canal; and if the Lachine Canal, with its locks of less dimensions, and with three feet less depth of water, be sufficient for the business both of the Ottawa and Cataroqui or St. Lawrence, and also an increase of it to tenfold (which it is easy to demonstrate it to be capable of), then, I say, the one herein proposed is surely of sufficiently large dimensions for the business of the Cataroqui or St. Lawrence alone, for a long time to come; and in all probability there would never be any other required; and it is as certainly preferable to the one proposed on the N. W. side of river, for reasons already stated, both as it regards safety as well as expedition.

To Lawrence G. Brown, Esq.  
Montreal, 10 February 1835.

I have, &c.  
(signed) Alexander Stevenson,  
Civil Engineer.

— No. 7. —

27 February 1835.

REPORT on the Practicability of Constructing a CANAL to connect Lakes *St. Louis* and *St. Francis*, to avoid the Rapids of the *St. Lawrence*, from the Cascades upwards; from an Inspection made in the Winter of 1834 and 1835.—By *N. H. Baird*, Civil Engineer, Montreal.

Sir,

IN compliance with your instructions, communicated to me verbally in October last, to examine the country between Lakes *St. Louis* and *St. Francis*, through the seigniory of *Beauharnois*; with the view of ascertaining the practicability of constructing a canal of communication between those two lakes, to avoid or overcome the succession of rapids from the Cascades upwards, and that on a scale commensurate with the one now pursuing by the Upper Province, as also on a scale of more proportionate dimensions with the present and prospective trade, and with a view to the general interests of the country: I proceeded on the 4th day November last (being prevented from prior engagement devoting earlier attention to the subject), to *Beauharnois*, and with the assistance of *Mr. Stevenson*, D. P. Surveyor, who had formerly traced the ground, commenced my operations, the result of which I have now the honour to submit to your consideration.

Bearing in mind the direct object of the communication, the first duty became the ascertaining the most eligible points of departure from both lakes for the depth of water required, viz. nine feet on the mitre sills, with a due regard to the distance between such points; these requisites I found to exist at the point covering *Beauharnois Bay*, marked P. on the plan, and also that at A., two miles above *Beauharnois village*; and in *Lake St. Francis*, at or near the commencement of the south branch of the *St. Lawrence*, at B. and H. respectively; the former having been fixed on by *Mr. Stevenson* on his survey of the inland route. A. B., as the most eligible, and in which I perfectly coincide with him, the exception of leaving at H. in place of B., as laid down on the accompanying plan, and on which he has drawn up a minute and detailed report and estimate, which were submitted to me previous to being closed; and after several necessary alterations in the quantities, and in some instances an increase of price, is submitted herewith for your information.

The descriptive portion of that Report, I may safely state, is by no means too highly coloured; on the contrary, for certainly in all the course of my experience in practical engineering, I never traced a more eligible line for the same distance, the formation, quality, with little exception, and direction, being everything that could be wished; if there is a fault, I should say the excavation takes, probably, too slight a hold of the ground, thereby throwing more in embankment than the dimensions of the canal, and nature of our severe and trying climate to such works would warrant, but this may be readily rectified by a regulating lock at the upper extremity of the cut; and as regards the prices offered to the estimate, I consider them on an average fair, and what I feel convinced the work will be done for. This line as shown on the plan, measures 12 miles, descending 83 feet, 34 by 9 locks, and estimated at 224,444 *l.* 15 *s.* currency, and may be completed in three years; that is, three summers and four winters, commencing at the fall or beginning of winter.

There is also attached, an estimate for a ship canal, corresponding with the dimensions of the *Welland Canal*, estimated at 137,768 *l.* 20 *s.* 1 *d.*, but to which I consider may be added 13,776 *l.* 17 *s.*, making the amount 151,545 *l.* 7 *s.* 1 *d.*

The

The nature and locality of the ground being so minutely described by Mr. Stevenson, I consider it quite unnecessary to swell this Report by a recapitulation; and will now proceed to state the result of my subsequent investigation, in compliance with the spirit of your instructions, viz.:

"To ascertain whether the line now described is the best possible line of communication for the object in view, or whether, by a minute investigation of the country lying between the St. Lawrence and the St. Louis rivers, a more eligible and less expensive might not be found."

I accordingly proceeded on this service (Mr. Stephenson having retired to complete the section of the former line), and traced the River St. Louis, from its confluence with the Lake St. Louis in Beauharnois Bay, to its source, the country across from thence to Hungry Bay, and the intervening space, and ultimately fixed on the (dotted) line taking its departure from the Bay, below the former line at H., as being a probable line to connect the communication by way of the River St. Louis. The comparativements of each will appear in their respective estimates and advantages.

The favourable nature of the banks of the River St. Louis suggested the idea of its being made available, at a comparatively small expense, on the principle of damming (which has been pursued with so much success on the Rideau), and which a minute examination thereof demonstrated to be feasible, to a certain extent, or as far as the character of the river supports the plan in its high banks, and which happens not to extend far beyond the point at which the line of junction from the St. Lawrence falls in, at or near the domain line, as above that point the banks assume tamer characters.

When first I laid off this line, it was my intention to have taken my departure from La Fleuris, marked I. on the plan, which would have materially shortened the excavation, but, on making up the calculation, found the expense of lockage across Chival Rouge Pointes on the St. Lawrence, to be more than double that of a continued line of excavation, which caused me immediately to abandon the idea of leaving the River at La Fleuris, and assume that at H., or at Autoine Le Duc's.

By this route I propose to carry the navigation down the River St. Louis to the lake below, at the Beauharnois Point, by a cut across (chiefly unconceded lands) of only nine miles, to River St. Louis, averaging nine feet deep of excavation, with three locks thereon, as shown on the plan and section accompanying, and thence following the course of the River St. Louis to the saw mill  $2\frac{1}{8}$  miles, the water being raised permanently three feet by a dam 16 feet in height by 250 feet in length, at said place, with a lock of eight feet descent, with some excavation from the bed of the river below of about 200 yards in length; thence along the river  $1\frac{1}{8}$  miles to point E. on plan and section, the water being raised sufficiently at said point, to throw back-water into No. 4 lock at the saw mill, by the construction of a dam by 14 feet in height and 190 feet in length, and thence with a lock of four feet descent; thence along a beautiful stretch and sheet of water, to be raised by a small dam at Beauharnois, cutting a few and passing over several of the streams river, the elbows being generally low meadow land, which brings the navigation to the present mill-dam at Beauharnois, in a distance of  $3\frac{1}{8}$  miles, on or immediately above which site I propose the construction of the above-mentioned dam across the mouth of the River St. Louis, at G., for which an excellent foundation, on a smooth hard grit rock presents itself, with banks in every way suited for the construction of such a work, being about 25 feet in height; and from hence the line terminates in the navigable water in Lake St. Louis, in Beauharnois Bay, sheltered from every wind that blows by the projecting points and islands opposite, forming a most convenient entrance (having 10 feet water within 125 feet of the point), in the short distance of half a mile, and which I propose to descend by four locks of 11, 10, 12, and 10 feet respectively, with intermediate excavation, and an embankment on one side corresponding with the ridge on the point, making in all four, 10 feet water in the River St. Lawrence, at point H., to a similar depth at P., in Lake St. Louis;  $15\frac{3}{8}$  miles, at an expense of 194,800 *l.* 7 *s.* 11 *d.*; for locks,  $200 \times 55 \times 9$  feet water; and for ditto,  $134 \times 33 \times 8$  feet water, 136,000 *l.* 17 *s.* 10 *d.*; and in the recapitulation of constructsures, thus:

By nine miles' excavation, averaging nine feet. Nine locks of 8, 11, 8, 8, 4, 11, 10, 12, and 10 feet lifts, with three dams, 16, 14, and 18 feet in height, by 250, 190, and 150 in length, and six miles by River St. Louis, with balance in locks, &c. &c.

In recommending this route to your consideration as the more advisable, I ought, properly speaking, to confine my observation entirely to the subject of practicability and expense, which, as per detailed estimate, would appear to be decidedly in favour, was I not aware of the circumstances which have led to such an expense being incurred by the interests you represent, in so far as pointing out the comparativements of the several lines of communication, to those in whose hands are entrusted the arrangement of the proposed improvements of the River St. Lawrence, and who have already gone to much expense in ascertaining the practicability of such a communication on the opposite shore of the St. Lawrence.

Then, first, as touching the matter of estimate, leaving expediency out of the question for the present:

North Shore:		£.	s.	d.
1. Route by the Lake of the Two Mountains, as estimated by Mr. Mills		442,762	19	11½
2. Per inland route, along the bank of the River St. Lawrence, 16 miles		324,943	11	5
3. Per river improvement line, 16 miles		235,782	3	2½
On South Shore:				
1. Inland route along the 1st concession of Beauharnois		224,444	15	-
2. Communication, per River St. Lawrence		194,800	7	11

Those several estimates having been made up from similar premises, viz. for locks  $200 \times 55 \times 9$  feet water, the merits of each, so far as estimates go, can be appreciated. As to the practicability of the river route on the north shore, I can only form an opinion from the report of the engineer on the subject, and my own partial acquaintance with the route, in which, however, without any disparagement to the talents or ability of the individual, which, from the selections, must be beyond doubt, and from what I have seen of the river and its banks, I feel much disposed to think the undertaking would be hazardous, and attended at times with much inconvenience to the trade, and particularly

particularly from the apprehension of the velocity of the current in the spaces proposed to be navigated being much greater than expressed, and as appears at such variance with the velocities as expressed on the accompanying plan, ascertained from the laboured trigonometrical survey made under the direction of the Commissioners appointed for the improvements of the River St. Lawrence in 1830, and which seems to have been done at a season favourable to such work, and with much care and attention, and from which I caused the accompanying plan to be compiled, in order to show, geographically, the comparative merits of the several lines proposed; and the fact of such a line (that is, by way of the river improvements) being strictly confined to steam navigation, and that of the most powerful class of vessels, in consequence limiting the ascending, if not the whole trade, to be subject entirely to the monopoly of steam tow-boats' companies and their charges, to say nothing of the risk attendant on accidents on the verge of such terrific rapids; all which difficulties and inconveniences are avoided by a continuous line of navigation inland, whenever every class of vessels may pass along by the propelling or dragging power, as competition may render the most advisable, at all hours and seasons of open navigation, allowing every manner of craft, from the schooners and brigs navigating Lakes Huron, Erie, and Ontario, down to the smallest batteau, to participate in the general benefit, promote the interest of commerce in the more widely diffused opportunities of transportation, in place of being shackled by the monopoly which a river route must give to capital; in support of which I would instance the Forth and Clyde Canal in Scotland, connecting the Friths of Forth and Clyde, as well as the Caledonian Canal, but particularly the former, conveying sea-bound vessels with full cargoes, tracked through at as quick a rate as necessary, at a comparative trifle, diffusing over the very intervening and adjacent country the benefit of a national expenditure. It would, therefore, appear to me, that for the foregoing reasons the lines of communication, as now surveyed and estimated under your directions on the south shore, should not be brought in competition with a route entangling (if ever it is done) such inconvenience and disadvantages to the commerce of a country, but with the intermediate route on No 2, in the abstract, at an expense of 324,943*l.* 11*s.* 5*d.* *c**v.* the disparagement between which and either of the other estimates is sufficiently apparent, and speaks for itself.

Before closing this Report, I trust you may not consider it diverging from the object of my instructions, should I offer a few remarks on the scale of canal ordered by the Upper Canada Government, and the opinion of an engineer from the United States, a stranger to the motives and proper interests which ought to regulate the determination of the proper dimensions for a canal to connect the Atlantic with Lakes Ontario and Huron.

The great object must, of course, be to afford the greatest facility of communication at the least possible expense, with a due regard to the present and prospective interests of commerce, and the nature of craft likely to navigate such a communication with advantage and convenience to the public.

On the first, I should be disposed to think that the most practicable scale in execution and after-management, capable of passing the craft navigating the lakes above, with their cargoes, from numerous ports on these lakes, on both shores, embracing moderate-sized steamers, which experience on this river (I believe to the cost of enterprising individuals) fully establishes, should not be of the largest class, should determine the point of scale, and which has, in a great measure, regulated me in the dimensions of several works I have had the honour to estimate in these Provinces. In the proposed improvements of the Ottawa, by the back of the island of Montreal for the Home Government, and in the improvement of the River Trent, to connect the Bay of Quinte with lake Huron for the Upper Canada government, and which latter is now under consideration, locks 134 feet long  $\times$  33 in breadth  $\times$  7 and 5 feet water, and which, requiring an excavation of much less dimensions, as a matter of course must materially affect an estimate, and on which scale I have drawn up my second estimate for the services. Consideration of those immediately interested, amounting to 136,900*l.* 17*s.* 10*d.*, as my firm candid opinion of the proper dimensions for a practically useful and convenient work, and in which I understand I am supported, however singular it may appear, by the report of Judge Wright to his own countrymen (reporting on the practicability of a canal from Lake Ontario to join the Hudson), as about the proper dimensions for a ship canal, to oppose the canals projected on the River St. Lawrence. Forbearing from further comment on the subject, but referring to that report.

*For the large Scale of Locks, 200  $\times$  55  $\times$  9.*

Again: Allowing the very huge size to be adopted, however expensive and unmanageable, I would remark the unnecessary dimensions of excavation to correspond with the locks and depth of water required, viz. nine feet over the sills, and which will at once appear when I state the fact of the Caledonian Canal carrying 18 feet water, and passing large frigates and sea vessels, having the excavation only 50 feet wide at bottom, by 116 feet at surface; water-locks, I believe, 170 feet in length by 40 feet in width, and 30 feet in depth, with 22  $\frac{1}{4}$  miles of such excavation (projected and executed by the late Thomas Telford, Esq. civil engineer); from which it would appear that 68 feet, but say, in round numbers, 70 feet at bottom, with proportionate slopes, perfectly sufficient, and must cause a considerable difference of expense.

Having thus endeavoured to lay before you, in as condensed a form as the importance of the matter will admit, the result of my inspection, in terms of your instructions, and trusting the same may be sufficiently explicit,

I have, &c.

L. G. Brown, Esq. Beauharnois.

(signed) N. H. Baird,  
Member of the Society of Civil Engineers, London.

ESTIMATE of the Expense of Constructing a NAVIGABLE CANAL from Lake *St. Francis* to Lake *St. Louis* to avoid the Rapids in the River *St. Lawrence* between these Lakes, by way of the River *St. Louis*.—  
By *N. H. Baird*, Civil Engineer. 1835.

(Locks 200 × 55 × 9 feet water.)			£.	s.	d.	£.	s.	d.
Clearing land from settlement to River <i>St. Louis</i>	300 acres.	50 l.	750	—	—			
Grubbing - - ditto - - - ditto - - -	171 -	200 s.	1,710	—	—	2,460	—	—
Coffer-dam at entrance River <i>St. Lawrence</i> , and removing ditto	-	-	-	-	-	350	—	—
Excavation of 1st mile, mould and clay	191,302 yards.	7 ½ d.	5,936	—	5			
Ditto - 2d - - - ditto - - -	98,560 -	7 d.	2,874	13	4			
Ditto - 3d - stronger	136,400 -	9 d.	5,115	—	—			
Ditto - 4th - —	223,520 -	10 d.	9,313	6	—			
Ditto - 5th - —	214,720 -	9 d.	8,052	—	—			
Ditto - 6th - swampy ground	93,833 -	6 d.	2,345	16	6			
Ditto - 7th - —	17,920 -	7 d.	3,439	6	8			
Ditto - 8th - —	110,880 -	6 ½ d.	3,003	—	—			
Ditto - 9th - —	119,360 -	8 d.	6,512	—	—			
Ditto - check drains, 18 miles, say	18 -	20 l.	360	—	—			
Ditto - lock pit, River <i>St. Louis</i>	9,259 -	1 s.	467	19	—			
Construction of coffer-dam, and removing the same	-	-	100	—	—	47,523	1	11
Construction of dam at saw mill, 250 × 16	-	-	750	—	—			
Ditto - lock ( <i>see</i> Lockage.)	-	-	-	-	-			
Excavation of boulders, &c. from tail of No. 4 lock	1,200 -	2 s. 6 d.	150	—	—			
Construction of dam at point F. on Plan	250 × 14 -	-	650	—	—			
Excavation from dam site	2,000 -	1 s.	100	—	—	1,650	—	—
Construction of dam at Beauharnois Mill	150 × 18 -	-	1,150	—	—			
Excavation of lock pits, Nos. 6, 7, 8, & 9	34,711 -	3 s.	5,206	13	—			
Ditto - intermediate, between locks, &c. &c.	23,148 -	6 d.	578	14	—			
Ditto - ditto - - - ditto - - -	30,648 -	8 d.	1,021	12	—			
Embankment from front upwards, corresponding with ridge to former basin	4,444 -	1 s.	222	4	—			
Excavation, intermediate, between 8 and 9 lock	9,722 -	-	620	3	—	8,808	6	—
MASONRY OF LOCKS:								
Masonry of No. 1 lock, in cut of juncture 8	161,216 cub. ft	-	-	-	-			
Ditto - 2 - - - - 11	221,672 -	-	-	-	-			
Ditto - 3 - - - - 8	161,216 -	-	-	-	-			
Ditto - 4 - River <i>St. Louis</i> , 8	161,216 -	-	-	-	-			
Ditto - 5 - - - - 4	92,100 -	-	-	-	-			
Ditto - 6, 7, 8, 9, at Beauharnois, of 11, 10, 12, and 10 feet	956,536 -	-	-	-	-			
	1,763,956 -	11 ½ d.	-	-	-	84,106	4	6
Lock gates, including machinery, &c.	-	-	-	-	-	6,500	—	—
Construction and removal of coffer-dams, &c.	-	-	-	-	-	750	—	—
Swing bridges for — roads, same as on the Burlington Bay Canal	-	-	-	-	-	1,600	—	—
Excavation of — on River <i>St. Louis</i> , per detail	-	-	-	-	-	6,500	—	—
Damage to land, and compensations	-	-	-	-	-	3,500	—	—
Lockmasters' houses, plain rubble work	5	90 l.	-	-	-	450	—	—
Management, superintendence, &c.	-	-	-	-	-	5,195	6	7
						169,392	19	—
To which add 15 per cent. contingencies, such as extra claims, pumping water, accidents, &c. &c.						25,407	8	10
						194,800	7	10
Making a Total of - - - £.								

(E. E.)

Say one hundred and ninety-four thousand eight hundred pounds, seven shillings and ten pence, Hx. cy., and may be completed in three years, *i. e.* four winters and three summers, and for the above sum will be contracted for by responsible parties.

Montreal, 27 February 1835.

(signed) *N. H. Baird*, C. E.  
Member of the Society of Civil Engineers,  
London.

## PAPERS RELATING TO

	£.	s.	d.
Thus, on the scale of lockage, 200 × 55 × 9 feet water - - - -	194,800	7	10
Ditto - - ditto 134 × 33 × 8 - - - -	136,900	17	10
Difference - - - - £.	57,899	10	-

(signed) *N. H. Baird*, Civil Engineer.ESTIMATE of the different Routes, per Mr. *Mills*.

	North Shore.	South Shore.
Per Lake of Two Mountains - - - -	£. 442,762 19 1 $\frac{1}{2}$	—
Inland route - - - -	324,943 11 5 (Inland)	£. 224,444 15 -
River route - - - -	235,782 3 2 (St. Louis)	194,800 7 10

— No. 8. —

INSTRUCTIONS from the Board of Works to Mr. *Tate*, to Survey the South Channel of the River *St. Lawrence*, between *Grande Isle* and *Beauharnois*; and also a Route for a Canal through the Seignior of *Beauharnois*.

Sir,

Board of Works, 12 February 1842.

I AM directed to acquaint you that the Board are disposed to entrust to you the survey of the south branch of the *St. Lawrence* river, formed by the Island of *Beauharnois*, or *Grande Isle*, with the view of ascertaining the nature of that channel, and how far it could be adopted as part of the proposed navigation, between *Lakes St. Francis* and *St. Louis*. You will examine particularly its entrance from *Lake St. Francis*, its depth of water, nature of bottom, exposure to winds, &c.

Having surveyed this channel, and carefully taken the levels of the island and main shore, and the levels of the present surface water, and ascertained with precision the depth of the channel and the rate of the current, to such point as a departure from the river becomes advisable, you will then continue your survey and levels across the country, selecting the most favourable route for a canal, from the river to the *Lake St. Louis* at or near *Couvillon's Landing*, or such other point as may present greater advantages for the debouchment of the canal. In such parts of this line where the ground, by sloping, presents a choice of levels, you will take the cross levels necessary, to enable the Board to judge of the best route to be selected.

Upon your general survey and examination, should you find this course generally a feasible one, you will then proceed to ascertain particularly the breadth, depth, and nature of bottom of such parts of the river as may appear to you to be the place where the locks and dams should be located, to surmount the rise of the water. You will also examine with great care the sites for the several locks; and these the Board wish to be separate and distinct, with sufficient intermediate basins, and, if possible, not congregated, as has been heretofore proposed in the several plans given for this work.

The foregoing is a general line of the duty you are required to perform; but there are many other details connected therewith, which, of course, will strike a professional man of any experience in the course of the operation, as necessary to be examined and shown; so that the whole matter may be fully and satisfactorily laid before the Board, such as the levels of the small streams, and other discharges for the surface-water of the country, and how they may be affected by the levels you may propose to assume for your navigation, the difference of level between low summer and flood water, &c. &c. &c.

The Board expect the duty to be performed with the greatest expedition possible, consistent with its due and proper execution, and that the expenses of the survey will be restricted by the most scrupulous economy. They do not desire time to be devoted to preparing finished maps thereof, as the rough protraction from the field notes will answer every purpose in the first instance; and they will expect, weekly, a report on the progress you have made.

Should you ascertain that it is not practicable to follow this south channel for a certain length, and then cross the country to the lake, as described in the foregoing, you will proceed to run the direct levels of the line marked on the sketch you have traced in this office, formerly taken by Mr. *Stevenson*, nearest the river, through the front concession; endeavouring, at the *St. Louis* end, to select another route by which you will be enabled to place the necessary locks apart, and not combined, if possible. Should you be driven to adopt the route of Mr. *Stevenson*, or one near it, where the land is not level, the Board wish for frequent cross sections to be taken, and shown on the plan.

A letter has been written to Mr. *Wakefield*, apprising him of your having commenced operations; and the Board have no doubt but that that gentleman will be able to give you much assistance.

I remain, &amp;c.

(signed) *Thomas A. Begley*,  
Secretary.*C. M. Tate*, Esq. Civil Engineer.

No. 9. —

## FIRST REPORT of Mr. Tate.

Sir,

Beauharnois, 21 March 1842.

IN compliance with the letter of instructions of the 12th of February last, which I had the honour to receive from the Honourable the Board of Works, directing me, previously to proceeding to the marking out of the line for the canal, as selected by Mr. Stevenson, to examine with great care and accuracy the south channel of the river, or that portion of it which runs between the Grande Isle and the main land of Beauharnois, for the purpose of ascertaining how far it could be adopted as part of the canal, either by the use of dams or otherwise; I have proceeded to examine the above-named channel, and entrance thereto from Lake St. Francis, and I beg to lay the following Report before the Honourable Board, as a criterion whereby to estimate the advantages this section of the country possesses for a canal:—

It will be well to state briefly, what a good navigable canal requires; and,

1st. In the first place, it is essential that the entrance and debouchment be of easy access, and at all times, and that the supply of water be ample and steady, not dependent on the operations of nature.

2d. That the line of communication from one point to the other be as direct as possible, and free from liability to injury from the subsequent operations of nature.

3d. That the locks should be of convenient approach, easily worked, and with sufficient intermediate reaches.

4th. That the above objects should be attained by the least expensive means.

Keeping these principles, therefore, strictly in view, I proceeded to examine the entrance from Lake St. François, the south channel, the intermediate country, and the proposed debouchment into Lake St. Louis.

## First in order is the Entrance:

At the the foot of Lake St. François, a point on the south eastern side, extending from the shore of Hungry Bay, called Grosse Point, forms one side of a small bay, called Chartier's Bay, which is the mouth of the south channel, or of that portion of the River St. Lawrence which runs between the Grande Isle and the main land of Beauharnois; the other side of this bay is formed by an island called Clarke's Island, or L'Isle aux Chats. Upon considering the capabilities of this bay as a harbour, or entrance to a canal, it will appear to be sheltered by Grosse Point from the prevailing wind, which is south-west, as well as protected from the swell of Hungry Bay, from which it is quite distinct and separated. It has an entrance of sufficient extent and depth of water, in the whole breadth of which, 1,188 yards, there are two shoals of small extent, upon one of which is a rock with but five feet of water over it. There is every facility for removing these shoals if necessary, but from the fact of their being three entrances of from 600 to 1,200 feet in width, and with a depth of water varying from 12 to 20 feet, it may be deemed sufficient to place buoys at these points.

Pursuing the channel down, there is a fine reach, extending a mile and a quarter, with a good clay bottom, and sheltered from the winds; the current does not exceed two miles per hour, and there is 10 feet of water at 120 feet from the shore. Here, therefore, is a safe and good anchorage from Grosse Point to a Point called M'Pherson's, a distance of two miles and five chains.

This harbour, then, fully comes up to the standard of an unexceptionable entrance.

The description which I have given of this entrance as a harbour, founded on actual survey, differs in very important particulars from the maps on which the north line connecting Coteau du Lac and Vaudreuil is marked. In all those maps which I have seen, Grosse Point is placed out of its true position, to the extent of  $1\frac{1}{2}$  mile nearly, and is made to appear as a serious impediment to the free navigation of vessels sailing out of the harbour into Lake St. François. According to the assumed position of Grosse Point, it would have formed but an indifferent harbour; according to the true position of this point, the harbour could scarcely be surpassed in all desirable qualities.

Pursuing the south channel down past M'Pherson's Point, the current increases in velocity, and ceases to afford any favourable opportunities for the purposes of a canal.

The nature of the banks, falling gradually as they do with the level of the water, would render the damming of the channel not only a work of difficulty, but of very great expense; whilst the height descended, and the distance gained, would form no adequate equivalent for the expense incurred in resorting to this method of forming this portion of the canal.

Having thus examined, in the first place, according to the tenor of my instructions, the entrance and south channel, I proceed to the line connecting M'Pherson's Point with Couvillon's Landing.

Entering into cutting at M'Pherson's Point, the line takes a course past the great eddy, where it proceeds to the end of the first range of concessions. It then follows the division line between the first and second ranges of concessions, until it enters the Buissen Domain, where it curves gradually to the north till it descends from the high ground to near Couvillon's Landing, at which place it enters the river at the foot of the Cascades.

The position of this point, called Couvillon's Landing, affording, as it does, a sufficient depth of water at a distance of 132 feet from the shore, and being in a cove between two natural ridges of rock, is further rendered desirable for a debouchment, from being at the upper end of an eddy which extends nearly from St. Louis Point, a very favourable feature, and one which will be calculated to assist the navigation up to the canal in a material degree.

Upon applying this debouchment to the foregoing standard, it appears to possess the necessary points. Having examined the shore of Lake St. François from the upper end of Hungry Bay, and the bank of the river the whole way down, I am satisfied that the line contains no points more favourable than those abovenamed for a debouchment and entrance.

In proceeding to the section of the line, from the accuracy of Mr. Stephenson's Report, it will be needless for me to enter into minute detail; I shall therefore merely state, that the work on the line is very slight, generally not exceeding what will be required for finishing the banks; and that this line is followed, except in one or two instances, where advantage was to be gained by a trifling divergence.

The characteristics of the line are, that it embraces the whole fall of water between the two lakes; that the entrance and debouchment are amply convenient as harbours; that it is wholly independent

independent of the river, and of those operations of nature which, besides effecting the supply of water, are apt to render the ultimate cost much greater than the first outlay; that the descent of the navigation is singularly gradual, and the cuttings proportionably moderate; and that the locks are separated to a degree sufficient for all the purposes of navigation.

I beg to conclude with one general observation: Considering the distance between the two levels of water in the lakes, and the extent of the fall which has to be overcome, it appears as if nature had, in a singular degree, made compensation for the great impediments in the watercourse, by affording on the land by its side unusual facilities for establishing, at a moderate expense, an efficient and permanent artificial navigation.

The fall of the land very closely accompanies the fall in the water.

The watercourses crossing the line are unimportant, and there are no gullies of the least consequence.

The soil is of a kind to render cutting easy, and for the last 79 chains the line passes along on a bed of sandstone rock, which rock, long used for dwelling-houses in the neighbourhood, appears to stand the climate well, and will, I have every reason to believe, produce, from the excavation, a sufficient quantity of good backing stone for the masonry of the locks, whilst the refuse will be most convenient for the masonry of the piers at the entrance to the canal.

I have, &c.

T. A. Begley, Esq.  
Secretary to the Hon. the Board of Works.

(signed) Charles Maitland Tate.

— No. 10. —

SECOND REPORT of Mr. Tate.

Sir,

Beauharnois Canal, 13 August 1842.

I BEG to lay before the Honourable the Board of Works, the following Report of the progress of the works of the Beauharnois Canal.

The works, on that portion of the canal comprised between stations 146  $\frac{1}{2}$  and 128, which were commenced on the 12th of last month, are advancing rapidly, and present a good appearance: the north bank of the canal is up to its height at several places.

The accompanying Statement will show nearly the amounts done between the stations:

From Station	Cubic yds.	From Station	Cubic yds.
146 $\frac{1}{2}$ to 146	1,504 94	136 $\frac{1}{2}$ to 136	2,251 33
146 to 145 $\frac{1}{2}$	1,484 20	136 to 135 $\frac{1}{2}$	2,218 33
145 $\frac{1}{2}$ to 145	1,467 90	135 $\frac{1}{2}$ to 135	2,750 00
145 to 144 $\frac{1}{2}$	1,654 33	135 to 134 $\frac{1}{2}$	2,677 75
144 $\frac{1}{2}$ to 144	1,826 70	134 $\frac{1}{2}$ to 134	1,994 66
144 to 143 $\frac{1}{2}$	2,090 69	134 to 133 $\frac{1}{2}$	1,833 33
143 $\frac{1}{2}$ to 143	2,144 92	133 $\frac{1}{2}$ to 133	1,833 33
143 to 142 $\frac{1}{2}$	2,408 30	133 to 132 $\frac{1}{2}$	2,124 83
142 $\frac{1}{2}$ to 142	2,684 00	132 $\frac{1}{2}$ to 132	3,385 06
142 to 141 $\frac{1}{2}$	3,388 81	132 to 131 $\frac{1}{2}$	2,595 63
141 $\frac{1}{2}$ to 141	1,383 06	131 $\frac{1}{2}$ to 131	2,693 90
141 to 140 $\frac{1}{2}$	2,791 81	131 to 130 $\frac{1}{2}$	River St.
140 $\frac{1}{2}$ to 140	2,402 16	130 $\frac{1}{2}$ to 130	Pierre.
140 to 139 $\frac{1}{2}$	2,799 50	130 to 129 $\frac{1}{2}$	3,246 46
139 $\frac{1}{2}$ to 139	2,522 60	129 $\frac{1}{2}$ to 129	2,214 29
139 to 138 $\frac{1}{2}$	2,978 07	129 to 128 $\frac{1}{2}$	2,433 39
138 $\frac{1}{2}$ to 138	1,796 66	128 $\frac{1}{2}$ to 128	2,376 00
138 to 137 $\frac{1}{2}$	3,025 00		
137 $\frac{1}{2}$ to 137	3,162 50		
137 to 136 $\frac{1}{2}$	3,795 00		
		TOTAL - - -	83,879 52

Nearly the whole of the Irish employed being emigrants but newly landed, many of them having suffered severely on the voyage out, and by subsequent privation, the progress of the work has not been quite so satisfactory for the earlier part as it has now become; the men, by daily food and rest, and regular practice, are now becoming more energetic, and are working with better heart.

The same observations may be, to a certain extent, applicable to the Canadians, who, at first, unused to steady work, and unacquainted with this species of labour, are now in a condition, by judicious management of the former, to compete with the others in the performance of a day's work.

The general health of the men has been very good; at present there is but one man dangerously ill, and the doctor informs me that he has great hopes of his restoration to health.

The conduct of the men and foremen has been very good; no collision or angry feeling has arisen between the races, and but five men have been discharged for bad conduct.

These circumstances, together with the favourable state of the weather, favour the supposition that this portion of the line of the canal will be speedily executed.

I am in daily expectation of the arrival of a quantity of tools from Cornwall, consisting of picks and wheelbarrows, the want of which is now becoming very apparent.

I have, &c.

Thomas A. Begley, Esq.  
Secretary, Board of Works.

(signed) Charles M. Tate, Assistant Engineer.

— No. 11. —

THIRD REPORT of Mr. Tate.

Sir,

Beauharnois Canal, 1 September 1842.

I beg to present to the Honourable the Board of Works a Report of the progress of the works of this canal, from the 14th of August to the present day.

The works have been going on in a very satisfactory manner, and the anticipations expressed in my last Report have been in a great measure realised. I have now little doubt but that the work will continue to advance equally well.

The amount of work executed since the last Report is as follows:

From Station	Cubic yds.		From Station	Cubic yds.	
123 ½ to 124	1,660 5		139 ½	1,538 0	} Excepting the slope on one side.
124 to 125	1,324 5		140	1,529 5	
125 ½ to 126	1,339 2		140 ½	1,110 4	—
126 to 126 ½	1,310 0		141	2,307 5	—
126 ½ to 127	1,375 0		141 ½	797 3	—
127 to 127 ½	697 8		142	2,275 2	Trk. finished.
127 ½ to 128	900 0		142 ½	894 3	
128 to 128 ½	748 0		143	1,252 7	} Ex'n finished and slope on one side.
128 ½ to 129	2,863 5		143 ½	1,277 2	
129 to 129 ½	2,538 2	Ex'n finished.	144	1,172 6	—
129 ½ to 130	2,305 4	—	144 ½	988 0	
130 to 130 ½	2,164 0	—	145	1,131 3	
130 ½ to 131	955 0	—	145 ½	982 2	
131 to 131 ½	795 0	—	146	730 9	
131 ½ to 132	-	} Valley of the St. Pierre.	146 ½	541 4	
132 to 132 ½	-			147	1,128 5
132 ½ to 133	-	} {Trk. finished, not sloped.	147 ½	1,727 0	—
133 to 133 ½	1,188 0			148	1,408 0
133 ½ to 134	1,698 0		148 ½	1,408 0	—
134 to 134 ½	734 0		149	1,287 0	—
134 ½ to 135	536 0		149 ½	1,287 0	—
135 to 135 ½	1,576 0		150	1,283 3	—
135 ½ to 136	851 0		150 ½	1,213 6	—
136 to 136 ½	2,310 9	Ex'n finished.	151	1,256 0	—
136 ½ to 137	1,161 8	—	151 ½	1,256 0	—
137 to 137 ½	2,142 6	—	152	1,228 3	—
137 ½ to 138	882 2	—	152 ½	1,242 1	—
138 to 138 ½	1,392 9	—	153	843 8	—
138 ½ to 139	149 8	—			
	2,370 2	—	TOTAL	75,023 5	

The banks are nearly to their height for the greater part of the distance, and they present a substantial and workmanlike appearance.

The conduct of the men continues to be very good, no disturbance of any kind having occurred, either amongst the immigrant labourers or between them and the Canadians.

A considerable portion of the quarry has been opened, and the stone already gotten, although of not sufficient thickness for facework, averaging only 13 inches, will be admirably adapted for backing, as it comes out in regular thicknesses and of good size. It is hoped that the lower bed will be found of a suitable thickness. This stone, although hard, breaks well, and it is thought that it will be no more severe on the tools than a sandstone.

I have, &c.

(signed) Charles Maitland Tate,  
Assistant Engineer.

— No. 12. —

FOURTH REPORT of Mr. Tate.

Sir,

Beauharnois Canal, 15 September 1842.

I beg to submit the following statement of the progress of the works of this canal to the honourable the Board of Works.

The weather has not been so favourable as during the previous fortnight, and some delay has occurred in consequence; the work, however, advances satisfactorily, and the utmost good feeling continues to exist amongst the men.

The following is the measurement of the work done since the 1st of this month:—

From - - 241 ½	Cubic yds.		To Station 139 ½	Cubic yds.	
to 242	271 81		to 202 10	202 10	Banks finished.
243	542 63		140	1,095 9	—
244	542 63	End of sec. 7.	140 ½	631 5	—
245	806 63		141	1,595 5	—
124	440 00		141 ½	1,580 7	—
125	2,191 20	Banks finished.	142	441 4	—
125 ½	1,939 81	—	142 ½	930 1	—
To Station 126	1,939 81	—	143	101 2	—
126 ½	1,998 30	—	143 ½	—	—
127	1,936 70	—	144	—	—
127 ½	1,305 30	—	144 ½	—	—
128	751 80	—	145	—	Banks unfinished.
128 ½	—	Finished banks.	145 ½	—	—
129	—	—	146	—	—
129 ½	—	—	146 ½	—	—
130	—	—	147	—	—
130 ½	Valley of St. Pierre will be filled up by next measurement.	—	147 ½	—	—
131		—	148	2,612 50	—
131 ½	—	Finished banks.	148 ½	999 32	—
132	—	—	149	1,449 00	—
132 ½	—	—	149 ½	1,169 16	—
133	1,404 48	Banks finished.	150	1,561 56	—
133 ½	2,112 00	Banks unfinished.	150 ½	2,204 10	—
134	2,561 46	—	151	2,154 30	—
134 ½	2,561 46	Banks finished.	151 ½	2,147 00	—
135	1,577 30	—	152	2,156 30	—
135 ½	678 44	—	152 ½	2,150 70	—
136	—	—	153	3,049 10	—
136 ½	—	—			
to 139	—	Banks finished.		53,838 70	

A considerable quantity of valuable backing stone has been gotten out during the last 12 days, and the quarry will evidently turn out to be of great value. The bed of stone mentioned in my last Report is 19 inches thick, much more easily wrought, and of deeper colour than the top beds. This bed is a large one, extending over the quarry as far as it is yet opened. There is a bed of about six inches underneath this, and then another bed, into which a drill has been entered 14 inches; this bed, it is thought, will be of more value than the upper one.

In altering the direction of a portion of the little River St. Pierre, we have met with solid rock of the same quality nearly as that which occurs at Couvillon's Landing. This rock, it is hoped, will make sufficient backing for the culvert of the St. Pierre, at 100 feet distance, and also for the lock at a distance of about 15 chs. This circumstance will cause no inconsiderable reduction in the expenses of executing the above-named pieces of masonry.

I have, &c.

(signed) *Charles M. Tate*, Assistant Engineer.

— No. 13. —

LETTER from Secretary of Board of Works to Mr. *Tate*, containing further Instructions.

Sir,

Board of Works, Kingston, 6 July 1842.

I EXPECT the President here on Friday, and suppose he will immediately send you instructions for your guidance; until then I must defer answering your letter of the 28th ultimo.

As I consider the Board will be very anxious to have all the soundings possible, and understanding that you are not otherwise employed, I consider it advisable you take further soundings about the upper entrance of the canal, and ascertain, not only the depth of the channel leading from thence into Lake St. Francis, but also the breadth of the same, more particularly at the shoaler parts.

I remain, &c.

(signed) *Thomas A. Begley*, Secretary.

C. M. Tate, Esq. Civil Engineer,  
Beauharnois.

— No. 14. —

REPORT of the President of the Board of Works on the *Beauharnois* Canal.

Sir,

Montreal, 1 August 1842.

I HAVE the honour to acknowledge through you the protest or remonstrance forwarded to his Excellency the Governor-general, by Mr. Simpson, against what he states to be "the recently selected

selected line" of the St. Lawrence Canal. The general tour of inspection, on which I have been engaged for some time, has prevented my receiving that document until within the last day or two. I now hasten to lay before you such facts and information connected with the matter as will, I trust, fully satisfy his Excellency that the opinion of council upon which he has acted, in giving his sanction to the proposed canal being constructed on the south side of the river, was not adopted without full and mature consideration; that my departmental Report, upon which principally the Council founded that opinion, was not made without due examination and abundant well ascertained data; and, finally, that in acting upon that Report, the Council was but carrying out the plan, as estimated for and submitted to and approved of by the Legislature. No expression of disapproval on the south side was used in the House, as I understood; but it did strongly express its disinclination to have the completion of any portion of the navigation of the St. Lawrence deferred for or contingent upon the procuring of a loan from any private company.

The selection of the most eligible route for this canal has received a great deal of attention, professional and otherwise, for a long time. It is more than 20 years ago, I understand, since the first survey was instituted, and there have been, in all, 10 surveys made from that time to the present, of which the following is an abstract:—

1. The first was made about 20 years ago, by a French engineer, who, having generally examined both sides of the river, located the work on the south side. This gentleman's Report I have not been able to obtain; but the result of it, as stated, I have had from highly respectable authority.

2. The second was made in 1833, on the north side, by Mr. Mills, under the direction of the then Commissioners, among whom were Messrs. Harwood and De Beaujeu, the seigniors of the properties adjoining, and through which it was proposed to run the canal. This line entered the river from M'Donald's Point, near Mr. Simpson's house. It was to be maintained partly in the river and partly by artificial cuts, and terminate at the foot of the Cascades. The estimate, 235,782*l*. The objections to this line are strongly and fairly set forth in the Reports of Messrs. Baird & Stevenson, and are, in my judgment, insuperable. Its entrance is represented to be obstructed by shoals, and being on the lee shore of Lake St. Francis, with the much-prevailing south-west wind blowing in, sailing craft frequently could not get out, when they could without difficulty leave the opposite side. Of this line (about 14  $\frac{3}{4}$  miles in length) nearly eight miles are in the river, having in places a velocity of five miles an hour, and there are three parts of canal alternating with two of river. The canal portions are principally effected by cutting across projecting points, and by building locks; and in sundry parts, in order to avoid deep cutting into the high banks of the river, which are here composed of a sleechy clay, with veins of sand, and are very much given to slide, it was intended to form the canal by moles or dams, to an extent of about 13,000 feet in length, and in some cases in very deep water and in rapid currents. The foundations of all the locks, as well as those of the dams, are under the immediate influence of the river, and the difficulties of construction generally on this line would be so great, that I am confident it could not be effected for the estimate; in this opinion I am joined by Colonel Phillpotts, who estimated it at little less than 500,000*l*, and who, I have every reason to believe, selected it as the best the north side afforded, with reluctance.

3. The third survey was also made by Mr. Mills on the north side, commencing and ending at the same points respectively as No. 2. The estimate for this route is 324,943*l*. This line Mr. Mills himself did not recommend, and among other practical objections, is liable to that of having the whole of the lockage (82 feet) combined in one spot.

4. The fourth survey was made again on the north side by Mr. Mills. Starting from the same point as Nos. 2 & 3, but crossing through the seigniories of Messrs. Harwood and De Beaujeu, it terminated at the Lake of the Two Mountains, near the village of Vaudreuil, about a quarter of a mile from Mr. Harwood's house. Mr. Mills' estimate for this line was 444,762*l*, and it also was not recommended by that gentleman.

5. The fifth survey was made by Mr. Stevenson in 1833 on the south shore, passing through the seigniory of Beauharnois. The estimate, 224,444*l*. In speaking of this route Mr. Stevenson says, "The whole of this route, taken together, therefore, presents perhaps one of the most advantageous that can be imagined; the excavation is comparatively easy, and the greater part of it extremely so no embankments required but what can be made up from among the proceeds of the excavation; no large culverts necessary." In reporting on this line, Mr. Baird (an engineer of considerable experience, and who was employed on the works of the Rideau) states, "In all the course of my experience in practical engineering, I never traced a more eligible line for the same distance, the formation, quality (with but little exception), and direction, being everything that could be wished."

This is the line, with some trifling improvements, now being executed. It will be constructed, on the scale adopted, for 255,000*l*; but in drawing a comparison between it, on the same scale, and the cost of that on the north side, which Mr. Harwood states to be the cheapest, viz. 389,932*l*. the estimate for No. 5 (the one adopted) should be taken at 285,000*l*.

6. The sixth survey was made in 1835, by Mr. Baird. Mr. Baird also gives the preference to the south side, and in his Report fully corroborates Mr. Stevenson's Survey (No. 5) and Report. But Mr. Baird was disposed to go still more south, so as to adopt part of the River St. Louis, and terminate at Beauharnois village.

7. The seventh survey was that made on the south side by Mr. Keefer, in March last, resulting in the full confirmation of No. 5.

8. The eighth survey was made in April last, by Mr. Tate, and sustains equally with Messrs. Baird and Keefer, Mr. Stevenson's Survey and Report, No. 5.

9. The ninth survey consisted of the marking out of the line (No. 5) for execution; in the course of which more favourable features developed themselves daily.

10. The tenth survey was made lately by Mr. Keefer, of the line pointed out by Mr. Harwood on the north side, as being "the cheapest, and one not previously explored."

All these several lines of levels, in the Board's possession, taken from the year 1833 to the present, and crossing the country in all directions, the information derived from their engineer, who is intimately acquainted with the locality, especially of the north side, having been at the time, Mr. Mills' assistant in the surveys, the very satisfactory nature of the documents of Mr. Stevenson, in

favour of the canal on the south side, the full corroboration of those documents by Messrs. Baird, Keefer, and Tate, together with my whole general acquaintance with the country and nature of the strata, fully convinced me long since that the south side was the proper site upon which the canal should be constructed; this consideration is daily more and more confirmed by the result of the several steps now being taken in marking out the whole of the work for execution, as well as by the actual excavation which is rapidly being advanced, there being about 700 men at work for some time. This opinion I stated to Lord Sydenham two years ago, but the memoranda which I also furnished to that nobleman, previous to last session, and which were laid before the House of Assembly and printed by its order, and upon which the appropriation agreed to by that body were made, distinctly refer to the canal being made on the south side, and must therefore satisfactorily refute the assertion in Mr. Simpson's letter, as to "the line being recently selected."

Notwithstanding all these sources of positive information to which I have referred, and my perfect conviction founded thereon, that the country was sufficiently examined, seeing the continued interested mis-statements and misrepresentations which appeared in the public papers, and that Mr. Harwood had stated publicly and in print, that "there was yet another line unexplored on the north side, and which he was certain could be executed at less cost than any other," in order to set that point at rest, the engineer to the Board was directed to proceed to Vaudreuil, and having got Mr. Harwood to point out this line to him, to proceed to take the levels of it, so as to be enabled to form a comparative estimate of its cost. This duty has been effectively performed by Mr. Keefer; but as I do not consider it necessary to inflict upon his Excellency the wading through a mass of professional minutiae, I will confine myself to making three extracts from Mr. Keefer's report, viz:—

The water in the bay at the debouchment of the River Quinchiens, where Mr. Harwood's line terminates, and for a quarter of a mile all round it, will not average more than six feet water. I consider it necessary therefore to allow for "a bank or mole being continued about 200 feet from the shore down to the point where Mr. Mills' line (No. 3) enters (a distance of 3,700 feet); this bank should raise the water in the basin formed by it about six feet. Total length of Mr. Harwood's line,  $15\frac{1}{4}$  miles; it is therefore five-eighths of a mile longer than Mr. Mills', and  $3\frac{1}{4}$  longer than that on the south side."

Again, "The accompanying plan will alone convince you that Mr. Harwood has discovered nothing worthy the serious attention of Government, nor has he pointed out any favourable feature in the country that was not fully considered in the surveys that have been already made." Finally; "it would therefore appear, that the cost of the route proposed by Mr. Harwood would exceed that of Mr. Mill's inland route by about one-fifth (and would therefore amount to 389,932 £.) This I imagine is sufficient to show that it would be a fruitless task to go any further into details, or to spend any more time in making more elaborate examinations. The north side of the St. Lawrence between the lakes was thoroughly examined by Mr. Mills in 1833, and in that duty I assisted him and made out all his plans. From the intimate knowledge I have thus acquired of that part of the country, I feel a good degree of assurance in expressing the opinion that no line on the north side can be found to equal in economy in facility of navigation, or in freedom from the disturbing causes of flood and ice, the route intended to be pursued on the south side."

His Excellency, in his reply to the Vaudreuil address, has so fully exposed the insufficiency of military and political reasons adduced by the opponents to the canal on the south side, that I feel it only remains for me to notice the assertions of Mr. Simpson, "that water cannot be found at the entrance and exit of the depth contemplated in the canal; consequently vessels, which the canal would be capable of bearing, will be incapable of getting in or out."

Now, first as regards the proposed entrance to the canal from Lake St. Francis, Mr. Stevenson thus speaks:

"It commences in a cove above M'Pherson's Point in the south branch of the river, about half a mile below the upper end of Grande Isle, where the bank is low; and ten feet of water is found at 150 feet from the shore."

On the same point Mr. Baird says: "the first duty became the ascertaining of the most eligible points of departure from the lakes; for the depth of water required (nine feet on the mitre sill), with a due regard to the distance between these points."—"These requisites I found to exist in Lake St. Francis at or near the commencement of the south channel at B. and H. respectively; the former having been fixed on by Mr. Stevenson on his survey as the most eligible, and in which I perfectly coincide."

On the same point, Mr. Tate who was sent by the Board to take levels, soundings, &c. preparatory to the commencement of the work, thus speaks:

"At the foot of Lake St. Francis, a point on the south-eastern side, extending from the shore of Hungry Bay, called Grass Point, forms one side of a small bay called Chartier's Bay, which is the mouth of the south channel, or of that portion of the river which runs between the Grande Isle and the mainland of Beauharnois. The other side of this bay is formed by an island called Isle aux Chats, or Clarke's Island. Upon considering the capabilities of this bay as a harbour or entrance to a canal, it will appear to be sheltered by Grass Point from the prevailing wind, which is south-west, as well as from the surf and swell of Hungry Bay, from which it is quite distinct and separate. It has an entrance of sufficient extent and depth of water, in the whole breadth of which, about 1,188 yards, there are two shoals of small extent, upon one of which is a rock with but five feet water over it. There is every facility for removing these shoals, if necessary, but from the fact of there being three entrances of from 600 to 1,200 feet in width each, and with a depth of water averaging from 12 to 20 feet, it may be deemed sufficient to place buoys over them."

"Pursuing the channel down, there is a fine reach extending a mile and a quarter, with a good clay bottom, and sheltered from the winds. The current does not exceed two miles an hour, and there is 10 feet of water at 150 feet from the shore. Here, therefore, is a safe and good anchorage from Chartier's Bay to a point called M'Pherson's Point, a distance of two miles and five chains. This harbour, then, fully comes up to the standard of an unexceptionable entrance."

The elaborate chart of Mr. Thompson, a hydrographer of deservedly high standing, fully sustains the foregoing description of Mr. Tate's.

With respect to the entrance from Lake St. Louis, Mr. Stevenson thus speaks: "Having examined very minutely the coast of Lake St. Louis, from the harbour at Beauharnois village up to the foot of the rapids, a distance of about two miles, and found more than sufficient water for any

any vessel plying on the lakes, with a clear coast and smooth bottom; and near the foot of the rapids I found a little cove, at the landing of one Couvillon, offering the most convenient spot wherein to construct the entrance to a canal of this description."

The opinion of Mr. Tate on this position is as follows:

"The position of this point, called Couvillon's Landing, affording as it does a sufficient depth of water at a distance of 132 feet from the shore, and being in a cove between two ridges of rock, is likewise rendered further desirable for a debouchement, from being at the upper end of an eddy, which extends nearly from St. Louis point, a very favourable feature, and one which will be calculated to assist the navigation up to the canal in a material degree."

Mr. Tate concludes his Report with the following general observations:

"Considering the distance between the two levels of water in the lakes, and the extent of the fall which has to be overcome, it appears as if nature had, in a singular degree, made compensation for the great impediments in the watercourse, by affording on the land by its side, unusual facilities for establishing, at a moderate cost, an efficient and permanent artificial navigation. The fall of the land very closely accompanies the fall in the water; the watercourses crossing the line are unimportant, and there are no gullies of any consequence. The soil is of a kind to render cutting easy, and for the last 79 chains the line passes occasionally on a bed of sandstone rock; which rock, long used for dwelling-houses in the neighbourhood, appears to stand the climate well, and will, I have every reason to believe, produce from the excavation a sufficient quantity of good backing stone for the masonry of the locks, while the refuse of it will be most convenient for the construction of the piers at the entrance to the canal."

Mr. Keefer also describes Couvillon's Landing as a suitable, and the fittest spot to select for the entrance. The deep water he finds to run in close to the shore, as described by the other gentlemen, the eddy near the shore being auxiliary to vessels beating up in scant winds, and the outer current equally so in beating down, and the construction of two moderate piers on the ridges of rock, on each side of the deep channel, one to serve as a wharf or landing, the other to afford shelter from wind blowing up the Lake, will completely afford all the necessary convenience and accommodation.

I have thus, without noticing the various anonymous mis-statements which have been circulated, confined myself simply to giving the facts and the essence of the several Reports made, from time to time, since 1833.

I feel sanguine that they will fully satisfy his Excellency upon the subject, and I trust will, when known, remove from the public mind any false impressions which may have been made upon it. As deeply connected with the quiet and satisfactory progress of the work to which the foregoing relates, I would take the liberty of offering a few suggestions for the consideration of his Excellency, and the adoption of which I would respectfully urge upon his Excellency's serious attention, as tending in my humble opinion, materially to prevent collision upon the works of this canal, between the different races which it must be expected, will necessarily be congregated there, and which collision might lead to deplorable consequences.

The peculiar circumstances of this work seem to me to require some peculiar arrangements on the part of the government. An extensive public work is, for the first time, undertaken through a district entirely settled and inhabited by Canadians of French origin; a large temporary population of strangers will be introduced and brought into immediate contact with the settled inhabitants, and with whom the difference of language will not only be a bar to friendly intercourse, but it may too reasonably be apprehended that these strangers, whether labourers, contractors, or officers of government, will from being ignorant of the language, usages, and peculiar feelings of the people, be likely to give them offence, or do them wrong unintentionally. With respect to this point, it unfortunately happens that there is no capable engineer of French Canadian origin; but I have taken all the precaution in my power, by appointing two junior assistants of that race, and by the selection of a paymaster and accountant who understand the people and language. It is further to be feared, that petty trespasses, such as the pilfering of the gardens of the *habitans*, &c. &c. may frequently be committed, and engender irritation and hostility.

To guard against these evils which I apprehend, as well as to render the first commencement of extensive public works popular with the *habitans*, a few steps appear to me advisable to be taken.

1. Although I conceive that to ensure economy, and certainly in the execution of public works of this description, general competition and the contract system founded thereon, is absolutely necessary. I think that a certain portion of the line, say three or four miles, ought to be laid off in small contracts. These I propose to apportion among the residents, at the valuation of the engineer, and thereby, by giving a large portion of the *habitans* employment on their own account, lessen the probability of collision. As this course is directly departmental, I shall not hesitate to take the responsibility of acting on it, although in so doing I am sure to encounter further attack and obloquy.

2. The second point I consider to be, the having an Irish Roman-catholic clergyman resident for the time being near the work, who, from his acquaintance with the language and habits of that class, which, judging from the extensive emigration, will be in large numbers on the work, can exercise the salutary influence over them that such clergy are admitted to possess.

3. It would be of importance to have a French Canadian gentleman, perfectly conversant with the English language, upon the line generally, to attend at the payments, and explain between the parties, and who would give his whole time in keeping peace and promoting a friendly feeling, and to the arrangement of petty differences. He should be in the commission of the peace. The respective remunerations of these two gentlemen I consider can be borne from the estimate for the work.

4. It would be necessary to have a few of the steadiest of the police force close to the work, to prevent petty trespasses, and the other little causes alluded to as likely to create bad feeling.

5. Finally, in consideration of the circumstances which have recently taken place upon the Cornwall and Welland canals, I think it would be necessary to have, not on the work, but in the neighbourhood of it, a party of military (the regular force I would much prefer). Such arrangements being made, I entertain strong hopes that the direct interference of the latter would not be required.

Should his Excellency, upon consideration, be pleased to adopt these suggestions, or any of them, he can easily have them carried into effect.

I have, &c.

(signed)

Hamilton H. Killaly,

President Board of Works.

REPORT of a SURVEY for a CANAL on the North Shore of the *St. Lawrence*, on a Route suggested by the Honourable Mr. *Harwood*, Seignior of *Vaudreuil*.—By *Samuel Keefer*, Civil Engineer.

Sir,

Kingston, 5 July 1842.

IN pursuance of your verbal instructions of the 21st ultimo, I proceeded to Coteau du Lac, taking with me Mr. Harwood's memorial on the subject of the canal between Lakes St. Francis and St. Louis.

I sent for Mr. Harwood, and desired him to point out the route for a canal alluded to in the latter part of his memorial; and having gone over part of the ground with him, and obtained from him a written description of the proposed route, which is submitted herewith, I ran the level over it, from lake to lake, taking such levels and observations to the right and left as would give me a correct general idea of the country through which I was passing, that I might form an opinion as to there being any better line for a canal than those already surveyed.

Between Coteau du Lac and Smith's Falls, on the River à Delisle, I levelled over two lines, for the purpose of finding the lowest ground, as well as to ascertain the level of Smith's Falls, with reference to the lake. The lake is at present 15 inches higher than the water above Smith's Falls.

I think Mr. Harwood must be mistaken in stating Mr. Mills told him the water in River à Delisle, above Smith's Falls, was eight feet above lake St. Francis; for I can discover nothing in Mr. Mills' plans, report, or estimates that confirms it. If he had said that the surface of the water above Smith's Falls was eight feet above the bottom of his canal, he would have spoken nearly or quite correct; and as, in surveys of this kind, it is the practice of engineers to refer all heights and depths to bottom of canal, it would have been a most natural way for Mr. Mills to have answered the question.

In order that you may be able to form an opinion of the route proposed by Mr. Harwood, I will now enter upon a short description of it, which, with the accompanying plan, will at once convince you that he has not discovered anything worthy the serious attention of the government, nor has he pointed out any favourable feature in the country that was not fully considered in surveys that have been already made. In describing his route, I will also compare it with the inland route, No. 2, proposed by Mr. Mills, as it will show the uselessness of making an estimate of the cost.

*Mr. Harwood's proposed Line.*

1. Starts from the bay, above the steam-boat landing, at the Coteau du Lac, in which the water is quite shallow: it is 400 feet to 9 feet water.

The line runs in rear of the village, and follows the low lands above half a mile from the St. Lawrence, and crosses the River à Delisle nearly half a mile below Smith's Falls. This portion of the route is  $3\frac{1}{2}$  miles long, and averages a little more than 17 feet cutting: soil, clay, with some ridges, containing numerous boulder stones. The land falls towards the St. Lawrence.

2. After crossing the River à Delisle (which might be dammed, and the water turned through the canal, with a waste weir to carry off the flood waters,) the line turns gradually to the right, crosses the River Rouge near its mouth, follows up a branch of the Rouge, and then turns again to the right, and crosses St. Emanuel road, 400 yards from the St. Lawrence, runs parallel with the St. Lawrence at that distance till it crosses the River à la Graisse; it then runs along the south east bank of the River à la Graisse, at such a distance from it as will give about five feet cutting, in order that the excavation will be sufficient to make the banks, and crosses the Chemin St. Dominique, above 1,200 yards from the St. Lawrence.

This section is  $3\frac{1}{2}$  miles long, and averages 12 feet cutting; soil, clay. Requires one dam and two aqueducts.

3. From St. Dominique to St. Frioll the line continues up the valley of the River à la Graisse, and passes the summit or highest ground between that river and the Petite Quinze Chiens, one mile westward of St. Frioll. The cutting through the summit is  $8\frac{1}{2}$  feet deep; the line crosses the St. Frioll road near the cross, 8,300 feet from the St. Lawrence.

This section is  $2\frac{1}{2}$  miles long; soil, clay, with a slight mixture of sand in places; and the depth of cutting averages about six feet, or a little more.

4. The

*The Inland Route, (No. 2) of Mr. Mills.*

1. Starts from the bay, above M'Donald's Point, and follows along the low ground bordering the St. Lawrence, and has an average depth of cutting of 10 feet, and is  $2\frac{3}{4}$  miles long to the mouth of the River à Delisle.

2. Crossing the River à Delisle by an aqueduct, the line passes through Horse Shoe Bay, crosses the River Rouge near its mouth (about a quarter of a mile), and then runs in nearly a direct line thence to where it crosses the Chemin St. Dominique, about 1,000 yards from the St. Lawrence.

This section is  $3\frac{1}{2}$  miles long, and the cutting averages 12 feet; soil, clay. Requires three aqueducts.

3. Between St. Dominique and St. Frioll, this line takes a higher level, in a more direct line towards Cascades, and runs nearly parallel with the St. Lawrence.

The length of this section is  $2\frac{1}{2}$  miles; soil, clay, with a light mixture of sand, and the depth of cutting averages about nine feet.

4. Shortly

*Mr. Harwood's proposed Line.*

4. The depth of cutting at the St. Frioll road is seven feet. At the distance of half a mile from this road the line intersects the south bank of the Quinchien, it then follows along the bank of this creek, looking down at convenient places, till it at length descends into the bottom of the valley. At the St. Antoine road, this valley is 8,500 feet from the St. Lawrence; and consequently, before it joins the Ottawa above Cascades, it must take nearly a south-east direction, making the distance much longer.

To make one or more dams across this ravine, and by that means turn the drainage of the whole surrounding country through the locks, or over waste weirs, as suggested by Mr. Harwood, is highly objectionable; as in this case, not only would the works be placed in jeopardy by the land floods, but the rubbish and deposit brought down with those floods would be a constant source of annoyance, by settling in about the lock gates, and deranging their working.

For these reasons, and in order to obtain a desirable length of reach between each lock, I have considered it necessary in following this ravine to lay the canal partially in the south bank of the valley, cutting out enough to form an embankment on the north side, and thus by regular gradations descend to the bottom of the valley, and leaving a sufficient space between the canal embankment and the north bank of the creek for the necessary drainage of the lands. About one mile eastward of St. Frioll, this ravine is 200 feet wide at bottom, and 14 feet deep; the banks gradually attain a greater height, till at or near the debouchement of the creek they become 60 feet high; but the breadth of the ravine is here reduced to 80 feet at bottom. The banks have a slope varying from 2 1/2 to 3 feet to 1.

To an engineer, this would not by any means appear to be a desirable place to make a canal.

The length of this section is 6 1/2 miles, the soil chiefly clay, and the cutting (in order to institute a comparison) may be averaged at six feet, which is, perhaps, putting it in rather too favourable a light.

The water in the bay, at the debouchement of the Quinchien, and for a quarter of a mile all round it, will not average at present more than six feet deep; the bottom is a stiff clay. I have therefore considered it necessary to allow for a bank or mole being continued about 200 yards from the shore, all the way to the point where Mr. Mills places his water-lock, in route No. 2. This bank should raise the water in the basin formed by it about six feet, and the water-lock should be placed in the warm waters of the St Lawrence.

The total length of this line, as before described, is 15 3/4 miles, and the average depth of cutting 9.40 feet. This line is therefore five-eighths of a mile longer than Mr. Mills' inland route (No. 2,) and about three miles longer than the route through Beauharnois.

To compare the expense of these two routes in a rough manner, the cost may be taken in the compound ratio of the lengths and depth of cutting; *i. e.* :—

$$\begin{array}{l}
 \text{The cost of Mr. Har-} \\
 \text{wood's route.}
 \end{array}
 \left. \vphantom{\begin{array}{l} \text{The cost of Mr. Har-} \\ \text{wood's route.} \end{array}} \right\} : \left\{ \begin{array}{l} \text{Cost of Mr. Mills'} \\ \text{route (No. 2.)} \end{array} \right\} = 15\frac{3}{4} \times 9.40 : 14\frac{1}{2} \times 8.20.$$

$$\begin{array}{l}
 \text{or} \\
 \text{or}
 \end{array}
 \left. \vphantom{\begin{array}{l} \text{or} \\ \text{or} \end{array}} \right\} = 14.335 : 119.92.$$

$$\begin{array}{l}
 \text{or} \\
 \text{or}
 \end{array}
 \left. \vphantom{\begin{array}{l} \text{or} \\ \text{or} \end{array}} \right\} = 6 : 5 \text{ nearly.}$$

It would therefore appear that the cost of the route proposed by Mr. Harwood would exceed that of Mr. Mills' inland route (No. 2) by about one-fifth of the latter.

This, I imagine, is sufficient to show that it would be a fruitless task to go any further into detail, or to spend any more time in making more accurate and elaborate examinations. The north side of the St. Lawrence, between these lakes, was thoroughly examined by Mr. Mills, in 1833; and in that duty I assisted him, and made all his plans. From the intimate knowledge of this part of the country that I have thus acquired, I feel a good degree of assurance in expressing the opinion, that no line on the north side of the river can be found to equal, in economy, in facility of navigation, or in freedom from the disturbing causes of ice and flood, the route intended to be pursued on the south side of the river.

*The Inland Route (No. 2) of Mr. Mills.*

4. Shortly after leaving the St. Frioll road, this line will have only five feet cutting, and from thence it has perfect command of the ground, and may, by locking, be dammed in any direction; for which reason, undoubtedly, Mr. Mills has drawn a straight line to the hill at the Cascades. At the St. Frioll road, his line is 1,200 yards from the St. Lawrence; and at St. Antoine, 1,000 yards. At the Cascades, he is of necessity compelled to place nearly all his locks quite close together. The soil in all the upland is chiefly clay; but in descending to the lake, the line must pass through the rocky point of the Cascades.

The water-lock he places in the waters of the St. Lawrence, which, coming from a more southern climate than those of the Ottawa, are warmer, and sooner open for navigation. I have been credibly informed that the difference in time is from two to three weeks.

This section is 5 1/2 miles long, and the depth of cutting may be averaged at five feet.

The total length of this route, according to Mr. Mills' survey, is 14 1/2 miles, and the average depth of cutting is about 8.20 feet.

Mr. Mills' estimate for this route: locks, 55 feet x 200 feet x 9 feet, and canal 100 feet at bottom, is 325,000*l.*, and was made the same year he gave in his estimate for the Cornwall Canal (1833); the actual cost of which has greatly exceeded his estimate.

Respectfully submitted by, &c.

(signed) *Samuel Keefer,*  
Engineer, Board of Works.

Hon. Hamilton H. Killaly,  
President Board of Works.

— No. 16. —

SPECIFICATION for the Earth-work and Rock-work of the *Beauharnois Canal*, by *Samuel Kcefer*,  
Civil Engineer.

*Dimensions.*—The canal, generally, will be 80 feet wide at bottom, but where the excavation does not exceed five feet in depth for a distance of one quarter of a mile, the bottom will be made 100 feet wide.

The banks are to be raised 15 feet above bottom of canal, to be 12 feet wide at top, and the slopes inside and outside to have two feet base to one foot perpendicular. The bottom of the canal is to be one foot below the mitre sill, to afford 10 feet of water in the canal.

*Drain.*—A catch-water drain must be formed on the south side of the south bank, to drain off the surface water to the nearest discharge, and shall be of such size as the engineer may consider necessary for that purpose.

*Grubbing.*—All the trees, stumps, and roots are to be wholly removed from the space occupied by the canal and its banks, and either burned or removed to the outside of the banks.

*Mucking.*—In cuttings under 10 feet, all the surface soil containing vegetable or other matter, unfit, in the engineer's opinion, for forming the face of the banks, shall be stripped from the entire surface of the cutting (previous to commencing the excavation), and from thence on each side, for a breadth extending half way under each bank, and the same must be placed to form bank within the outside slope-stakes. The ground, thus prepared by mucking, must be kept three chains in advance of the banks; and no bank can be formed thereon until it has been inspected and approved by the engineer, or the foreman under him.

*Tap Drains.*—Lateral drains, for draining off the water below bottom of canal during the progress of the work, are to be formed at the contractor's expense, and only in such places as the engineer may approve of, in order to create the least necessary amount of damage to farms.

*Excavation.*—All the best earth for making tight banks must be placed in the front part, that of inferior quality in rear; and all stones that may occur in the excavation must be moved outside of the banks, except in certain cases, when there is a scarcity of materials for making banks where the engineer may direct them to be laid, so as to form the rear part of the embankment. In those parts of the canal where there will be a surplus of earth after forming the banks opposite, it must be taken either to form the nearest embankment, or it must be placed in spoil-bank evenly, on each side of the canal, as the engineer shall direct. The top of the spoil-bank must be levelled, and made so as to throw the surface water from the canal, and, if the engineer shall so direct, it must all be laid on one side of the canal. If the quantity of surplus earth is great, the spoil-bank must be raised from three to six feet above the towing-path, as the engineer may direct, and formed as shown in the margin; the slope of the face to be two to one.

*Embankment.*—In forming the banks, the earth, if carried by carts, must be laid on in courses not exceeding 12 inches in thickness, and all the best materials must be placed in front.

Where an embankment is to be formed in the river, as in section No. 1, it must be raised in the first place only 18 inches above the surface of the river, and made only half its proper breadth at that height, which half must be next the outside, in order that, after the water has been drained from the canal, the remaining inner portion of the bank may be formed in courses, as before described. Stones are to be thrown on the outside of the bank, to prevent its being washed away by the current.

The earth for forming the banks must be taken from the excavation, or from such other place as the engineer may direct.

*Puddling.*—Should it appear necessary, in the engineer's opinion, for the security of any of the banks, to resort to puddling, it must be done in the following manner. The seat of the bank having been prepared by making, as before specified, a trench must be sunk four feet wide and three feet deep, and deeper if the engineer should think it necessary. The best clay that can be procured must then be wrought into good puddle, by means of water, and through-working with the spade. The courses of puddle are to be only nine inches thick, so that in laying a superior course the spade may also penetrate the course below it; this done, the bank may be formed thereon with carts, in 12-inch courses, to the puddle at bottom, making a ditch  $3\frac{1}{2}$  feet wide, and taking care to incorporate the top course of puddle with that below it. The bank may then again be raised three feet, and the same process repeated in each course, to the top-water line of the canal.

## SPECIALLY FOR SECTION No. 2.

*Rock Excavation.*—In a thorough cut of solid rock, the bottom will be 55 feet wide, or as much wider as the engineer may direct; the sides perpendicular, and formed as true to the line as circumstances will permit, without making much use of the hammer. In such parts of this section as the engineer may consider it necessary, the contractor is to build a rough dry stone wall upon the upper edge of the rock cutting, of the material furnished thereupon, for the purpose of bringing the surface to a uniform level, and for retaining the inner slopes of the banks.

Any well-shaped serviceable stones for building, that may be found in this excavation, must be reserved for the backing of the locks; the remainder to be carried to form the piers at the lower entrance, or disposed of in forming the rear part of the embankment, as the engineer may direct.

In forming embankment on the surface of the smooth solid rock, after having removed all the substances unfit for bank from the place it should occupy, agreeably to the engineer's direction, a trench 10 feet wide, and from  $2\frac{1}{2}$  to  $3\frac{1}{2}$  feet deep, at the engineer's direction, shall be mined under the centre part of the bank, and thoroughly cleared of all loose stones, chips, and rubbish; this trench is then to be filled with clay, rammed as tightly as it can possibly be done, the clay to be  
put

put in courses not exceeding four inches in thickness, and just sufficient water used to bring it to a firm consistence.

The embankment is then to be formed thereon in courses, as before specified, and if the engineer thinks it necessary, a puddle-bank must be carried up therefrom, in the manner before described, as high as to top-water line.

All the spare earth in the reach below lock No. 5, must be carried to form the embankment below lock No. 6, and whatever other earth may be required to form the banks below lock No. 7, shall be taken from the adjacent clay banks, at such places as the engineer shall direct.

The whole of the work is to be done in a permanent and substantial manner, according to the true intent and meaning of the foregoing specification, and to the full satisfaction of the Board of Works, or their engineer for the time being.

Beauharnois, 19 August 1842.

(signed) Samuel Keefer,  
Engineer, Board of Works.

— No. 17. —

CORRESPONDENCE between His Excellency the Governor-General and the Colonial Secretary, relative to the Placing of the CANAL on the SOUTH SIDE of the St. Lawrence.

Sir C. Bagot's Despatch to Lord Stanley, 19th July 1842, No. 137, *vide* p. 88.

Lord Stanley's Despatch to Sir C. Bagot, 20th August 1842, No. 235, *vide* p. 93.

(No. 165.)

My Lord,

Government House, Montreal, 6 August 1842.

With reference to my despatch to your Lordship of the 19th ultimo, I have the honour to transmit to your Lordship herewith a copy of the Report made to me by the Chairman of the Board of Works, as to the relative advantages of constructing the canal between lakes St. Louis and St. Francis, on the north or south shore of the St. Lawrence. I trust that the statements contained in this Report will convince your Lordship of the propriety of my decision to undertake that work on the south side.

1716: 1 Aug.

I have adopted what appeared to me to be the necessary precautions to prevent misunderstandings between the inhabitants of the country through which the canal will run, and the labourers employed on the work.

The Right honourable the Lord Stanley,  
&c. &c. &c.

I have, &c.,  
(signed) Charles Bagot.

— No. 18. —

STATEMENT of the OBJECTIONS to the Location of the CANAL on the South Side of the St. Lawrence, by John Simpson, Esquire, a Member of the Committee.

I.—The Western Terminus.

- 1st. Because it abounds in rocks and shoals.
- 2d. That there is no passage out of it, unassisted by a tug-boat.
- 3d. That, when high winds prevail from the north or north-west, from the south or west, even tug-boats (without which it would be impossible to get out), would endanger the boat or damage the cargo.
- 4th. That the set of the current and the prevailing winds render it not only difficult, but also dangerous, to approach that shore.
- 5th. That there is no safe anchorage near the western terminus, nor for seven miles of its approach.
- 6th. That it is dangerous, nearly at all times, to approach M'Pherson's Point; that if a vessel, in attempting to enter the mouth of the canal, should miss the Channel, it would put in the utmost peril the crew, cargo, and boat.
- 7th. That a vessel, to go into or out of the entrance, could alone do so during daylight.
- 8th. That, if a sudden squall arose, the vicinity affords no safe anchorage or harbour.
- 9th. That if by possibility a sufficient depth of water could be made in the Channel, free from rocks and shoals, the Channel is too angular to become practicable without tug-boats.

II.—That the Canal is a Provincial one, and that, if the North Side would cost 50,000 l. more than the South, it would be economical and wise to place it on the North Shore.

- 1st. Because the River St. Lawrence would afford a wide and nearly impassable barrier to the incursions of a foreign enemy, or to the discontented refugees of this province.
- 2d. That it would be cheaper and easier to defend canals on one side of the river than to be forced to divide troops for that purpose, with this dangerous part of the river between them.
- 3d. That the level on both sides being alike, the locks must be the same on each; that the difference in the expense can consist only in the excavation, whether that be in the number of cubic yards or the rocky quality of it.

That the south side would require 1,763,956 cubic yards, at 11 1/2 d. per yard - - £. 84,106  
That the north side requires - - - - - a' 12 1/2 d. - - -

4th. That the first estimate or survey of a French engineer is not before us, and appears on the authority of hearsay only.

5th. That the surveys and estimates of Messrs. Stevenson & Baird were by order of the seignior of Beauharnois, to enable him to dispose of the seigniori, and should be therefore, deemed of little or no authority.

— No. 10. —

FIRST PART of a REPORT of a SURVEY for a CANAL on the NORTH SHORE, made by order of  
Messrs. Simpson & Harwood.—By William R. Casey, Civil Engineer.

Gentlemen,

Coteau du Lac, 5 September 1842.

I have the honour of submitting to you the first part of a Report on the survey of a route for a canal on the north side of the St. Lawrence, joining Lakes St. Francis and St. Louis. As this survey has been rendered necessary by the letter of the Hon. H. H. Killaly, of the 1st August, addressed to the late chief secretary, it will be proper to examine that communication with some care. The two points at issue are, the entrance into the canal from Lake St. Francis, and the comparative costs of construction on the two sides of the St. Lawrence.

The letter referred to is very explicit on the former head; and as the position of the mouth of the canal is given, and the number, depth, and width of the channels between the Beauharnois side and Clarke's Island clearly stated, every opportunity is afforded to those taking an interest in the question to go and sound for themselves, an operation of which every man is capable, and of which he cannot well doubt the result.

Not so, however, with the cost of the canal proposed; and on this subject, beyond the statement that the canal on the south will be three miles shorter than the line on the north side, there is not a particle of engineering information given so that even after surveying the north side, and with some acquaintance with the south side also, I am still unable to offer any reasons why the cost on the north should exceed or fall short of that on the south side. By reasons, I do not mean opinions or impressions, but facts and information, placed in such a light as to enable every thinking man to judge for himself. Opinions, even from the highest judicial tribunals, are backed by facts or reasons; but here it is merely stated that Mr. S., M., B., &c. gave the preference to the south side, in which the Board agrees, and therefore the case is proved. This objection becomes, however, most formidable, when we reflect that the whole object of the letter is not, by taking high ground, to state fairly and openly the comparative advantages of the rival lines, and show why this or that has been preferred; but the aim of the writer is to quote only such opinions, parts of opinions, facts, and casual observations, as to the incautious general reader appear to favour the south side.

Thus, what weight is to be attached to the opinion of the French engineer, whose experience, character, and capacity, are as unknown to the public as is his very name to those who invoke his aid?

In speaking of the survey, No. 2, the line recommended by Mr. Mills, Mr. Killaly observes: "Its entrance is represented to be obstructed by shoals;" that is, the only entrance contemplated on the north side is merely known to the Board indirectly, and on examination into its merits, does not appear to be considered as at all required at their hands, whilst the entrance on the south shore has received every attention; and, not satisfied with quoting from the Report of Mr. Tate, the authority of Mr. Thompson, "a hydrographer of deservedly high standing," is brought in also, the whole being endorsed by the President himself, as sufficient "to fully satisfy his Excellency," and "remove from the public mind any false impressions."

Colonel Phillpotts estimated the cost of "the river route" at nearly 500,000 *l.*, on the scale of the Cornwall Canal; but this remark does not aid us in judging of the comparative cost of two inland canals of entirely different dimensions. I shall do the colonel the justice to believe that he never contemplated the possibility of the canal being placed on the south shore. Indeed, how could an officer of the corps of Royal Engineers, more especially Colonel Phillpotts, overlook, after the scenes of 1738, a proposition which an American civil engineer considered in 1833 so obviously clear, that the mere enumeration of it was sufficient to carry conviction.

Mr. Mills, in the very Report from which Mr. Killaly quotes, says, "There is a political objection to its being located on the south side of the St. Lawrence, which I will barely name."—"The work in contemplation must be considered national in its character, therefore ought to be so located as to be less in danger of foreign invasion." But this remark did not favour the Beauharnois side, and finds no place in the letter.

To the third survey it is objected, that it has "the whole of the lockage (82 feet) combined in one spot." \*No line can be found to which some objection may not be made, but is this objection of weight sufficient to turn the scale against the north side? It may not be difficult to have two or three small reaches between the locks, which would obviate this objection. Then again, the facility with which materials can be procured, the greater economy of management, and the convenience to the boatmen in having all the locks within one mile, are objects worthy of serious consideration. The estimate is 324,943 *l.*, and deducting only one-fourth for the difference in size, there remains 243,707 *l.*, as the estimate of an inland canal on the north side, against 255,000 *l.*, the estimate of the inland canal on the south side. If estimates are to be adduced as evidence when they favour the south side, they should not be omitted when they favour the north.

The fourth survey was by Mr. Mills, and to this, as well as to the last, it is singularly enough objected, that Mr. Mills did not recommend them, although he expressly says, "I have determined to recommend the Plan, No. 1, along the St. Lawrence."

The

\* Mr. Mills's estimate shows this assertion to be entirely unfounded.—W. R. C.

The fifth survey was by Mr. Stevenson, and he very justly designates the south side as very advantageous.

I consider the north side as very advantageous, but not on that account preferable to the south.

Mr. Baird prefers the south side, but no reason is vouchsafed.

In a quotation from Mr. Keefer's Report, the following passage occurs, with the italics: "The north side of the St. Lawrence, between the lakes, was *thoroughly examined* by Mr. Mills in 1833, and in that duty I assisted him, and made out all his plans. From the intimate knowledge I have thus acquired of that part of the country, I feel a good degree of assurance in expressing the opinion that no line on the north side can be found to equal in economy, in facility of navigation, or in freedom from the disturbing causes of floods and ice, the route intended to be pursued on the south side."

Mr. Mills, in his Report of those very examinations, says, "I visited the south side of the St. Lawrence, and passed over the country from Lake St. Francis to Beauharnois, on Lake St. Louis. Purely geographically, this would seem the most natural and direct route for a canal between these waters: I did not examine this route with instruments, but have become very well acquainted with the country. I believe it to require a longer canal, and although very feasible, yet possessing no advantages, and no extraordinary facilities to construction."

Mr. Mills is eagerly quoted where his remarks may be turned against the north, and religiously avoided where he denies the existence of any advantage on the south side. Indeed, to such an extent is this principle carried, that the obvious national advantages of the north shore are not even admitted. Not only so, but the reply of the Governor-general to the deputation in July last, is actually brought forward as obviating all military and ('38 to the contrary notwithstanding) political objections. His Excellency is assured by the proper authorities, that circumstances over which he has no control require the location of the canal on the south side; what, then, remains for a British Governor to say, than that it will be the duty of the Government to defend it. But is the canal to be placed on the south side merely because the British arms are able to defend one place more? Can any one doubt that the difference in cost not being very great, his Excellency would immensely prefer the north side?

The whole case may be stated thus: the great (that is the commercial) objects of the work will be equally well accommodated on either side, with, of course, equally efficient canals. In a military point of view, the canal on the north side would be national, whilst on the south side it might not only become useless, but might actually be turned against the country; hence a trifling difference in cost should not be considered in the decision. The great object is, therefore, to obtain a tolerable approximation to the relative costs. Now, there being no tunnels, large valleys, wide ravines to cross, or indeed any large works on either side, there remain only the earth-work and locks. The lockage will be the same on both sides, hence the difference in cost, 100,000 £, must be sought for in the earth-work almost exclusively. This sum is sufficient to remove 1,600,000 cubic yards of earth at 1 s. 3 d. per yard, 2,000,000 cubic yards at 1 s. per yard, or 2,600,000 cubic yards at 9 d. per yard. The least of these is an enormous mass of earth, and there can be no difficulty in pointing out where such an excess occurs on the north side. This admits of being stated clearly and concisely. Why, then, not come out openly at once, and say that we give the preference to the south side, because we have two or three millions of cubic yards less to remove than on the north side, or so much less rock, or whatever it may be, which increases the cost of that side 100,000 £ over the south side.

The estimates of different persons, made at different times, for works of different dimensions, convey no idea of the comparative engineering merits of rival lines; and unless you can procure something tangible and definite as to the actual quantity of work to be done on the south side, there will be no possibility of my being able to say whether you are right or wrong in the position assumed, that the south side offers no substantial advantages over the north, as regards facilities of construction.

It is said that Mr. Harwood's line, or the line on the north shore corresponding to the line of the Board of Works on the south side, would cost one fifth more than Mr. Mills' inland route, and would therefore amount to 389,000 £. Mr. Mills' estimate was for a canal of the size of the Cornwall Canal. Now I have understood that the lockage on that canal has cost about 3,000 £ per foot lift, which for 82 feet would give 246,000 £; only 9,000 £ less than the estimate of the Beauharnois Canal complete. There must, consequently, be a vast difference in size, yet the reader naturally infers that the comparison is just.

In stating that the line on the south side is shorter than that on the north, no allusion is made to the strong current between M'Pherson's Point and Lake St. Francis, and the reader infers that the upper termini are equally advantageous. The whole state of the case could not be given without admitting some inferiority; hence so much only is stated as is favourable to the Beauharnois side. Persons on the north side, on the other hand, cheerfully admit that Couvillon's Bay forms an excellent entrance, whilst Mr. Killaly denies the very laws of nature, and actually calls the north or west, the lee bank of the St. Lawrence.

It is but justice to the President of the Board of Works to state, that his answer to the objections urged against the sufficiency of the channels leading from Lake St. Francis to the upper terminus of the canal is full and explicit. The public is assured that "there are three entrances of from 600 to 1,200 feet in width each, and with a depth of water averaging from 12 feet to 20 feet." Now, although the very existence of these channels is still denied by many who have sounded them within the last few weeks, and although highly respectable persons confidently assert that there is not even a single channel 500 feet wide and 12 feet deep, instead of three, as above, I still think there must be some mistake in the matter. It is quite impossible to suppose the Board ignorant of the case, and equally impossible to suppose the mis-statement to have been made intentionally; for the infamy of the former would be rivalled by the atrocity of the latter supposition. I have not sounded across from the Beauharnois side to Clarke's Island, but as far as a "landsman" is able to judge, should pronounce the entrance, as regards current and exposure to the "Nor' westers," the quarter whence comes the heavy blows of autumn, as very far inferior to the old established landing on the north side.

No donations of land, or even money or materials, can be expected on the north side. I believe, also, that the land given to the province on the south side will be eventually paid for. What

interest has the "habitant" of Beauharnois more than the farmer of St. Eustache, in the carrying trade between England and the States of Ohio, Michigan, &c.? When he discovers, as he soon must, that he has given away part of his estate in order to render that which is left less valuable and convenient, he will petition the legislature for relief. And when a private railway company in this Province cheerfully paid 25*l.* per arpent for the land occupied, giving every man a crossing on his farm, and aiding the drainage of his land by the construction of the road, does it become the Province of Canada to accept the trifling sum of a few thousand pounds worth of property, two or three per cent. on the probable cost of the work, obtained by some means or other from the habitants of Beauharnois.

I will, as soon as possible, forward on to Kingston the second part of this Paper, with a description and profile of the line, the amount of earth-work, and the result of my sounding the channels between Clarke's Island and the Beauharnois side.

It is but fair to observe, that the line on the north side, surveyed by myself without any assistant in eight or ten days, labours under great disadvantages as compared with the located line on the south side, which undoubtedly occupies the best ground, and on which many months have been spent with unlimited means. Great improvements may be made in the line on the north side, by the rigorous and systematic survey which precede a final location; hence some allowance should be made in comparing the best line on the south side with a line on the north, which can only be considered as a tolerably near approximation to the best line which that side affords.

To the Hon. R. W. Harwood, and  
John Simpson, Esq. M. P. P.

I have, &c.  
(signed) William R. Casey,  
Civil Engineer.

— No. 20. —

SECOND PART of Mr. Casey's REPORT.

Gentlemen,

Coteau du Lac, 17 September 1842.

I now give you the detailed statements of the survey of the north side, with such calculations and information as, with similar data from the south side, will enable you to institute a fair comparison between the engineering merits of the rival lines.

The general result may be stated thus:—The entire length of the line, from M'Intyre's Bay, at the foot of Lake St. Francis, to the locks near the steam-boat landing, is  $14\frac{1}{2}$  miles, or about 15 miles if carried down to the St. Lawrence water. Of this distance,  $9\frac{1}{2}$  miles are artificial canal, and  $5\frac{1}{2}$  miles are in a ravine, which, with embankments at proper intervals, gives a large natural channel. The entire fall I make 82 feet 2 inches; but, as there was a very strong wind from the east, which must have raised the waters of the Ottawa at the Cascades when I took the last level, it will be proper to add two or three inches on that account, say 82 feet 5 inches, as given by Mr. Mills in 1833. The total quantity of excavation amounts to 1,840,000 cubic yards, for a canal nine feet deep, 75 feet wide at bottom, banks on both sides 12 feet high, 12 feet wide at top, and slopes both inside and outside, two horizontal to one vertical. Where the embankment exceeds the excavation, one-eighth is added, and the sum is put down as excavation. There are, therefore, 1,840,000 cubic yards to be handled to form the channel of the canal. The difference in cost of the two sides is said to be 100,000 *l.* nearly; and, as observed in the first part of this Paper, this difference must be sought for in the greater amount of excavation on the north side, the quality being the same. Rock will be encountered only at the upper end of the canal on the north side; and the estimate of loose and fast rock on this section by Mr. Mills, amounts to only 8,200 *l.* for his enormous canal. The present line will run a less distance through rock, and the dimensions are very little more than two-thirds of the other. Deducting, however, 10,000 *l.* for 40,000 cubic yards rock, and we have 95,000 *l.* equal to 1*s.*  $0\frac{1}{2}$  *d.* per cubic yard, on the entire excavation of the north side, a price at which it would, I think, be readily taken by responsible contractors. To carry out the calculations of the Board of Works, there must be no excavation whatever on the south side, but a natural canal, requiring nothing more than the locks. But not only is there some cutting on the south side, but there is reason to believe that a much greater quantity of rock will be encountered on that side. Suppose the most favourable case, and one not at all likely to occur in practice, that is, a uniform depth of cutting of five feet, which is just sufficient to form the embankments, and the quantity to be excavated will be, for 12 miles, one million of yards, worth about 50,000 *l.*; so that there can be little risk in assuming that the saving in the earth-work must fall short of 40,000 *l.*, omitting all consideration of the rock on the south side, as well as of the very material saving which a complete survey must effect on the north side. An appeal will perhaps be made to River de Lisle, and the so-called "Rivers" Rouge and La Graisse. These, as well as other minor considerations for and against the north side, will be given afterwards.

The length of the line on the south side has been hitherto taken at 12 miles, terminating near M'Pherson's Point. Between the mouth of the canal and the broad lake is a very strong current, against which a tug-boat could only draw a fraction of the load she would take with ease through the lake, whilst on the north side a steam-tug may start from the present wharfs with her full complement of barges, or the latter, if without steamers, may sail with the lightest fair wind up the lake. It will require a stiff breeze to enable a barge to reach the lake from M'Pherson's Point. To make an equally efficient canal, it must be carried up several miles higher, when, with an extensive breakwater to resist the "north-westers," it would, at best, be equal to the line on the north side. This opinion is directly at variance with that of the Board Works, "that no line on the north side can be found to equal in economy, in facility of navigation, or in freedom from the disturbing causes of flood and ice, the route intended to be pursued on the south side." If disposed to speak ironically of the western terminus on the south side, it would be in vain to search for more appropriate and cutting expressions than superior "economy," or "facility of navigation." To suppose that a barge can be taken even as easily from any point in Lake St. Francis (equi-distant from the proposed western termini of the two canals) to M'Pherson's Point and back,

as

as to M'Intyre's Bay and back, is to assume a position against the evidence of one's senses. Indeed, this, and the "three entrances of from 600 to 1,200 feet in width each, and with a depth of water averaging from 12 feet to 20 feet," are to me enveloped in mystery. A proper survey, to enable an engineer to state fully the capabilities of the entrance, would occupy several weeks, as the extent of water is very great, the shoals numerous, the channels very intricate, and the current very rapid. This was, of course, entirely out of my power; but, after sounding wherever there appeared anything like an entrance, I have not succeeded in finding more than eight or nine feet in depth, and a width of channel about one-third of that of one of the entrances of the Board of Works. Many persons, some Members of Parliament included, have of late examined this "unexceptionable entrance," and have, as far as I have heard, been no more fortunate than myself. To admit that the buoys now there designate the best entrance, is virtually to admit that, up to the 1st of August last, the Board were profoundly ignorant of the most important element; indeed the element which may be said to have decided the question in favour of the south; for, by assuming superior facilities of navigation, the line was reduced to 12 miles in length, with a corresponding diminution in cost. A copy of Mr. Thompson's chart, which "fully sustains the description" of the Board of Works, would, by pointing out the three entrances, put this question at rest.

The capabilities of the entrance must necessarily have come under the observation of Mr. Killaly two years since, when stating to Lord Sydenham his preference of the south side; of Mr. Keefer, when estimating the cost of the canal from Mr. Killaly's memorandum, dated 12th August 1841; of Mr. Keefer, again, in March last; of Mr. Tate, in April; of Mr. Keefer, when reporting the superior "facility of navigation" of the line on the south side over any line on the north, after examining "Mr. Harwood's line;" lastly, of Mr. Killaly himself, when writing his letter of the 1st August to Mr. Murdoch.

When comparing the lengths of the rival lines, the depth of practicable channel, the strength of current, and the general facilities of navigation should be taken into account; for these circumstances, if materially different on the two sides, might not only warrant, but even render expedient and proper, a considerably larger disbursement on the side offering the greater advantages to the trade. The Board of Works give the preference to M'Pherson's Point on the south, over M'Intyre's Bay on the north side, whilst I consider it not only inferior to the latter, but positively objectionable. It is obvious that persons engaged in the navigation of the river are the proper authorities to refer to, where there can be any room for doubt. It will be remembered that the objections are limited to the western entrance, the excellence of Couvillon's Bay being generally admitted, so that I have not examined it.

The following is a brief description of the route: The sketch given on the map gives a correct idea of the line as far as the ravine; thence to the Ottawa the route will be winding, but without any objectionable curves.

The line given on the profile commences at M'Intyre's Bay, crosses the point below, passing between Mr. Simpson's house and the road to the river, a distance of three-fourths of a mile; thence three-fourths of a mile on the banks of the St. Lawrence to near M'Bean's mill, where the line turns to the north and crosses the River de Lisle, about 800 feet above the bridge; thence to the River Rouge, near the highway, which it keeps near till past Mrs. Taylor's, where it strikes across to rather low ground, at the St. Emmanuel road, a distance of four miles and a half nearly from the lake. From this point the line is very nearly straight for a distance of four miles and a half to the ravine, which it follows to the Ottawa. The head of the ravine is nearly a mile and a half from the river at the Cedars. With the exception of the point at the lake, the greatest height above the level of the lake is 5 feet 10 inches, for a few hundred feet behind Mrs. Taylor's. At the former place, the land, for 600 feet, is about eight feet above the lake, though this may be avoided by keeping on the bank of the river.

The only structures on this line from which that on the south can be freed, are the dam across River de Lisle, the aqueduct or embarkment across the Rouge, and the aqueduct over the La Graisse. A dam 350 feet in length over the first is estimated by Mr. Mills at 1,000*l.*, but I will put it down at 2,500*l.*, with a slide for logs; the aqueducts, 240 feet long each, are estimated by Mr. Mills at 8,000*l.*; I will, however, allow 10,000*l.* for two aqueducts 40 feet long each, in all 12,500*l.* But by placing an embankment of earth from the neighbouring cut, across the valley of the Rouge, with a sluice-way for the water in spring, at a cost of 500*l.*, the aqueduct would be saved, and a distance of 2,000 feet of large ravine would become available for navigation. Here would be a saving of 4,500*l.* on the aqueduct, as well as the excavation of 100,000 cubic yards of earth, worth at 1*s.* per yard, 5,000*l.*; in all 9,500*l.* leaving only 3,000*l.* against the north side. It is, however, immaterial which we take, as the advantages of the ravine cannot well be estimated at less than 20,000*l.*; for with the exception of about a mile, the width is such as to render unnecessary the constant annual repairs required on the banks of artificial canals, or the protection wall which will, in my opinion, be indispensable throughout these immense canals. It is even found necessary in the enlarged Erie Canal, which is less than one-half the size of this. The cost will not be less than 5,000*l.* per mile of canal, and at least four miles of the ravine will not require any. As this is a "steam-boat canal," the advantages of a channel varying from twice to five times the width of the artificial canal, will be apparent to all who duly appreciate the new mode of transportation to be introduced by these great works. As far, therefore, as these secondary considerations go, the north has nothing to fear from an examination.

There remain, then, only the land, and the road, and farm crossings. If the line on the south side be only 12 miles long, there will be a saving of several hundred pounds; the farm bridges should be bought off on both sides, and the cost of the road bridges will, I believe, be twice as great as on the south side. On all these, the difference may be 5,000*l.* or 6,000*l.* against the north. A mile and a half of slope wall will be required on the north side against ——— on the south side. Only four or five culverts will be required.

An examination into these details merely confirms what is obvious to any eye at all accustomed to judge of ground; that the only substantial difference must be sought for in the excavation, which, again, depends on the length of the line and the depth of cutting, or, what is more important, the height of embankment. Thus the cost, with cuttings of seven and three feet, are about equal (five being the minimum), but the filtration and chances of failure are vastly greater in the latter

latter than the former case; the two profiles should therefore be compared with this object in view, as a break in this canal will make an impression not easily effaced.

If, therefore, you are enabled to procure the "definite and tangible" information alluded to in the first part of this Report, it will be very easy to see where the difference of cost is, what it is, and whether it is sufficient, supposing it to be in favour of the south side, to more than counter-balance the national advantages which, with a single exception, all unite in according to the north side. As to the precise amount, opinions will differ, some going as high as 100,000*l.* others as low as 10,000*l.*; but the generality will, perhaps, be between 10 and 15 per cent. on the probable cost, carefully determined from experience in Canada, where alone works of this magnitude are undertaken.

The calculations are based on the line down the ravine, but an excellent line may also be had on the table-land as far as the Cascades, with some peculiar advantages previously alluded to, and it is not impossible that this latter line might be entitled to the preference; but as the object of this paper is to give a general idea of the advantages and disadvantages of the north side, and not to compare rival lines on that side, the subject cannot be discussed here. These calculations show it to be scarcely possible that the difference in cost should be 50,000*l.*, even with a canal 12 miles long, and if carried up, as it in my opinion eventually will be, the cost will be equal to or above that on the north side; still the location will have been secured. As regards the other point, facilities of navigation, depth of water, &c., the Board will scarcely insist on the accuracy of Mr. Killaly's statements of 1st August last, as too many persons have, since that time, examined it themselves, with the result already given; if otherwise, however, it will be necessary to procure a chart of the three entrances with from 12 to 20 feet water.

I conclude with the remark, more than once made in this Report, that I believe the quantity of excavation may be considerably reduced by placing the line on the best ground, which, again, can only be done by full and systematic surveys.

All which is respectfully submitted,

To the Hon. R. W. Harwood, and  
John Simpson, Esq. M. P. P.

(signed) W. R. Casey,  
Civil Engineer.

— No. 21. —

ESTIMATE of the probable Cost of constructing a CANAL between Lake *St. Francis* and Lake *St. Louis*. Locks 200 × 45 × 9. Canal 80 feet wide at bottom, 10 feet deep. Banks 14 feet high and 12 feet wide at top. Slopes 2 to 1.

SOUTH SIDE—INLAND. (*The Beauharnois Canal*.)

1st. From Channel in Lake *St. Francis* to Main Land:

	£.	s.	d.
Removing 19,100 cubic yards of boulder-stones from the points of the shoals between Isle aux Chats and the main land; the stones to be raised by the patent steam dredge (constructed on the principle of the steam excavator, now in successful operation in the United States), and deposited in the deep water below the shoals, a' 5s.	4,775	-	-
Cost of dredge, 2,500 <i>l.</i> ; for its use on this service	500	-	-

*Note*.—This is an item of expenditure, in my opinion, uncalled for at present, and may not be for 10 or 15 years to come. There is at present from 8 to 8½ feet water on the bar, in the main channel; whereas at Chimney Island, in the *St. Lawrence*, below Prescott, there is now no more than 7 or 8 feet. It is believed that for a number of years, or until the obstructions in the lakes are removed, and the channels better known and marked out, steam-boats of greater draught than seven feet will not be used, and for these the channel is quite sufficient as it is.

	£.	s.	d.		£.	s.	d.
Excavation below surface of water, at the entrance of the canal, 5,500 cubic yards - - - - - a' 1s.	275	-	-				
Boulder-stones that may be found in this excavation, 1,000 cubic yds. a' 1s. extra	50	-	-				
Forming the end of the pier from the excavation - 1,500 " a' 6d. "	37	10	-				
Slope wall for its protection - - - - - 150 " a' 7s. 6d. "	56	5	-				
Coffer-dam (no pumping, as the water can be drawn off through the canal) - -	600	-	-				
Timber bulwark, for the defence of the point of the pier, 550 cubic yards, at 9s. -	247	10	-				
					1,266	5	-
TOTAL of the First Item - - - - -	£.				6,541	5	-

2d.—The Canal from the Main Land to Water in Lake *St. Louis*:

	£.	s.	d.		£.	s.	d.
Excavation to © 29-65 chains - - - - - 204,500 c. yds. a' 11d. - -	9,372	18	4				
Embankment from Excavation - - - - - 12,000 " 6d. - -	300	-	-				
Loose stone in the above - - - - - 15,500 " " 1s. extra	775	-	-				
Stones to be blasted - - - - - 5,000 " " 2s. 6d. "	625	-	-				
Stones carried more than 300 ft. to face the bank 5,000 " " 1s. - -	250	-	-				
					11,322	18	4
Excavation to © 66-95 chains - - - - - 199,000 " " 10d. - -	8,291	13	4				
Embankment - - - - - 14,000 " " 9d. - -	525	-	-				
Loose stones to be excavated - - - - - 9,000 " " 1s. extra	450	-	-				
Stones to be blasted - - - - - 3,000 " " 2s. 6d. - -	375	-	-				
					9,641	13	4

			£.	s.	d.	£.	s.	d.
Excavation to ⊙ 100-102 chains	-	-	130,000	c. yds. a'	8 d.	4,333	6	8
Embankment	-	-	16,600	" "	9 d.	622	10	-
Stones	-	-	1,000	" "	1 s. extra	50	-	-
						5,005 16 8		
Excavation to ⊙ 171-191 ¼ chains	-	-	262,100	" "	8 d.	8,738	13	4
Loose stones	-	-	4,500	" "	1 s. extra	225	-	-
Stones to be blasted	-	-	1,500	" "	2 s. 6 d.	187	10	-
						9,149 3 4		
Excavation to ⊙ 227-129 chains	-	-	187,000	" "	1 s.	9,350	-	-
Embankment from excavation	-	-	39,300	" "	6 d.	982	10	-
Loose stones	-	-	24,000	" "	1 s. extra	1,200	-	-
Stones to be blasted	-	-	8,000	" "	2 s. 6 d.	1,000	-	-
						12,532 10 -		
Excavation to ⊙ 261-97 chains	-	-	130,000	" "	9 d.	4,875	-	-
Embankment	-	-	45,800	" "	9 d.	1,717	-	-
Stones	-	-	1,000	" "	1 s. extra	50	-	-
						6,642 10 -		
Excavation to ⊙ 290-87 chains	-	-	136,400	" "	9 d.	5,115	-	-
Embankment	-	-	12,700	" "	9 d.	476	5	-
						5,591 5 -		
Excavation to ⊙ 319-87 chains	-	-	149,100	" "	9 d.	-	-	-
Excavation to ⊙ 327-24 chains	-	-	66,000	" "	9 d.	-	-	-
Excavation, earth, to ⊙ 334-21 chains	-	-	4,900	" "	8 d.	163	6	8
Ditto - rock	-	-	5,000	" "	5 s.	1,250	-	-
Embankment from excavation	-	-	38,000	" "	1 s.	1,900	-	-
						3,313 6 8		
Excavation, earth, to ⊙ 252 water, 41 chains	-	-	25,300	" "	8 d.	843	6	8
Ditto - rock	-	-	27,300	" "	5 s.	6,825	-	-
Embankment	-	-	40,000	" "	1 s. 3 d.	2,500	-	-
						10,168 6 8		
Slope wall, two miles of Canal, with sills	-	-	11,000	" "	7 s. 6 d.	4,125	-	-
Grubbing and clearing	-	-	50 acres	" "	12 l.	600	-	-
						4,725 - -		
Guard lock	-	-	-	-	-	11,000	-	-
Eight lift locks, 12,500 l. each	-	-	-	-	-	100,000	-	-
One road culvert over River St. Pierre	-	-	-	-	-	3,500	-	-
Four small culverts, 1,000 l. each	-	-	-	-	-	4,000	-	-
						118,500 - -		
Catch-water drain, 11 miles, at 65 l. per mile	-	-	-	-	-	715	-	-
Fencing - 11 ¾ " " 320 l. " both sides	-	-	-	-	-	3,760	-	-
Two toll-collectors' houses - 250 l. each	-	-	-	-	-	500	-	-
Six lock-houses - 150 l. each	-	-	-	-	-	900	-	-
						5,785 - -		
Three swing bridges - 1,600 l. each	-	-	-	-	-	4,800	-	-
Damages and compensation for bridges	-	-	-	-	-	5,000	-	-
						9,800 - -		
TOTAL of Second Item						£.	220,333	15 -

3d.—Excavation under Water to the Channel in Lake St. Louis, Piers, Coffor dam, &c. :						£.	s.	d.
Coffor dam and pumping	-	-	-	-	-	2,500	-	-
Rock excavation under water, 10,800 c. yds. a'	-	-	5 s.	-	-	2,700	-	-
Piers - 14,600 "	-	-	7 s. 6 d.	-	-	5,475	-	-
Sea-wall, stones - 14,300 "	-	-	2 s. 6 d.	-	-	1,787	10	-
Breast-wall, dry - 1,500 "	-	-	7 s. 6 d.	-	-	562	10	-
Filling behind breast-wall, &c. 8,900 "	-	-	1 s.	-	-	445	-	-
						£.	13,470	- -

SUMMARY.

	£.	s.	d.
1st Item.—From Channel in Lake St. Francis to main land	6,541	5	-
2d Item.—The Canal from the main land to water in Lake St. Louis	220,333	15	-
3d Item.—Excavation under water to the channel in Lake St. Louis, piers, coffer-dams, &c.	13,470	-	-
Superintendence and contingencies	15,555	-	-
TOTAL	£.	255,900	- -

Remarks.—In reference to the first item, it may possibly be found advisable (instead of going to the expense of removing as much as 19,000 cubic yards of the points of the shoals), to construct a towing-path from the entrance of the Canal along the bank of the River, a distance of one mile, to the point at Knight's House; and from thence, a distance

## PAPERS RELATING TO

distance of 30 chains, along the shoal lying on the south side of the Channel, and terminating at the point where the Channel is narrowest. This would cost much about the same as the work estimated, being as follows:

		£.	s.	d.
Towing-path along back	- - 28,160 c. yds. a'	8 d.	-	-
Ditto - - to point of shoal	- 31,680 " " 1 s. 6 d.	-	-	-
Removing points of shoals	- 6,800 " " 5 s.	-	-	-
Use of the steam-dredge	- - - - -	-	-	-
		£.	5,514	13 4

Office of the Board of Works, }  
Kingston, 1 October 1842. }

Samuel Keefer,  
Engineer, Board of Works.

— No. 22. —

ESTIMATE of the Probable Cost of Constructing a Canal between *Lake St. Francis* and *Lake St. Louis*: Locks 200 × 45 × 9 feet; Canal 80 feet wide at bottom, 10 feet deep; banks, both sides, 14 feet high and 12 feet wide at top; slopes 2 to 1.

*North side—Inland.*

The line upon which the following estimate is made commences at M'Donald's Point, at the foot of Lake St. Francis, runs along the edge of the St. Lawrence to River à Delisle, which is crossed by a dam; crosses the River Rouge by a large culvert, near its mouth; crosses the River à la Graisse in the same manner, and strikes into the ravine, which debouches into the Ottawa, above the Cascades. The last lock is placed near the point of the Cascades, so as to carry the Canal to St. Lawrence water, in Lake St. Louis; and between the water lock and the mouth of the Quinzchiers River a single bank is constructed on the river side, raising this reach six feet above the Ottawa, and thus obviating the difficulty of excavating under water.

1st.—From the Channel in Lake St. Francis to the Main Land:		£.	s.	d.	£.	s.	d.
Excavation under water	- - - - - 5,400 c. yds. a' 1 s.	270	-	-			
Boulder stones that may be found in this excavation	2,700 " " 1 s. extra	135	-	-			
Forming the end of the pier from the excavation	7,466 " " 6 d. - -	186	13	-			
Slope wall for its protection	150 " " 7 s. 6 d. - -	56	5	-			
Coffer dam (no pumping required, as the water can be drawn off through the Canal)	- - - - -	800	-	-			
Timber bulwark, for the defence of the pier head	550 yards, a' 9 s.	247	10	-			
					1,695	8	-
2.—The Canal from the Main Land to Water in Lake St. Louis:		£.	s.	d.	£.	s.	d.
Excavation, first section	- - - - - 132,740 c. yds. a' 1 s. - -	6,637	-	-			
Ditto - - second ditto	- - - - - 444,700 " " 10 d. - -	18,529	3	4			
Loose stones in the above	- - - - - 62,000 " " 1 s. extra	3,100	-	-			
Solid rock in ditto	- - - - - 54,000 " " 4 s. - -	10,800	-	-			
Embankment from excavation	- - - - - 35,500 " " 6 d. - -	887	10	-			
					39,953	13	4
Excavation, third section	- - - - - 562,700 " " 10 d. - -	23,445	16	8			
Ditto - - fourth section	- - - - - 44,300 " " 8 d. - -	1,476	13	4			
Ditto - - fifth ditto	- - - - - 498,750 " " 9 d. - -	18,703	2	6			
Ditto - - sixth ditto	- - - - - 70,220 " " 8 d. - -	2,340	13	4			
Ditto - - seventh ditto	- - - - - 205,900 " " 0 d. - -	7,721	5	0			
Ditto - - eighth ditto	- - - - - 1,103,830 " " 3 d. - -	36,794	6	8			
Embankment in the above sections	- - - - - 160,000 " " 9 d. - -	6,000	-	-			
Loose stones	- - - - - 46,000 " " 1 s. extra	2,300	-	-			
Stones to be blasted	- - - - - 15,300 " " 2 s. 6 d. - -	1,912	10	-			
					100,694	7	6
Slope wall, two miles of canal (both sides)	- - - - - 11,000 " " 7 s. 6 d. - -	4,125	-	-			
Grubbing and clearing	- - - - - 50 acres a' - 12 l. - -	600	-	-			
					4,725	-	-
Guard lock	- - - - -	11,500	-	-			
Eight lift locks, each	- - - - - 12,500 l.	100,000	-	-			
Dam and waste-weir at River à Delisle	- - - - -	2,500	-	-			
Two large culverts, Rivers Rouge and à la Graisse, each	- - - - - 3,500 l.	7,000	-	-			
Four small ditto, each	- - - - - 1,000 l.	4,000	-	-			
					125,000	-	-
Catch-water drain, 14 miles. a'	- - - - - - 65 l.	910	-	-			
Fencing on one side, 14 miles, the other side 11 miles = 12½ a'	- - - - - 320 l.	4,000	-	-			
Two toll-collectors' houses, each	- - - - - 250 l.	500	-	-			
Nine lock-keepers houses, each	- - - - - 150 l.	1,350	-	-			
					6,760	-	-
Six swing bridges, a'	- - - - - 1,600 l.	9,600	-	-			
Damages, and compensation for bridges	- - - - -	7,500	-	-			
Six bridge-houses, each	- - - - - 125 l.	750	-	-			
Directing the course of the Quinzchien River	- - - - -	1,000	-	-			
					18,850	-	-

	£.	s.	d.	£.	s.	d.
Coffer-dam and pumping for the eighth lock	1,500	-	-			
Earth excavation under water	370	-	-			
River bank, between eighth and ninth lock	9,255	-	-			
Coffer-dam and pumping at ninth lock	3,500	-	-			
Rock excavation for formation of lock	585	-	-			
Slope wall for protecting river-bank	1,500	-	-			
Lock No. 9, six-feet lift	12,500	-	-			
				29,210	-	-
TOTAL of Second Item				£.	325,193	- 10

3d.—Excavation under Water to the Channel in Lake St. Louis, &c. :

Excavation under water, none.						
Piers	8,733 c. yds. a' 7 s. 6 d.	3,274	17	6		
Sea-wall	5,688 " " 2 s. 6 d.	711	-	-		
Filling in behind south pier	5,666 " " 1 s. 6 d.	424	19	-		
					4,410	16 6

SUMMARY.

First item	£. 1,695	8	-	£.	s.	d.
Second item	325,193	-	10			
Third item	4,410	16	6			
				331,299	5	4
Superintendence and contingencies, 7 per cent.				23,190	19	-
TOTAL	£			354,490	4	4
In order to draw a just comparison between the cost on this and the cost on the south side, it is but fair to add to this estimate the extra charge of three bridge and two lock-attendants, making five in all, more than are required on the south side. At 60 <i>l.</i> per annum, their pay would amount to 300 <i>l.</i> , which, at six per cent., is the interest on						
				5,000	-	-
Estimate for the north side				359,490	4	4
Estimate for the south side				255,900	-	-
Difference in favour of the South Side	£.			103,590	4	4

NOTE.

c. yds.                      c. yds.                      c. yds.  
 In this estimate there are 3,076,000 of exc'n.; 289,066 embank't.; and 56,340 solid rock.  
 In Mr. Mills' there are 2,788,913 of exc'n.; 310,139 embank't.; and 81,676 solid rock.  
 Mr. Casey has - - - 1,840,000 of exc'n.; none stated.                      none stated.

Office of the Board of Works, }  
 Kingston, 1 October 1842. }

Samuel Keefer,  
 Engineer Board Works.

— No. 23. —

Detailed ESTIMATE of the probable Cost of a Canal on the North Shore of the *St. Lawrence*,  
 by *W. R. Casey*, Civil Engineer.

Kingston, 3 Oct. 1842.

THE object of my examinations and report was not to furnish an estimate of the probable cost of a canal on the north side, but merely to show that the Hon. H. H. Killaly was wrong in leading the public to believe that a canal on the north side would cost 100,000*l.* more than on the south side; also, that he was in error in asserting the existence of three channels, with from 12 to 20 feet of water at the western terminus. As I understand it, the Board admit that no trace of a single such channel can be found, so that there remains only the comparative costs.

The great items are the lockage and earth work; the minor ones are the aqueducts, culverts, bridges, protection wall, and cost of land, including farm bridges. Now, as the lockage is the same, and as the total cost of the minor items on the north side is (exclusive of land) only about 30,000*l.*, the principal difference must be sought for in the excavation, the cost of which on the north side would little, if at all, exceed 120,000*l.* The quality of the earth being the same, the piers should be the same on both sides; and as they are rather high in the following estimate, they may require reduction in comparing them with the prices of the Board of Works.

ESTIMATE.		c. yds.	£.
Coteau du Lac to St. Emanuel Road, 4-4 miles	- - -	993,515	
St. Emanuel Road to ravine, 4-5 miles	- - -	639,015	
3,400 feet embankment to first lock	- - -	68,000	
Embankment in ravine	- - -	322,100	
Towpath in ditto	- - -	80,000	
Ravine to locks, 4,000 running feet	- - -	88,000	
Extra embankment at River à la Grasse	- - -	30,000	
		<u>2,220,631</u>	a' 1 s. 111,031
Seven road bridges, a' 1,500 l.	- - -	- - -	10,500
8,000 running feet protection wall, 12,000 cubic yards, a' 10 s.	- - -	- - -	6,000
Dam over River de Lisle	- - -	- - -	2,500
Aqueduct over Rouge, 2,222 c. yds. masonry, a' 1 l. 15 s.	- - -	£. 3,888	
60 lineal feet wooden trunk, a' 5 l.	- - -	300	
Horse-path, 60 feet, a' 2 l. 10 s.	- - -	150	
			<u>4,338</u>
Aqueduct over River River à la Grasse	- - -	- - -	4,338
Five culverts, 6 feet span, 1,750 cubic yards masonry, a' 1 l. 15 s.	- - -	- - -	3,062
50,000 cubic yards rock, at 5 s.	- - -	- - -	12,500
			<u>£. 154,269</u>
Total cost of earth work, rock, bridges, culverts, aqueducts, dam, and protection wall, of 14 $\frac{1}{2}$ miles of canal, from locks at Cascades to M'Intyre's Bay at Lake St. Francis. The cost of land and farm bridges I do not know.			
Cost of earth work and rock, as above	- - -	- - -	£. 123,531
Mr. Mills' inland route	- - -	£. 133,716	
Deduct $\frac{1}{2}$ for difference in dimensions	- - -	22,286	
			<u>111,430</u>
Exceeds Mr. Mills' estimate the sum of	- - -	£.	11,101

For a much more expensive route.

I mention this, not as doubting the accuracy of Mr. Mills' estimate, but merely to show that I have not attempted to make a low estimate of that portion of the work on the north side, on the value of which hangs the decision of the Committee, according to my view of the case.

Now as regards quantity, by Mr. Mills' estimate	- - -	c. yds.	3,250,728
As per my estimate	- - -	c. yds. 2,270,630	
Quantity saved by ravine, deducted from line above ravine	- - -	378,918	
		<u>2,649,548</u>	
Add $\frac{1}{2}$ for difference in size	- - -	529,909	
			<u>3,179,457</u>
Difference	- - -	- - -	71,271

It is possible that the 310,139 cubic yards of embankment in Mr. Mills' estimate are included in the excavation. In that case my estimate would exceed his 238,868 cubic yards; otherwise, it would fall short of his estimate 71,271 cubic yards, or nearly 2  $\frac{1}{2}$  per cent. Where the embankment exceeds the excavation, I have added  $\frac{1}{2}$ , and put the sum down as excavation, which consequently gives the total number of yards to be handled to form the canal. The dimensions are 80 feet bottom, 10 feet deep; banks, 12 feet at top, 14 feet high, and slopes 2 to 1.

The north side admits of three routes; that by the river, on the table land, and in the ravine. The last has been adopted in this estimate, but no opinion is given as to their relative merits.

Lastly, I feel very sure that considerable reductions can be made in the excavation, if as minutely surveyed as the line on the south side.

All which is respectfully submitted.

(signed) *W. R. Casey*, Civil Engineer.

— No. 24. —

LETTER from the Acting Clerk of the Executive Council, enclosing Copy of a Report of a Committee of the Council on the Necessity for an immediate Extension of the Public Works.

Sir, Executive Council Office, Kingston, 5 October 1842.

I HAVE to acknowledge the receipt of your note of this morning, and herewith transmit you a copy of an approved Report of a Committee of Council on the subject of the Beauharnois Canal, which is the only proceeding relative thereto on record in this office.

To G. Moffat, Esq.  
Chairman Committee Beauharnois Canal. }

I have, &c.  
(signed) *Wm. H. Lee*.

COPY of a REPORT of the Committee of the Executive Council, dated 13th June 1842, approved by his Excellency the Governor-general in Council the same day, on the Subject of the Necessity for an immediate Extension of the Public Works.

THE Committee of Council have, in pursuance of your Excellency's instructions, had under consideration the subject of the necessity for an immediate extension of the public works not yet authorized to be proceeded in, in order to meet the pressing emergency of providing for the great amount of immigration which appears to be coming into the province, as well from Great Britain as of British subjects from the neighbouring States.

The committee think it desirable, for the purpose of giving immediate employment to the immigrants, to proceed at once with the continuation of the great St. Lawrence navigation, by taking steps to commence the works necessary to connect the waters of Lake St. Francis and Lake St. Louis; and as the secretary of the province for Canada East has stated that the City Bank of Montreal are prepared at once to furnish the funds necessary to enable the government to commence these works, the committee are of opinion that it is advisable to proceed forthwith, and accordingly recommend that the Board of Works be instructed to take the necessary steps to commence the construction of these works, and that the receiver-general be instructed to close with the offer of the City Bank of Montreal for a loan of 20,000 *l.*, to enable the Board of Works to carry on the operations for the present season.

As the president of the Board of Works has stated his opinion, which has been recently confirmed by a minute survey, that a connecting line of water communication between the lakes referred to can be much more advantageously placed upon the south side of the St. Lawrence than on the north side, both as regards the permanency of the works and the cheapness of their construction, and efficiency when completed,

The committee are of opinion that the course of the canal should be on the south side of the river, and that the Board of Works be authorized to proceed accordingly.

(Certified.)

(signed) *Wm. H. Lee.*

— No. 25. —

(1,164.)

LETTER from Secretary of Board of Works, respecting the Detention of Witnesses for Cross-examination by the President of the Board.

Sir,

Board of Works, Kingston, 4 October 1842.

HAVING examined the evidence relating to the canal to connect Lake St. Francis with Lake St. Louis, handed me by Mr. Todd, clerk of the committee, I have the honour to inform you that I cannot see the least necessity for detaining the pilots or others, not scientific persons, for cross-examination by the president of the Board. As you requested, I have consulted with the Hon. Mr. Harrison, who fully concurs in the view I had taken.

The Hon. Geo. Moffatt,  
Chairman St. Lawrence Canal Committee.

I have, &c.  
(signed) *Thos. A. Begley,*  
Secretary.

— No. 26. —

EXTRACT from Proceedings of the Board of Works; 13th December 1839.

Ordinary Meeting.—Present. Messrs. McCord, chairman, de Bleury and Redpath.

THE Board examined the reports and plans of the different engineers who have been employed to examine and report upon the best means of constructing a canal to unite Lake St. Francis with Lake St. Louis; and the secretary is now instructed to draw up a report on the same, embodying the following heads: To show the difference between the various reports already made; that they are partial; and that the Board will be unable to give an opinion of the best route to be adopted until they have sent an engineer, in whom they can place confidence, to examine the different lines.

(Certified a true copy.)

(signed) *Thomas A. Begley,*  
Secretary Board of Works.

— No. 27. —

(28.)

REPORT of the Board of Works to His Excellency the Governor-general, relative to the Beauharnois Canal.

Sir,

Board of Works, Montreal, 14 December 1839.

In reference to the communication of his Excellency the late Governor-general, dated 13th October last, requiring the opinion of this Board "whether, for the completion of the St. Lawrence Canal, it would be advisable to run it on the south or north side of the river;" the Board beg leave respectfully to report:—

That having carefully examined the reports, plans, and estimates of Messrs. Baird and Stevenson, on the practicability of constructing the said canal through the seignory of Beauharnois, and those of Mr. J. B. Mills, for the same, through the seignories of Loulanges and Vaudreuil, they find themselves unable to arrive at any conclusive opinion on this subject, for the want of more information.

The Board find that the engineers who have been employed to report on these routes have confined themselves in their examinations each to his own side of the river, and consequently that no investigation by a professional person has yet been made as to their comparative merits. The Board are further of opinion, that a route may be found for this canal possessing many decided advantages over any that has yet been proposed; and in order to enable them to report satisfactorily on the reference now before them, they are desirous of engaging a skillful and competent engineer to make such examinations as they shall direct.

The Board therefore respectfully request that his Excellency will be pleased to authorize the employment of an engineer to make, under instructions that he shall receive from this Board, such examinations as will enable them with confidence to report to his Excellency on the proper route to be adopted for this highly important improvement.

The Assistant Civil Secretary,  
&c. &c. &c.

I have, &c.  
(signed) *J. S. McCord,*  
Chairman Board of Works.

— No. 28. —

EXTRACT from a Report made by the Board of Works, dated 20th February 1840, to His Excellency the Governor-general.

“ THE Board are at present unprepared to decide the preliminary question submitted, namely, on which side the St. Lawrence, between the Lakes St. Francis and St. Louis, the canal should be located, for the reasons set forth in their Report, No. 28; but should it please your Excellency to grant the prayer thereof, the Board are of opinion that they will be enabled to submit to your Excellency's consideration a more advantageous and less expensive line than any yet proposed for that object.”

— No. 29. —

EXTRACT from that part of the Report of the President of the Board of Works to the Governor and Council, dated 12th May 1842, relating to the Canal from the Coteau to the Cascades.

“ £. 500. This sum is to cover cost of surveys, estimates, &c. The Board would strongly recommend that some progress with the works of this section should be authorized this year, so that it may be completed in 1844, no work having been yet commenced on it. Several lines have been explored for its route, chiefly on the north side of the river, to which the Board of Works, conceiving there was much objection, as to difficulty of construction and expense, have had the line formerly selected by Mr. Stevenson, on the south side of the river, carefully re-surveyed by a competent engineer. The result of the survey fully confirms the view the Board had taken of it, the line being in every respect preferable to that on the north side, and the work can be executed at a very reduced cost.

“ An objection has been made by some, in a military view, to having it on the south side, to which the Board of Works do not attribute any weight, more especially as the Cornwall portion of the navigation (nearly completed) is within musket-shot of the American territory, as will necessarily be other portions of the general line also; whereas this portion, as proposed, is about 20 miles from the frontier.

(Certified a true copy.)

(signed) *Thomas A. Begley,*  
Secretary Board of Works.

— No. 30. —

EXTRACT from Colonel *Phillpott's* Report, dated 24th of October 1838.

AFTER Colonel *Phillpotts* states his objections to the south side, in a military point of view, he continues—

“ To this it may be answered, that the communication now under consideration is chiefly, if not altogether, intended for commercial purposes, and that the whole line of the St. Lawrence would be so much exposed, in the event of a war, as to preclude its use to any great extent. This important question, however, requires full consideration, and it will of course be decided by higher authority than the report of any individual. I have here provided for placing the canal on the north side of the St. Lawrence, according to Mr. Mills' plan; and if Mr. Baird and Mr. Stevenson are correct, the sum I have mentioned will be more than sufficient for placing it on the south side, if that route shall be finally determined on.

“ I think it probable that, by putting one or two dams across from the south shore to Grand Isle, the river itself may be made navigable nearly all the way to St. Timothy; but I have not yet had an opportunity of examining the ground sufficiently to enable me to speak positively on the subject; I am, however, induced to believe that in any case it may be found possible to construct a canal on the south shore cheaper than on the north.”

— No. 31. —

REPORT on a SURVEY of the River *St. Lawrence*, between *Cote à Colonge* and *Coteau du Lac*,  
by *Henry G. Thompson*, Surveyor and Civil Engineer.

To *John Jones*, Esq. Chairman, &c.

Sir,

I HAVE the honour to submit the following report of the survey executed by me, in compliance with the instructions communicated in your letter of the 12th August; the words of which are here set down, viz:—

The commissioners appointed to survey Lake *St. Louis* and other places, under the Act 6 Will. 4, c. 23, having engaged your services for a portion of the survey and planning of the River *St. Lawrence*, from *Cote à Colonge* to the mill at the Cedars, and from the village of the Cedars to *Coteau du Lac*,

“The object of the survey, you will find by the Act, a copy of which is now handed you, is ‘to obtain such information as may serve to guide the Legislature with regard to the work which it is proper to undertake, for establishing within the limits of Lower Canada a water communication, corresponding, if possible, with that which the Legislature of Upper Canada has undertaken to establish on the River *St. Lawrence*, near *Cornwall*, in the said province of Upper Canada.’

“As the waters of the *St. Lawrence* are liable to vary in depth at different times, it will be expedient that you ascertain, from persons living on its shores, the lowest level of the water at any past time, upon which to reduce all your soundings as the true depth of the water. It will also be necessary that you set up some permanent mark, graduated in feet and inches, in order to rectify your soundings to the same level during the progress of your work. In order that the commissioners be informed of the progress of your survey, you are desired to make weekly reports in abstract of your work, by letter addressed to the chairman of the commission, at *Quebec*.”

At a meeting, held in *Montreal*, of the commissioners, on the 12th August, I was further instructed to use as my guide in the proposed survey the map of that part of the River *St. Lawrence* which lies between the *Coteau du Lac* and the *Cascades*, executed by *Alexander Stevenson*, Esq., and also to limit my survey to the taking of soundings, and the ascertaining of the velocity of the current at different points.

The details of the survey with which I was thus entrusted are laid down in the plan herewith annexed, and to which I beg leave to refer you. On the 15th August, my operations were commenced at *Pointe au Moulin*, and continued thence in the first instance to *Pointe au Chenette*. The soundings laid down on the plan show great irregularity in the depth of the water of the bay extending between the two points. On the plan are laid down six lines of soundings, taken in the bay; the first at 20 yards from the shore, the second at 40 yards, the third at 100 yards, the fourth at 180 yards, the fifth at 280 yards, and the sixth at 400 yards; the average interval between the soundings on each line is about 60 yards. I ascertained, from persons living on the shore, that the water was generally a foot and a half lower than at the time of my survey. I erected a graduated water-mark, but derived no assistance from it, as the waters neither increased nor abated during my stay. The soundings are reduced one foot and a half, agreeably to the information I received. At *Pointe au Moulin* I ascertained, by one experiment, the velocity of the current to be seven knots an hour: an accident which occurred to the log-line prevented me from repeating the experiment, but I have reason to believe that the result which I have marked is correct, within a few yards. From *Pointe au Moulin* the current diminishes gradually; and at *Pointe au Chenette*, I ascertained its velocity to be  $3\frac{3}{4}$  knots an hour, being the mean of seven experiments. There are a number of shoals of stone running out from the shore, from 80 to 90 yards; they will be found on the plan, indicated by dots. For three-fourths of the distance, from the extremity of the canal to the west of *Pointe au Moulin*, there is a continuous channel of five feet reduced in depth; and for the remaining fourth, I found a channel of 15 feet. From *Pointe au Chenette* to *Pointe au Coulonge*, are laid down on the plan three lines of soundings, at the distances from the shore, and with the average interval above mentioned. I found that the current continued to increase gradually, and that at *Pointe Coulonge* its velocity was  $4\frac{3}{4}$  knots an hour, being the mean of seven experiments. At the distance of 100 yards from the shore, and between the two points, as by the plan, there is a continuous channel of at least 16 feet in depth. Between *Points au Moulin* and *au Chenette* the current is strong, and may be pronounced unnavigable by ordinary craft beyond the lines of soundings.

From the steam-boat wharf to *Pointe Boudette*, the lines of soundings laid down on the plan are irregular in number; those along the shore are generally at the respective distances above mentioned. As in the previous survey, I erected a graduated water-mark, but again found no variation: the information regarding the general depth of the water corresponded with what I had previously received. At *McDonald's Point* I found the velocity of the current to be  $2\frac{1}{2}$  knots an hour, lower down,  $2\frac{1}{2}$ ,  $2\frac{1}{4}$ , and  $1\frac{3}{4}$  knots, being in each case the mean of four experiments. At *French's Reef*, I found it to be  $4\frac{3}{4}$  knots an hour, and at *Evat's Point*  $3\frac{3}{4}$  knots, being in each case the mean of four experiments. The current at *Pointe Boudette* is weak, and easily surmounted; the water in the small bays between the steam-boat wharf and the latter affords a channel, which varies from three to four feet in depth, and is generally rapid.

Between *Pointe Boudette* and *Point au Diable* I made several lines of soundings, which will be found exhibited on the plan; there is an excellent channel running close to the shore over clay bottom, with a gentle current; at *Point au Diable* the current is found to increase to  $5\frac{1}{2}$  knots.

Between *Point au Diable* and *Point Biron* I found abundance of water, and a gentle current; at the latter point its velocity reaches 5 knots an hour. The plan exhibits all the varieties of the current, and of its depth.

From *Point Biron* the velocity of the current diminishes, and in approaching the Cedars it becomes very gentle. Between *Pointe Marcoux* and *King's Wharf*, and at a distance of 80 yards from the shore, I found from 12 to 24 feet of water. The cross soundings show the depth of water between opposite points.

The above survey was concluded on the 8th of September.

*Montreal*, 22 September 1842.

I have, &c.  
(signed) *Henry G. Thompson*.

— No. 35. —

REPORT on a SURVEY of that portion of the *St. Lawrence* between Lakes *St. Louis* and *St. Francis*, by *Henry G. Thompson*, Surveyor and Civil Engineer.

Sir,

Montreal, 31 December 1836.

I HAVE the honour to report to you that, on the 24th September 1836, I received instructions to proceed to make a survey, take soundings, &c. of that portion of the River *St. Lawrence* which is comprised between Lakes *St. Louis* and *St. Francis*.

Agreeably to those instructions, I engaged men, laid in provisions, &c., and on the 1st October arrived at the foot of Lake *St. Francis*, on the south shore of which I commenced my operations.

I may here remark, that throughout the survey the weather was exceedingly unfavourable, and frequently days elapsed during which I could not employ the men on the service.

The plan which accompanies this Report exhibits in detail the work performed. You will perceive, Sir, that the survey was commenced at the lower extremity of Lake *St. Francis*, and continued thence (downwards) to Lake *St. Louis*, between Station Z. and 87; the survey was trigonometrically executed; and, from the latter, scaled.

Between Cat Island and the south shore lies a shoal, as indicated on the plan; the river affords a good channel, on either side of the shoal, of 16 feet. Below the surface of the shoal I found a gravel composition.

From station 4 to station 8, the current was ascertained to be gentle; from station 8 to station 12, the rapidity of the current increases; and at *M'Pherson's Point* it obtains  $2\frac{1}{2}$  knots per hour, as indicated on the plan. From station 12 to station 24 exists a series of strong rapids. In the Bay, between station 24 and station 30, I found from 10 to 30 feet of water, and a gentle current. In front of station 31, a shoal exists, with from one to two feet of water; below the surface of this shoal, I found, as in the preceding one, a gravel composition. From station 30 to station 34, the current is gentle; the water varies in depth from seven to 24 feet. From station 34 to 40 the current is smooth and very strong, as indicated on the plan. Between station 40 and station 46, exist the crooked rapids; in the rapids, and above them, I attempted to take soundings, but could not succeed with accuracy as might be indicated on my plan; I, however, took a few soundings in running down. From station 46 to 56 exists a very strong current, which it was impossible for me to sound. From station 56 to station 90, exists the Cedar rapids; and from station 90 to station 99, I found a very smooth and rapid current. Between stations 99 and 110 I was able to take a few soundings, as indicated on the plan. From station 110 to 128 exist that series of unnavigable waters known as the Cascade rapids. Station 131 is at the head of Lake *St. Louis*, where I found a good harbour, and abundant water.

The waters on the south shore of the River *St. Lawrence*, between the two lakes, are extremely unequal, and in my humble opinion, unnavigable. There are only two bodies of water between the extreme points of the survey, that could be used for the purposes of navigation. They will be found indicated on the plan.

By my instructions I was directed to take levels between portions of navigable waters, and had it been in my power I should have done so; but in consequence of the advanced season, and the absolute refusal of my men to continue their engagements, I was compelled to limit myself to the single level indicated on the plan; it will be found laid down in feet. From station 30 to station 131, it will be necessary to take the levels by land, as the waters between those points are unnavigable.

I beg leave to say, that the survey was executed with great care, and that in point of accuracy the plan may be depended on.

John Jones, Esq.  
Chairman, &c.

I have, &c.  
(signed) *Henry G. Thompson*.

— No. 33. —

LETTER from the Receiver-General to the Cashier of the City Bank of *Montreal*, respecting a Loan of 20,000 £ for Public Improvements on the River *St. Lawrence*.

Sir,

Montreal, 14 June 1842.

It having been communicated to the Government that your bank would be disposed to afford accommodation, by way of loan, to carry on the public works in the province, until arrangements are completed in England to realise the money granted by the Legislature at its last session, to the extent of 20,000 £, I am desired and authorised to inform you, that your assistance will be cheerfully accepted. This loan is required exclusively for public improvements, and will be expended on the same, under the Board of Works; and as the Board will draw on me by warrant, I will give cheques to the respective parties on your bank; consequently, such monies as I may pass my promissory note, at three months after date, will be placed to my credit.

The promissory notes will be redeemed by either drafts on England, or by payment in Montreal.

I have, &c.  
(signed) *John H. Dunn*,  
Receiver-General.

*P. S.*—Drafts drawn on you on my account, signed by *Bernard Turquand*, and countersigned by *Thomas Cary*, my clerks, will be as though signed by myself.

To *C. H. Castle*, Esq.  
Cashier of the City Bank, Montreal.

(A true copy.)  
(signed) *B. Turquand*,  
Chief Clerk.

Receiver-General's Office,  
8 October 1842.

— No. 34. —

(Copy.)

LETTER from the Cashier of the City Bank of *Montreal* to the Receiver-general, in reply.

Sir,

City Bank, Montreal, 16 June 1842.

In pursuance of the understanding come to with you, for the purpose of carrying into execution an order of the Governor-general in Council, passed on Monday the 13th instant, authorising you to effect a loan for the purpose specified in the said order, I have this day placed to your credit in this bank the sum of ten thousand pounds currency (10,000 £), and hereby undertake that a further sum of 10,000 £ shall, in like manner, be placed at your disposal on the 1st August next.

I shall therefore feel obliged by your transmitting to me, at your earliest convenience, an acknowledgment of the receipt of this letter, together with your note for 10,000 £, payable with interest, at such time within a twelvemonth as you may prefer. In the meantime,

I have, &amp;c.

(signed) *C. H. Castle*, Cashier.

*P. S.*—I shall, as you desire, honour drafts drawn on your account, signed by Bernard Turquand, and countersigned by Thomas Cary.

Honourable John H. Dunn, Esquire,  
Receiver-general, Kingston.

(A true copy.)

(signed) *B. Turquand*,  
Chief Clerk.

Receiver-general's Office,  
8 October 1842.

— No. 35. —

COPY of the Fourth Report of the Standing Committee of the House of Assembly of *Lower Canada*, on Roads and Public Improvements.

THE Standing Committee of your Honourable House, on roads and public improvements, pursuant to their order of reference, proceeded to the examination of the Report of the commissioners named under, and in virtue of an Act passed during the last session of the provincial Parliament, intitled, "An Act for Improving the Internal Navigation of this Province," to cause plans to be made, and levels to be taken, for the purpose of ascertaining whether it is practicable to improve the navigation of the River St. Lawrence, for steam-boats or other vessels, between Lachine and the line which separates this province from the province of Upper Canada, with the accompanying plans, estimates, and documents, and have the honour to report as follows:—

The general advantages to arise from the improvement of the navigation of the St. Lawrence, between the Cascades and Lake St. Francis, were fully understood by the house when they passed the aforesaid Act, under the authority whereof the above-mentioned commissioners were named, and have acted.

The objects of that Act have, in the opinion of your committee, been fully accomplished by the enlightened zeal of the commissioners; and your committee cannot, in justice, withhold the expression of their unqualified approbation of the able and judicious proceedings and recommendations of Mr. Mills, the civil engineer, selected by the commissioners to examine the site of the proposed improvements, and to make the requisite estimates.

It appears, however, not to have been in their power to ascertain what would be the probable amount of the indemnity to become due to the individuals through whose lands portions of the canal might be cut. From information taken before your committee, and hereunto subjoined, the probable amount of such indemnity will not exceed from 400 £. to 500 £.

By the report of Mr. Mills, three different routes are traced and estimated for carrying into effect the improvement of the navigation of the St. Lawrence, between Lachine and the line separating this province from Upper Canada.

That which Mr. Mills recommends, your committee concurs with him, and with the commissioners, in also recommending. This route follows the River St. Lawrence itself, and connects the line of channel, by intermediate canals, at the impracticable points. According to this plan, the whole length of improvement, as stated, would comprehend a distance of 14 miles and 54 chains, of which 7 miles and 64 chains by the river, and six miles and seven-eighths by canal. This distance bears a descent of 82, 43-100 feet, of which 9, 47-100 feet are overcome in the river, and 72, 96-100 feet are distributed between new locks of various lifts. The whole is estimated at the cost of 235,782 £. 3s. 2½d. currency, exclusive of the sums to be paid for indemnifying proprietors of lands through whose lands the canal would pass, and which, as above-mentioned, may be estimated at the additional sum of from 400 £. to 500 £.

Your committee recommend that this sum, amounting together to about 240,000 £., should be raised by loan, upon the public credit of the province, at so low a rate of interest as the same can be obtained.

The present productive value of the existing canal stock belonging to the province, in the Lachine Canal, as well as the ratio of its past increase, will be seen by the following table—See Table (A.)

The province is in like manner possessed of other canal stock in the Chambly Canal, now in progress, and nearly completed. The cost of this last canal may be estimated at above 50,000 £. currency, and neither the one nor the other stock is charged with any debt.

Besides these funds, there can be little doubt that the now proposed canal will, even in the first year of its going into operation, pay the full amount of the interest of the sum which it will cost, without imposing any tolls burthensome upon the trade and navigation of the river.

Insufficient as are the present locks at the Coteau du Lac and at the Cascades, the revenue derived from them is by no means inconsiderable, and is annually increasing, as will appear from the

following Table, made up from Returns transmitted to the house by his Excellency the Governor-in-chief.—See Table (B.)

To this charge in the last season of	£.	s.	d.
Are to be added the cartage by land, amounting to above	3,093	15	6
Towage of Durham boats and batteaux boats, by horses	5,400	-	-
Towage by steam-boats from Lachine to Cascades	3,510	-	-
	1,700	-	-
Making a Total of	£.	13,073	15 6

It may be proper to add, that the proposed improvements will not in their progress interfere with the line of water communication as now used.

All which is nevertheless humbly submitted.

10 February 1834.

(signed) Andrew Stuart, Chairman.

(A.)

LOWER CANADA.

STATEMENT of the Gross and Net ANNUAL REVENUES of the Locks at the *Cascades*, *Split Rock*, and *Coteau du Lac*, since the Year 1815.

Year.	Gross Revenue,		Repairs and Expenses,		Net Revenue,		BATTEAUX, DURHAM BOATS, SKIFFS, AND CANOES.											
	Halifax		Halifax		Halifax		CASCADES.			SPLIT ROCK.			COTEAU DU LAC.					
	Currency.		Currency.		Currency.		Bat-teaux.	Durham Boats.	Skiffs and Canoes.	Bat-teaux.	Durham Boats.	Skiffs and Canoes.	Bat-teaux.	Durham Boats.	Skiffs and Canoes.			
1816	£.	s.	d.	£.	s.	d.	£.	s.	d.	225	24	-	254	1	4	994	130	5
1817	873	5	-	307	8	5	565	16	7	14	43	-	10	12	-	835	268	
1818	744	5	-	300	1	1	444	3	11	639	337	5	642	339	5	649	311	
1819	1,024	17	6	336	3	6	1,288	14	-	559	338	-	562	302	-	568	301	3
1820	1,513	5	-	346	13	2	1,166	11	10	430	560	-	430	560	-	427	456	
1821	1,833	10	-	429	11	3	1,403	18	9	336	517	-	343	452	-	357	442	
1822	1,654	15	-	476	1	2	1,178	13	10	370	437	4	388	476	4	385	407	3
1823	1,558	10	-	523	3	-	1,035	6	11½	378	351	2	378	374	3	377	317	
1824	1,328	-	-	633	12	4	694	7	8	449	245	2	450	254	-	457	292	1
1825	1,254	-	-	557	16	3	696	3	9									
1826	-	-	-	-	-	-	873	5	4	162	308	3	193	342	3	167	313	8
1827	1,007	17	6	1,421	-	10¼	460	1	11¼	249	504	8	552	523	8	254	497	5
1828	2,230	5	-	881	18	6	1,348	6	6	999	403	4	408	440	4	403	358	6
1829	2,089	17	6	579	11	0¼	1,519	5	11½	712	530	69	712	530	69	712	530	69
1830	1,273	12	6	253	15	3	1,010	17	3	837	371	20	837	371	20	837	371	20
1831	2,627	17	6	777	19	8	1,849	17	10	792	451	21	792	451	21	817	451	17
1832	2,447	10	-	341	6	5	2,106	3	7	863	612	13	863	612	26	864	612	15
1833	2,345	5	-	932	3	11¼	1,636	1	-¼									
1833	3,093	15	6	875	15	1	2,218	-	5									

B.)

STATEMENT of the ANNUAL REVENUE of the *Lachine* Canal since the Year 1827.

YEARS.	Amount of Tolls collected.	Amount paid to the Receiver-general.	Expenses of Management, Repairs, &c.	REMARKS.						
	£.	s.	d.	£.	s.	d.	£.	s.	d.	
1827	3,051	6	6	1,639	3	10	1,412	2	8	
1828	195	-	-	-	-	-	195	-	-	
1829	2,925	18	8	1,257	2	10	1,668	15	10	
1830	5,313	1	2	2,500	-	-	2,813	1	2	
1831	6,632	18	4½	4,691	13	8	1,941	4	8½	
1832	5,826	15	11	4,432	8	10	1,394	7	1	
1833	7,154	4	-½	5,237	14	3½	1,916	19	9	

## MINUTES OF EVIDENCE.

Monday, 10th February 1834.

ANDREW STUART, Esquire, in the Chair.

READ the order of reference, relating to the message of his Excellency the Governor-in-chief, received on Saturday last, and the Report of the commissioners appointed under the Act for the Internal Improvement of the Navigation of this Province, with the accompanying documents and plans.

*Charles Archembeault*, Esquire, Member of the Committee, was Examined as follows:—

Have you any and what means of becoming acquainted with the route of canal recommended by the commissioners named under the Act 3 Will. 4, c. 9, in their Report laid before the Assembly in the present session, and referred to this committee?—I have been long acquainted with the locality along the Cedars, from Lake St. Louis to Lake St. Francis. I have frequently descended the rapids in that part of the province. It is the route by which is brought down nearly all the produce of those parts of Upper Canada and the United States bordering on the different lakes. They descend those rapids in Durham boats, drawing about three feet and a half of water, conducted by experienced pilots. It is also by this route that nearly all the merchandise that is sent up to the places last above mentioned is conveyed. The merchants suffer great difficulties, losses, and delays in these rapids, because they are under the necessity of unloading (except at the military canals) a great part of their cargoes, and have it conveyed by land, at a great expense. They are, moreover, obliged at different places to cause the batteaux so unloaded to be towed up by from eight to ten horses; and it happens frequently that both the batteaux and the cargo are lost in those rapids.

What is the present amount of the transport between Lachine and the province line, on the route as now used, and what may be the expense of such transport?—I cannot exactly state the number of tons of different effects imported and exported by that route; but I can certify that it is the only route made use of at present for the trade of Upper Canada and the United States bordering on the lakes.

What, in your opinion, would be the effect of opening the projected line of canal?—The canals recommended by the commissioners would be of the utmost advantage for both provinces, and for our neighbours that have settled along the lakes, and a great source of economy for all.

What might be the probable cost of indemnifying individuals through whose lands it would pass?—The route of the canal recommended by the commissioners will generally pass through those parts already purchased, and paid for by the commissioners appointed under the Act 1 Will. 4, c. 21, and what will have to be purchased cannot cost more than about 400*l.* or 500*l.*

Do you see any and what obstacles to the route recommended by the aforesaid commissioners?—Being well acquainted with the locality, and having paid great attention to the line drawn on the plan, and by which the canals must pass, I see no obstacle; on the contrary, I sincerely believe that it is the most convenient, the cheapest, and most expeditious route that can be chosen for conveying any kind of effects or merchandise.

*Paul Timothe Masson*, Esq., a Member of the House, appeared before the Committee, and the Evidence of Charles Archembeault, Esq., having been read to him, he approved the same in all its contents, and added the following to the answer to the second question:—

To the best of my knowledge, the quantity of tons that are conveyed up to those parts was, in 1833, 20,000, and 60,000 were taken down the same year. From the Cascades to the Coteau du Lac, or Lake St. Francis, the following sums were paid for conveyance, viz.:—

	£.	s.	d.
For land-carriage, about - - - - -	2,400	-	-
Towage of boats and batteaux by horses - - - - -	3,500	-	-
Tolls paid at the locks at the Cascades, &c. - - - - -	3,093	15	6
Towage from Lachine to the Cascades, by steam-boat, about - - - - -	1,700	-	-
Amount paid in 1833, from Lachine to Lake St. Francis - £.	10,693	15	6

— No. 30.—

(No. 29.)

COPY of a DESPATCH from the Right honourable Sir Charles Bagot, Bart., G.C.B., to Lord Stanley.

My Lord,

Government House, Kingston, 23 February 1843.

I HAVE the honour to acknowledge the receipt of your Lordship's despatches, (Nos. 308 and 309, in duplicate), bearing date the 30th December 1842 and 3d January 1843, announcing the Queen's assent to the Act passed in last session by

No. 30.

Despatch from Sir C. Bagot to Lord Stanley, 23 February 1843.

Pages 102, 103.

the Canadian Legislature, for authorizing the raising of a loan of 1,500,000*l.* in England for the purpose of executing certain public works in the province, and stating the steps which Her Majesty's Government have taken thereupon to carry out the objects which I have had in view in the several communications that I have had with your Lordship upon this subject.

I feel much satisfaction, in which my Council participates, at the terms which have been obtained for the portion of this loan, which has already been offered to public competition, as they indicate very clearly the confidence which is felt in the British stock market with regard to the future progress of this province in prosperity and wealth, and cannot fail to have an important and immediate influence upon its financial credit.

No effort will be spared by this Government to maintain this position, and the recommendation of your Lordship with regard to the punctual payment of the interest will be strictly attended to. For this purpose I have to request that your Lordship will inform me to whom the interest is to be remitted, and the exact period at which it will become payable.

I fully appreciate the objection set forth in your Lordship's despatch (No. 308), to making the debentures redeemable at an earlier period than 20 years; but I considered it advisable to mention the suggestion, as the objection had not been found to prevail on former occasions, when smaller sums have been raised, under circumstances, it is true, less favourable to the credit of the province and to the chance of its being able to avail itself of the proposed power of redemption before the furthest period named in the debentures.

The rate of commission demanded by the Bank of England appears reasonable. It will be duly defrayed at the same periods as the interest, and all expenses attending the preparation of the bonds will be with propriety paid out of the proceeds of the loan, as suggested by your Lordship.

With regard to the amount of sinking fund to be set apart for the repayment of the loan, I have not been able to address your Lordship upon it as soon as I expected, in consequence of the necessity of awaiting the preparation of the accounts of revenue and expenditure for the past year, which might afford some evidence of the operation of the changes made in the Canadian customs duties in 1841, and of the probable surplus to be devoted to a sinking fund.

I am not yet able to supply this information, the accounts not having been closed, and the absence of the Inspector General, in attendance upon the Court of Appeals at Toronto, offers another difficulty at the present moment to my sending your Lordship a satisfactory memorandum upon the subject; but I have no hesitation in undertaking that a sum of at least five per cent. shall annually be set apart by the province for the joint purpose of paying the interest, and creating a sinking fund towards the redemption of this debt.

I have, &c.

(signed) *Charles Bagot.*

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— No. 31. —

(No. 33.)

COPY of a DESPATCH from the Right honourable Sir *Charles Bagot*, Bart., G. C. B., to Lord *Stanley*.

My Lord,

Government House, Kingston,  
24 February 1843.

WITH the view of furnishing the Lords Commissioners of Her Majesty's Treasury with the earliest intimation of the amount which will be required during the present year for the prosecution of the public works to be provided for out of the proceeds of the Canadian Loan Act, I have the honour herewith to transmit a copy of a communication from the Receiver-General, accompanying an estimate prepared by the Board of Works, of the sum which will be required during each quarter of the year 1843.

The

No. 31.  
Despatch from  
Sir C. Bagot to  
Lord Stanley,  
24 February 1843.

The aggregate is large: but the reasons pointed out by the Chairman of the Board of Works, for using the utmost diligence in pushing forward the works at a season so favourable to their economical construction; and the consideration that the revenue to be derived by tolls on these works will, in some instances, commence only with their individual completion, and, in all, will be greatly augmented by the completion of the whole, will, I trust, be sufficient to justify the proposed expenditure, and to secure your Lordship's approbation of the activity intended to be exerted in this service during the present year.

I should add, upon this topic, that the saving upon the contracts made during 1843, in consequence of the circumstances pointed out by Mr. Killaly, will far exceed any gain that is likely to arise in deferring the negotiation of this portion of the loan in England.

As it appears from the Receiver-general's letter, that a balance of 86,373*l.* 19*s.* 6*d.* remains undrawn out of the sum already raised, from which must be deducted the expenses attending the preparation of the bonds, there remains to be borrowed to meet the service of 1843, about 470,000 *l.*, which I request that your Lordship will move the Lords of the Treasury to raise, in such sums, and at such times, as may appear to their Lordships most advantageous to the province.

I have, &c.,  
(signed) *Charles Bagot.*

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Enclosure in No. 31.

Receiver-general's Office, Kingston,  
22 February 1843.

Sir,

I HAVE the honour to transmit to you, in order that you may lay the same before his Excellency the Governor-general, and for transmission to England for the guidance of the Right honourable the Lords Commissioners of Her Majesty's Treasury, a copy of a letter dated the 20th instant, together with the accompanying statement from the Chairman of the Board of Works, being an estimate of the sum of money which will be required to be provided during the year 1843. You will please to observe that the total amount of the estimate is 555,200*l.* There remains of the 300,000 *l.* at present raised in England a balance undrawn for of 86,373*l.* 19*s.* 6*d.*, which deducted from the above sum, there will remain to be raised for the year 1843, 468,826*l.* 0*s.* 6*d.* To make an even sum, I should suggest that the amount to be at present raised be 470,000 *l.*, should it be found that the state of the money market in England is advantageous for the sale of so large a sum at one time; and if not, the Right honourable the Lords of the Treasury will be able to form the best opinion on this point; but it must be understood that means must be provided to meet the engagements entered into by the Board of Works with the contractors agreeable to the estimate. I need not state to you the embarrassments that would occur to this Government if any difficulty or delay should take place in meeting the demands of the Board of Works.

Encl. in No. 31.

R. W. Rawson, Esq.,  
&c. &c. &c.

I have, &c.  
(signed) *J. W. Dunn, R. G.*

Sir,

Board of Works, Kingston, 20 February 1843.

IN obedience to the Order in Council, I have the honour herewith to submit for your guidance as close an approximating estimate as is possible of the sum which will be required this year to meet the payments on the various works now in progress, under the Appropriation Act of last year.

The execution of the works being carried on entirely by contract, the rate of expenditure of course in some measure rests with the contractors; but as the season is particularly favourable for the extensive procurement and delivery of materials, and from the present rate of wages and uncommonly low prices of provisions, it is so much the interest of the contractors and the public that the utmost energy should be exerted in driving on the works. I have little doubt of the full sum which I have named being required to meet the demands.

I have, &c.  
(signed) *Hamilton H. Killaly,*  
Chairman Board of Works.

(True copy.)  
*John W. Dunn, R. G.*

AN Approximate ESTIMATE of the Sum required for the Year 1843 for the Public Works at present in progress, under the direction of the Board of Works, and by authority of the Appropriation Act, 4 & 5 Vict. c. 28.

Required to - - - -	1 July.	1 October.	1 January	TOTAL.
	£.	£.	£.	£.
St. Lawrence Canal, viz. - - Cornwall - -	2,000	-	-	2,000
Prescott - - - -	5,000	5,000	5,000	15,000
Beauharnois - - - -	25,000	30,000	25,000	80,000
Lachine - - - -	15,000	17,500	17,500	50,000
St. Ann's Rapids - - - -	1,800	-	-	1,800
Welland Canal - - - -	40,000	40,000	40,000	120,000
Burlington Bay Canal - - - -	6,000	7,000	7,000	20,000
Lake St. Peter - - - -	6,000	7,000	7,000	20,000
Rondeau Harbour - - - -	2,000	2,000	2,000	6,000
Port Stanley Harbour - - - -	4,000	4,600	4,000	12,600
Catfish Harbour - - - -	1,500	2,000	1,500	5,000
Burwell Harbour - - - -	1,500	2,000	1,500	5,000
Dover Harbour - - - -	2,000	1,500	1,500	5,000
Windsor Harbour - - - -	3,000	2,500	2,500	8,000
Coburg Harbour - - - -	2,000	2,000	1,000	5,000
Light Houses - - - -	1,300	-	-	1,300
Newcastle District - - - -	8,000	9,000	8,000	25,000
River Richelieu - - - -	2,500	3,000	2,500	8,000
River Ottawa - - - -	6,000	6,000	6,000	18,000
London, Chatham and Amherstburgh Road - - - -	5,000	5,000	5,000	15,000
London and Sarnia - - - -	3,500	4,000	3,500	11,000
London and Brantford - - - -	10,000	10,000	10,000	30,000
London and Port Stanley - - - -	5,000	5,000	5,000	15,000
Cascades - - - -	3,500	3,500	3,000	10,000
Morin North Toronto - - - -	3,000	3,500	3,500	10,000
Gosford - - - -	2,500	2,000	-	4,500
Bay of Chaleurs - - - -	4,000	4,000	4,000	12,000
Hamilton and Dover - - - -	7,000	7,000	6,000	20,000
Bridges between Montreal and Quebec - - - -	7,000	7,000	6,000	20,000
TOTAL - - - - £.	185,100	192,100	178,000	555,200

— No. 32. —

No. 32.

Extract Despatch  
from Sir C. Bagot  
to Lord Stanley,  
24 February 1843.  
Page 108.

(No. 34.)

EXTRACT of a DESPATCH from the Right honourable Sir Charles Bagot, Bart., G.C.B., to Lord Stanley, dated Government House, Kingston, 24 February 1843.

I AM gratified by learning from your Lordship's despatch of the 14th January, No. 312, that the progress which was made in the public works during the past year, and the selection of the works for immediate commencement, as reported in my despatch of the 11th December, No. 244, have given satisfaction to your Lordship.

I have now the honour to enclose a statement of the works for which appropriations were made under the Act directing the application of the recent loan of 1,500,000*l.*, to which is appended in each case a brief notice of the progress which has been made in each work, and of the date at which it may be expected that most of them will be completed.

Enclosure

Enclosure in No. 32.

STATEMENT of the PUBLIC WORKS at present in progress under the direction of the Board of Works, and by authority of the Appropriation Act, 4 & 5 Vict. c. 29. Encl. in No. 32.

St. Lawrence Canal.	Cornwall - - - - - Opened to the trade in December last. Prescott - - - - - Advertisements for materials ready. Beauharnois - - - - - Considerable progress made in the procurement of materials, and about four miles of canal excavated; the entire will be opened for navigation next season. Lachine - - - - - Widening and enlargement thereof now being proceeded with.	
St. Ann's - - - - -	Will be ready for the trade on the opening of the navigation.	
Welland - - - - -	The works of enlargement, and re-construction of the locks rapidly advancing.	
Burlington Bay - - - - -	The old work put in such a state of repair as to stand until the new work will be ready; the railway for the delivery of the material is nearly completed.	
Lake St. Peter - - - - -	The several dredge and steam-vessels and scow-tenders ready for work on the opening of the season.	
Rondeau Harbour - - - - -	Materials advertised for, and the work will be completed in 1844.	
Port Stanley - - - - -	Considerable progress made in the work, which will be completed in 1843.	
„ Catfish - - - - -	Materials advertised for, and the work will be completed in 1844.	
„ Burwell - - - - -	Materials advertised for, and the work will be completed in 1844.	
„ Dover - - - - -	Materials advertised for, and the work will be completed in 1843.	
„ Windsor - - - - -	Contracts made, and materials being delivered, the work will be completed in 1844.	
„ Cobourg - - - - -	Contracts made, and materials being delivered, the work will be completed in 1843.	
Light-houses - - - - -	Floating light for Long-point built, and the fixed Light-house for the same is in course of construction. Gull Island and Presqu'ile Light-houses repaired, and ten new lights below Montreal erected.	
Newcastle District Improvements	Progressing rapidly, and will be completed in 1844.	
River Richelieu - - - - -	The Chambly Canal being now finished, the works at St. Ours on the Richelieu will be commenced forthwith.	
River Ottawa - - - - -	The contracts for the bridges made, and the work progressing, the other improvements will be commenced as soon as the season will permit.	
London, Chatham and Amherst- burg Roads - - - - -	} The work is in progress, and will be completed in 1844.	
London and Sarnia - - Roads - - - - -		ditto - - - - - 1843.
London and Brantford - „ - - - - -		ditto - - - - - 1844.
London and Stanley - „ - - - - -		ditto - - - - - 1844.
Cascades - - - - -		ditto - - - - - 1844.
Main Northern - - - - -	„ - - - - - Not yet commenced, but the advertisements have issued for the contracts.	
Gosford - - - - -	„ - - - - - Will be completed this season.	
Bay of Chaleurs - - - - -	„ - - - - - ditto.	
Hamilton and Dover - - - - -	„ - - - - - Will be completed in 1844.	
Bridges between Montreal and Quebec - - - - -	} Materials delivered, and the works will be completed next season.	

*General Observations.*—The entire of the foregoing works are carried on by contract, and from the present low rates paid for provisions, &c., the several contracts have been taken on terms very advantageous to the public, and there is no doubt of the estimates being sufficient to cover the cost of the respective works. It is highly desirable, in the opinion of the Board, that the greatest effort be made to have the works finished simultaneously, and as soon as possible, that the benefit of the revenue to be derived therefrom may be had, and the expenses of establishments got rid of.

By order of the Board of Works,  
*Thomas A. Begly, Secretary.*

— No. 33. —

COPY of a LETTER from Sir John Barrow to G. W. Hope, Esq.

Sir,

Admiralty, 4 April 1843.

No. 33.  
Letter from Sir  
John Barrow to  
G. W. Hope, Esq.  
4 April 1843.

I AM commanded by my Lords Commissioners of the Admiralty to send you herewith, for the information of Lord Stanley, a copy of a letter from Captain Sandom, dated the 8th of last month, (No. 18), relative to the improvements carrying on on the lakes of Canada.

I am, &amp;c.

(signed) J. Barrow.

## Enclosure in No. 33.

(Extract.)

Her Majesty's Ship "Niagara," Kingston,  
Canada, 8 March 1843.

Sir,

Encl. in No. 33.

THE forward movement given to improvements in this country, by the liberal guarantee of money from the parent state, is most evident in the progress made and making in the formation of harbours, canals, and such works.

The late Governor-general (Lord Sydenham) formed a Board of Works, at the head of which is placed a talented and persevering engineer, Mr. Killaly; under this gentleman's direction, harbours are now forming upon Lake Erie, on a good and permanent scale, and the essential canal communications assuming a systematic regularity which, while it promises to be of the greatest benefit and advancement to this noble colony in mercantile and agricultural pursuits, cannot fail to contribute to its naval defence in a most eminent degree.

Commencing at the Western extremity of Lake Erie, advantage is taken of an inroad of the lake at "Point aux Pins" to form a fine harbour, which will progress to become an entrepôt, ensuring the independence of this western frontier of Canada from her adjoining powerful neighbour at the Detroit Strait. Further to the eastward, Port Stanley will be made a good and secure harbour. Improvements are in progress at Long Point Bay; and the Harbour of the Grand River (the colonial authorities finding it is not the intention of Her Majesty's Home Government to expend money upon it as a naval station) is now in progress of those improvements which (considering what nature has done) it were a disgrace not to have made long ago.

The permanent reconstruction of the works of the Welland Canal are being proceeded with, upon a scale suited to the largest class sailing craft navigating Lakes Erie and Ontario.

The large St. Lawrence Canal extends 12 miles to avoid the "Great Long Sault Rapids," and was opened in November last.

There are three obstructions above the upper end of the St. Lawrence Canal, between it and Prescott, viz., the "Gallopas," "Point Noquois," and "Rapid Plat;" to surmount which, three short canals with the necessary locks are requisite. The surveys and plans of these works are now completed, and they will be taken in hand forthwith, so as to be opened simultaneously (with the other improvements in the river) in the fall of next year, 1844.

The Beauharnois Canal, to avoid the Coteau, Cedar, and Cascades Rapids, is also energetically advancing, and will be ready to be opened in the fall of 1844. The Lachine Canal enlargement is also being proceeded with; but this proportion will not be ready before 1845.

The improvement of the navigation of Lake St. Peter will be proceeded with vigorously by this season.

I have, &amp;c.

(signed) William S. Sandom, Captain, R. N.

—No. 34.—

(No. 33.)

COPY of a DESPATCH from the Right Hon. Sir C. T. Metcalfe, Bart., G. C. B., to Lord Stanley.

My Lord,

Kingston, 27 May 1843.

No. 34.  
Despatch from Sir C. T. Metcalfe, Bart., to Lord Stanley.  
27 May 1843.

In order to expedite the preparation of the documents relating to the public works of this Province, which it is your Lordship's intention to lay before the House of Commons, in reply to the Address to which your despatch of the 13th ultimo (No. 18,) relates, I have the honour to send herewith such of the information as is at present completed, viz.

1st. A Return showing the monies borrowed since the 1st January 1840, by this government for public works, the rates of interest to be paid, and the arrangements made for repaying the principal and the interest.

No. 1.  
Vide Map at the end of the Volume.

2d. A Map of the Province of Canada, showing the position of all the public works hitherto executed or in the course of construction, and of the various canals, roads and other public works referred to in the correspondence called for by the House of Commons; with a supplementary document, exhibiting the estimates prepared for each of the works, and the amount expended, and remaining to be expended on each; the dimensions of the locks in the canals, and such other information as may be useful in illustrating the map.

No. 2.

I have, &c.

(signed) C. T. Metcalfe.

Enclosure 1. in No. 34.

A RETURN showing the Monies borrowed since 1st January 1840, by the Local Government for Public Works, the Rates of Interest to be paid, and the Arrangements made for repaying the Principal and the Interest.

Encl. 1, in No. 34.

In the year 1840, the sum of 26,000 L. currency, was borrowed from the chartered banks, for the purpose of making improvements on certain roads in Upper Canada. This sum, with the interest at the rate of six per cent., has since been repaid out of the consolidated revenue fund. Since the abovementioned period, the only monies borrowed by the Canadian Government, have been advances occasionally obtained from the banks, in anticipation of the loan of 1,500,000 L. then about to be raised on the guarantee of the Imperial Parliament; and which were expended on the public works for which that loan was raised, and have been repaid to the banks out of the proceeds of the first instalment of the English loan, amounting to 300,000 L., which has already been drawn for by the Receiver-general.

(signed) Rawson W. Rawson, Chief Secretary.

Enclosure 2, in No. 34.

A SCHEDULE explanatory of the Cost, &c., of the several Works now constructing in Canada.

RESPECTIVE WORKS.	NATURE OF THE WORK.	Original gross Estimate submitted by Mr. Killaly.	Detailed after-estimate furnished by the respective Engineers.	Expenditure.		Contracts already entered into.		Value of Work not contracted for.	Periods of Completion.			REMARKS.
				In the Years		Gross Amount.	How Payments are made.		For Contracts already made.	For the whole Work.		
				1842.	1843.					As originally proposed.	As now recommended.	
St. Lawrence Navigation, viz.												
Lake St. Peter	- - straightening and deepening the channel, removing bars, lightings, &c.	60,000	58,000	10,959	3,824	14,732	- - -	In Pounds Sterling. 43,218	1846	1846	1846	Those works are being proceeded with on the principle of obtaining 14 feet depth of water through Lake St. Peter; and the canals to have 10 feet depth of water, 80 feet width of bottom, slopes 2 to 1; locks 45 feet wide by 200 long, with 9 feet depth of water on the cills.
Lachine Canal	- - - - -	225,300	208,636	3,783	13,643	17,426	- - -	191,210	1846	1846	- to be pass-	
Batharouis Canal	- - - - -	255,900	248,976	30,101	5,030	210,779	- monthly, upon work done.	38,197	1845	1845	able in 1845	
Cornwall Canal	- - - - -	57,670	-	47,942	6,966	54,909	- - -	-	completed	completed	Vessels are now passing.	
Prescott to Dickenson's Landing	- - - - -	151,312	The positions of these works are now being marked out, and the necessary plans prepared.						1845	1845	1845	
Welland Canal	- - - - -	450,000	405,900	28,853	78,682	203,000	- monthly, upon work done.	202,900	1843-44	1844	1845	- - - - -
River Richelieu	- - - - -	21,000	not yet made	45	-	-	- - -	Canal 45 ft. at bottom, 2 to 1 slopes, and 10 ft. depth of water; the dimensions of these locks are so generally preferred for the western trade.	1843	1843	1844	- - - - -
River Ottawa	- - - - -	28,000	28,000	74	2,336	10,956	- - in three instalments, as work progresses.	17,014	1843	1843	1844	- - - - -
Burlington Bay	- - - - -	45,000	38,500	1,363	1,782	-	- - monthly, on work done.	35,355	completed	1843	1844	- - - - -
Internal Waters, &c. of the Newcastle District.	- - - - -	50,000	50,000	8,854	5,781	29,873	- - monthly, as the work progresses.	29,127	1843	1844	1844	- - - - -
Harbours and Lighthouses, and Roads leading thereto.	- - - - -	74,000	74,000	5,830	6,988	33,850	- - monthly, on work done.	40,150	1843	1843	1844	- - - - -
Bay of Chaleurs Road	- - - - -	15,000	14,835	4,146	1,800	14,835	- - monthly, on work done.	-	1843	1843	1843	- - - - -
Gosford Road	- - - - -	10,000	9,280	7,309	116	9,280	- - -	-	1843	1843	1843	- - - - -
Main Northern Road from Lake Ontario to Lake Huron.	- - - - -	30,000	26,733	90	81	-	- - -	26,733	1844	1844	1844	- - - - -
Main Province Road: Quebec to Amherstburg and Port Sarnia, viz.	- - - - -	34,000	32,400	2,851	6,711	19,800	- - in three instalments on each bridge, as the work progresses.	12,600	1844	1843	1844	- - - - -
Building of bridges	- - - - -											- - - - -
Cascades-road London and Sarnia road	- - - - -	15,000	14,463	2,999	315	3,579	- - -	10,884	1843	1843	1844	- - - - -
London and Brantford road	- - - - -	55,000	45,668	4,568	1,578	13,525	- - -	-	1843	1843	1843	- - - - -
London to Sandwich and Amherstburg.	- - - - -	36,000	49,817	1,220	738	49,817	- - -	-	1844	1844	1844	- - - - -
Hamilton and Port Dover Military road from the Ottawa to the St. Lawrence.	- - - - -	none	39,600	2,789	3,898	30,000	- - -	9,600	1844	1844	1844	- - - - -

Hamilton H. Killaly, President, Board of Works.

- - - these works were not estimated for by Mr. Killaly, not having been embraced among those recommended by him.

all of these are now in progress.

- - orders from the Executive to the Board of Works for proceeding with this work have not yet been made.

- - the completion of these works is of the utmost consequence, and that it has not been effected in 1843 as originally intended, is owing to the delay in the money arrangements.

- - the old work secured so as to prevent obstruction to the navigation pending the reconstruction.

- - this work will perfect the navigation from Lake Champlain to Quebec.

- - the bridges to be built this year, the slides to be ready for the running of the lumber next spring.

- - Locks 26 ft. 6 in., in width by 145 ft. in length, with 8 ft. 6 in. of water on the cills, depth of water; the dimensions of these locks are so generally preferred for the western trade.

—No. 35.—

(No. 54.)

COPY of a DESPATCH from the Right Hon. Sir C. T. Metcalfe, Bart., G.C.B.,  
to Lord Stanley.

Government House, Kingston,  
29 June 1843.

My Lord,

I HAVE the honour herewith to submit the remainder of the information required by your Lordship's despatches of the 13th April and 29th May (Nos. 18 and 27), the preparation of which has been unavoidably delayed in consequence of the absence of the President of the Board of Works on a tour of inspection.

I also append, for your Lordship's information, a return of the tolls received upon the Rideau and Ottawa Canals, furnished by the Ordnance Department.

I have, &amp;c.

(signed) C. T. Metcalfe.

No. 35.  
Despatch from Sir  
C.T. Metcalfe, Bart.  
to Lord Stanley.  
29 June 1843.

No. 1 to 9.

## List of Enclosures in No. 35.

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(No. 1.)

EXTRACTS from the GENERAL REPORT of the Honourable H. H. Killaly, dated August 1841.

“THE necessity of involving the Province in the cost of forming a second water communication with tide-water, has been for a long time the subject of dispute and argument with many. Encl. 1, in No. 35.

“Until latterly, I was among the number of those who doubted the prudence of it; but the vastly increasing trade, doubling almost annually, and the conviction upon my mind, after mature consideration, that the lowering of freight consequent upon affording additional facilities, together with the productiveness of the western countries, which is only now coming into operation, will increase still further this trade to an almost inconceivable extent, have convinced me that a second and more facile outlet is called for.

“Besides, the transport being confined to the Rideau, the navigation of which depends upon the stability of dams of great height (in one case 60 feet), should any injury arise to one of these dams (as was apprehended last spring), either through accident or malice, the effects of it would be ruinous to half the commercial interests of the country.

“I am decidedly of opinion, that the scale upon which the Cornwall Canal was undertaken, is unsuited to the means of the Province, and is not absolutely necessary for the greatest increase of trade which the most sanguine may look forward to, and that a schooner navigation, combined with a system of tug-boats, would have answered every commercial purpose; but now, from the large expenditure already incurred upon the central portion, the little required to complete it, and the comparatively small saving that might be effected upon what remains to be done, by adopting the schooner scale, I am led to conclude that the best and wisest course will be to open the Saint Lawrence throughout, from Montreal to Lake Ontario, for steam-boats and schooners, not upon the full size of the Cornwall Canal, but on a scale sufficiently large to admit a powerful class of steamers or tug-boats to pass.

“The estimates transmitted herewith are based upon the principle of locks being adopted, length 175 feet, breadth 40 feet, and 8 feet 6 inches depth of water; but as some time from the present period will, under any circumstances, elapse before the actual building of locks is commenced, the question will, in all probability, be fully decided as to the power and suitability of the several modes recently proposed for the propelling of vessels, and this decision will naturally govern the dimensions of the locks, and may seriously tend to a diminution of expenditure.”

Dimensions ultimately adopted, 200 long, 45 wide.

*Saint Lawrence Navigation.—From Prescott to Dickinson's Landing.*

“From Lake Erie to tide-water, after passing the Welland, the next portion of the route which will require an outlet when the other improvements, more immediately called for on the river below it are completed, is the part between Prescott and Dickinson's Landing, a distance of about 40 miles, in which the collective falls at a few points amount to about 22½ feet; to overcome which by the necessary locks, &c., would require about 150,000 £, but as the down-stream carriage upon this part of the river is safe and facile, and tug-boats can

(although with difficulty) bring up light barges, it is considered unnecessary, in the present state of the navigation generally, to incur any outlay thereon."

Original gross estimate submitted by Mr. Killaly, 151,312 l.

#### *Cornwall Canal.*

"The improvement of this reach of the River Saint Lawrence (in length about 11½ miles), and in which there is a fall of 48 feet, was estimated at 216,343 l., and was commenced in 1833-34. Shortly after operations commenced, it is stated, that from the increase on the prices of provisions, and other causes, the commissioners considered themselves justified in adding very largely to the contract rates, in some instances, as much as 30 per cent. Under these increased rates, the works have been continued from that time without reference to any fluctuation in the price of provisions.

The accounts rendered by the Commissioners up to 1st January 1839, show an expenditure of 354,203 l. 2 s. 1 d. to that date, exclusive of some outstanding claims. I have had a minute and careful estimate made by Mr. Keefer, engineer to the Board, within the last month, from which it appears that the sum of 43,867 l. is required to open the canal to the trade, and a further sum of 13,804 l. for sundry small works, lock-houses, &c., making in all an amount of 57,671 l. 6 s. necessary for the full completion of the entire of the Cornwall Canal:

Although the advantages to be derived from the improvement of this portion of the navigation would of necessity be very circumscribed, until that between Lake St. Francis and Lake St. Louis was also perfected, yet in favour of the immediate finishing of the Cornwall Canal it may be justly urged:

"First.—That it would enable the river forwarders to have their barges towed up by steam from the Coteau du Lac to Kingston, by which a saving in time of two days would be made.

"Secondly.—To avoid the cost of tracking up the Long Sault Rapids, which, during the past year attending this very limited trade was 3,000 l.

"Thirdly.—The passenger trade would be much benefited by it.

"Fourthly.—Some return beyond the cost of maintaining the establishment of lock-keepers, &c., would be obtained from the large sum already expended, which, until this canal is completed, must remain a *caput mortuum*."

#### *Improvements required between Lake St. Francis, and Lake St. Louis.*

"The Coteau, the Cedars and the Cascades Rapids, between these two lakes, present most formidable difficulties to the dragging up of a small barge with but 15 or 20 tons. To vessels of any size, they are wholly insurmountable. The construction of the necessary locks and canals, to overcome these, Mr. Keefer estimates at 255,900 l.; and I have every reason to believe the work can be done for that sum."

Original gross estimate submitted by Mr. Killaly	-	£. 255,900
Detailed after-estimate furnished by the Engineer	-	£. 248,976

#### *La Chine Canal.*

"The only remaining barrier after the foregoing, to the free passage of lake-going vessels between Quebec and Lake Huron, is the La Chine Canal; the necessary enlargement of which would cost by Mr. Keefer's estimate, 225,300 l."

Original gross estimate submitted by Mr. Killaly	-	£. 225,300
Detailed after-estimate furnished by the Engineer	-	£. 208,636

#### *Welland Canal.*

"Upon this work, about 491,777 l. have been expended from time to time, upon its construction, and as the locks, the most important part of the work, had been formed with perishable materials, the outlay upon annual repairs has been necessarily very heavy; notwithstanding which, the locks are now in a dangerous and ruinous state; of this sum, about 117,800 l. in stock, is held by private individuals, for the purchasing out of which, and thereby placing the work entirely in the hands of the Province, a Bill is now before the Parliament.

"After a very careful consideration and revisal of the several estimates furnished by the various engineers, the completion of this work in a permanent and fully sufficient manner, with cut stone locks of 120 feet in length, 26 feet wide, and eight feet six inches depth of water on the sills, together with the required weirs, waste-gates, stone aqueduct over the Chippawa, a steam-boat lock, and a capacious and safe harbour at each of the terminations, widening of the deep cut, widening and deepening of the feeder throughout, I estimate at 450,000 l. Of debentures authorized by a late Act of the Provincial Parliament, to be issued for this work, about 180,000 l. remain undisposed of, leaving a balance of 270,000 l., to be further sanctioned and provided for the ultimate full completion of the work.

"It is, no doubt, in the recollection of his Excellency, that the completion of the canal on the full scale upon which a portion of the St. Lawrence navigation was proceeded with, has been strongly urged upon the attention of Government. The chief arguments used being the benefit of enabling Atlantic steamers, with cargoes, to proceed to the Upper Lakes, and the advantage which would be obtained in time of war, from having the power of concentrating our naval forces upon either lake, as may be required. The subscriber is of opinion, that the scale referred to, viz., locks 56 feet wide, 180 feet long, and 10 feet draft of water, is quite unsuited for sea-borne steamers, and unnecessary for those well suited to the lakes and to the commerce of the country; and that even if this scale were adopted, at enormous

enormous cost, transhipment from the sea to the lake vessels would, notwithstanding, always take place at Quebec or Montreal.

"In a military point of view, no doubt the second proposed advantage would be great, but being quite beyond the means of the Province, the work, as necessary for the trade of the country, has been alone estimated for.

"The large lock which is proposed at each end, would allow (in case of danger) of the steamers being brought up many miles inland.

"From the very unsafe and precarious state of the canal, it would be of the utmost consequence to have the works commenced forthwith, if possible."

Original gross estimate submitted by Mr. Killaly, - - £. 450,000.

Detailed after-estimate furnished by the Engineer, - - £. 405,000.

#### *River Richelieu.*

"Upon the completion of the works of the Chambly Canal, now rapidly advancing, the only impediments to an uninterrupted navigation between the River St. Lawrence at Sorel, and the head of Lake Champlain, a distance of about 180 miles, will be presented by the fords near St. Ours, St. Denis, and Belœil.

"To remove these obstructions by means of dredging and clearing the channel of rocks; the Legislature of Lower Canada appropriated a sum equal to about 7,650 £, of which 4,525 £ remain unexpended. The outlay incurred under this appropriation has effected nothing, and I am of opinion, that the erection of a steam-boat lock, and a dam of moderate height, say four or five feet over low water at or near St. Ours, is the most certain mode of obtaining the object in view, and the value of the water-power which would be created by the dam, in the midst of a productive country heretofore without mills, would yield a considerable return towards defraying the interest on the money expended."

Original gross estimate - - - - £. 21,000.

#### *River Ottawa.*

"The improvement of the navigation of this river is a measure which has been for a long time strongly advocated, principally by those interested in that district of country.

"The project embraced the full completion of an uninterrupted navigation from the St. Lawrence by the Ottawa, Lake Nipissing, and French River, to Lake Huron. The sum of 3,000 £ was appropriated some time ago to defray the expenses of a survey, on which about 1,500 £ have been expended; but the information as yet obtained is not at all of such a nature as to hazard an estimate of what the cost of the undertaking would be, and, in my judgment, this navigation is not required in the present state of the country. In saying so, I would not be understood to mean that obstacles ought to be opposed by the Government to the project, in case the parties interested should be inclined to proceed in it upon their own resources; on the contrary, arrangements might be made mutually advantageous to them and to the interests of the Province.

"The improvement on the Ottawa, included in this estimate (*see Appendix*), relates solely to the lumber trade; to afford facilities to which, by the construction of suitable slides at those places where they are most required, and to reconstruct the bridges at Bytown, it is proposed to appropriate the sum of 28,000 £.

#### *Burlington Bay Canal.*

"The dangerous and dilapidated state of this very important work renders it necessary that steps be immediately taken to repair, or rather wholly re-construct it, in a substantial and permanent manner. Such is its present ruinous condition, that it cannot be repaired effectually; and a few hours of a heavy blow from the east or south-east might very reasonably be expected to close it up altogether; the consequence of which would be most serious to the mercantile interests of Hamilton and Dundas, and to the extensive and highly productive country of which these ports are the outlets.

"However advisable it may be for the purpose of obtaining still-water, and have the entrance commanded from the land, to locate this work northward of the existing passage, yet the placing of it so much in-shore as has been lately proposed, I consider unadvisable. By so doing, sail-vessels would be prevented from getting out many days during the season; and in making for it, if they did not succeed at once in getting in, would unavoidably be driven aground."

Original gross estimate, submitted by Mr. Killaly - £. 45,000.

Detailed after-estimate, furnished by the Engineer - 38,500.

#### *Improvement of the River Trent, and Inland Waters of the Newcastle District.*

"The persisting in these works, as heretofore contemplated, would, as appears by the original estimates, involve the Province in an expenditure of about 620,000 £; but from the rates upon which those estimates are based, I am of opinion that 200,000 £ or 300,000 £ in addition to that sum would be required to effect the object.

"The line of this intended water communication from the Bay of Quinte to Nottawasaga Bay, with upwards of 820 feet of lockage, a proposed depth of five feet water, continued through a series of lakes and currents, and in many cases extremely circuitous, is, in my judgment, quite unsuited to the principal purpose for which it was originally recommended, namely, the line by which the produce of the Western States would be sent down to tide-water.

"The second argument advanced for its formation was, the facility it would afford for the transport of the agricultural and other produce of the inland townships to market; and

thirdly, the advantages to be reaped by the lumberers; the two latter, I consider, can be obtained sufficiently, more immediately, and at infinitely less cost, by the erection of two or three locks to connect the long reaches of natural navigation, by the construction of two or three cross roads from thence to the nearest ports on Lake Ontario, and finally, by the formation of slides at the places where they may be required.

"A farmer or merchant at the head of Rice Lake is within 12 or 14 miles of the harbours of Port Hope and Cobourg, on Lake Ontario, to which he could have facile access afforded him by an outlay of about 10,000*l.* or 12,000*l.*, whereas, to get the same produce to Lake Ontario by the proposed navigation would require a previous expenditure on it, even according to the estimate of 233,447*l.*, and the distance to be travelled would be about 80 miles.

"As to the lumber trade, I believe a very moderate sum expended on slides would effect quite as much as is necessary."

Original gross estimate proposed by Mr. Killaly - - - £.50,000

*Harbours and Lighthouses on Lake Ontario and Lake Erie.*

"There is no expenditure more called for, and from which the benefits to be derived would be more immediately serviceable to the country, than the outlay which is required to construct or complete some harbours on the lakes. Many of those on Lake Ontario are in a very inefficient and incomplete state.

"On Lake Erie there literally, at this moment, is not one into which a vessel can run, or remain in with safety.

"The state of the lighthouses on Lake Erie is equally bad; that which had been at the end of Long Point, the most important station on the lake, was prostrated long since. Others have not been lighted for a considerable time. The natural consequence of all which is, that we have not now one steam-boat on this lake, and the difficulty and cost of inducing ship-owners to risk their vessels into the ruins of what were constructed as harbours, is so great as almost to put a stop to the shipping of the produce of the country.

"The sum of 74,000*l.* has been set down in the estimates, after much consideration and calculation, as sufficient to remove general and well-grounded complaints on this head."

Original gross estimate as proposed by Mr. Killaly - - - £.74,000

*" Bay of Chaleurs Road.*

"This line of communication along the north side of the Bay of Chaleurs from Percé Point to the head of the bay, a distance of 140 miles, is interrupted in two places by portions of the road which are so little formed as to be almost impassable, one from Little Pabos to Port Daniel, the other from the Little Nouvelle to the Indian Mission, in all about 48 miles.

"These portions being improved, and the Metis or Kemp Road (from Point Aux Snelles, on the River St. Lawrence, to the head of the Bay of Chaleurs) better opened, the entire of Gaspé east and south, of New Brunswick east and north, would be approachable from the St. Lawrence with facility, as New Brunswick middle and west is by the Temiscouata Road."

Original gross estimate proposed by Mr. Killaly - - - £.15,000  
Detailed after-estimate furnished by the Engineer - - - 14,835

*" The Gosford Road.*

"Under this head is embraced the completion of the main line leading directly from Quebec through St. Giles, Ste. Croix, Inverness, &c., to Sherbrooke, at present but partially open, and not available in summer. It passes through the large tract of good settlement land belonging to the Crown, and will curtail the line of travel between Quebec and Sherbrooke by more than 50 miles."

Original gross estimate furnished by Mr. Killaly - - - £.10,000  
Detailed after-estimate furnished by the Engineer - - - 9,280

*" The Main Province Road from Quebec to Amherstburg and Port Sarnia.*

"Unquestionably beneficial as it would be to have the Main Province Road properly opened and established throughout, yet such an undertaking, in the present state of the country, is altogether beyond its resources. Under this head, therefore, is embraced the improvement of those portions only along which the advantages of water carriage are not afforded, viz., from the Cascades to the Province Line, and from Brantford to London; these portions it is proposed to properly form and macadamize or plank, and establish toll-bars thereon, the revenue from which would be quite equal to meet the interest of the outlay. From London westward it is intended for the present only to open, drain, trunk and form, raising and bridging where necessary.

"The building of the several bridges over the large rivers between Quebec and Montreal, the crossing of which at certain seasons is very dangerous, and attended with loss of life, is also calculated for."

Original gross estimate proposed by Mr. Killaly - - - £.155,000  
Detailed after-estimate furnished by the Engineer - - - 144,580

(No. 2.)

*La Chine Canal.*

Sir,

Board of Works, Kingston, 21 January 1841.

UPON the annual statement and other documents connected with *La Chine Canal*, sent in reference to this department, I am directed by the Board to report for his Excellency's information, that their attention having been, in the course of the past forwarding season, forcibly attracted by the evident insufficiency of the wharves for the accommodation of the greatly increased trade, the Board fully concur with the views expressed in the concluding paragraphs of the Commissioners' Report as to the necessity of immediately acquiring additional land adjoining the harbour and wharves. The Board are, however, disposed to go much further, and are of opinion that the affording of other necessary accommodation loudly called for by the trade, can no longer be put off; they conceive that two graving or dry docks for the building or repairing of vessels, several passing places along the line of canal, and a distinct and extensive wharf for firewood, are indispensable; all of these have been the subject of several petitions from the forwarding merchants to his Excellency and his predecessors. The necessity of them is fully admitted by the Canal Commissioners, but they justly say, that by the Act under which they are appointed, their powers extend only to works of repair.

The idea of enlarging this canal generally has been another cause of deferring these necessary works hitherto. There have been two schemes of enlargement put forward, one upon a scale so extensive as to equal the Cornwall Canal, and departing from the present line nearly in toto; the other, merely enlarging the existing canal to a reasonable extent. The contemplation of either should not, in the opinion of the Board, prevent the required accommodation being now afforded, for these reasons, that the necessary works will be attended with but comparatively small expense; that in the event of a moderate enlargement of the canal taking place, they will be available and form part of it; and should the idea of the enlargement on the great scale be ever entertained, even then, from the lapse of time that must occur, the expenditure upon the accommodation for the trade, in the meanwhile, would be fully warranted.

The Board would therefore respectfully recommend that the Canal Commissioners be instructed to have plans and estimates prepared of the cost of these works,—the dry docks, passing places and additional wharves, including the purchase of the ground that would be required, and they are of opinion that the most suitable place for the fuel-wharf and yard would be west of the second bridge, the cost of which should also be embraced in the estimate; it would then only be necessary for the Legislature to repeal the clause in the 9 Geo. 4, c. 12, by which the powers of the Commissioners are restricted to works of repair solely, and reinvest them with those of the original Commissioners, by which they were empowered, with the sanction of the Government, to have constructed such "other works" as might be necessary for the perfection of the canal, and to take the land necessary.

I have, &amp;c.

T. W. C. Murdoch, Esq.  
Chief Secretary.

(signed) *Thomas Begly*, Secretary.

EXTRACT from a REPORT of Mr. *Keeser's*, dated 16 November 1842, respecting the Line to be adopted in the enlargement of the *La Chine Canal*.

"I HAVE examined the whole line of the *La Chine Canal*, in company with Mr. Atherton and Mr. Mills, and after much discussion and reflection, we have unanimously concluded that the old line should be preserved, and the canal enlarged from Montreal to the Guard Lock, and from thence upwards; that the canal should be formed outside of the present one, by means of a mole or pier in the river, carried up and terminating opposite the village of *La Chine*.

"By pursuing this plan we obtain—1st. A fine broad entrance to the canal. 2d. Without disturbing private property and wharfs about *La Chine*; and 3d. We are not stinted for room, as we should be if we attempted enlarging the canal above the Grand Lock. 4th. We can build all the locks in summer, without, 5th. interfering with the old ones. 6th. We shall create the least possible amount of damage to farms; and 7th. The total cost of the canal will be less than by forming it an independent one. We shall also be able to carry on the work in summer and winter without disturbing the navigation.

"The plan decided on appears to be so plainly pointed out by a mere inspection of the ground, that I cannot anticipate any serious objection being raised against it. In pursuance therefore of the Chairman's instructions to me before I left Kingston, I have desired Mr. Atherton to take such steps as are necessary to commence the work forthwith. He has accordingly given notice for receiving tenders up to the 14th of December (a copy of which notice he will send up by the same mail that takes this letter), and hopes to have the portion of rock excavation intended to be let, laid out by the time the water is drawn from the canal. This is all that can now be done to make a beginning, but in the meantime, and very shortly, the whole line can be divided off into sections, the sites of the locks and culverts fixed upon, and plans and specifications prepared, so as to offer the whole to tender early in the winter, in order that every preparation may be made by procuring materials, &c., for commencing all the works in spring."

Thomas A. Begly, Esq., Secretary to the Board of Works.

## REPORT on the La Chine Canal.

Sir,

Montreal, 23 December 1842.

CONFORMABLY with the instructions of the Board of Works, of the 15th instant, I have now the honour of submitting my Report on the proposed re-construction of the La Chine Canal, a subject to which the honourable the Chairman of the Board was pleased in the month of May last to order that my attention should be directed.

Three different projects have been suggested for effecting the proposed work, viz. :

- 1st. The widening and deepening the present line.
- 2d. The adopting an independent line from near Leishman's Point at La Chine, thence running the line at the back of the village, and through the low grounds of the reclaimed Lake St. Pierre, to the present terminus at Montreal.
- 3d. The constructing of the canal within the limits of the bed of the St. Lawrence, down the La Chine rapids, to about the foot of Num's Island, and thence inland to the present terminus at Montreal.

Each of these projects is affected by considerations of no ordinary importance, as the base of their respective claims to preference; these will doubtless be fully considered by the Board; the special duty incumbent on me, on the present occasion, is to submit a statement of the costs which these different projects would in my opinion respectively involve, and which I respectfully beg to present as follows:—

## ESTIMATE.—PROJECT, No. 1.

*Enlarging the present Line, &c.*

	QUANTITY.	RATE.				
		s.	d.	£.	s.	d.
Connected rock cutting (50 feet) on Divisions 1 to 5 inclusive.	197,000	4	-	39,400	-	-
Detached rock on ditto - - - - -	30,000	2	-	3,000	-	-
	227,000					
Earth-work (100 feet bottom) in the upper reach, half at 1s. per yard, and half at 1s. 6d. per yard; average, 1s. 3d.	447,189	1	3	27,949	6	3
Cartage, half a mile on - - - - -	20,920	-	9	784	10	-
Earth-work (100 feet bottom) in the middle reach, half at 1s. per yard, and half at 1s. 6d. per yard, averaging 1s. 3d.	19,768	1	3	12,373	-	-
Cartage, quarter of a mile on - - - - -	3,212	-	6	80	6	-
Earth-work (100 feet bottom) in the lower reach, half at 1s. per yard, and half at 1s. 6d. per yard, averaging 1s. 3d.	121,349	1	3	7,584	6	3
Rock cutting, 50 feet bottom, and earth-work 100 feet bottom	-	-	-	91,171	8	6
Pier at La Chine, to be formed from the waste on sections 1 to 5.	168,960	2	-	16,896	-	-
Clearing the channel, 200 feet wide, and expenses connected with the La Chine Basin.	-	-	-	5,000	-	-
Lock, No. 1. Guard-lock at La Chine - - -	11,000					
„ No. 2. at Côte, St. Paul, 11 feet lift - -	15,000					
„ No. 3. 9 feet lift - - - - -	14,000					
„ Nos. 4 and 5 combined, 26 9 lift - - -	30,000					
				70,000	-	-
Culverts, waste weirs, and bridges, probably	-	-	-	10,000	-	-
Land, 150 acres, at probably 25 l.	-	-	-	3,750	-	-
Contingencies - - - - -	-	-	-	5,000	-	-
				201,817	8	6
Enlargement to 100 feet bottom through the Rock, in Divisions 1 to 5 inclusive.	150,000	4	-	30,000	-	-
Total with 100 feet bottom throughout	-	-	-	£. 231,817	8	6

## PROJECT, No. 2.

The adopting an independent line from near Leishman's Point, at La Chine, thence running the line at the back of the village, and through the reclaimed lands of Lake St. Pierre to the canal basin at Montreal.

This Line, No. 2, may be described as follows:—

1st Division.—One mile and a half from Leishman's Point through rock cutting, averaging 15 feet deep.

2d Division.

2d Division.—One mile and a half through hard ground, partly soil and partly rock, in about equal proportions; the cuttings averaging 15 feet deep.

3d Division.—Four miles through soft ground and bog-earth. The levels through this division might be so adjusted that the cutting and banking may balance each other, but it is considered that a greater pressure of water than three feet cannot be put on this soil, in consequence of its being of a nature unsuitable to resisting water pressure, and consequently that the depth of cutting through this division must be seven feet at least.

4th Division.—One mile and a half near Montreal, admitting of an average cutting of six feet.

## MEASUREMENT:

1st Division: Rock cutting, 50 feet bottom	-	-	-	285,912 feet.
2d Division: Ditto	-	-	-	142,956
"    Hard soil	-	-	-	142,956
3d Division: Bog-earth, 100 feet bottom	-	-	-	725,894
4th Division: Common soil, 100 feet bottom	-	-	-	197,002

The lockage will be the same as for Project No. 1. The culverts, waste weirs, and bridges will also be the same; but a greater quantity of land will be required, and heavier damage incurred by the farms being intersected by the line of the canal. The rates of prices will, however, be much in favour of the independent line. On these data the estimate will be as follows:—

## ESTIMATE.—PROJECT, No. 2.

	QUANTITY.	RATE.	—		
			£.	s.	d.
Connected rock-cutting on Division, No. 1, 50 feet bottom.	285,912	<i>s. d.</i> 3 6	50,034	12	-
Connected rock, on Division, No. 2	142,956	3 6	25,017	6	-
Earth-work - - - - - No. 2	142,956	- 10	5,956	10	-
Ditto - - - - - No. 3	725,894	- 7	21,171	18	2
Ditto - - - - - No. 4	197,002	- 10	8,208	8	4
Rock-cutting, 50 feet bottom, and earth-work, 100 feet bottom.	-	-	110,388	14	8
Completing the La Chine entrance	-	-	1,000	-	-
Locks, same as for Project, No 1.	-	-	70,000	-	-
Culverts, waste weirs and bridges	-	-	10,000	-	-
Land, 220 acres, at probably 25 <i>l.</i> per acre	-	-	5,500	-	-
Contingencies, as before	-	-	5,000	-	-
			201,888	14	6
Enlargement to 100 feet bottom, through rock, on Divisions 1 and 2.	329,986	3 6	57,747	11	-
Project, No. 2, 100 feet bottom throughout	-	-	£.	259,636	5 6

## PROJECT, No. 3.

The constructing the Canal on the bed of the St. Lawrence, or adjacent thereto, down the La Chine Rapids, to about the foot of Nun's Island, and thence inland to the present terminus at Montreal.

This line has been projected with the view of rendering the canal works subservient to the double purposes of navigation, and the attainment of mill-power.

In order to compare this project with the others before referred to, the summit level of the La Chine Rapids on Lake St. Louis, must be equally attained. The works involved in this Project No. 3, must therefore start from the head of the pier embraced in No. 1, and may be described as follows:

1st Division.—Eight miles of pier on the line of the bed of the St. Lawrence, adjacent to its northern bank, so located as to divide the fall of the La Chine Rapids into a series of steps at the different locks; the river line terminating at a point near the mouth of the river St. Pierre.

2d Division.—Half a mile inland to the present junction with the harbour at Montreal.

The bed of the river being almost exclusively connected rock, this line of navigation would be most easily formed by a retaining pier.

The height of this pier along the different reaches of the canal would be necessarily not less than 16 feet at the tail of the respective locks, gradually increasing to 25 feet at the

head of the locks, the lifts being supposed to be nine feet. The average height would therefore be  $20\frac{1}{2}$  feet, and the measurement will be as follows:

## MEASUREMENT and ESTIMATE, PROJECT No 3.

	RATE.		—	
	s.	d.	£.	s. d.
Earth-work for body of pier, to be excavated from the north bank of the river, eight miles in length, 12 feet in top, average height, $20\frac{1}{2}$ feet, and sloped on each side, at the rate of 2 to 1, containing 1,699,737 yards.	1	—	84,986	17 —
Stone facing to pier, 4 feet thick outside, and 2 feet thick inside, 450,560 yards.	5	—	112,640	— —
2d Division.—One mile and a half earth-work, averaging 6 feet cutting, 197,002 yards.	—	10	3,208	8 4
Pier and Earth-work - - - - -			205,835	5 4
Locks, same as before - - - - -			70,000	— —
Culverts and bridges, probably - - - - -			5,000	— —
Land - - - - -			2,000	— —
Contingencies, as before - - - - -			5,000	— —
PROJECT, No. 3. - - - - -		£.	287,835	5 4

The above estimate does not embrace any work connected with the formation of mill-seats and water-races connected therewith, but simply the works necessary for the canal. As regards this project, I would beg to remark, that I cannot contemplate its adoption without entertaining the most serious apprehension of the casualties to which works so located would be exposed, and the consequent hazard to which the whole trade of the Province would be exposed; but I deem it no part of my duty on the present occasion to discuss the relative merits of projects referred to, further than as regards the practical costs of the respective works, and of which I now beg to submit the following abstract of the results of the foregoing calculations:

## ABSTRACT:

	£.	s.	d.
Project, No. 1.—The present line enlarged - - - - -	231,817	8	6
„ No. 2.—The inland line - - - - -	259,636	5	6
„ No. 3.—The river line - - - - -	287,835	5	4

## COMPARATIVE RESULTS:

Project, No. 2 - - - - -	259,636	5	6
„ No. 1 - - - - -	231,817	8	6
Difference in favour of No. 1 - - - - -	£.	27,818	17 —
Project, No. 3 - - - - -	287,835	5	4
„ No. 1 - - - - -	231,817	8	6
Difference in favour of No. 1. - - - - -	£.	56,017	16 10

I have, &c.  
(signed) Charles Atherton.

Thomas A. Begly, Esq.,  
Secretary to the Board of Works.

(No. 3.)

LAKE ST. PETER.

REPORT of Mr. Atherton's, of 27 December 1842 on the Improvement of the Navigation of Lake St. Peter.

Contracts for the dredging outfit for the prosecution of the Lake St. Peter works have been completed to the following extent:

## CONTRACTS FULFILLED:

	£.	s.	d.
Mr. J. J. Nesbitt, 1 dredging vessel - - - - -	1,800	—	—
„ 1 trial scow - - - - -	400	—	—
Mr. D. Vaughan, 1 dredging vessel - - - - -	2,100	—	—
„ 1 trial scow - - - - -	400	—	—
Messrs. Millar, Edmonston & Allen, 1 tug-boat - - - - -	1,500	—	—
Contracts Fulfilled - - - - -	£.	6,200	— —

CONTRACTS

CONTRACTS ON HAND:		£.	s.	d.
Mr. J. J. Nesbitt, 4 discharging scows	- - - - -	1,800	-	-
Messrs. Ward & Brush, engines for 2 dredging vessels	- - - - -	2,000	-	-
Ditto ditto for 2 sets of buckets and sinks complete, according to weight, probably	- - - - -	800	-	-
Frames and thimbles	- - - - -	500	-	-
The St. Mary Foundry Company, for engines for tug-boat	- - - - -	2,700	-	-
Mr. Armstrong, of Quebec, for the sluices of the scows and machinery for washing same, at schedule prices, according to weight, but probably	- - - - -	750	-	-
Contracts on Hand	- - - - -	£. 8,550	-	-

CURRENT EXPENSES:		£.	s.	d.
Expenses for outfit of chains, anchors and cordage, and towage into winter quarters (bills not all delivered), probably	- - - - -	350	-	-
Further expenses on the opening of the navigation for like purposes	- - - - -	250	-	-
		£. 600	-	-

I also think it advisable that about 2,000 l. be invested for leading iron cables and buoys in the line of operations, but this has not yet been formally proposed to the Board for their sanction	- - - - -	2,000	-	-
Expenses of management; Mr. Atherton's salary from 18 Sept. 1841 to 1 January 1843	- - - - -	384	17	2
George Meldrum, from 1 August 1842 to 1 January 1843	- - - - -	62	10	-
		£. 447	7	2

## SUMMARY OF LAKE ENGAGEMENTS, as above.

Contracts fulfilled	- - - - -	£. 6,200	-	-
Ditto on hand	- - - - -	8,550	-	-
Bills for outlay, probably	- - - - -	600	-	-
Salaries to engineer and superintendent	- - - - -	447	7	2
Proposed outlay for outfit, not yet sanctioned by the Board	- - - - -	2,000	-	-
		£. 17,797	7	2

The contract works now on hand are in satisfactory progress, and I have every reason to anticipate that operations on the lake will be commenced as soon as the season will admit.

(No. 4.)

EXTRACTS FROM REPORTS respecting the *Beauharnois* Canal, No. 1 to 7 inclusive.

(1).—EXTRACT of a Letter from the Chairman of the Board of Works to the Civil Secretary, dated 14 December 1839. (No. 28.)

"In reference to the communication of his Excellency the late Governor-general, dated the 13th October last, requiring the opinion of this Board, 'whether for the completion of the St. Lawrence Canal, it would be advisable to run it on the south or north side of the river,' the Board beg leave respectfully to report:

"That, having carefully examined the Reports, plans and estimates of Messrs. Baird and Stephenson, on the practicability of constructing the said canal through the seigniory of Beauharnois, and those of Mr. J. B. Mills for the same, through the seigniories of Soulanges and Vaudreuil; they find themselves unable to arrive at any conclusive opinion on this subject, for the want of more information.

"The Board find that the engineers who have been employed to report on these routes, have confined themselves in their examinations each to his own side of the river; and consequently, that no investigation by a professional person has yet been made as to their comparative merits. The Board are further of opinion, that a route may be found for this canal possessing many decided advantages over any that has yet been proposed, and in order to enable them to report satisfactorily on the reference now before them, they are desirous of engaging a skilful and competent engineer to make such examinations as they shall direct."

(2.)—EXTRACT from a REPORT of the Chairman of the Board of Works to his Excellency the Governor-general, dated 20 February 1840.

“The Board are at present unprepared to decide the preliminary question submitted, namely, on which side of the St. Lawrence, between the Lakes St. Francis and St. Louis, the canal should be located, for the reasons set forth in their Report (No. 28); but should it please your Excellency to grant the prayers thereof, the Board are of opinion that they will be enabled to submit to your Excellency's consideration a more advantageous and less expensive line than any yet proposed for that object.”

(3.)—EXTRACT from a REPORT of the President of the Board of Works, for the information of his Excellency the Governor in Council, dated 12 May 1842.

“The Board would strongly recommend that some progress with the works of this section\* should be authorized this year, so that it may be completed in 1844. No work having yet been commenced on it, several lines have been explored for its route, chiefly on the north side of the river, to which the Board of Works, conceiving there was much objection as to difficulty of construction and expense, have had the line formerly selected by Mr. Stevenson on the south side of the river, carefully re-surveyed by a competent engineer. The result of the survey fully confirms the view the Board had taken of it, the line being in every respect preferable to that on the north side, and the work can be executed at a very reduced cost. An objection has been raised by some in a military view, to having it on the south side, to which the Board do not attribute any weight, more especially as the Cornwall portion of the navigation (nearly completed) is within musket shot of the American territory, as will necessarily be other portions of the general line also. Whereas this portion, as proposed, is about 20 miles from the frontier.”

(4.)—ESTIMATE of the probable Cost of Constructing a CANAL between *Lake St. Francis* and *Lake St. Louis*. Locks, 200 × 45 × 9. Canal, 80 feet wide at bottom, 10 feet deep. Banks, 14 feet high, and 12 feet wide at top. Slopes 2 to 1.

SOUTH SIDE—INLAND (BEAUHARNOIS CANAL).

1.—From Channel in Lake St. Francis to Mainland.

	£.	s.	d.	£.	s.	d.
Removing 19,100 cubic yards of boulder-stones from the point of the shoals between Isle au Chats and the Mainland; the stones to be raised by the patent steam dredge (constructed on the principle of the steam excavator, now in successful operation in the United States), and deposited in the deep water below the shoals, at 5s. -	-	-	-	4,775	-	-
Cost of dredge, 2,500 <i>l.</i> for its use on this service - - -	-	-	-	500	-	-
Excavation below surface of water at the entrance of the canal, 5,500 cubic yards, at 1s. - - - - -	275	-	-			
Boulder-stones that may be found in this excavation, 1,000 cubic yards, at 1s. extra - - - - -	50	-	-			
Forming the end of the pier from the excavation, 1,500 cubic yards at 6 <i>d.</i> - - - - -	37	10	-			
Slope wall, for its protection, 150 cubic yards, at 7s. 6 <i>d.</i> - - -	56	5	-			
Collar-dam (no pumping, as the water can be drawn off through the canal) - - - - -	600	-	-			
Timber bulwark for the defence of the point of the pier, 550 cubic yards, at 9s - - - - -	274	10	-			
				1,266	5	-
TOTAL of the First Item - - - £.				6,541	5	-

2.—The Canal from the Mainland to Water in Lake St. Louis.

Excavation to 0.29-65 chains, 204,500 cubic yards, at 11 <i>d.</i> - - -	9,372	18	4			
Embankment from excavation, 12,000 cubic yards at 6 <i>d.</i> - - -	300	-	-			
Loose stone in the above, 15,500 cubic yards, 1s. extra - - -	775	-	-			
Stones to be blasted, 5,000 cubic yards, at 2s. 6 <i>d.</i> - - - - -	625	-	-			
Stones carried more than 300 feet to face the bank, 5,000 c. yds. at 1s. -	250	-	-			
				11,322	18	4
Excavation to 0.66-95 chains, 199,000 cubic yards, at 10 <i>d.</i> - - -	8,291	13	4			
Embankment, 14,000 cubic yards, at 9 <i>d.</i> - - - - -	525	-	-			
Loose stones to be excavated, 9,000 cubic yards, at 1s. extra - - -	450	-	-			
Stones to be blasted, 3,000 cubic yards, at 2s. 6 <i>d.</i> - - - - -	375	-	-			
				9,641	13	4
Excavation to 0.100-102 chains, 130,000, at 8 <i>d.</i> - - - - -	4,333	6	8			
Embankment, 16,600 yards, at 9 <i>d.</i> - - - - -	622	10	-			
Stones, 1,000 cubic yards, at 1s. extra - - - - -	50	-	-			
				5,005	10	8
						Excavation

\* The Canal from Coteau du Lac to the Cascades.

	£.	s.	d.	£.	s.	d.
Excavation to 0.171-191½ chains, 262,100 cubic yards, at 8d. -	8,736	13	4			
Loose stones, 4,500 cubic yards, at 1s. extra -	225	-	-			
Stones to be blasted, 1,500 cubic yards, at 2s. 6d. -	187	10	-	9,149	3	4
Excavation to 0.227-129 chains, 187,000 cubic yards, at 1s. -	9,350	-	-			
Embankment from excavation, 39,300 cubic yards, at 6d. -	982	10	-			
Loose stones, 24,000 cubic yards, at 1s. extra -	1,200	-	-			
Stones to be blasted, 8,000 cubic yards at 2s. 6d. -	1,000	-	-	12,532	10	-
Excavation to 0.261-97 chains, 180,000 cubic yards at 9d. -	4,875	-	-			
Embankment, 45,800 cubic feet, at 9d. -	1,717	10	-			
Stones, 1,000 cubic feet, at 1s. extra -	50	-	-	0,642	10	-
Excavation to 0.290-87 chains, 136,400, cubic yards, at 9d. -	5,115	-	-			
Embankment, 12,700 cubic yards, at 9d. -	476	5	-	5,591	5	-
Excavation to 0.319-87 chains, 149,100 yards, at 9d. -	-	-	-	5,591	5	-
Excavation to 0.327-24 chains, 66,000 cubic yards, at 9d. -	-	-	-	2,475	-	-
Excavation, earth, to 0.334-21 chains, 4,900 cubic yards, at 8d. -	163	6	8			
Excavation, rock, 5,000 cubic yards, at 5s. -	1,250	-	-			
Embankment from excavation, 38,000 cubic yards, at 1s. -	1,900	-	-	3,313	6	8
Excavation, earth, to 0.252, water, 41 chains, 25,300 cubic yards, at 8d. -	848	6	8			
Excavation, rock, 27,300 cubic yards, at 5s. -	6,825	-	-			
Embankment, 40,000 cubic yards, at 1s. 3d. -	2,500	-	-	10,168	6	8
Slope wall, two miles of canal, with sills, 11,000 cubic yards at 7s. 6d. -	4,125	-	-			
Grubbing and clearing, 50 acres, at 12l. -	600	-	-	4,725	-	-
Guard lock -	11,000	-	-			
Eight lift locks, 12,500l. each -	100,000	-	-			
One road culvert over River St. Pierre -	3,500	-	-			
Four small culverts, 1,000l. each -	4,000	-	-	118,500	-	-
Catch-water drain, 11 miles, at 65l. per mile -	715	-	-			
Fencing, 11½ miles, at 320l. per mile, both sides -	3,700	-	-			
Two toll-collector's houses, 250l. each -	500	-	-			
Six lock-houses, 150l. each -	900	-	-	5,875	-	-
Three swing bridges, at 1,600l. each -	4,800	-	-			
Damages and compensation for bridges -	5,000	-	-	9,800	-	-
TOTAL of Second Item -	£.			220,333	15	-

## 3.—Excavation under water to the Channel in Lake St. Louis, Piers, Cofferdam, &amp;c.

Cofferdam and pumping -	2,500	-	-			
Rock excavation under water, 10,800 cubic yards, at 5s. -	2,700	-	-			
Pier, 14,600 cubic yards, at 7s. 6d. -	5,475	-	-			
Sea wall stones, 14,300 cubic yards, at 2s. 6d. -	1,787	10	-			
Breast wall, dry, 1,500 cubic yards, at 7s. 6d. -	562	10	-			
Filling behind breast-wall, &c., 8,900 cubic yards, at 1s. -	445	-	-	13,470	-	-

## SUMMARY.

1st Item.—From Channel in Lake St. Francis to Mainland -	6,541	5	-
2d Item.—The Canal from the Mainland to water in Lake St. Louis -	220,333	15	-
3d Item.—Excavation under water to the Channel in Lake St. Louis, Piers, Cofferdams, &c. -	13,470	-	-
Superintendence and contingencies -	15,555	-	-
TOTAL -	£.	255,900	-

## Remarks.

In reference to the first item, it may possibly be found advisable (instead of going to the expense of removing so much as 19,000 cubic yards of the points of the shoals) to construct a towing-path from the entrance of the canal along the bank of the river, a distance of one mile, to the point at Knight's House, and from thence, a distance of 30 chains, along the shoal lying on the south side of the channel, and terminating at the point where the channel is narrowest. This would cost much about the same as the work estimated, being as follows :

Towing-path along bank, 28,160 cubic yards, at 8d. -	938	13	4
Towing-path to point of shoal, 31,680 cubic yards at 1s. 6d. -	2,376	-	-
Removing points of shoals, 6,800 cubic yards, at 5s. -	1,700	-	-
Use of the steamdredge -	500	-	-
£.	5,514	13	4

Office, Board of Works,  
Kingston, 1 October 1842.

(signed)

Samuel Keefer, Engineer, Board of Works.

(5.)—EXTRACT from the REPORT of the President of the Board of Works, to His Excellency the Governor-general, upon Mr. *Simpson's* Objections, to adopting the South side of the *St. Lawrence*, for the line of a Canal.—(Vide pp. 160–163.)

(6.)—EXTRACT from the REPORT of *J. B. Mills, Esq.*, Civil Engineer, respecting the Improvement of the Entrance to the *Beauharnois Canal* from *Lake St. Francis*.

20 December 1842.

“ In descending, therefore, it may be settled that Grosse Point is to be neared ; thence, the south channel afford an easy and good direction for the canal, and is of ample dimensions, the narrowest part being 500 feet wide, where even a sail-boat can tack and beat. Just below said narrow place there is a little work to be done, in order to improve the channel and its direction ; (I say improve, as now a pilot understanding the ground can take a steam-boat of the largest dimensions for canal navigation, full freighted, to the canal by the south channel, having to veer awkwardly at one point only, which is just below the place marked 500 feet wide). The boulders upon the shore are, I consider, all that are to be moved, and which cannot amount to 50 cubic yards. This done, the channel from the canal to the lake is good and liberal enough to satisfy any reasonable demand, and should it ever appear desirable to tow from the canal to Chartier's Point, and even to Grosse Point, the towing path can be along the beach and shoal at a moderate expense, and at a convenient distance from the channel.

“ We will have ultimately at each extremity of the *Beauharnois canal*, a small amount of work for a dredge ; in clearing away coffer-dams, &c., at *Lachine*, there will be the same class of work, as well as at the termination of the short canal necessary for the improvement of the navigation below *Prescott*. In reference to all which I propose that either the Government shall have a dredge built, to be worked under their directions, or shall contract for a bulk sum for each job. *Noble* says his dredge and out-fit will cost 1,250 *l.*; *Simpson* values his at 250 *l.* As to the work now more immediately referred to (the removal of the boulders partially obstructing the entrance from *Lake St. Francis*), it will thus cost more to prepare to do it than the work itself will cost.”

(7.)—EXTRACT from SECOND REPORT of *Mr. Tate*.

“ Sir,

*Beauharnois Canal*, 13 August 1842.

“ I beg leave to lay before the honourable the Board of Works, the following Report of the progress of the Works of the *Beauharnois Canal*.

“ The works of that portion of the canal comprised between stations 146½ and 128, which were commenced on the 12th of last month, are advancing rapidly and present a good appearance. The north bank of the canal is up to its height at several places.

“ The quantity of excavation done to this day, 83,879 cubic yards.

“ Nearly the whole of the Irish employed being immigrants but newly landed, many of them having suffered severely on the voyage out and by subsequent privation, the progress of the work has not been quite so satisfactory for the earlier part as it has now become. The men, by daily food and rest, and regular practice, are now becoming more energetic and are working with better heart. The general health of the men has been very good. The conduct of the men and foremen has also been very good. No collision or angry feeling has arisen between the races, and but five men have been discharged for bad conduct.

“ These facts, together with the favourable state of the weather, favour the supposition that this portion of the canal will be speedily executed.”

EXTRACT from *Mr. Tate's* FOURTH REPORT.

15 September 1842.

“ THE weather has not been so favourable as during the previous fortnight, and some delay has occurred in consequence. The work, however, advances satisfactorily, and the utmost good feeling continues to exist amongst the men.

“ The total amount of excavation to this day, 212,740 yards.”

(No. 5.)

## RAPIDE PLAT, GALOPES, &amp;c.

Sir,

Beauharnois, 8 February 1843.

IN accordance with instructions received from the Board of Works, as per letter of the secretary, of the 29th December 1842, "to prepare such plan and estimates for the several works, whether earth-work or masonry, as are required to perfect the navigation of the St. Lawrence, between Prescott and Cornwall Canal, upon the same scale as the Beauharnois Canal," I beg leave to submit the following remarks, reference being had to my plans of the works in question, and the report of the Commissioners for improving the Navigation of the St. Lawrence, of December 1833, which plans and Report are in the office of the Board of Works.

The Report above alluded to contains some remarks of mine upon the "scale" of improvement necessary for these minor rapids, which I consider yet good; viz. That as the channel of the river passing the points in question, is ample for the draught of water and the tonnage contemplated in these improvements, all descending craft of whatever kind will go down the river, therefore these improvements, being for the ascending trade, require only 50 feet of bottom, rather than 80 feet, as at the Beauharnois Canal.

The locks must follow the scale and style of those at the Beauharnois Canal.

The first impediment to the navigation of the St. Lawrence above the Cornwall Canal is at Farren's Point, which plan I do not propose to alter. In the final location some slight changes may be made, which will not materially affect the cost. This remark applies also to the points above.

The works at Farren's Point must be about four-fifths of a mile in length. The plan of operations proposed here, was to excavate the canal mainly in the river bank, and form the outside bank of the material from said excavation, and without making any use of pier or crib-work of timber, (upon the presumption that enough stone will be found in the course of excavation, as at Long Saut, by which to form the bank and render it permanent; but at Farren's Point the quantity of stone in the excavation is of doubtful magnitude). As acting on this plan is virtually saying that we will dig into the river bank, and carry out earth for the outer bank until the canal is formed, or until so much of the earth thrown out remains as to form the outer bank, and that such plan is evidently indefinite. I propose to proceed differently, but upon a plan which I think will not cost more; therefore I conclude that certainty, facility, ultimate safety and economy, urge the adoption of pier or crib-work to form the lower part and outside of the embankment in the river. This wood-work will be ever under water, and finally covered with the embankment, and will cost 3,724*l.*, also I add for work connected with the lock 1,000*l.*, making 4,724*l.*

In the Report above referred to, the expense of improving this place is put down at 23,735*l.* 10*s.*, to which I add the above 4,728*l.*, and we have for the expense here 28,459*l.* 10*s.*

The next point for improvement is Rapide Plat, which is 3/4 miles in length; here also I refer to the plans and Report of 1833, and propose to adhere to that plan.

For about three-quarters of the distance the plan then contemplated (as at Farren's Point) for effecting the improvement, will answer but for a little more than one mile of the work, or the mile next below the first half mile from the head, where the shore is bold and the current strong; I propose to adopt pier and crib-work, which will cost 5,586*l.*, also to the work connected with the lock I add 1,000*l.*, making 6,586*l.* This canal is nearly four miles long, and I think requires a guard lock, which cannot be constructed to answer all the ends desirable short of 9,883*l.*; a guard lock was not originally contemplated here.

The improvement, as per said Report, was to cost 46,227*l.* 10*s.*, which amount I leave to stand, and the above items, 5,586 × 9,883*l.*, making for the expense at Rapide Plat 61,796*l.* 10*s.* currency.

Above Rapide Plat there are three points noticed in the Report of 1833, which may be considered difficult, viz., the Pine-tree Point, Point Iroquois, and Presqu'isle; the first I do not consider requires improvement. Point Iroquois is a difficult passage, and a very expensive place to improve.

Before giving an estimate, or an opinion concerning it and Presqu'isle, I wish to make some further examinations. With Point Iroquois and Presqu'isle, I will put the Lower Galopes, and for the present dispose of them by saying that the improvements in the application of steam power, which yet are in progress, are favourable to the hope and to the opinion that these minor obstacles may soon be successfully encountered, not requiring any expenditure upon them.

The next point in course, is the upper and principal Galopes, about which there is no question as to the necessity of its improvement. In the Report of 1833 the expense at this place is put down at 14,153*l.*; to which I wish to add, on account of some changes in the manner of proceeding, as at Farren's Point, and partially at Rapide Plat, 4,000*l.*, making for the improvement at the Galopes 18,153*l.*

Above the Galopes, and near Chimney Island, for a short distance, it will be necessary to dredge the Canadian Channel and remove some large boulders.

I am not now in possession of perfect data for an estimate here, but I think that 750*l.* will do what is necessary.

## PAPERS RELATING TO

Thus I have gone over the line from the Cornwall Canal to Prescott, and ask for expenditures as follows:

	£.	s.	d.
Farren's Point - - - - -	28,459	10	-
Rapide Plat - - - - -	61,796	10	-
The Galopes - - - - -	18,153	-	-
Chimney - - - - -	750	-	-
<b>TOTAL - - -</b>	<b>£. 109,159</b>	<b>-</b>	<b>-</b>

The stone for the locks at the several points will be obtained conveniently. If desirable, this work can all be put under contract soon, the locks immediately.

To The Hon. H. H. Killaly,  
Chairman of the Board of Works.

I am, &c.  
(signed) J. B. Mills.

(No. 6.)

## WELLAND CANAL.

ESTIMATE of the Cost of Re-constructing the Locks, Constructing the Harbours, and Enlarging the Trunk of the *Welland Canal*, assuming the *Grand River* as the source of Supply.

	£.	s.	d.
Work already under contract - - - - -	237,600	-	-
Constructing the harbours - - - - -	20,700	-	-
Two locks below St. Catherine's - - - - -	20,250	-	-
Allanburg locks - - - - -	9,000	-	-
Port Colborne lock - - - - -	8,460	-	-
Thirty waste weirs and 20 bridges - - - - -	13,950	-	-
Aqueduct over the Welland River - - - - -	18,000	-	-
Locks to and from the Welland River - - - - -	5,400	-	-
Enlargement of the trunk throughout - - - - -	48,771	-	-
Gates for 28 locks - - - - -	12,600	-	-
Superintendence and contingencies - - - - -	39,474	-	-
<b>£.</b>	<b>484,215</b>	<b>-</b>	<b>-</b>

The foregoing is an estimate of the cost of all the works necessary for the full completion of this canal, upon the principle of its being supplied as at present from the Grand River; but from the apprehensions entertained by some that this source of supply may at a future period be found inadequate for the greatly increased trade, which may with certainty be calculated upon, and from the low rates at which the work remaining to be done is tendered for, I would strongly recommend, as highly deserving the consideration of the Board, the bringing through the waters of Lake Erie at once. By so doing the communication would be rendered perfect, and the supply of water, both for the purposes of navigation and for the most extended machinery, more than sufficient. The effect of draining the several flooded townships would be to render upwards of 30,000 acres of land, at present worthless, very valuable, and also to produce the most salutary effects upon the health of this section of the country. An estimate is accordingly submitted of the cost of enlarging the canal so as to admit the waters of Lake Erie.

	£.	s.	d.
Work now under contract - - - - -	237,600	-	-
Constructing the harbours - - - - -	20,700	-	-
Two locks below St. Catherine's - - - - -	20,250	-	-
Two locks at Allanburg, and entrance to the feeder - - - - -	9,000	-	-
A guard lock at Port Colborne - - - - -	3,600	-	-
Thirty waste weirs and 20 bridges - - - - -	13,950	-	-
Aqueduct over the Welland River - - - - -	16,020	-	-
Enlargement of the trunk throughout - - - - -	92,355	-	-
Lock gates - - - - -	12,600	-	-
Superintendence and contingencies - - - - -	42,607	-	-
<b>£.</b>	<b>468,682</b>	<b>-</b>	<b>-</b>

19 June 1843.

(signed) J. Power.

(No. 7.)

## WELLAND and LA CHINE CANALS.

STATEMENT OF TOLLS received on the *Welland* and *La Chine* Canals.

	1840.			1841.			1842.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
Welland Canal - -	19,175	11	10	20,210	19	9	23,946	19	9
La Chine ditto - -	10,718	13	6	16,991	13	-	14,131	9	3

Office of Board of Works, }  
26 June 1843.

(No. 8.)

## BURLINGTON BAY CANAL.

Sir,

Board of Works, Kingston, 18 March 1843.

IN reporting upon the proper site for the construction of the Burlington Bay Canal, I shall, *in limine*, lay down the conclusions at which I have arrived, and then proceed to enumerate the considerations which have led to them. In these conclusions, I consider that I assume a strong and impregnable position, for they are the result of much patient and careful thinking, after twice visiting the ground, and after making approximate estimates of the cost of constructing the canal at each of the several places that have been named.

First.—To construct a canal which shall combine the greatest number of advantages, and afford to vessels and craft navigating it the greatest ease on entering and departing, the situation should coincide with that of the present canal.

Secondly.—At this place the canal can be constructed at the least expense; any other site would cost more.

There have been four places named for the site of this canal: 1st. The one herein proposed, being in fact a reconstruction of the present canal; 2d. A situation close to the north side of the present canal.—(This plan was a suggestion of my own, in my Report and estimate of the 9th July 1841, in which I proposed to abandon the old work altogether, but to place the new work near enough to it to be under shelter from the S. E. winds);—3d. At the old outlet; 4th. Near the north shore, cutting the canal through Brant's Pond.

In favour of the first position, being that which I have now selected, I may remark, that the fact of the present canal keeping itself open, and maintaining its depth from year to year, while the sand is in continual motion along the beach, indicates the safety and certainty of the result, that would attend the expenditure of money at this place.

On the other hand, it has not been proved, nor can it be known, what would be the precise result of cutting the canal more northerly.

In a nautical point of view, one of the strongest reasons in favour of this position is this, that the line of navigation from Hamilton to the outer lake will be made to coincide very nearly with the middle of the delta formed by the beach, so that vessels going either way have fair beating-ground and ample room to take advantage of every wind at all favourable. In this direction the wind will be more constant and regular than nearer the north shore where the hills are high, and cause it to move more at intervals or in gusts.

Not trusting to my own judgment in nautical matters, I have obtained the opinion of several lake captains relative to the position of the canal. I find that the most experienced and intelligent seamen (among whom I will mention Captain Gordon, of the steamer *Britannia*, who has had the advantage of several years' daily experience in running through the canal during the season of navigation), concur in representing the first position as decidedly preferable to any other for the accommodation of sailing craft. The only advantage conceded to the fourth position being that vessels, in case of snow storms or fogs, which at certain seasons of the year are very frequent, would have a better chance of making

the entrance with the sounding lead, by following up the land along the north shore. As an off-set to this advantage it is, however, stated, that if the wind is at all strong from the eastward the lake is so rough that it would be impossible to steer by soundings, because of the uncertainty of obtaining them with accuracy.

It is my intention to obviate this difficulty, in a great measure, by attaching a bell to the pier-light, with machinery suitable to keep a hammer striking it at stated intervals during fogs and snow-storms.

With this contrivance the canal constructed in this place will afford the most facile, safe and durable entrance that can be obtained.

In reference to the cost of a canal at the several positions, I herewith submit detailed estimates of the first and fourth, made up from the contract price for timber, from Mr. Shaw's estimate of the cost of stones delivered, and from a comparison of the most recent tenders for workmanship in framing and sinking the cribs; the second I have calculated to cost 2,000*l.* more than the first, and the third will cost about 65,000*l.*; the cost of each will therefore stand thus:

	Fect.	£. cy.
1. Re-construction of old canal - - - -	2,430	38,094
2. Canal close to present canal - - - -	2,430	40,094
3. Canal at old outlet - - - -	4,300	65,000
4. Canal at Brant's Pond - - - -	4,400	69,356

The first or intended site will therefore cost 2,000*l.* less than the second, 26,906*l.* less than the third, and 31,262*l.* less than the fourth.

In these estimates I have allowed for making the clear breadth between the piers 150 feet, as being in my opinion sufficient, with straight and parallel piers, for ensuring easy entrance. I propose to substitute a ferry for the swing bridge, but if this prove inadequate to the travel across the canal, 150 feet is not too great a span for the erection of a double swing-bridge, which, placed upon a long, narrow and pointed pier, in the middle of the channel, can be made to open both sides at once, and leave the whole, except 20 feet, clear for the passage of vessels.

By the execution of the work estimated for, the old south-east pier, which has been constructed at great expense, will be brought into use, and the new south-east pier, which is exposed to the force of a tremendous sea, will be placed beyond the possibility of danger.

I propose to carry out the piers to 15 feet water in the lake, and 12 feet water in the bay.

The great advantage of constructing the canal at the present site is the facility afforded by the old canal of communicating with all parts of the new work while in progress, and the security of the materials, which can be transferred at pleasure from the lake to the bay and *vice versa*, under shelter of the old south-east pier. This is an advantage that cannot be enjoyed at either the third or fourth position; there, when a storm comes on there is no shelter, every thing is at the mercy of the waves; the difficulty and delay these storms would occasion would greatly enhance the cost of the work at those two places.

In making my estimate for the cut through Brant's Pond, I have not heeded the suggestion set forth by certain interested parties, that it would merely be necessary to construct piers to and from Brant's Pond, and the force of the current would sweep out the mud at the bottom. There is no analogy in the operation of natural causes to support this assertion; on the contrary, we observe at every enlargement of the present canal beyond the ordinary breadth that a deposit of sand has taken place; so would it do here. I have therefore considered it necessary, and have so estimated, to continue the piers unbroken through the pond.

You will perceive, by this Report, that reflection and calculation have brought me to adopt your views and suggestions relative to making use of the present canal for forming the new one. My first Report and estimate referred to an independent canal, close to the north of the old one; but the result of the estimates, and the consideration of the great advantages afforded by incorporating the old south-east pier with the new one, induce me now to report in favour of re-construction.

Did I not anticipate the opposition of interested persons to the plan now proposed, I would consider it necessary to apologize for dwelling at such length upon a decision, the correctness of which is so obvious; but plain as it may appear to you, that the canal can be constructed so much cheaper at the present site, and at the same time be made to combine so many more advantages than at any other place north of it, I shall not be surprised to find a strong opposition raised against the plan by persons who will not hesitate to assert, that the least eligible and most expensive place is the one which ought to be selected.

I have, &c.

S. Keefer,

Engineer, Board of Works.

ESTIMATE of the Cost of Re-constructing the *Burlington Bay Canal*.

It is proposed to found the south pier in the channel of the old canal, to build another pier parallel to this on the north side, at a distance from it of 150 feet; to dredge and clear out the intervening space to form the new canal, which will therefore include the taking up and clearing away of the whole of the present north pier, and to fill in the space between the new and old S. E. pier with stones.

The north pier will be made 2,330 feet long and 20 feet wide, with the exception of 30 feet at the eastern termination, which will be 30 feet wide.

The south pier will be made 2,430 feet long, 2,155 feet of it to be 20 feet wide, and the rest (275 feet) at the eastern end will be 50 feet wide at one place, and diminish to 30 feet wide at the end.

Both piers are to have a recess left in them, 40 by 30 feet, for a ferry-boat to ply, in lieu of the present swing bridge.

## NORTH PIER:

	£.	s.	d.
From A. to B., 700 feet.			
„ C. to M., 525 feet; 1,225 feet of pier, 20 feet wide, and founded in 10 feet water, on brush bottoms, at 3 l. 10 s. 6 d. per cubic foot	4,318	2	6
From B. to C., 755 feet.			
Recess, 60 feet, 835 feet of solid pile, wharfing-piles cut off at surface-water, and crib-built thereon, 2 l. 11 s.	2,129	5	-
From M. to D., 300 feet of pier, 20 feet wide, and founded in 10 to 15 feet water, brush bottoms, at 4 l. 0 s. 6 d.	1,207	10	-
From d. to D., 30 feet water, crib in 15 feet water, at 7 l. 2 s.	213	-	-
Piling and capping from A. to B., 700 feet			
Ditto ditto C. to M., 525 „			
Ditto ditto M. to D., 330 „			
— 1,555 feet, at 10 s.	77	15	-
Extra piles at D., 30 feet, at 15 s.	22	10	-

*Note.*—The piers extend to 15 feet water in the lake, and to 12 feet water in the bay.

## SOUTH PIER:

Recess, 60 feet.			
From G. to h., 1,950 feet of pier, 20 feet wide, founded in an average of 10 feet water, brush bottom, 2010 feet, at 3 l. 10 s. 6 d. per	7,085	5	-
From h. to H., 250 feet of pier, 20 feet wide, founded in 10 to 15 feet water, 250 feet, at 4 l. 0 s. 6 d.	1,006	5	-
From H. to K., 275 feet of pier, varying from 50 to 30 feet wide, in 18 feet water, at 9 l. 2 s. 3 d.	2,405	18	9
Piling and capping G. to g., 800 feet, at 10 s.	400	-	-
Ditto ditto g. to H., 1,355 „			
Recess - 60 „			
Piles only on one side, 1,415 feet single, at 5 s.	353	15	-
H. to k., 275 „ double, at 10 s.	137	10	-
Extra piling, H. to k., 100 piles, at 15 s.	75	-	-

Filling in between new and old S. piers, 2,594 cords, £. s. d.	11,463	13	9
at 15 s.	1,945	10	-
Sea wall at junction of S. pier with the beach, 600 cords, at 15 s.	450	-	-
	£. 2,395	10	-

## Removing old North Pier:

Taking away 94 cribs, at 20 l. per crib	1,880	-	-
Pulling out 124 piles, at 25 s. per pile	155	-	-
	2,035	-	-

## Excavation for N. Pier to S. water:

460 × 5 × 81 = 6,900 yards, at 5 d. - - - - - 143 15 -

## Dredging; all required.

A. to B., 500 × 4 × 40 = 80,000

B. to C., 890 × 10 × 50 = 400,000

C. to M., 525 × 4 × 40 = 84,000

Cubic feet - - 564,000 = 20,888 cubic yards, at 1 s. - 1,044 8 -

Excavation between new and old N. pier, 350 × 5 × 85 = 5,509, at 5 d. 114 15 5

£. 2,302 18 5

Dredging; one half of which may possibly be required, perhaps more; but supposing it necessary to open the navigation at once to 10 feet water:—

250 feet	×	110	×	2	=	55,000
475	„	×	120	×	8	= 456,000
300	„	×	90	×	10	= 270,000
700	„	×	80	×	5	= 280,000

Cubic feet - - 1,061,000 = 39,296 cubic yards, at 1 s. - - £. 1,964 16 -

## ABSTRACT.

	£.	s.	d.
Cost of constructing the north pier - - - - -	7,968	2	6
Ditto ditto south pier - - - - -	11,463	13	9
Filling space between new and old south piers and sea wall - - -	2,395	10	-
Removing old north pier - - - - -	2,035	-	-
Excavation and dredging for north pier - - - - -	2,452	18	5
Dredging between piers - - - - -	2,153	16	-
Pier light on south pier, with bell and machinery - - - - -	300	-	-
Mooring-posts, 160 at 10 s. - - - - -	80	-	-
Iron for bolts, &c. - - - - -	500	-	-
Ferry-boat and machinery - - - - -	500	-	-
If it should be necessary hereafter to build a bridge instead of the ferry, add - - - - -	500	-	-
And if it should not be found practicable to drive piles for forming a portion of the north pier as herein estimated, add for crib-work - - -	835	-	-
Erecting a new lighthouse on the beach - - - - -	600	-	-
Toll-collector's and bridge-keeper's house - - - - -	300	-	-
	£.	32,084	- 8
Add for superintendence and contingencies, 20 per cent. - - - - -		6,416	- -
	£.	38,500	- 8

*Note.*—The estimate made by me, dated 9 July 1841, was for a canal close to the mouth of the old canal, and amounting to £. 43,896 12 -  
The estimate this date - - - - - £. 38,500 - 8

Saving - - - - - £. 5,396 11 4

Kingston,  
13 March 1843.

(signed) Samuel Keefer,  
Engineer to the Board of Works.

(No. 9.)

## RIDEAU AND OTTAWA CANALS.

STATEMENT of all MONIES received as TOLLS on the Rideau and Ottawa Canals in each of the years 1840 to 1842; both inclusive, distinguishing the Amount from each Canal, in each year, as per Returns, dated Bytown, 20 May, and Carillon, 18 May 1843.

CANAL.	YEARS.			TOTAL Halifax Currency.
	1840.	1841.	1842.	
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Rideau - - - - -	8,880 15 1	8,707 18 3	9,218 6 7½	26,806 19 11½
Ottawa - - - - -	3,880 5 9	4,174 16 9	5,794 12 -	13,849 14 6
TOTAL - - £.	12,761 - 10	12,882 15 -	15,012 18 7½	40,656 14 5½

Office of Ordnance, Head Quarters, }  
Montreal, 27 May 1843.

J. Tyson,  
Ord. Store.

To the Chief Secretary, &c., &c., &c. Kingston.

LOANS.

— No. 36. —

CONTRACTS FOR THE CANADA LOAN.

Whitehall, Treasury Chambers, 19 December 1842.

No. 36.  
Contracts for the  
Canada Loan.

WE hereby engage with the Lords Commissioners of Her Majesty's Treasury, to take Canada Bonds or Debentures for the sum of 295,000*l.* of the loan for 300,000*l.* now proposed to be raised under the authority of the Act fifth and sixth Victoria, cap. 118, intituled, "An Act for guaranteeing the Payment of the Interest on a Loan of One million Five hundred thousand Pounds, to be raised by the Province of Canada;" and the Act of the same year of Her Majesty's reign, of the Legislature of the Province of Canada, intituled, "An Act to authorize the raising by way of Loan in England, the sum of One million Five hundred thousand Pounds sterling, for the construction and completion of certain Public Works in Canada;" and for every 100*l.* contained in the debentures to be issued under the authority of the abovementioned Acts to pay at the rate of 108*l.*, the whole to be paid in moieties; the first moiety to be paid on or before the 22d day of December 1842, and the remaining moiety on or before the 9th day of January 1843.

(signed) *Maubert & Salkeld.*

Whitehall, Treasury Chambers, 19 December 1842.

I HEREBY engage with the Lords Commissioners of Her Majesty's Treasury, to take Canada Bonds or Debentures for the sum of 5,000*l.* of the loan for 300,000*l.* now proposed to be raised under the authority of the Act of the fifth and sixth Victoria, c. 118, intituled, "An Act for guaranteeing the Payment of the Interest on a Loan of One million Five hundred thousand Pounds, to be raised by the Province of Canada;" and the Act of the same year of Her Majesty's reign of the Legislature of the Province of Canada, intituled, "An Act to authorize the raising by way of Loan in England, the sum of One million Five hundred thousand Pounds sterling, for the construction and completion of certain Public Works in Canada;" and for every 100*l.* contained in the debentures to be issued under the authority of the abovementioned Acts, to pay at the rate of 110*l.* 2*s.* 6*d.*, the whole to be paid in moieties; the first moiety to be paid on or before the 22d day of December 1842, and the remaining moiety on or before the 9th day of January 1843.

(signed) *A. Stewart.*

— No. 37. —

ACCOUNT of the PAYMENTS made on account of the CANADA LOAN.

The Lords Commissioners of Her Majesty's Treasury, "Canada Agency Account," in Account Current with the Governor and Company of the Bank of England.

No. 37.  
Payments on  
account of the  
Canada Loan.

Drs.			Crs.		
1843:		£. s. d.	1842:		
May 9 -	To Cash paid to this day, for Sundry Bills of Exchange, drawn on and accepted by order of the Lords Commissioners of Her Majesty's Treasury - - -	207,376 - 6	Dec. 22 -	By Cash received, being the first Instalment on the Loan contracted for Canada -	162,053 2
	To Cash paid Messrs. Perkins, Bacon and Petch, for engraving and printing debentures - - -	151 12 3	1843:		
	To Balance - - -	116,578 12 3	Jan. 9 -	By Cash, being the second Instalment on ditto - -	162,053 2 6
		324,106 5 -			£. 324,106 5 -
	<i>N.B.</i> —Bills of Exchange drawn on and accepted by order of the Lords Commissioners of Her Majesty's Treasury, but not yet at maturity - - -	56,250 - -	May 9 -	By Balance - -	£ 116,578 12 3

Bank of England, 10 May 1843.

*M. Marshall*, Chief Cashier.

—No. 38.—

Copy of a LETTER from *C. E. Trevelyan, Esq.*, to *J. Stephen, Esq.*

Sir,

Treasury Chambers, 11 July 1843.

No. 38.  
 Letter from  
*C. E. Trevelyan,*  
*Esq.*, to *J. Ste-*  
*phen, Esq.*  
 11 July 1843.

I AM commanded by the Lords Commissioners of Her Majesty's Treasury to acquaint you for the information of Lord Stanley, and in order that the requisite notification may be made to the Government of Canada, that in further pursuance of the arrangements for raising the sum of 1,500,000*l.* by way of loan for the construction of Public Works in that Colony, my Lords have accepted tenders for the purchase of further Debentures for 300,000*l.* in the following proportions; viz., 50,000*l.*, at 109*l.* 1*s.* per cent., producing 54,525*l.*; and 250,000*l.* at 109*l.* per cent., producing 272,500*l.*; and that the produce thereof, amounting to 327,025*l.*, will be paid to the credit of the Canada Loan Fund Account at the Bank of England.

I am further to request that you will move Lord Stanley to give the necessary directions for apprising the Governor-general of Canada, that the debentures thus about to be issued, will bear interest at the rate of four per cent. per annum from the 1st instant, to be paid half-yearly, the first instalment of such interest therefore becoming due on the 1st of January 1844.

I am, &amp;c.

(signed) *C. E. Trevelyan.*

