

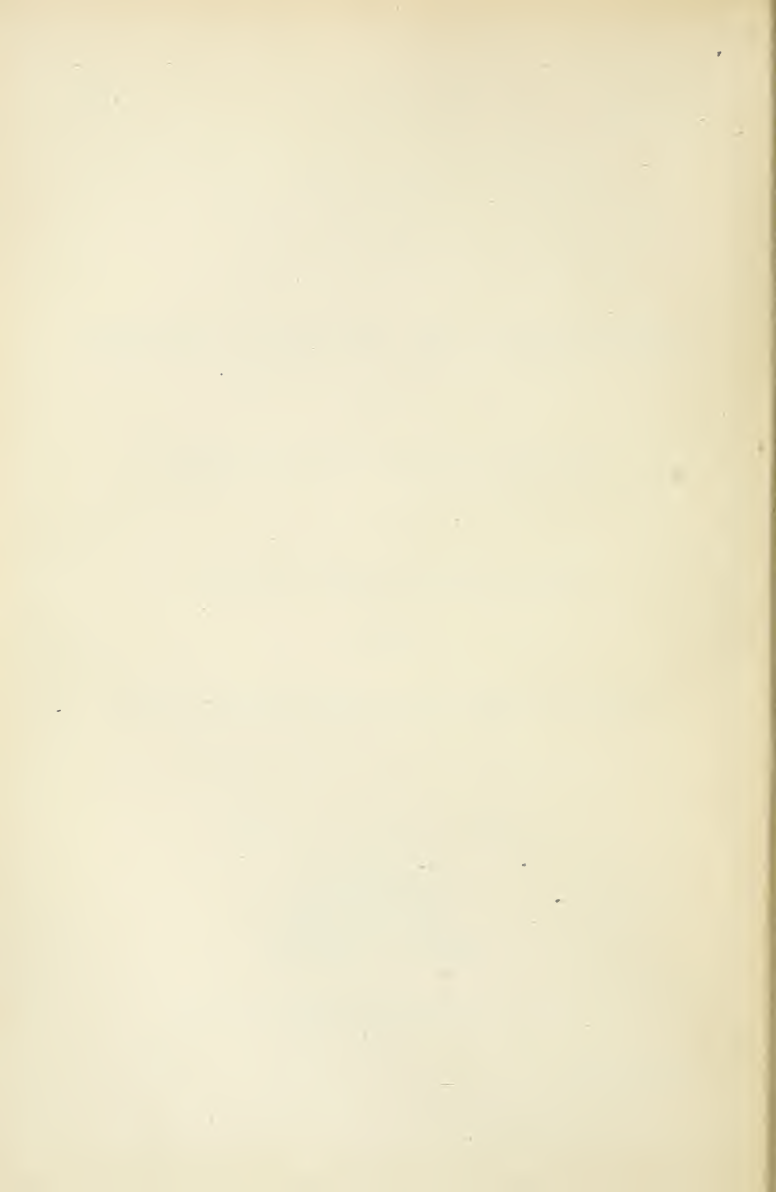
CANADA
REPORT
OF THE
MINISTER OF PUBLIC WORKS
ON THE
WORKS UNDER HIS CONTROL
FOR THE
FISCAL YEAR ENDED MARCH 31
1917

*Submitted in accordance with the Provisions of Chapter 89, Section 34,
of the Revised Statutes of Canada.*

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OTTAWA
J. DE DABROQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1918



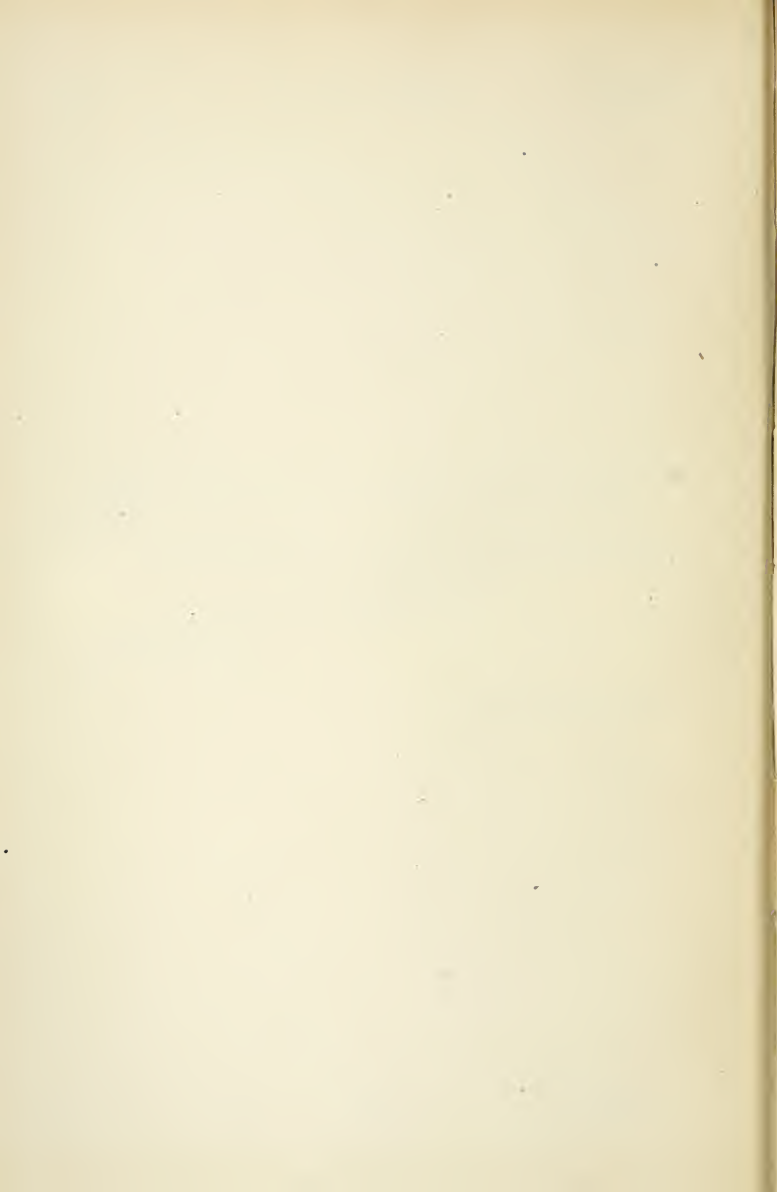
*To His Excellency the Duke of Devonshire, K.G., P.C., G.C.M.G., G.C.V.O., etc., etc.,
Governor General and Commander in Chief of the Dominion of Canada.*

I have the honour to lay before Your Excellency the Report of the Department of Public Works of Canada, for the fiscal year ended March 31, 1917.

I have the honour to be, sir,
Your Excellency's most obedient servant,

F. B. CARVELL,
Minister of Public Works.

OTTAWA, December 3, 1917.



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CHIEF ENGINEER.

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REPORT
OF THE
DEPUTY MINISTER OF PUBLIC WORKS
FOR THE
FISCAL YEAR ENDED MARCH 31, 1917

DEPARTMENT OF PUBLIC WORKS, CANADA,

OTTAWA, November 15, 1917.

Honourable F. B. CARVELL,
Minister of Public Works,
Ottawa, Ont.

SIR,—I have the honour to submit herewith the annual report of the Department of Public Works, for the fiscal year ended March 31, 1917.

EXPENDITURE.

The total expenditure made by or through the department during the fiscal year 1916-17, on its various works of construction, maintenance and operation, amounted to the sum of \$16,161,596.20, which may be classified under the following heads:—

Harbour and river works.	\$6,548,568 18
Dredging, plant, etc.	2,410,413 24
Slides and booms.	111,876 40
Roads and bridges.	38,265 51
Public buildings.	5,717,450 28
Telegraphs.	775,339 66
Miscellaneous.	559,682 93
	\$16,161,596 20

The aggregate outlay is \$3,377,701.84 less than that of the preceding year 1915-16, and \$13,121,720.62 less than the expenditure two years ago. The department has consistently adhered to the policy of retrenchment laid down at the outbreak of the war, and has undertaken only necessary works of maintenance and repair outside of the completion of the contracts which were under way at that date. The same careful policy will be pursued during next year and every indication points to a further substantial reduction in the expenditure.

The appropriations granted by Parliament to the department in the year war was declared amounted to \$47,154,196.60. The Parliamentary grant was reduced in 1915-16 to \$34,599,183.99; in 1916-17, to \$30,828,281.99, and in 1917-18, to \$20,822,663.75, or considerably less than one-half the sum voted only three years before.

REVENUE.

The revenue for the year amounted to the sum of \$493,260.01, and is made up as follows:—

Slides and booms.	\$ 97,142 16
Graving docks.	64,918 38
Rents.	94,729 03
Telegraphs.	191,453 35
Casual revenue.	45,017 09
	\$493,260 01

It will be noted that there is a decrease of \$15,646.31 from last year's figures. The principal falling-off occurs in slides and booms and casual revenue; these two items showing a decrease of over \$31,000. The income from rents shows some increase, while that from telegraphs surpasses last year by over \$10,000. In the slides and booms returns, the principal loss took place in the Ottawa district, which is naturally the largest. The revenue this year from that district was only \$16,050.97, the smallest on record for over half a century. Owing to the scarcity of water in the spring of 1916, and the scarcity of labour, the drives on some of the larger rivers, from which the greater part of the revenue is derived, did not come out at all, or only a small portion came into the main Ottawa. Approximately 2,000,000 less logs were handled in the Ottawa district; the exact figures being 4,928,993 for 1915-16, as against 2,961,460 for 1916-17.

HARBOUR AND RIVER WORKS.

The total expenditure in this branch of the Department of Public Works was \$6,548,568.18, of which \$4,152,583.80 was charged to capital, and \$2,395,984.38 to income. This is one million dollars less than last year's expenditure, and over four million dollars less than the outlay under this head two years ago.

Following is the list of works which have been completed during the year:—

Nova Scotia.—Breakwater at Meat Cove.

New Brunswick.—Wharves at Bayswater and Kennebecasis Island.

Quebec.—Landing crib at Hospital Bay, and wharves at Ile Perrot South and Ste. Anne des Monts.

Ontario.—Reconstruction of wharf at Bruce Mines; revetment wall at Burlington; regulating dam at Big Chaudière on the French river, and a breakwater at Goderich.

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British Columbia.—Wharves at Little River and Powell River, and small landing floats at Bishops Bay, Brighton Beach, Cracroft, Hope Point, Jedidiah Island, Kitimat, Lloyd Point, Smiths Landing (Cortez island), Stapleby, Surge Narrows and Welcome Harbour.

The following works were under contract but unfinished at the end of the fiscal year:—

Nova Scotia.—River improvements and lock at East River.

Quebec.—Enlargement of wharf at Rimouski; dry dock at Lauzon; River St. Charles improvements and protection wall at Laprairie.

Ontario.—Harbour improvements at Kingston; quay wall at Fort William; extension to breakwater at Port Stanley and harbour improvements at Toronto.

British Columbia.—Wharves at Victoria, and second section of Steveston Jetty at the mouth of the Fraser river.

DREDGING.

The expenditure under this head amounted to \$2,410,413.24, a decrease of \$1,465,300.07 from that of the preceding year.

The operation and maintenance of the departmental dredging plant cost \$1,179,366.68, which is considerably less than last year, owing to sixteen units not being placed in commission. No new dredging plant has been constructed, nor acquired, and repairs to the existing plant have been kept down to the comparatively low figure of \$125,312.42; care being taken, however, to see that the condition of the plant is properly maintained.

The outlay on contract dredging totalled the sum of \$1,105,734.14; operations being confined practically to the larger harbours.

The False Creek channel and basin at Vancouver, B.C., have been completed. This work was commenced in 1913, and consisted of a channel 13,500 feet in length, 350 feet in width, and 20 feet deep at low water from English Bay to Main Street bridge. The total quantity of material removed was 4,310,196 cubic yards.

At Fort William, Ont., the dredging of the terminal basin, at the mouth of the Mission river, was completed this year. This improvement was commenced in the year 1909, and the final estimate shows the removal of 7,136,670 cubic yards. This dredging is of importance, affording access to the Grand Trunk Pacific terminal elevator and sheds. Dredging in the Kaministiquia river has also been in progress.

At Port Arthur, Ont., the dredging under contract consisted of the widening of the harbour, dredging in King's channel, in the Government elevator slip and in the entrance channel and slip of the Saskatchewan Co-operative and Grain Growers' elevators.

At Port Maitland, Ont., contract dredging was performed in connection with the harbour development under way at the mouth of the Grand river. Some 628,703 cubic yards were removed in constructing a channel entrance from lake Erie to the car ferry terminus.

Contract dredging was also carried on in the St. Croix river, under a joint arrangement with the United States Government; in Bathurst, N.B., harbour, where an important pulp and paper industry has been developed, and in St. John, N.B., harbour, where considerable work was done in dredging the basin inside the break-water in Courtenay bay.

During recent years this department has been keeping in very close touch with both the Marine Department and the Department of the Naval Service, in reporting finished dredging projects so that the necessary information may be conveyed to mariners and others interested in navigation, by means of notices to mariners and charts published by those departments. After each dredging project is completed, a special report, with plan, is prepared and forwarded for the above purposes. During the year, seventy-four of these special reports were made.

Dredging operations were also carried on at the following places, where an expenditure of \$10,000 or over was made:—

Nova Scotia.—Digby, Liverpool, Lunenburg, Pietou, and Yarmouth.

Prince Edward Island.—Charlottetown.

New Brunswick.—Bathurst, Buctouche, St. Croix river and St. John harbour.

Quebec.—Longueuil, River Lièvre, St. Alphonse de Bagotville, Ste. Anne de Bellevue, Saguenay river, and Verdun.

Ontario.—Fort William, Hamilton, Hawkesbury, Penetanguishene, Port Arthur, Port Burwell, Port Maitland, River Thames, and Telegraph and Nigger islands.

Manitoba.—Red river and Selkirk.

British Columbia.—Columbia river, Fraser river (South fork at North arm and Sandheads), Nanaimo, New Westminster, Skeena river, Squamish, Vancouver (False creek and First narrows), and Victoria.

PUBLIC BUILDINGS.

The sum expended in the construction, maintenance and repair of public buildings throughout the Dominion was \$5,717,450.28, a decrease of over one million dollars from last year. Of this amount, \$3,098,711.87 was expended in the construction and improvement of public buildings, and \$2,618,738.41 in repairs and maintenance.

The following buildings were completed during the year:—

Quebec.—Joliette public building, additions and alterations; Lennoxville Experimental Farm, cattle barn; Montreal Postal Station "A," extension; Shawville, public building.

Ontario.—Ottawa Experimental Farm, flax building and brooder house; Ottawa Customs building, Sussex street; Ottawa Mines building, addition.

Saskatchewan.—Sutherland Forest Nursery Station, boarding house.

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British Columbia.—Saanich, observatory and residences for observer and engineer.

The following buildings were still under contract:—

Quebec.—Three Rivers, public building.

Ontario.—Kingston, riding school; Ottawa, Parliament buildings.

Alberta.—Calgary, drill hall.

RECONSTRUCTION OF PARLIAMENT BUILDINGS, OTTAWA.

Of the above, the most important work the department has had in hand is the reconstruction of the Parliament buildings, which were practically destroyed by fire on Thursday, February 3, 1916.

The work of salvaging, scaffolding, shoring and clearing away debris was immediately commenced and continued during the months of March, April, and May, under the direction and supervision of the Dominion consulting architect.

On the 26th of May, Mr. John A. Pearson and Mr. J. O. Marchand, who had been appointed the architects of the new building by the Joint Parliamentary Committee, took charge of the works. On this date the work of demolition and removing all condemned and dangerous walls was well under way and completed by September 1.

Excavation immediately followed the tearing down, and on July 24 the concrete foundations were commenced. These foundations on the northeast portion of the building were completed up to the grade level by September 1, and on that date His Royal Highness the Duke of Connaught relaid the corner stone.

CEREMONY OF RELAYING CORNER STONE.

The joint committee decided to take advantage of the very unique coincidence that the then Governor General, the Duke of Connaught, happened to be a brother of His Late Majesty, King Edward Seventh, who laid the corner stone of the original building, when Prince of Wales, on September 1, 1860; and it was decided to arrange a ceremony to consist of the relaying of the original corner stone in a new location, as the corner stone of the new building. His Royal Highness graciously consented to officiate at such a ceremony. Preparations were made in keeping with the importance of the occasion. A pavilion for the Royal party and those having the private entrée, suitably decorated and furnished, was erected in front of the new location of the corner stone, and a covered stand for the invited guests was erected at the right of the Royal pavilion. A third stand seated with chairs was also provided to which admission was had by card. The three stands were arranged around a platform, triangular in shape, through which ran a track from the site of the old corner stone to the new location. A tripod derrick with hoisting apparatus was erected at each end of the track, and the operation of relaying the corner stone consisted in raising it by derrick from its former bed and placing it on the truck, or bogey, upon which it was transported along the track to the new location, where it was raised by the other derrick and, after the mortar had been spread, lowered gradually into place.

The old stone was engraved:—

“ This corner stone of the building intended to receive the Legislature of Canada was laid by Albert Edward, Prince of Wales, on the first day of September, 1860.”

Underneath the old lettering have been chiselled these words:—

“ Relaid by his brother, the Duke of Connaught, on the first day of September, 1916.”

Addresses were delivered by the Right Honourable Sir Robert Borden, G.C.M.G., Prime Minister, Honourable Robert Rogers, P.C., Minister of Public Works, and by His Royal Highness the Governor General, after he had laid the stone.

Everything passed off with exceptional smoothness. All the mechanical arrangements worked perfectly, and there was an immense gathering of highly interested spectators. The weather was not good, it having rained the night before and in the morning, but, fortunately, the rain held off during the ceremony.

During the following months the works proceeded apace, and on December 11, when the masonry work was closed down for the winter, the walls of the Senate wing were built up to a height of two stories and all the remaining walls to approximately a height of four feet above grade.

The erection of the structural steel continued during the winter months.

On April 2, 1917, work on the buildings was recommenced, since when it has proceeded without interruption, until at the time of writing the greater part of the building is under roof.

The following contracts have been awarded:—

The general contract for the reconstruction of this building with P. Lyall & Sons Construction Company, Limited, was signed on September 29, 1916. The basis of this contract is eight (8%) per cent on the cost of the work up to \$4,000,000, and seven (7%) per cent on the cost in excess of that amount up to but not to exceed \$5,000,000.

On March 30, 1916, a contract was entered into with the Dominion Bridge Company, Limited, of Lachine, P.Q., for the supplying of 1,893,600 pounds of structural steel, f.o.b. site, at \$3.04 per hundred pounds.

On January 29, 1917, a further contract was executed with the Dominion Bridge Company, Limited, for the supplying, fabricating and erecting of approximately 1,800 tons of structural steel at \$5.30 per hundred pounds (\$106 per ton).

In connection with the structural steel work, Alexander Fleck, Limited, was given an order for 100 cast-iron column bases, or 150,256 pounds, at \$2.50 per hundred pounds, as a result of tenders opened September 28, 1916.

Robert W. Hunt & Company, Limited, were authorized to make mill and shop inspection of the material of the Dominion Bridge Company's contracts at fifty-five (55c.) cents per ton, on April 10, 1916.

P. Lyall & Sons Construction Company, Limited, as general contractors for this work, have, with the approval of the Joint Parliamentary Committee, entered into the following contracts:—

On July 18, 1916, with G. P. Sherwood & Company, Montreal, Que., for 150,000 cubic feet (more or less) of Buff Ohio stone, at \$1.21 per cubic foot, f.o.b. cars, Ottawa.

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On August 5, 1916, with George Farmer for the carting of Wallace stone from the Grand Trunk terminals to the stone shop at Sussex street, at forty-five (45c.) cents per ton.

On August 5, 1916, with George Farmer for the carting of Ohio stone from the Canadian Pacific terminals to the stone shop on Sussex street at thirty (30c.) cents per ton.

On August 11, 1916, with the Wallace sandstone quarries for 31,550 cubic feet of Wallace sandstone at seventy-five (75c.) cents per cubic foot, f.o.b. cars, Ottawa.

On August 11, 1916, with the Burlington Steel Company, Hamilton, Ont., for 147.5 tons (more or less) of reinforcing steel to be delivered at the site at the following rates for 100 pounds: $\frac{5}{8}$ -inch round, \$3.48; $\frac{1}{2}$ -inch square twisted, \$3.08; $\frac{3}{4}$ -inch and $\frac{7}{8}$ -inch square twisted, \$2.93.

On September 6, 1916, with Alfred Rogers, Limited, Toronto, Ont., for 5,000 barrels (more or less) of Portland cement at \$1.85 per barrel of 350 pounds, f.o.b. cars, Ottawa.

On September 6, 1916, with the National Brick Company of Laprairie, Limited, for 5,000,000 (more or less) common brick at \$10.50 per thousand, delivered at site.

On September 6, 1916, with the Canada Cement Company, Montreal, for 5,000 barrels of Portland cement at \$1.85 per barrel of 350 pounds, f.o.b. cars, Ottawa.

On September 14, 1916, with George Farmer, for the cartage of Portland cement from the Grand Trunk and Canadian Pacific terminals to the site, at six and one-half (6½c.) cents per barrel.

On September 6, 1916, with Howard Rock, for 3,550 tons of $\frac{5}{8}$ -inch clean crushed stone, delivered on the site, at \$1.60 per ton. This contract was abandoned.

On September 6, 1916, with Howard Rock for 1,000 tons of Nepean sandstone (more or less), delivered on the site, at \$3.70 per ton.

On September 6, 1916, with Foran & Thibault, for 4,000 tons (more or less) of Nepean sandstone, delivered on the site, at \$3.70 per ton.

On March 12, 1917, with Campbell, McKee & Williams, of Bells Corners, for 1,000 tons (more or less) of Nepean sandstone, delivered on the site, at \$3.70 per ton.

On March 7, 1917, with the Nepean Sandstone Quarries, Limited, for 1,000 tons (more or less) of Nepean sandstone, delivered on the site, at \$3.70 per ton.

The procedure in calling for tenders and the awarding of contracts is as follows:—

When the progress of the building requires certain work or materials to a value of or exceeding \$5,000, the joint committee is notified to that effect. The committee approving, tenders are publicly called for through the newspapers, such advertisements appearing simultaneously on certain dates for a stated period. The advertisement is drawn up in such a manner as to give a uniform basis for tendering and comparison of prices, and is submitted to the Department of Public Works for approval before being issued.

The resulting tenders are received by the architects and opened by the board, signed and adjudged by them and referred to the joint committee, together with the recommendation of the board.

With the authorization of the committee, a contract is drawn up by the general contractors, to the approval of the architects and the department, and entered into with the successful tenderer, the latter having previously deposited a security of 10 per cent of the amount involved, 5 per cent with his quotation and 5 per cent on its acceptance.

TELEGRAPHS.

During the fiscal year under review, there have been added 224½ miles of new lines to the Government telegraphs, made up principally of:—

7¾ miles in Nova Scotia,
17½ miles in New Brunswick,
153 miles in British Columbia, and
30 miles in the Yukon.

There is now a total mileage of 12,016¾. The number of offices has increased to 1,058, and the messages sent numbered 411,934, as against 371,833 in the preceding fiscal year.

The number of telephone, telegraph and conjoint offices on the system are:—

Telephone.	617
Telegraph.	389
Conjoint.	52
	<hr/>
Total.	1,058

NATIONAL GALLERY.

It will be remembered that the National Gallery was indirectly one of the chief sufferers from the fire which destroyed Canada's Parliament buildings, inasmuch as it was deprived of its quarters in the Victoria Memorial Museum, when that building was taken over to serve as the Houses of Parliament.

Being without a gallery, the directors have been concentrating their efforts on the development of the policy of loan exhibitions, which had just been instituted and had met with a gratifying measure of success. A selection of pictures and objects of art is made and loaned to any art society or body capable of publicly exhibiting them, and in this way it is hoped to keep the Canadian public in touch with the work Canadian artists are doing, and thereby increase its interest and appreciation of art in general.

Exhibition of works of art were made during the fiscal year 1916-17, at Halifax, N.S., Montreal, Que., Ottawa, Ont., Toronto, Ont., Winnipeg, Man., Moosejaw, Sask., Regina, Sask., Saskatoon, Sask., and Edmonton, Alta. All these exhibitions proved an unqualified success, and without doubt will result in stimulating public interest to the point of establishing art classes in many places throughout the country.

TRIBUTE TO MEN OVERSEAS.

In conveying my thanks to the departmental staff for the efficient manner in which they have performed their duties during the year, I desire to pay a special tribute to those members who so nobly responded to the call of duty and are now

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overseas, championing the cause of world liberty; 251 in all enlisted, 33 from the inside service and 218 from the outside service. Every branch has its representatives:—

<i>Inside Service.</i>	
Branch.	Number.
Minister..	1
Deputy Minister..	5
Secretary..	4
Accountant..	4
Chief Engineer..	4
Assistant Chief Engineer..	2
Chief Architect..	11
Telegraphs..	2
	<hr/>
Total..	33

<i>Outside Service.</i>	
Chief Engineer..	103
Assistant Chief Engineer..	48
Chief Architect..	43
Telegraphs Branch..	24
	<hr/>
Total..	218

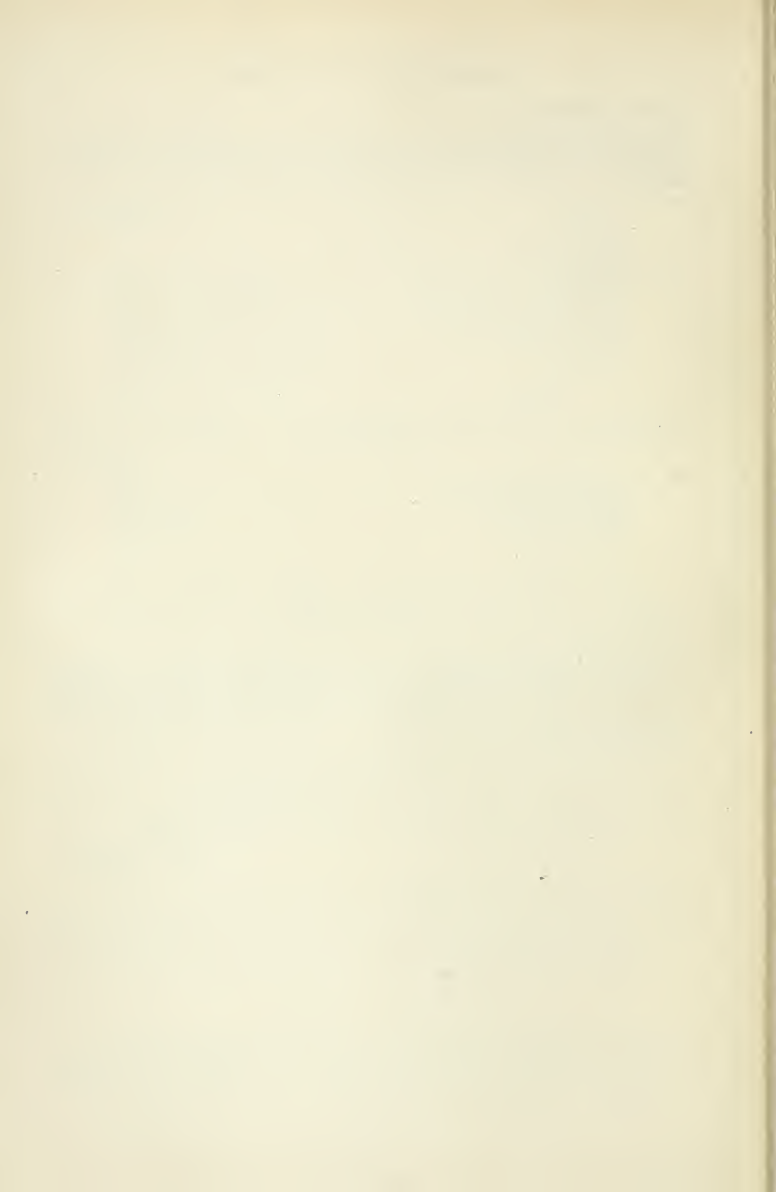
Honours granted to Public Works men overseas, so far as the department is informed, are: One C.M.G., four D.S.O., one Croix de Guerre, five Military Cross (one with bar).

Many of these gallant fellows have been wounded, two are prisoners of war, and not less than eighteen have laid down their most precious possession, life itself, in the glorious struggle. The names of these splendid patriots will stand forever not only in the records of the department, but in the honour roll of the Empire which they served so well

I have the honour to be, sir,

Your obedient servant,

J. B. HUNTER,
Deputy Minister.



PUBLIC BUILDINGS

By E. L. HORWOOD, CHIEF ARCHITECT.

NOVA SCOTIA.

Repairs and improvements were executed at the following places: Amherst, Annapolis, Antigonish, Arichat, Baddeck, Bear River, Bridgewater, Canso, Dartmouth, Digby, Glace Bay, Guysboro, Halifax, Inverness, Kentville, Lawlor's island (quarantine), Liverpool, Lunenburg, New Glasgow, North Sydney, Parrsboro, Pictou, Springhill, Sydney, Sydney Mines, Truro, Westville, Windsor, Wolfville, Yarmouth.

PRINCE EDWARD ISLAND.

Charlottetown, Georgetown, Montague, Souris, Summerside, Tignish.

NEW BRUNSWICK.

Bathurst, Campbellton, Chatham, Dalhousie, Fairville, Fredericton, Grand Falls, Hampton, Hartland, Hillsborough, Marysville, Milltown, Moncton, Newcastle, Richibucto, St. John (custom house, new post office, old post office, savings bank, quarantine station), St. John West (post office and immigration building), St. Stephen, Sussex, Tracadie, Woodstock.

QUEBEC.

Grosse Isle (quarantine buildings): Annex to disinfecting building, commenced 1914, was completed during fiscal year 1916-17. Repairs and improvements were made to various other buildings on the island.

Joliette: The addition to this building, described in the annual report of 1915, has been completed.

Lennoxville (Experimental station): A contract was entered into September 14, 1916, for the erection of a dairy cattle barn, 97 feet 6 inches by 38 feet 6 inches.

Montreal: A contract was entered into January 11, 1917, for the erection of a shed and covered passageway in rear of postal station "A," and repairs and improvements were made to the main building; also to new customs and examining warehouse, old examining warehouse, old custom house, inland revenue building, immigration detention hospital, central post office, postal stations B, C, D, F, H, L, S, O.

Three Rivers (public building): The original contractors having failed to complete their work, a new contract was awarded on February 22, 1917, to Joseph Bourque.

Repairs and improvements were executed at the following places: Actonvale, Arthabaska, Berthierville, Buckingham, Coaticook, Cookshire, Drummondville, East Angus, Fraserville, Granby, Hochelaga, Hull, Iberville, Joliette, Janguières, Laprairie, L'Assomption, Lake Mégantic, Longueuil, Matane, Montmagny, Murray Bay, Nicolet, Pierreville, Quebec (examining warehouse, custom house, post office, St. Roch post office immigration hospital, St. Sauveur post office, immigration building, Louise embankment), Richmond, Roberval, Shawville, Ste. Agathe des Monts, St. Gabriel de

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Brandon, St. Henri, St. Hyacinthe, St. Lambert, St. Jérôme, St. Johns, Ste. Thérèse, Sherbrooke, Sorel, Valleyfield, Victoriaville.

Shawville: This building, described in the report for 1915, has been completed and occupied.

ONTARIO.

Kingston: A contract was entered into July 24, 1916, for the erection of a riding school at the Royal Military College, the building to be 197 feet by 66 feet, constructed of brick with cut-stone trimmings on concrete foundations to finished grade, and from grade to base these foundations are faced externally with coursed rock-faced stone, and the outside walls above base are faced externally with red brick and internally with pressed brick.

Repairs and improvements were executed at: Custom house, inland revenue building, and post-office.

Ottawa: The new customs house was taken possession of by the Department of Customs on May 1, 1916, and minor works to complete the building were executed, and furnishings were supplied.

Experimental Farm: The new brooder house was erected within the poultry grounds, measuring 57 feet by 16 feet, and one story high; the construction being balloon frame, set on concrete walls with the outside walls, clapboard, and inner walls and ceiling "V" sheeting.

The contract was entered into on October 19, 1916, for the erection of a flax building, measuring 79 feet 8 inches by 28 feet 9 inches, of balloon construction, set on concrete walls, and one story and a half high.

Repairs and improvements were also executed to various other buildings at the farm.

Mines Branch: An addition to the Mines Branch, Sussex street, was commenced in August. The building is 18 feet by 43 feet, on a cement foundation. The main walls are picked-faced limestone, with limestone lentils, jambs, and sills. The stonework is backed with brick, furred metal laths, and plaster. The floors are concrete, and the roof is steel and concrete.

Royal Mint: Work on an addition to the refinery was completed August 10, 1916. The building is 33 feet by 108 feet, with cement foundation on rock, and the main walls are of buff sillicate brick and lined with white brick. The floors are concrete and the roof steel and concrete.

A new transformer room was built on a cement foundation, the main walls being of Stanstead granite and Nepean sandstone to match the other buildings.

Ottawa Buildings Generally: Repairs and improvements were made at the following buildings: Government House, Victoria Museum, East Block, West Block, Library of Parliament, Langevin Block, City Post Office, Printing Bureau, Supreme Court building, Wellington Street properties, Fuel Testing Station (Mines Branch), Archives building.

Rented Buildings: Union Bank building, Robinson building, No. 136 Emmet street, No. 113 Rideau street, Bryson building, Booth building, Birks building, Canada Life building, Hope building, Merchants Bank building, building (corner Queen and Metcalfe), Egan block, Harris & Campbell building, Imperial building, La Banque Nationale, No. 98 Wellington street, No. 140 Argyle avenue, O. O. A. C. building, Plaza building, Central Station, Journal building, McNeil building, Masonic Temple, Trafalgar building, Rea building, Woods building, Major building, Canadian building, Stephen building, No. 66 Queen street.

Repairs and improvements were executed at the following places: Acton, Alexandria, Amherstburg, Arnprior, Athens, Aylmer, Barrie, Belleville, Bowmanville, Brampton, Brantford, Brockville, Burford, Cayuga, Chatham, Clinton, Collingwood,

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Cornwall, Cardinal, Deseronto, Dundas, Elmira, Elora, Essex, Fort William, Fergus, Gananoque, Glencoe, Goderich, Grimsby, Guelph, Hamilton, Hanover, Hawkesbury, Kemptville, Kenora, Kincardine, Kitchener, Lakefield, Leamington, Lindsay, London, Markham, Mildmay, Milton, Mitchell, Mount Forest, Napanee, North Bay, Oshawa, Palmerston, Paris, Peterborough, Picton, Port Arthur, Port Colborne, Port Hope, Port Perry, Preston, Renfrew, Sault Ste. Marie, St. Catharines, Sarnia, Seaforth, Shelburne, Smiths Falls, Simcoe, Steelton, Stratford, Strathroy, Sudbury, Tilbury, Tillsonburg, Trenton, Toronto (customs-house, examining warehouse, general post office, postal garage, expropriated buildings adjoining general post office, inland revenue and Receiver General's offices, postal stations "A," "C," "D," "E," "F," "G," "K," express buildings, Front street east (rented), Uxbridge, Walkerton, Walkerville, Waterloo, Windsor, Wingham, Woodstock.

MANITOBA.

Repairs and improvements were executed at the following places: Brandon, experimental farm, Kirchoffer block (rented), Carman, Dauphin, Emerson, Morden, Selkirk, St. Boniface, Souris, Stonewall, Virden, Winnipeg, (post office, custom-house, examining warehouse, immigration halls, postal station "B.")

SASKATCHEWAN.

Sutherland Forest nursery station: On June 24, 1916, a contract was entered into for the construction of a new boarding house, the building being lumber framed, two storeys high, and measuring 32 feet by 28 feet with full concrete basement and a lean-to of one storey at the rear, 20 feet by 12 feet.

Repairs and improvements were executed at the following places: Battleford, Estevan, Gravelbourg, Humboldt, Melfort, Moose Jaw, North Battleford, Prince Albert, Regina, Saskatoon, Weyburn, Yorkton.

ALBERTA.

Calgary drill hall: A contract was entered into on September 29, 1916, for the erection of this building, the size over all being 275 feet by 170 feet, and consists of two storeys and basement, with corner pavilion and centre pavilion three storeys high, and constructed of brick, faced externally with red pressed brick with cut sandstone trimmings. The basement walls are faced externally with stone from ground to plinth.

Repairs and improvements were executed at the following places: Bassano, Edmonton, Edson, Entwistle, Lethbridge, Strathcona, Wetaskiwin.

BRITISH COLUMBIA.

Saanich (Little) Mountain observatory: The contracts for the observatory building and for the dome, have been completed, and the telescope and the apparatus for its operation have been installed. Residences for the observer and engineer were completed during the year, as well as a garage and a pump-house building.

Repairs and improvements were executed at the following places: Atlin, Cumberland, Cranbrook, Darch Island Leper Station, Duncan, Kamloops, Nanaimo, Nelson, New Westminster, North Vancouver, Prince Rupert, Rossland, Trail, Union Bay, Vancouver (public building, old post office building, new examining warehouse, postal station "C," immigration detention building), Vernon, Victoria (public building, old post office building, immigration detention hospital, old custom house building, observatory building). William Head quarantine station.

HARBOUR WORKS

By E. D. LAFLEUR, CHIEF ENGINEER.

NOVA SCOTIA.

BARACHOIS.

Barachois, Victoria county, is a small settlement at the mouth of the Barachois river on the northern side of St. Ann's bay, about 3 miles to the eastward of the entrance into St. Ann's harbour.

During the year ended March, 1917, 140 feet of the training pier were reconstructed, built in the same manner as it was originally but the piles were driven deeper than before, and the channel face was protected with close-sheathing driven 8 feet into the bottom, and by a stone talus.

BLACK ROCK.

Black Rock, Colchester county, is a small settlement situated at the mouth of the Shubenacadie river, 10 miles from Truro.

During the fiscal year 1916-17, a native-timber crib was constructed, 42 feet long by 8 feet wide and 6 feet high, and ballasting this along the shore adjoining the shore end of the approach, and back of this crib earth and stone filling was placed to bring the road approach up to the required grade.

Work was done in the month of July, 1916.

CALDWELL'S COVE.

Caldwell's Cove, Digby county, is a small fishing and farming settlement on the shore of the Bay of Fundy. In 1916-17, a piece of crib-work was built 80 feet long, 10 feet wide and 8 feet high, projecting in a westerly direction from south or shoreward end of the breakwater.

DIGBY.

Dredging.

In 1916-17, the P.W.D. Dredge No. 1 removed 54,150 cubic yards, scow measurement, towed $2\frac{1}{2}$ miles, from Digby harbour, as follows:—

In the main channel, 36,075 cubic yards, scow measurement; in the Racquet, 18,075 cubic yards, scow measurement; 54,150 cubic yards, scow measurement.

The work was performed between 20th June and 4th August, 1916, and to a depth in the channel of 18 feet at L.W.O.S.T.

The object of the dredging was the cleaning up of the channel for a length of 2,200 feet and a width of 200 feet from the end of the government pier due north toward Digby Gut, to give a depth at L.W.O.S.T. of 18 feet to accommodate the passage to and fro of the Canadian Pacific Railway Company's steamers plying between Digby and St. John.

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The object of the dredging in the Racquet was to facilitate the arrival and departure of schooners and other craft at the fishing wharves, and is comprised within a length of 700 feet and a width of 120 feet, also one cut 800 feet long and 10 feet wide.

The dredged area in the channel will require re-dredging in about eight years. The area between the main pier and the spur requires re-dredging about every three years. The dredging in the Racquet requires re-dredging about every three years.

EAST RIVER, PICTOU.

The mouth of the East river is the most important of the three branches of Pictou harbour. It is navigable for small vessels to the head of tide water at New Glasgow, ten miles inward from the entrance to the harbour.

During the past season dredge No. 5 was employed from June 28 to October 30, and excavated 360,000 cubic yards measured *in situ*, or 435,103 yards by the weekly dredging reports, of alluvial mud, clay, sand, and stones. The cutting in the second reach from station 134 to station 142 was completed on July 13, and involved the removal of 35,800 yards *in situ*. On July 17 the first reach of channel (the diversion) was begun, and 324,200 yards were dredged from station 80 to station 120 before operations were suspended for the season.

There are 311,400 cubic yards to be excavated to sub-grade from the first reach to the channel and to remove the sedimentation and to widen and deepen the second reach to sub-grade will require 369,600 yards extra, making a total of 681,000 yards yet remaining to be dredged.

Lock.

On the 14th June, 1916, a contract was signed by Messrs. Roger, Miller & Sons, Limited, for the necessary lock gates and operating machinery. The price tendered was \$124,876.15.

During the fiscal year 1916-17, work was done unwatering, common and rock excavation, channelling rock surface, concrete and timber approach piers, riprap and broken stone finishing on berm. For the lock gates contract, Messrs. Roger, Miller & Sons earned \$74,920.

EEL BROOK.

(The work done here is described in the departmental report for 1913.)

Eel Brook, Yarmouth county, is situated on the east side of the many islanded bay, forming the mouth or estuary of the Tusket river, twelve miles east of Yarmouth.

In 1916-17 two concrete walls, one on either side of the brook, were built. On the north side, a length of 163 feet was built, and on the south side, 125 feet. The wall has a uniform height of 4 to 4½ feet and an average thickness of 2 feet. The channel between the walls, which was deepened and straightened by hand digging, is 10 feet wide. The concrete wall is backed with stone and the whole work is a great improvement and convenience.

LIVERPOOL.

Liverpool, Queens county, is a town of 2,300 or 2,400 people, situated at the mouth of the Mersey river.

During the past fiscal year, dredging operations by dredge No. 7 was conducted, and some 47,700 cubic yards, scow measurement, were removed. The work was commenced on June 30, and suspended November 1, 1916. From the bridge towards the mouth of the harbour, for a distance of 1,110 feet, the nature of the material to be removed consists of mud and sawdust; for a further distance of 1,034 the material

consists of mud and sawdust mixed with fine white hard sand, and the last 1,085 feet consists of practically fine hard white sand entirely. This dredging has been done to a depth of 15 feet at L.W.O.S.T.

The total length of the dredging performed was 2,570 feet, with a width of 100 feet.

For the first two months after the dredge had ceased work, this cut remained practically free and open, but what is commonly termed "The Bar" had again filled in, and it was very difficult to float shipping over it.

LUNENBURG.

Dredging.

Lunenburg, Lunenburg county, is situated on the Atlantic coast, 49 miles west of Halifax.

During the fiscal year 1916-17, dredge *No. 6* and Lobnitz rockbreaker *No. 3* worked from April 1 to November 25; dredge *No. 6* removing 58,145 cubic yards, and Lobnitz rockbreaker *No. 3* reporting having broken 18,763.03 cubic yards. Dredging was done near the wharves over an area of 72,000 square feet, and the rockbreaker covered an area of 60,200 square feet. On Isnor's shoal, the dredge worked over an area of 60,000 square feet and the rockbreaker also covered this area. On Brick shoal, the dredge worked over an area of 74,000 square feet and the rockbreaker did work over an area of 7,500 square feet. The total area, therefore, covered by dredge *No. 6* this season was 206,000 square feet, and by the Lobnitz rockbreaker *No. 3*, 127,700 square feet.

The total areas over which dredging has been performed at Lunenburg to date are as follows:—

In front of wharves	2.62 acres.
Isnor's shoal	4.23 "
Brick shoal	5.71 "
	12.56 "

And 13,280 cubic yards removed in and around the docks not included in the above.

There is still a considerable quantity of material which has been broken by rockbreaker *No. 3*, and which will have to be removed as soon as a favourable opportunity presents itself and it is possible to secure a dredge to do the work.

MEAT COVE.

Meat cove, Victoria county, is a small cove on the northern coast of Cape Breton island. In order to afford the fishermen better facilities, during the year 1914-15, timber required for the construction of a small breakwater for the protection of the landing beach was purchased, and during the fiscal year 1916-17 the balance of the materials was procured and the work was completed. The breakwater is 100 feet long and 16 feet wide, and consists of a solid round-timber cribwork, fully ballasted and covered and protected by fenders.

MOSHER'S BAY.

Mosher's bay, Lunenburg county, is situated on the east side of the entrance to La Have river.

During the years 1914-15-16, the construction of a breakwater was commenced, and during the year 1916-17, construction was continued and the breakwater now has a total length of 310 feet and it is expected to complete it next year. The work done this season consisted of constructing 245 feet in length, 195 feet being 20 feet wide

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with an average height of 15 feet, and 50 feet at the outer end being 25 feet wide with an average height of 22 feet. This 50-foot portion has been destroyed by storms during the winter, down to low water, and will have to be rebuilt next season.

Work was commenced June 12 and suspended November 30.

NORTHWEST COVE.

(The breakwater, which was constructed in the year 1873, will be found fully described in the annual report for the year 1913).

Northwest cove, Tancook island, Lunenburg county, is a large cove on the northern end of Big Tancook island.

It is the intention of the department to reconstruct this breakwater in solid native-timber cribwork; and during the year 1916-17, the shore-end portion was reconstructed; the work done has a length of 183 feet, a width of 26 feet and an average depth of 12 feet, and was performed by day labour. Repairs were made to the outer end of the old pilework breakwater, in order to make it safe until it can be reconstructed in cribwork; the top of the work was repaired where necessary and a number of new piles were placed; also fifteen new fenders and a number of braces between the piles to stiffen the work.

Work was commenced June 1 and suspended December 4.

OAKLANDS.

Oaklands is situated in La Have harbour, directly opposite the town of La Have, a distance of about a quarter of a mile by water and three miles by road.

During the fiscal year 1916-17, dredging of a channel down from the wharf towards the main channel of the river to make the wharf easier of access for larger boats. The length of the excavation was 175 feet, the width about 125 feet. The depth of water now varies from about 6 to 10 feet at L.W.O.S.T. and the average cutting necessary to effect this improvement was 6.72 feet. The work was carried on by dredge *No. 15* from June 22 to August 23, 7,068 cubic yards scow measurement of mud and sawdust being removed, equivalent to 5,437 cubic yards place measurement, showing an expansion factor of 30 per cent.

WEST ARICHAT.

(This work is fully described in the annual report for 1915.)

West Arichat, Richmond county, is a small but safe harbour on the west coast of Isle Madame.

During the fiscal year ended March 31, 1917, a new span was built over the opening in the breakwater, and in raising it and the approaches there to a height of 2 feet above the original level, to permit the passage of boats underneath.

WINDSOR.

Windsor, Hants county, is an incorporated town on the Dominion Atlantic railway, at the head of Minas basin, on the Avon river, 46 miles west from Halifax.

During the year 1916-17, a boat landing at the public wharf was built for the use of ferry passengers from Newport. A platform projects out from the floor of the wharf 5 feet, and the landing is hinged at the top of this platform and at the bottom to a scow 5 by 10 by 3 feet.

Work was performed during the months of August and September.

YARMOUTH.

In 1916-17, the Public Works Department Dredge *No. 1* removed 57,065 cubic yards, scow measurement, towed $4\frac{1}{2}$ miles from the main channel. The work consisted in deepening the turning basin opposite the Evangeline wharf, and making a cut about 180 feet wide from the south end of the Evangeline wharf to the south end of the T wharf. The work was performed between October 4 and November 20, 1916, and to a depth of 21 feet at L.W.O.S.T.

The work had been done as far as the south end of T wharf, when orders were given to cease operations.

The dredging is comprised within a length of 1,780 feet and a width of 180 feet to 370 feet. The depth of cut varies from 3 to 6 feet. Dredging was done to a depth of 21 feet at L.W.O.S.T.

The dredged area will fill up by deposit of silt at a slow rate and should not require re-dredging for about ten years.

PRINCE EDWARD ISLAND.

ASYLUM WHARF.

Dredging.

The channel was cleaned out and deepened to carry 8 feet at low water spring tides, by Department of Public Works dredge *No. 10*, July 7 to August 16, 1916, 12,475 cubic yards, scow measurement, of silt, soft mud, and clay being removed. The inner 200 feet gradually widens out to 140 feet immediately in front of the wharf, to form a turning basin for vessels; in addition, a loading berth was formed on the west side of the wharf, 65 feet long by 50 feet in width, grading from 8 feet at low water up to $4\frac{1}{2}$ feet at its inner end.

BRIDGETOWN (GRAND RIVER).

The village of Bridgetown is situated at the head of navigation on the Grand or Boughton river, King's county. The improvements proposed in depth and width of channel on upper portion of the river as also work done in connection therewith during season of 1915 are fully described in annual report for that year. It was intended that the work commenced, in 1915, should be carried through to completion early the next season but the only work undertaken was the removal of 2,900 cubic yards, scow measurement, to accommodate berthing plant for winter season.

Dredging was done in making a cut in front of the wharf 135 feet long, having a width of 90 feet, to an average depth of 9 feet at low water spring tides; the material removed being principally soft mud.

The dredge was engaged from November 9 to 15, 1916.

CHARLOTTETOWN.

Charlottetown, the capital of the province of Prince Edward Island, with a population of 12,000, is situated on the north bank of the East or Hillsborough river, near its junction with the North and West rivers.

Dredging was done from May 30 to July 5, removing 7,500 cubic yards, scow measurement, of soft mud and clay, forming a cut 620 feet long, the outer 345 feet having width of 60 feet and minimum depth of 12 feet at low water spring tides and inner 275 feet a width of 50 feet and grading from 11 up to 8 feet at low water spring tides.

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From September 15 to October 7, at Connolly's wharf 6,250 cubic yards, scow measurement, of soft mud and clay, together with some old timbers, were removed. The dock between the wharfs, 340 feet in length, 95 feet in width at outer end and 45 feet in width at inner end, carries a minimum of 12 feet over its outer portion, the inner end grading up to 9 feet at low water spring tides. At outer western side of the west wharf, a berth 100 feet long and 55 feet wide was also provided, grading from 14 up to 11 feet at low water spring tides.

On October 28, dredge *No. 10* commenced improvements at the inner end of the dock on the east side of Pownal wharf, 3,175 cubic yards of mud, clay and sand being removed in forming a berth 100 feet in length, 60 feet width, and carrying a minimum of 9 feet at low water spring tides. The remains of an old wreck, broken up during present season by the Marine Department, were also removed, being completed November 10.

GEORGETOWN.

Georgetown harbour is situated on the southwest side of Cardigan bay on the eastern coast of Prince Edward Island.

The D.P.W. dredge *No. 9* commenced dredging December 21, 1915, but ice conditions prevented completion that season. This, however, was effected by the above dredge, August 8 to 12, 1916, when 1,600 cubic yards, scow measurement, of sand, brick, clay, and shelly rock being removed. The berth when completed had a length of 370 feet, 75 feet in width, carrying 20 feet of water at low water spring tides over the entire length.

GRAND RIVER NORTH.

This work is fully described in annual report for 1914.

Grand River North, Prince county, is situated on the north side of Grand or Ellis river, near its entry into Richmond bay, and about 7 miles northeast from Wellington station, on line of the Prince Edward Island railway.

During the past season work was done on the reconstruction of top portion of approach immediately inward of pier head, and rebuilding guide pier which had become damaged by ice lifting a number of the bearing piles. Work was commenced August 14, and consisted in raising portion of approach 230 feet in length immediately inward of outer block an average of 2 feet with 12- by 12-inch timber, on which a new guard was placed and the sides of work further strengthened by fender piles driven at about 8 feet centres; roadway approach being graded up with broken stone and gravel over its entire length. The guide pier to accommodate the ferry boat, having a length of 40 feet and width of 10 feet, was then entirely reconstructed on pole-work foundation with square timber superstructure, fully ballasted, the inner face being close-piled, while on the end and outer face, piles were driven and secured at 4 feet centres. The whole work was satisfactorily completed November 21.

KIER'S SHORE

Is situated on the eastern side of Richmond bay, which is also known as Malpeque harbour. The wharf has a length of 1,033 feet. For improvement of channel approach to the wharf, the enlargement and extension of an old dredged cut was undertaken, with some cleaning-up of shipping berths in the immediate vicinity of the wharf. Commencing August 24, 1915, 16,175 cubic yards, scow measurement, were removed by December 6 of that year; operations were resumed July 21, past season, and carried through to a successful completion on September 28; the quantity of material removed during that time was 13,275 cubic yards, scow measurement, consisting principally of brick, clay, mud, and a small quantity of sand.

The work done covering the two seasons consisted of clearing out to 9 feet at low water spring tides of former dredged approach to the wharf, 1,350 feet in length and 100 feet in width and extending same 1,600 feet or out to the 9-foot contour in the bay, the latter cut having an average width of 140 feet. Some cleaning up was also done in berth on south side of wharf, which now has a length of 475 feet and average width of 75 feet, grading from 10 feet at its outer end up to 5½ feet at low water spring tides.

MCAULAY'S SHORE.

McAulay's Shore pier is situated on the north bank of the Pinette river, near its discharge into Northumberland straits, and about 5½ miles east of Point Prim.

To provide shipping berths on both sides of the wharf and improve that across the outer end, D.P.W. dredge *No. 10*, August 18 to September 12, 1916, removed 6,800 cubic yards of mud, hard sand and old rock ballast.

The berths formed at sides each have a length of 100 feet, with width of 60 feet, carrying a minimum of 9 feet at low water spring tides, assumed to be 13 feet below top of guard at outer end.

MCCONNELL'S WHARF.

McConnell's wharf, the property of the Government of Prince Edward Island, is situated on the north side of the East or Hillsborough river, about 8½ miles above Charlottetown.

Departmental dredge *No. 10* worked October 11 to 24, 1916, removing 3,725 cubic yards, scow measurement, of very soft mud and silt. The size of approach to wharf was 100 feet by 90 feet; a shipping berth on the east side of the wharf has a length of 70 feet and width of 60 feet. At completion, the area covered carried from 8 to 10 feet at low water spring tides.

PANMURE ISLAND.

Panmure island is situated on the east coast of Prince Edward island, on the south of the entrance to Georgetown harbour.

On December 2 to 15, 1915, dredge *No. 9* removed 4,900 yards. The completion of work by above dredge was effected August 18 to September 22, 1916. A cut was made 630 feet long, having approach 60 feet wide and a turning basin at end of wharf 150 feet wide; 11,240 cubic yards of material being removed. The minimum depth provided was 8 feet at low water spring tides.

RUSTICO.

Rustico harbour is situated on the north coast of Prince Edward Island, about midway between North point and East point, and 9 miles northerly by road from Hunter river, the nearest station on line of the Prince Edward Island railway.

Owing to the shoal depth of water carried over the greater portion of Gauthier's creek, only the smallest class of fishing boats can reach the village; a channel 2,400 feet in length, having a width of 60 feet, to carry 8 feet at low water spring tides were commenced by departmental dredge *No. 11*, October 6, and was carried on until October 27 when suspended; during this short period, 2,950 cubic yards, scow measurement, of material, consisting of soft mud and sand, were removed in making a commencement at the lower end of cut, the distance advanced being about 200 feet to the required width and depth. It is proposed that the above dredge continue operations at the place on opening of the navigation season of 1917.

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ST. MARY'S BAY.

St. Mary's Bay wharf, the property of the Dominion Government, is situated on the southern side of St. Mary's bay, about 5 miles directly south of Georgetown.

Lately, the accumulation of siltage on the inner portion of cut made in 1892 necessitated its cleaning up. D.P.W. dredge *No. 9* commenced work on September 23, completing on October 4, 1916. The inner 500 feet of the cut, 70 feet wide, again carries a minimum of 8 feet at low water spring tides, while the shipping berths on each side of the wharf carry the same draught; that on the west side having length of 120 feet, and that on the east 100 feet, both 50 feet in width. The material removed consisted of 4,300 cubic yards, scow measurement, of soft mud and clay.

STURGEON.

Sturgeon wharf, King's county, is on the southern side of Sturgeon bay, about four miles in a southerly direction from Georgetown. Some improvement was made by increasing the depth of water surrounding the wharf, by D.P.W. dredge *No. 9*, which worked from October 4 to 12, removing in that time 6,600 cubic yards, scow measurement, of soft mud.

The work done consisted in cleaning over the channel approach to wharf a distance of about 400 feet to a depth of 8 feet at low water spring tides. The outer 200 feet of this channel is 100 feet wide, and the inner 200 feet gradually widens out to 160 feet immediately in front of the wharf to form a turning basin. Berths were also dredged on both sides of the outer portion of the wharf. Each berth is 80 feet long and 50 feet wide, and carries an average depth of 8 feet at low water spring tides.

NEW BRUNSWICK.

BATHURST.

Dredging operations at Bathurst since 1913 are described in the annual report for 1916.

Bathurst, the shire town of Gloucester county, is situated on the south shore of Chaleur bay.

In 1916, dredging began about 1,900 feet above the Forks where, in a length of 3,400 feet, the channel on ranges 6 and 7, previously 60 to 100 feet wide, was widened to from 150 to 200 feet, with an extreme width of 350 at the turn. On range 8, from 6,700 to 7,600 feet above the Forks, the channel was widened 40 feet, i.e. to about 100 wide. Above this range, considerable work was done during the season on the turning basin and berth at the new pulp-mill wharf, the total area of which is now about $7\frac{1}{2}$ acres, the extreme length being about 1,000 feet, and width 500. At the Gloucester Lumber and Trading Company's wharf, the channel was widened in to the wharf, and the berth was gone over, the total length of the dredging here being about 800 feet and width about 100 to 150 feet.

The depth given in the channel was 17 feet at low water ordinary spring tides; in the basin, about 20 feet; in the berth at the pulp-mill wharf, 15 feet; and in the berth at the Gloucester Lumber and Trading Company's wharf, 20 feet.

The total barge measurement quantities were 308,976.9 cubic yards. Material, sand and clay.

The government dredge P.W.D. *No. 3* worked August 4 to October 31, removing a total of 65,917 cubic yards barge measurement, of which 43,613 cubic yards were dredged on the Outer bar, and 22,304 on the Ripple and Ballast bars inside.

On the Outer bar, the channel was widened 50 to 75 feet, i.e., to about 150 in a length of about 1,500 feet, about 3,500 to 5,000 feet outside the entrance. The depth given was 15 to 17 feet. Material, clay, sand, and gravel.

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On the Ripple bar the dredge worked over a length of about 800 feet, where rapid shoaling occurs each season. The depths here are still less than at the close of the season of 1913 varying from about 18 to 11 feet.

On the Ballast bar, the dredge worked over a length of about 1,000 feet, giving depths of about 17 feet where there was previously 13 feet on the section of the channel not previously dredged.

On account of short shoal sections remaining on the Ballast, Ripple, and Outer bars, the limiting depth is still about 13 feet at low water ordinary spring tides.

BLACK RIVER.

The Black river, Kent county, is a small stream entering Buctouche harbour about one mile north of Buctouche. Between July 1 and October 12, 1916, dredging was in progress in making a cut 1,050 feet long, 30 wide, and with 4 feet at low water ordinary spring tides across a shoal to give a passage for the fishing boats at all times of tide, and to improve the smelt fishing, etc., on the river.

The quantities removed were 6,054.66 cubic yards, barge measurement; material, sand and shell mud.

The contract price was 36 cents per cubic yard, barge measurement.

BUCTOUCHE.

In the 5½ miles between the town of Buctouche and the harbour entrance on the Northumberland strait, three shoals occur, the most serious of which is at the entrance, where a wide ledge of rock and a sandbar limited the depth to about 10 feet at low water ordinary spring tides.

Dredge P.W.D. No. 13 was in operation between June 24 and September 19, 1916, when the central section about 1,300 feet long of the first cut on the Middle shoal was completed and the whole was widened to about 120 feet. The total length of the cut is 4,180 feet and least depth 13 feet at low water. Material, clay, mud, and sand.

On the turn between the range of the Indian Point lights and outer range, two small shoals were gone over in a total length of about 800 feet, of which about 200 feet was on the first range and the remainder on the inner 1,000 feet of the outer range, ending about 650 feet inside the beginning of the rock cut. A depth of 13 feet at low water was given. Material, mud, sand, and shell rock.

There remains, to complete the 13-foot channel to the town of Buctouche, the outer section about 2,700 feet long of the outer bar, where the material is fine sand and the least depth 10.2 feet at low water, and the inner shoal about one mile below the town which as shown by our last survey is 2,500 feet long with a least depth of 10.3 feet at low water. Material, soft mud.

The quantities removed during the fiscal year amounted to 10,680 cubic yards at the outer points, and 47,516 cubic yards at the Middle shoal, barge measurement.

CHURCH RIVER.

Church river, Northumberland county, enters Miramichi bay, about 24 miles northeast of Chatham.

A highway bridge crosses the river near its mouth above and below which are shoals nearly dry at low water. Above the shoals is a channel with 8 to 10 feet at low water extending about 2½ miles inland, or to the point to which lumber is brought by the river current.

In order to permit of the passage of rafts, scows, and small tow-boats, an agreement was entered into on 9th August, 1916, with Mr. F. A. Fowles, for the removal of 14,000 cubic yards, barge measurement, at the rate of 35½ cents per cubic yard.

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Work was in progress between 21st August and 11th November with the dredge *Fowles*, when a total of 6,568.9 cubic yards were removed in making a cut about 1,900 feet long, 30 to 40 feet wide, and with 2 to 4 feet at low water across the shoal above the bridge. Material, mud, packed sand, gravel, and shells.

COCAGNE BAR.

Cocagne bar, Kent county, is a fishing settlement at the northern end of Cocagne harbour, 5 to 6 miles north of Cocagne village, and 10 miles southeast of Buctouche.

Some years ago the people made, by hand digging and at their own expense, a cut about 8 or 10 feet wide leading out towards the strait, which is still used.

In 1915 this cut was widened and extended by the department to a length of 1,700 feet and width of 15 to 20 feet, with depths of $2\frac{1}{2}$ to 3 feet at low water ordinary spring tides.

Dredging was resumed 30th August to 13th November, 1916, when the cut was carried shorewards about 250 feet, or to about 350 feet from high water mark, extended about 250 feet at the outer end and given a width throughout of about 40 feet. The cut has now a total length of about 2,200 feet.

A cut running southwards towards the main Cocagne harbour was also begun by overcasting in a length of 985 feet, 18 to 23 wide and 1 to 2 feet deep.

The material consisting of mud and sand removed in scows amounted to about 4,547 cubic yards, barge measurement, costing $32\frac{1}{2}$ cents per cubic yard, and the castover was about 1,311 cubic yards, place measurement, costing 20.6 cents per cubic yard.

GRAND LAKE.

Grand lake, situated in Queens county, is the largest lake in the province of New Brunswick, and flows into the St. John river through the Jamseg.

Near the mouth of the lake, a shoal had formed across the channel by deposit from the inflowing tide. Dredging was formerly done at this place in 1902, but the channel had practically filled again in 1914.

During the fiscal year 1915-16, a contract was awarded to L. W. Nickerson for the removal of approximately 75,500 cubic yards, place measurement, of class "B" material, at $14\frac{1}{2}$ cents per cubic yard, dredging to be done to the proposed grade of 9 feet below low water for a width of 150 feet, the length of channel required being 6,075 feet; 53,694.6 cubic yards, place measurement, was removed.

Dredging was resumed on May 31, 1916, and was completed on June 16 of the same year, when 13,542.9 cubic yards, place measurement, of silt, sawdust, etc., was removed within the limits and grades required.

MARTIN'S HEAD.

Martin's Head, St. John county, is situated at the mouth of Quiddy river, on the north shore of the Bay of Fundy, 12 miles east of Great Salmon river, and 11 miles west of Point Wolfe.

The breakwater, begun by the department in 1914-15, and later extended, was 768 feet long, consisting of a timber groyne made of piling, sheathed for 154 feet, and of pile bents, close-piled on the seaward side, for 614 feet. All the timber for this work has been supplied free of charge by the Pejepsco Paper Company.

During 1916-17 the pile breakwater was extended 60 feet; a breastwork, 575 feet long, and two groynes, each 75 feet long, consisting of piles, sheathed on the seaward side, were constructed. The work was in progress between 22nd June and 7th September, 1916.

NEGUAC.

Neguac lies on the northern side of Miramichi bay, about 27 miles northeast of Chatham. The public wharf, built by the department in 1892 to 1894, is the terminal point for trips of the daily river steamer.

The covering and superstructure of the wharf having been weakened by wear and decay, its reconstruction and repair was begun during the fiscal year 1916-17.

Work was in progress between 28th June and 15th July, between 29th July and 25th August, between 11th and 23rd September, and on 29th September.

NELSON.

Nelson is a village and settlement on the south side of the Miramichi river opposite Newcastle, and 5 miles above Chatham.

In order to provide a berth at the wharf for overseas shipments, an agreement was entered into on 9th August, 1916, with Mr. Peter England, for the removal of 13,500 cubic yards at 35 $\frac{3}{4}$ cents per cubic yard, barge measurement, and dredging was in progress between 16th August and 3rd November, when a total of 13,495 cubic yards were removed.

In front of the wharf there were previously depths of 8 to 10 feet which were increased to 16 to 19 feet in a berth about 500 feet long with an approach from the river channel of equal depth. The shallower section is at the upper end where the dredging was close to rock. Material, mud and clay.

PARTRIDGE ISLAND.

Partridge island is a rocky eminence standing at the mouth of St. John harbour, and dividing the entrance into east and west channels. The island is the property of the Dominion Government, and is used for lighthouse, quarantine, and military purposes. At the northern end of Partridge island, two piers of cribwork were built by the department many years ago, and are now in a very dilapidated condition, being unfit to repair.

During 1916-17 an extension was constructed to the low-water landing, consisting of pilework 40 feet in length, with an average height of 18 feet. For this extension fifteen piles, steel shod, were driven, and securely capped and braced; a timber trestlework was constructed on top to protect the landing from vessels at high water; bags of concrete were placed in the corner of this pier, on ballast poles, where it had been damaged by a heavy storm and lifted. A new set of steps was placed at the inner end. The work was carried on, but not continually, between October, 1916, and March, 1917.

POINT SAPIN.

Point Sapin, Kent county, is a settlement and important fishing station on the Gulf of St. Lawrence, about 8 miles south of the entrance of Miramichi bay.

A breakwater was constructed in 1912, inside which was originally 5 to 6 feet at low water. The depth has, however, considerably decreased through the accumulation of sand, therefore dredging was carried on during the fiscal year 1916-17, between 13th April and 9th June, to improve the approaches and berths.

The dredging covered the berths for 114 feet inside the pierhead and 200 feet along the approach and an area about 75 feet wide in the angle between the two; also a cut across the bar formed opposite the end of the pierhead, about 50 feet square. The depth given was about 2 $\frac{1}{2}$ to 4 feet at low water. Material, sand.

The total quantity removed was 1,853 cubic yards, at a cost of 44 cents per cubic yard, barge measurement.

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RICHARDSON.

Richardson, Charlotte county, is a very prosperous fishing village 11 miles south of St. Andrews.

The wharf at Richardson, built by the Provincial Government in 1887, was transferred to the Federal Government in 1915, and consists of a pile approach, 132 feet long and from 21 to 31 feet wide, with a cribwork pier-head, 40 feet by 24 feet.

During 1916-17, the cap, fenders, stringers, bracing, and upper section of the cribwork of the pier-head were renewed; a floating slip was constructed and a freight shed was built on the wharf. The slip will not be put in place until the spring. The work was begun on July 31 and suspended on November 25, 1916.

RICHIBUCTO CAPE.

Richibucto cape lies 6 miles southeast of the entrance to Richibucto harbour, and $5\frac{1}{2}$ miles north of Chockfish river. The distance from Richibucto cape to Prince Edward Island is $14\frac{1}{2}$ miles.

The works begun in 1908, will consist of a main breakwater and a southern pier forming a sheltered harbour about 2.8 acres in extent.

During the fiscal year, the outer end of the southern pier which had settled, was raised with two tiers of logs in a length of 40 feet and with one tier for 32 feet and 30 cubic yards of stone was placed in the work.

A crib 99 feet long, 28 feet wide at bottom and $10\frac{1}{2}$ to $12\frac{1}{2}$ feet high, was built to fill in the space between the original end of the pierhead of the breakwater and a detached block to give better shelter for the fishing boats. Two ballast floors were laid in the crib, the space between them, $5\frac{1}{2}$ feet to 6 feet deep, being filled with stone.

Work was in progress between September 20 and October 7, 19th and 24th, and 30th and 31st October, between 14th and 23rd February and 13th and 31st March.

RIVER ST. JOHN AND TRIBUTARIES.

BAYSWATER.

Bayswater is a summer resort of considerable importance at the lower end of the Kennebecasis river, in Kings county, and is the western terminus of the ferry *Maggie Miller*, which plies on that river.

Work of construction of a ferry landing was carried on during the months of July, August, December, 1916, and was finished in March, 1917.

The work done consists of the construction of four cribwork blocks for the purpose of forming a slipway for the ferry. These blocks are 40.7 by 12 feet, 29 by 12 feet, 41 by 10.6 feet, and 29 by 10.6 feet, respectively, and each block is approximately 18 feet high. The blocks are constructed entirely of round cribwork partially filled with ballast and are battered on both sides at the rate of 1 in 6, with ends plumb.

KENNEBECASIS ISLAND.

Kennebecasis island is situated near the mouth of the Kennebecasis river, in Kings county, just below Long island.

Work on the construction of a ferry landing was begun 11th September, 1916, and completed on 28th February, 1917.

The work consisted of the construction of four cribwork blocks for the purpose of forming a slipway for the ferry *Maggie Miller*. These blocks are 42.5 by 13.6 feet, 28.1 by 13.6 feet, 42.4 by 13.2 feet, and 27.9 by 12 feet, respectively, and each block is approximately 20 feet high. Construction is of round cribwork, double fendered with flatted timber.

REMOVAL OF SNAGS.

Owing to extensive lumber operations on the St. John river there are annually a great number of snags to be removed. In the main, these consist of logs which have become waterlogged and partly submerged. Very frequently these logs lie in an inclined position, with one end on the bottom of the river and the other at or near the surface. They constitute a very serious danger to navigation, and each year a large number are removed.

In 1916 snagging began on 11th September and was finished on the 4th November. Work was also performed on the Kennebecasis, and snags were removed between Perry point and Hampton.

ST. CROIX RIVER.

This work is fully described in the annual report for 1916.

The St. Croix river forms part of the western boundary of New Brunswick, and at the same time a portion of the boundary between the Dominion of Canada and the United States. In 1911 an arrangement was entered into with the United States Government whereby the Department of Public Works of Canada agreed to contribute 10 per cent of the cost of dredging a channel in the St. Croix river. The total estimated quantity was 443,835 cubic yards, to provide a channel 9 feet deep at mean low tide, and 100 feet wide, from the upper steamboat wharf at Calais, to the public landing at St. Stephen; thence 150 feet wide, to the lower steamboat wharf at Calais; and thence 12 feet deep and 200 feet wide, to the mouth of the river, covering a distance of about $3\frac{1}{2}$ miles.

During 1916-17 the improvement to navigation by dredging in St. Croix river was completed. Work on the third contract (let during the previous fiscal year) was resumed in April, and was completed in October, 1916. The quantity of mill waste, mud, gravel, etc., removed during this period, above the required depth, was 73,428 cubic yards, barge measurement, and of boulders, 11.68 cubic yards.

ST. JOHN.

The ordinary winter season's wear and tear to the government sheds and wharves necessitated the doing of considerable renewal and repair work; this was carried out by day labour during the summer season, and two additional offices for shed No. 14 were constructed.

The face of the outer end of the Union pier had been loosened by storms, and temporary repairs were made to the portion that required immediate attention by the addition of new vertical ties and fenders.

A portion of the water-pipe main leading to berth No. 15 was lowered to carry it below the frost line under the track depression, and a branch line laid to supply berth No. 15. A pipe sewer, running from Union street, was extended across the newly filled area to connect up with that already laid, running to berth No. 15. Temporary pipes were run along berth No. 15, to supply steamships with water. Three fire-protection hydrants were also installed.

A roadway was built by day labour from Protection street to dock No. 16. One-half the cost of this, where it is partly on land leased to the Canadian Pacific Railway Company, is to be paid by that company, under the terms of their lease.

The Canadian Pacific Railway Company constructed and filled in with earth a trestle running towards berth No. 16. This necessitated the extension of a sewer, running south from Germain street to carry it clear of the embankment. One-half the cost of this was paid by the Government, under the terms of the joint agreement between the Crown, the city, and the Canadian Pacific Railway re transfer of this land.

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Several small pieces of work were done for the Marine and Fisheries Department, the total amounting to \$500.45.

BEACON BAR.

Construction of Temporary Shed and Superstructure for same, etc.

The Naval Transport Department found that additional shed-room was needed for handling munitions of war, so tenders were called for the construction of a temporary shed on pier No. 1, berth No. 16, West St. John, to be equipped with water works, electric lighting, office-heating systems, etc., and contract was awarded to Mr. D. C. Clark, on 27th November, 1916. This contract included the construction of a portion of the timber substructure for the shed, on a unit-rate basis. Good progress has been made with the work.

To avoid any possibility of further settlement of the wharf wall at berth No. 16, it was decided to construct the substructure for the temporary shed on pile and timber work, instead of an earth filling placed behind the concrete top portion of the wall. Work was started in November, 1916, under authorization of Order in Council of November 14, 1916.

Plant was hired from the Maritime Dredging and Construction Company, the Canadian Pacific Railway, etc., the earth shifted from behind portions of this wall to form an embankment down the centre of the pier to carry the tracks at the rear of the shed, work being done by the Maritime Dredging and Construction Company's crews of men, on a cost plus 10 per cent basis; also by day labour. Piles were driven and a portion of the timber work done under day work, the balance of the construction being done by Mr. D. C. Clark, under his contract.

Tenders were called for the supplying of 5,000 yards of rock ballast, to be placed at the rear of the wharf wall, in connection with timber work, and the contract was awarded to Messrs. Kane & Ring, on December 22, 1916. Three thousand cubic yards have been placed during the fiscal year. Under the terms of the contract, no payments are to be made until the work is completed.

An agreement was entered into with the Canadian Pacific Company to lay tracks across the government property to and along the embankment at the rear of the shed. They first extended the trestle, that they had built out from the shore towards the pier on their property, across government land to the pier embankment. This was filled in and the resulting embankment widened to carry the tracks to the shed; later, they were authorized to, and did, construct a temporary sea-wall to protect the exposed portion of the embankment from erosion.

Timber Retaining Wall and Back Filling.

On February 1, 1913, a contract was entered into with the Maritime Dredging and Construction Co., Ltd., for placing earth filling at the back of the quay walls, then under construction. They completed the amount of work specified in that contract during the fiscal year 1915-16. Tenders were called for the completion of the filling, and the contract awarded to the above-mentioned company on July 15, 1916, and 224,532 cubic yards have been placed by them. This contract also called for the construction of a rock-ballasted timber crib-wall to retain the filling at the southern end of the wharf wall and of the reclamation area. This wall was completed in November, 1916.

On November 7 the department suspended operations when they hired the reclamation plant of the company, and no further work was done by them during the balance of the fiscal year.

A portion of the land northward of berth No. 15 was leased to the Canadian Pacific Railway Company for railway-yard extension purposes, and under the terms of this lease, dated September 26, 1916, they completed the reclamation of the greater part of that area, depositing 37,107 cubic yards of material.

COURTENAY BAY.

This work is described in the annual report for 1915:—

On March 25, 1912, a contract was entered into with the Norton Griffiths Company for the construction of harbour improvements in Courtenay bay, east side of St. John harbour. The works consists of a breakwater, 4,570 feet long, of rubble stone deposited on the beach, which is from 3 to 10 feet above low tide, the top of the breakwater being 13 feet above high tide (ordinary maximum, spring tides rise 27 feet); the construction of two piers on the northern side of the bay; these piers are 800 feet long, 300 feet wide, and are to be built of timber cribwork sunk in 34 feet of water at low tide, on which a concrete superstructure 21 feet high will be built; the excavation of a basin inside the breakwater and a channel leading thereto from the main entrance channel of the harbour, the total quantity of dredging being approximately 11,000,000 cubic yards; the approximate estimated cost of the work is \$7,500,000, and the contract is stipulated to be finished in 1917.

In connection with the works, the contractors are bound to build a dry dock, 900 feet long, with an entrance 110 feet wide; the dock is to be constructed and equipped under the Dry Dock Subsidy Act of 1910.

During the year 1916-17, the work of covering the breakwater with large stone was continued. Three-quarters of the top, seven-eighths of the inner, and practically all of the outside of the wall is now completed. A small portion of this stone was taken from the dry dock prism proper, the balance from the adjacent quarry.

Four dredges excavated in the basin, increasing the area of the hole to 98 acres. A portion of the pier sites was excavated to an average depth of 15 feet below low water. One dredge excavated 519,885 cubic yards from that portion of the channel adjoining the basin, making a depth of from 25 to 32 feet at low tide. Part of this material was used in reclamation work at Beacon Bar wharves.

Due to the unsatisfactory progress made, the contractors were notified to suspend operations on November 30, and no work has been done since that date.

Main Channel.

The main entrance channel of St. John harbour has a length of 4,500 feet, being 600 feet wide for 1,800 feet, and widening gradually to 1,000 feet in the remainder of its length. The departmental dredge "*Fielding*" has carried on improvements in the channel since 1908. The work consists of dredging this channel from a minimum depth of 19 feet at low water to a depth of 32 feet at low water, and the maintenance of this depth.

During 1916-17 the departmental dredge *Fielding* removed 15,769 cubic yards, scow measurement, of sand and gravel, in the main channel of St. John harbour, from 18th October, 1916.

ST. JOHN WEST.

On the west side of St. John harbour there are ten deep-water berths, including those at Sand point, Rodney slip, and the new docks lately constructed on the site of Beacon bar. Owing to the fact that a considerable amount of filling-in occurs here each season, it is necessary to have the berths for steamers cleared up, previous to the winter-port season.

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Between 21st August and 15th September, 1916, the departmental dredge *Fielding* removed 32,315 cubic yards, barge measurement, of soft mud from Sand Point slip, berths Nos. 3, 4, 5, and 6, and berth No. 7.

To remove material close to the face of the wharves (which the departmental dredge *Fielding* was incapable of removing) Contractor J. S. Gregory's dredge *Keta* was employed, at the rate of 29 cents per cubic yard, scow measurement. In berths Nos. 3, 4, and 5, this dredge removed 6,002.5 yards, barge measurement, of soft mud, between 2nd and 12th October, 1916.

In slip No. 1, berths 15 and 16, the Maritime Dredging and Construction Company's dredges *Beacon Bar* and *Leconfield* removed 21,888 cubic yards, barge measurement, of mud, gravel, clay, and stones, between 16th October and 20th December, 1916. Of this quantity, 7,259 cubic yards, barge measurement, were deducted for material dumped by this company in the berth in connection with their reclamation contract, and 1,842 cubic yards, barge measurement, were also deducted, being removed outside the authorized limits.

SHIPPIGAN GULLY.

Shippigan gully, a passage between Shippigan island and the mainland. Works were begun in 1875 to improve the channel at the gully in which there was then a least depth of only 3½ feet at low water. The construction of dams and breakwaters, concentrating the current in one channel, increased the depth to nearly 6½ feet in 1898, 8 feet in 1903-04, and about 8.5 feet at low water or 14.3 feet at high water ordinary spring tides in 1915.

Work was in progress between 24th June and 17th November, 1916, on the reconstruction and repair of the eastern breakwater and the construction of breastworks on the east beach.

The breastworks partly replace breastworks built many years ago and which had decayed or been carried away. They cover a considerable section of the beach between the east breakwater and the dam across what was formally the eastern gully, about 3,600 feet north of the breakwater.

Including groynes, about 12 to 15 feet long, which project from the main line of breastworks, and four connecting breastworks, 77 feet long between the two lines at the lighthouse, the total length of breastworks constructed during the year was 3,906 feet, of which about 900 lineal feet were of heavier construction.

A 106-foot block in the eastern breakwater, 368 feet from the outer end, partly rebuilt last year, was completed. About 140 close-piles were driven and the work was filled to about 2 feet from the top with brush and stone.

In a section 60.4 feet long, 130 feet beyond the last, a new face was built on the north side to strengthen and straighten this face of the breakwater. The new face is 3 feet in average distance from the old, and is composed of ten main and sixty-seven close-piles, two walings and ten cross-ties reaching over the old work. Brush and stone were placed in the space between the old and new faces and over the old work. Two close-piles were driven in the 130-foot section to replace two which were broken.

A small new crib, 17 feet square, composed of three tiers of logs filled with brush and stone, was built at the inner end of the rebuilt block and the tops of all piles, new and old, and of the cap-timbers, were painted with carbolineum.

QUEBEC.

ANSE À BEAUFILS.

This work is described in the annual report for 1914.

Anse à Beaufile, in the municipality of Cape Cove, county of Gaspé, is situated on the Gulf St. Lawrence, 6 miles south of Percé.

During the last six months, the inside end of the breakwater was rebuilt for a length of 40 feet by 20 feet in 5 feet of water at low water spring tides.

BAIE ST. PAUL.

Baie St. Paul is situated in the county of Charlevoix, on the north shore of the river St. Lawrence, 64 miles below Quebec. Population, 4,000.

During last season, the following works were undertaken and completed in rebuilding of portion of wharf and freight and passenger shed destroyed by fire the previous fall; approximately 700 cubic yards of cribwork was rebuilt and a new shed 60 by 24 feet erected, and other repairs were made. Work was done by day labour.

BATISCAN RIVER.

Dredging was undertaken to maintain a 6-foot channel, from the government wharf at Ste. Geneviève de Batiscan, to the St. Lawrence river, a distance of 28,000 feet, and was done as follows: In the channel on a length of 3,200 feet by 60 feet wide, to 6 feet below zero; another length of 600 feet by 50 feet wide and 6 feet below zero, east of the first location; a basin, 400 feet long by 100 feet wide, to 6 feet below zero, near the railway bridge, and at the ferry site on a length of 400 feet by 60 feet wide to 6 feet below zero, west of the bridge.

The total quantity removed by dredge P.W.D. No. 106, during the working season, was 38,215 cubic yards of clay and sand. The work was started May 20, and discontinued September 12, 1916.

BIC.

Bic, on the south shore of the St. Lawrence river, in the county of Rimouski, is an important village and a favourite summer resort. There are two wharves; the Bic wharf, which is located on the south shore of the harbour, and the Pointe à Cote wharf which is located at the end of the point of the same name.

The work done at Bic during the fiscal year, 1916-17, consisted in the placing of a crib, 28 feet long by 21 feet wide, at the head of the wharf. Some repairs were also done to the planking. This wharf was built in 1884 and 1887.

CAP CHAT.

(This work is described in the annual report for 1913.)

The first municipality of the county of Gaspé on the St. Lawrence river shore, 45 miles below Matane.

During the last six months, the whole length of the old portion of the pier on a length of 525 feet was raised 2 feet after renewing from three to seven tiers of cross-ties, and fully reballasting. The shore end was widened 30 feet and extended 35 feet towards shore by a protection breastwork.

CAP DE LA MADELEINE.

The Cap de la Madeleine parish, county of Champlain, is situated on the northern bank of the river St. Lawrence, about one mile easterly of the St. Maurice river outlet.

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The Dominion Government built an approach and a wharf in 1887. In 1913 an extension was decided upon, and the new work was completed in 1915.

During the fiscal year the whole approach was protected by a riprap placed on both sides, on a length of 200 feet, and finished with a 6-inch layer of concrete.

All this work was done by agreement, including the construction of a shed, 26 by 32 feet.

CAPE COVE.

Cape Cove, Gaspé county, is an important fishing station, on the coast of Gaspé, some 9 miles south of Percé, the shire town.

During the last six months the outside end of the wharf was raised 15 inches, reballasted with some 800 cubic yards of stone ballast, and the corners sheathed and protected by iron straps.

CHICOUTIMI BASIN.

Chicoutimi basin, in the west part of the town of Chicoutimi, is the landing place of the ferry plying between Ste. Anne and the town of Chicoutimi.

During the present fiscal year an extension of 90 feet in length, 36 feet at one end, 45 feet at the other, and 25 feet in height, was built to the present wharf. This construction consists in piles driven into the bottom at every 10 feet.

A movable slip has also been built and placed into the old portion of the wharf. The work was commenced on 23rd May and completed July 4.

DUCK CREEK.

Duck creek is situated on the north shore of the gulf St. Lawrence, about 1 mile above Thunder river, Saguenay county, and is a meeting place for fishermen of the district.

During the present fiscal year a spur dyke was built, 520 feet in length, across the entrance of the creek; this dyke is for the purpose of collecting a sandbank in order to protect fishing boats sheltering there against the action of the sea.

The work was commenced on 17th October, and completed 27th.

FATHER POINT.

Father point, in the county of Rimouski, is situated on the north shore of the St. Lawrence river, 6 miles below the town of Rimouski.

The work done during the fiscal year 1916-17, consisted in the construction of a revetment work along the east side of the wharf on a length of 80 feet, to protect the wharf against the action of the sea, where the break in the wharf occurred in November, 1914.

This revetment does away with the batter of the wharf; it is built straight up, thus giving to the wharf at the top an extra width of 4 feet. This construction is made of square timber 12 by 12 very strongly jointed to the main construction. The wharf was built in 1904-5.

GRANDS MECHINS.

Grands Mechins, also called St. Edouard des Mechins, in the county of Matane, is situated on the south shore of the St. Lawrence river, 30 miles below Matane.

During the fiscal year 1916-17, the work done consisted in the completion of the construction of a crib 100 feet long by 13 feet wide and a mean height of 28 feet, which was placed along the west side of the wharf, in order to protect it and to prevent its destruction. Sheathing has been renewed on a length of 21 feet on the old wharf.

The Mechins wharf was begun in 1906 and completed in 1909.

HA HA BAY.

Dredging.

Dredging was done at Port Alfred, situated on the east side of Ha Ha bay, between St. Alphonse and St. Alexis, where the Ha Ha Bay Sulphite Company is erecting a powerful chemical pulp mill.

The object of this work is to facilitate the approach, by ocean steamers, to the company's wharf.

Work was started by dredge No. 115, on 5th to 9th of June, when 2,662 cubic yards of material, scow measurement, were removed; from 24th July to 11th October, the work was continued by dredge No. 110, and 81,032 cubic yards of material, scow measurement, were removed, making a total amount, for the present fiscal year, of 83,694 cubic yards, scow measurement.

The dredging was done to 27 feet below 0, corresponding to extreme low water over an area of 68,300 square feet, and to 14 feet over an area of 37,600 square feet. The material was of very soft clay.

In a recent survey, it was found that filling-in had taken place, since the suspension of the work.

HONFLEUR.

Honfleur is situated on the Peribonka river; it is the head of navigation, there is a ferry plying to the opposite shore for the accommodation of people from the parishes of St. Felicien, Peribonka, Mistassini, etc.

During the present fiscal year, the construction of the wharf begun last year has been continued, the work done consist of an abutment of round timbers, 15 feet in width and 27 feet long; an approach of 56.6 feet in length, by the same width, built with piles, the head block which is 25.6 in width by 40 feet in length, has also been raised 6 feet.

The work which was carried out by day labour was commenced on August 2 and suspended on September 15.

HOSPITAL BAY.

Hospital is a fishing harbour on the northwest side of Grindstone island. The crib, partly built in 1916, was secured and completed.

ILE PERROT SOUTH.

Ile Perrot South, a post village in Vaudreuil county, 3 miles from Ste. Anne de Bellevue.

The wharf built by contract in 1886-90, being in a dilapidated condition, it was decided to build a new wharf in front of the church where it will be less exposed to the spring ice-shove, and more centrally located.

The new wharf was partly built last year, and during the present fiscal year the wharf was completed by day labour.

ISLE VERTE.

The village of Isle Verte, in the county of Temiscouata, is situated on the south shore of the St. Lawrence, 16 miles below Rivière-du-Loup, and 130 miles below Quebec.

The renewing of the superstructure of the wharf began four years ago, was continued during the last fiscal year, and a length of 104 feet, ending at the outer block, by a width of 22 feet and a mean height of 18 feet, was altogether renewed from top to bottom.

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The flooring at the shore end of the wharf was renewed on a length of 165 feet by a width of 22 feet, and further repaired where urgently needed.

A few stringers, which were decayed, were also replaced.

These works were performed by day labour during the months of July, August, and September.

LACHINE.

Dredging.

Lachine, an incorporated town, in Jacques Cartier county, on lake St. Louis, and on Grand Trunk railway, 8 miles from Montreal.

The object of this dredging was to give better access to Ottawa River Navigation steamboat *Empress*.

From 27th July to 28th departmental dredge *No. 119* removed some 174 cubic yards, scow measurement, of ashes in making a 10-foot basin in front of Grand Trunk Railway wharf.

Dimensions of work done: one cut, 140 feet long by 20 wide to a depth of 10 feet below low water level, corresponding to 6 feet 5 inches below flooring of Grand Trunk Railway wharf.

LAPRAIRIE.

(This work is described in the annual report for 1916.)

Laprairie, a town in Laprairie county, on the south shore of the St. Lawrence, and a station on the Grand Trunk railway.

Dyke.

During the present fiscal year the Duranceau & Poupore contract was cancelled. Total cost of contract, \$75,685.

Another contract was given, on 18th of November last, to the Carleton Construction Company, to complete the dyke, at the estimated cost of \$79,420.47. No work has been done as yet by the contractor on this contract.

Plank Roadway.

Last fiscal year, in order to accommodate the traffic during the construction of the dyke, a plank roadway was constructed in eight days alongside the dyke for a length of 6,500.

During the present fiscal year, the plank roadway and temporary bridge were maintained in good order; the planks were renewed as they broke and the road was always in first-class condition; this work was performed by day labour.

LONGUEUIL.

Longueuil is a post town, in Chambly-Verchères county, on the south line division of the Quebec, Montreal and Southern railway, and situated on the south shore of river St. Lawrence, opposite Montreal. Population, in 1914, 6,000.

During 1916 the department undertook four different dredging improvements, at or near Longueuil.

- (a) Boating club.
- (b) Canada steamships.
- (c) Garage.
- (d) Government wharf.

(a) *Boating club*.—From June 19 to 24, departmental dredge *No. 119* removed some 871 cubic yards, scow measurement, of clay, sand, and boulders in making a cut alongside Grand Trunk Railway wharf, 300 feet long by 25 feet wide to 3 to 4 feet at low water. Hours of actual dredging, 39; cut, 25 feet wide; face removed from 2½ to 4 feet; distance advanced, 293; dumping ground, 7 to 8 miles downstream, on the northwest shore of river St. Lawrence, or below Racine pier.

The site of dredging is immediately upstream of Canada Steamships Line wharf, in a small bay, which is formed with the old Grand Trunk Railway wharf. The latter is leased every year to the Longueuil Boating Club.

The probable duration of the improvement will be forever.

To complete, as originally proposed, will require the removal of 7,843 cubic yards, place measurement, or 10,757 scow measurement, and 1 foot of subgrade also included in the above quantity.

Dimensions of work to be done: a 4-foot basin, on a length of 143 feet along shore by 317 along Grand Trunk Railway wharf. A dredge of "121" type should complete whole 4-foot basin in a few working months with a gauge of not less than 4 feet, in order to make only the required depth.

(b) *Canada Steamships*.—From 18th May to 8th July, 1916, dredge *No. 110* removed some 23,853 cubic yards, scow measurement, of clay and boulders, in making a 12-foot channel, for ferry boat plying between Longueuil and Montreal. Hours of actual dredging, 228; cut, from 35 to 37 feet; face removed, from 1 to 5 feet; distance advanced, 6,767 feet.

Dimensions of work done, during season 1916, are as follows: 490 feet long, parallel with current, by 300 feet, the whole to a depth of 12 feet below extreme low water level.

The site of dredging done is some 1,500 feet northwest from Canada Steamship Lines wharf, at Longueuil, in the St. Lawrence.

Owing to the fact that the site of dredging done is surrounded by deep water, with heavy current, the probable duration of the improvement will be forever; but every spring ice-shoves may carry big boulders and other material into dredged area.

To complete, as originally proposed, will require the removal of 18,106 yards, place measurement, or 24,141, scow measurement. The material to be removed is clay, sand, boulders, and hardpan, easy to dredge with a powerful plant. Dimensions of work to be done, 450 feet long, parallel to current, by 350 wide, to a depth of 12 feet clear below extreme low water level, or zero of gauge at Longueuil.

(a) *Longueuil Garage*.—From May 29 to May 30, departmental dredge *No. 110*, and June 9 to 17, departmental dredge *No. 119*, removed some 1,498 cubic yards, scow measurement, in completing light-craft channel leading to Longueuil garage. Material removed: clay, boulders and hardpan, hard to dredge and at the same points the dredge struck rock, leaving hardly 2 feet of water at low level.

Dredge *No. 110* removed 534 cubic yards, scow measurement. Hours of actual dredging, 9; cut, 37 to 40 feet wide; face removed, 3 feet; distance advanced, 330 feet.

Dredge *No. 119* removed some 964 cubic yards, scow measurement. Hours of actual dredging, 51; cut, 25 feet wide; face removed, 2½ to 4 feet; distance advanced, 293 feet.

Dimensions of work done: one cut, 350 feet long, alongside Canada Steamships Lines' wharf, by 25 feet wide at bottom to a depth varying from 2 to 5 feet.

The site of dredging accomplished is immediately downstream of Canada Steamships Lines' wharf, and starts at some 230 feet from face of said wharf.

Owing to the fact that the site is well protected from storms, and absolutely no current, the probable duration of improvement will be forever.

(d) *Government Wharf*.—From August 1 to August 4, departmental dredge *No. 119* removed some 179 cubic yards, scow measurement, in removing two small

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shoals in front of government wharf. Hours of actual dredging, 21; cut, 20 feet wide; face removed, from 1 to $1\frac{1}{2}$ feet; distance advanced, 230 feet; dumping ground, 6 miles return, downstream, on the northwest shore of river St. Lawrence, below Racine pier.

The probable duration of work done will be for over thirty years.

To complete, as originally proposed, will require the removal of 11,626 cubic yards, place measurement, or 15,501 cubic yards, scow measurement. Material to be removed is clay, sand, and gravel, easy to dredge.

Dimensions of work to be done: 200 feet in front of wharf by 650 feet outer by 320 feet deep, to a depth of 12 feet below extreme low water level, or zero of gauge at Longueuil.

MONTREAL.

Point St. Charles.

Grand Trunk Boating Club.—Grand Trunk clubhouse is situated on the northwest side of river St. Lawrence, opposite Nun's island, near the north boundary line of city of Verdun, some $1\frac{1}{2}$ miles upstream of Victoria bridge.

The object of this dredging was to increase the flowing section of the river between Grand Trunk boating clubhouse and Price island.

From May 18 to July 3 departmental dredge *No. 121* worked here and removed some 6,495 cubic yards, scow measurement, in completing an improvement below the clubhouse and along Price island. Material: Clay, sand, boulders, and hardpan. The number of cubic yards, *in situ*, corresponds to scow measurement, with an expansion factor of $33\frac{1}{2}$ per cent for conversion into scow measurement. Hours of actual dredging, 288; cut, from 15 to 22 feet wide; face removed, from $1\frac{1}{2}$ to 7 feet; distance advanced 2,349 feet; distance to dumping ground, 1 mile upstream in a deep place, close to Nun's island.

Dimensions of work done: a cut, 300 feet alongside Price island, by 250 feet across; immediately below clubhouse, 185 feet along shore by 80 feet wide, and below ice-houses wharf, the removal of a shoal 130 feet long parallel with dyke by 60 feet wide, the whole to a depth of 5 to 6 feet below low water level.

Owing to the fact that the site of dredging done is well protected from storms, material removed very hard, the duration of the improvement will be for ever.

NOTRE DAME DES SEPT DOULEURS.

Isle-Verte, or Notre Dame des Sept Douleurs, in the county of Temiscouata, is an island of the St. Lawrence, situated opposite the parish of Isle-Verte, on the south shore of the St. Lawrence.

In order to accommodate the inhabitants of Notre Dame des Sept Douleurs, Isle-Verte, the construction of two small wharves, one at the extremity of the island, was started in 1914-15, but was not completed. During the last fiscal year, the work on the two shore sections already built, was resumed to their completion.

East.—The section built at the lower end of the island, being 61 feet long, 21 feet wide at the top, with a batter of 1 in 12, was completed by the addition of the stringers, flooring, and cap pieces. Its total height being now 13 feet.

Four mooring iron rings, together with three ladders, were placed on the wharf. The earth approach was graded on a length of 150 feet and a wooden railguard 120 feet long was placed alongside.

West.—The section built at the upper end is 72 feet long at the top and 30 feet at the bottom, the width being 20 feet at the top with a batter of 1 in 12.

The height not having been found sufficient, one row of face-timbers was added during the present fiscal year, and the stringers, flooring and cap pieces laid on so as to complete the work.

The actual height of the wharf is 14 feet.

Four mooring iron rings were placed on the wharf, and the approach was somewhat improved.

These works were carried on by day labour during the months of July and August.

PORT LEWIS.

Port Lewis, a post village on lake St. Francis, in Huntingdon county, is 8 miles distant from Huntingdon.

During the year 1899 a right of way, together with an old wharf, were bought from Mr. Z. Caron for \$150.

During the present fiscal year a reinforced concrete wall, 18 inches thick at base, 9 inches at top and 6 feet 6 inches high, was constructed around the edge of the old crib from low-water level. A concrete flooring, 110 feet long, 6 inches thick, and 18 feet wide, was laid on the stone approach.

This work was done by day labour.

POUPORE.

Located on the lower reach of Riviere du Lievre 12 miles above Buckingham. The extensive landslide which took place in 1903 below the lock and dam at this place choked the river for a distance of over one-half mile, and, for a number of years, considerable dredging has been required to improve the channel.

Departmental dredge No. 102 worked at the new boat channel, started in 1915, from July 10 to October 31. During this period 25,673 yards of clay were removed in two single cuts of 30 feet, aggregating 3,078 lineal feet to grade 10 feet, except for the last 196 feet of cutting, which, owing to high water, was made to grade 8 feet only.

RIMOUSKI.

The town of Rimouski, chef-lieu of the county of the same name, is situated on the south shore of the St. Lawrence river, 180 miles below Quebec. The wharf, which is 2,240 feet long by 42 to 50 feet wide, constitutes, with the protection of the island Barnabé, one of the best harbours.

A contract was entered into with Messrs. Raymon & Talbot, on March 21, 1914, at schedule price, for the construction of a line of cribwork and a tidal basin.

During the fiscal year 1916-17, the work done consisted in the building of the superstructure on the caissons already sunk, the lineal length of which aggregates 1,041.3 feet. Work is completed on the cribs uniting the old wharf with the new works, and on 524 feet of the 900 feet of caissons sunk in 25 feet of water L.W.S.T. The remaining part is also very nearly completed. Filling to the extent of 33,413 yards has been done. A good part of the basin has been dredged and 122,616 yards of material have been removed. The berth of the caissons remaining to be sunk has been cleared.

RIMOUSKI RIVER.

The work done at Rimouski, during the fiscal year 1916-17, consisted in the maintenance and renewing of the wharf and the breakwater at the mouth of the Rimouski river.

The flooring of the breakwater was partly renewed; a winch was placed; a wooden stairway was removed 40 feet to accommodate navigators, and a shed, 28 feet long by 12 feet wide, was built and placed on a trestle along the east side of the breakwater.

At the wharf, track foundations were renewed on a length of 116 feet; 3,000 square feet of flooring were replaced, three electrical lighting and one mooring post were renewed; other minor repairs were also made.

RIVER ST. MAURICE.

Middle Channel.—The river St. Maurice flows through the Laurentide mountains, a distance of 360 miles, and discharges in the St. Lawrence river at Trois-Rivières. The outlet is divided, by islands, into three branches, called the Eastern, the Middle, and the Western channels.

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Last season the dredging was done as follows: Cutting of sand and clay shoals to help the floating of logs, at foot of Ile Christophe, and 66,840 square feet at 4 feet below zero, east of Ile Caron, and digging a channel 620 feet long by 60 feet wide by 8 feet below zero, near the foot of Ile Wayagamack; also digging of channel 150 feet long, averaging 60 feet wide at 8 feet below zero to the west of Ile Caron.

This dredging has been executed during the last season by dredge *Capital*. The total material removed was 25,448 cubic yards of clay and sand, completing the total yardage to be dredged as per agreement entered into with the department the previous year.

The work was started on May 4, and completed July 3, 1916.

Western Channel.—The department decided to dig a channel 80 feet wide and 14 feet deep at low water, from the St. Lawrence river to the wharf, and dredge out a basin in front of it. A contract was entered with "La Compagnie Générale d'Enterprises Publiques" of Lévis, Que., dated September 27, to do this work.

During the last season, only a portion of the contract was finished. The dredge *New Welland* made a cut 963 feet long by 80 feet wide to 14 feet deep at low water of the said channel, and a part of the said basin; this part dredged is 523 feet long, having an upstream width of 215 feet, a downstream width of 60 feet, and a depth of 14 feet at low water. The work was started November 4, and discontinued October 25, 1916.

RIVER CHICOT.

River Chicot is a creek draining farm lands, about 12 miles northwest of the St. Cutbert station (on the Montreal-Quebec, Canadian Pacific Railway main line) and running southeast of St. Cutbert for a distance of 4 miles, into river St. Lawrence, northwest branch, 4 miles downstream, of Berthierville.

From October 12 to November 4 departmental dredge *No. 119* removed some 5,855 cubic yards, scow measurement, of clay and sand, in completing an 8-foot channel and basin.

Hours of actual dredging, 158½; cut, from 10 to 20 feet; face removed, from 3½ to 10 feet; distance advanced, 1,400 feet; dumping ground, half mile downstream in a deep place close to southwest shore of river St. Lawrence.

Dimensions of work done: a channel, 560 feet long, parallel with river Chicot, by 50 feet wide average, and supplementary cut, south of dredged channel, 100 feet long by 10 feet wide which cut was made in cast-over and material thrown on upstream side of river Chicot. The number of cubic yards cast-over is 200; this material will be levelled by farmers in order to facilitate loading of hay.

The channel has been dredged to a depth of 8 feet below extreme low water level, corresponding to 30 feet on marine gauge, at Sorel, Que.

The site of dredging done is immediately southeast or downstream of public road, in river Chicot.

Owing to the fact that river Chicot carries sediments, etc., the probable duration of improvement will be eight to ten years.

RIVIÈRE-DU-LOUP (EN HAUT).

Dredging.

The river flows through the county of Masginongé, and discharges into lake St. Peter, 21 miles above Trois-Rivières. It is navigable on a distance of about 3½ miles from the lake to the town of Louiseville.

During the last season dredging was performed from Tourville's mill to the lake, to maintain a 7-foot boat channel above low water. The dredge was placed at four different places, and dredging was done as follows: Two cuts 55 feet wide to 7 feet

below zero, giving a total length of 1,402 feet in channel and in front of wharves; a cut 100 feet by 40 feet by 7 feet below zero; a cut 350 feet by 40 feet by 7 feet below zero; and a cut 1,530 feet by 40 feet by 7 feet below zero, all south of the first cut.

The total lengths dredged are 1,402 feet by 55 feet and 7 feet below zero, and 1,980 feet by 40 feet by 7 feet below zero.

The quantity removed was 4,964 cubic yards, scow measurement, and 6,972 cubic yards cast over, making a total yardage of 11,936 cubic yards of clay.

The work performed by dredge P.W.D. No. 106 was started September 18, and completed October 25, 1916.

RIVIÈRE DU MOULIN.

Rivière du Moulin is a municipality adjoining the town of Chicoutimi, and is situated on the south side of the Saguenay river.

During the present fiscal year the protection work along the bank of the Saguenay river, commenced in 1913, has been completed; 301 feet of cribwork, averaging 9 feet in height by 6 feet at the bottom, has been built, and back filling has been placed for a distance of 576 feet.

The work was carried out by day labour.

RIVIÈRE-OUELLE.

The pier is situated at Pointe des Orignaux, 5 miles distant from the village of Rivière-Ouelle, in the county of Kamouraska, on the south shore of the St. Lawrence, opposite Murray Bay.

The wharf, which is 1,162 feet long, together with a head block of 240 feet by 50 feet, is subject to very severe use, owing to the considerable traffic over it.

During the last fiscal year work was commenced and the western half of the superstructure of the head of the wharf, 112 by 50 feet, was renewed upon a depth of 6 feet, not a single piece of old timber being left. About 60,000 feet, b.m., lumber were used for this work.

A considerable quantity of stone ballast, mixed with earth, had to be taken out to allow the proper execution of the work which, on the other hand, was rendered more difficult and expensive on account of the buildings to be dealt with.

The old shed was removed and replaced on the new work, the coal shed was repaired and new foundations were provided under the lighthouse.

The hardwood sheathing of the western corners of the outer block was repaired and other minor repairs were performed on the wharf.

These works were commenced on 1st July and completed on 12th October.

RIVER SAGUENAY.

Dredging.

The channel under way in the Saguenay river starts from the town of Chicoutimi down to the foot of the Battures, a distance of 8 miles.

The object of the dredging is to provide a channel, 250 feet in width on the tangent, and 350 to 500 feet in width in the curves, affording a minimum depth of water of 16 feet at extreme low water.

During the present fiscal year the departmental dredge No. 115 removed 67,746 cubic yards, scow measurement.

Operations were started June 12 and suspended October 28, and consist in the dredging of a cut on the south side of the section from opposite river Lachance to below river Caribou, and half a cut on the north side, eastward across the river.

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The channel was also cleared up of horse backs and lumps opposite river Valin and river Gauthier, and east of there two cuts were dredged in the centre of the channel. This section was particularly the hardest, as far as the performance of the work is concerned, of the whole channel, on account of the swift current.

The material removed was mostly clay, with a few boulders, excepting in the last location where there was a great quantity of boulders. Since the beginning of the work the channel from Chicoutimi down almost to Rivière au Foin is clear of all obstructions and affording a minimum depth of 16 feet at extreme low water, on its full width.

ST. ANNE DE BELLEVUE.

St. Anne de Bellevue, a town in Jacques Cartier county, at the confluence of the rivers St. Lawrence and Ottawa, and the Grand Trunk railway and Canadian Pacific railway, 21 miles west of Montreal.

The object of this dredging is to do away with present channel leading through Becker's dam, which is the cause of serious delay to boats, and especially tows going up and down Ottawa river.

Becker's dam has to be rebuilt, both sides, on the whole length.

From June 6 to October 31, departmental dredge *No. 123* removed some 33,978 cubic yards, scow measurement, of clay, sand, boulders, hardpan, and rock in making a new 10-foot channel. Hours of actual dredging, 956½; cut, from 13 feet to 39 feet; face removed, 4 to 10 feet; distance advanced, 2,979 feet; distance to dumping ground within 2 miles, in a deep place along Ile Perrot islets, some 1,500 feet south of present channel. The material removed here was so hard that dredge *No. 123*, starting work at 7 a.m. with a new set of manganese steel teeth, and working whole day, removed only 100 cubic yards of split rock, in pieces varying from 1 to 4 square feet; the rock removed is white granite, and by night the set of teeth was worn out. So far not one pound of explosive has been used, although the dredge has been able to reach the required depth.

Dimensions of work done during season 1916 are as follows: One cut 150 feet wide at bottom by 570 feet long to a depth of 10 feet clear at low-water level.

Site of dredging extends below Ste. Anne's lock, from opposite the head of Becker's dam, going southeastward, and well protected from storms.

Owing to the fact that the site of dredging is well protected from storms, nearly no current and hard material, the probable duration of the improvement will be thirty years.

To complete channel, as originally proposed, will require the removal of 12,156 cubic yards, place measurement, of solid rock, and 63,285 cubic yards, place measurement, of sand, clay, boulders, and hard-pan.

Dimensions of work to be done: 2,300 feet long by 200 feet wide to 10 feet at low-water level, corresponding to 9 feet on lower sill, Ste. Anne's lock.

Owing to hard material, to complete a 10-foot channel, will take about two to three working seasons for a dredge of the "123" type.

STE. ANNE DES MONTS.

Ste. Anne des Monts is an important municipality, 54 miles below Matane, on the south shore of the St. Lawrence river.

During the last six months a landing pier, 1,540 feet long and 32 feet wide at top, giving 31 feet of water at L.W.S. at outside end and 10 feet of water L.W.S. at a distance of 430 feet from outside end towards shore, was completed, at a total cost of \$112,000; that is 40,000 yards at \$2.80 per cubic yard.

STE. ANNE DU SAGUENAY.

Ste. Anne du Saguenay, Chicoutimi county, is situated opposite the town of Chicoutimi; it is an important farming place, with a population of about 2,000. There is a ferry plying every half hour between the two places.

During the present fiscal year an addition of 340 feet by 25 feet, and 125 feet by 20 feet, has been built. It is an ordinary construction on piles with the exception that the portion of 125 feet where the foot of the piles is protected by a round-timber construction. The head block has been raised 2 feet; floor and stringers renewed over an area of 1,860 square feet; on the approach, stringers to raise the floor have been placed over an area of 2,750 square feet; movable slip, 53 feet long and 12 feet in width, has been placed, and freight shed has been entirely repaired and painted.

The work was carried out by day labour, was started in June and suspended on 22nd December.

ST. FULGENCE.

St. Fulgence is a parish of about 1,200 inhabitants, situated on the north side of the Saguenay river, about 9 miles below Chicoutimi; a boat plys daily between that place and the town of Chicoutimi.

The wharf consists of a head-block 75 feet by 43 feet, and piers of 25 feet by 20, spaced 25 feet from each other and spanned over by flooring and stringers.

During the present fiscal year the superstructure of the head-block and two of the piers were renewed on an average height of 4.5 feet; stringers and flooring have been renewed over a distance of 225 feet by the full width of the head-block and approach.

The work was carried out by day labour, was commenced on 1st August and completed on 1st December.

ST. GREGOIRE (SAULT MONTMORENCY).

St. Gregoire is situate in the county of Quebec, on the north shore of river St. Lawrence, about 9 miles below Quebec. Population, 2,500.

During the past season the wharf at St. Gregoire was completed. This involved the placing in position of 450 cubic yards of cribwork filled with stone; 150 square yards 3-inch spruce flooring, including floor stringers; and 21 square yards 6-inch hardwood sheathing.

STE. JEANNE DE L'ILE PERROT.

Ile Perrot is situated on lake St. Louis, in river St. Lawrence, between Beauharnois and Ste. Anne de Bellevue, at the western extremity of the island of Montreal.

The object of this dredging was to give a swinging basin downstream of present wharf (built in 1915) in order that boats may take the range of channel to leave.

From 28th June to 25th July, 1916, departmental dredge No. 719 removed 4,979 cubic yards, scow measurement, of clay and boulders, in completing an 8-foot basin, downstream of government wharf. Hours of actual dredging, 173; cut, from 20 to 25 feet; dumping ground downstream of dredged channel, below a ridge interfering neither with navigation nor ice.

Dimensions of work done: one cut 210 feet long, parallel with channel, by 50 wide, at its narrowest; another cut, starting at 150 feet from wharf, upstream of present channel, 90 feet long by 20 wide; the whole to a depth of from 6 to 7 feet below extreme low water, 7 feet 3 inches below top of wharf.

Owing to the fact that the site of dredging done is well protected from storms, and no cross currents, the probable duration of the improvement will be forever.

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ST. JOHNS.

A delightfully situated town of Quebec, "chef-lieu" of the district of Iberville, on the Richelieu river, 27 miles from Montreal.

During last February and March the protecting pier or ice-breaker on which is built the lighthouse, was rebuilt from extreme low-water level. Three steel plates, 7 feet long and 4 feet wide, were placed to protect the new construction.

This reconstruction was done by day labour.

ST. ROCH.

St. Roch de Richelieu, a post village in Richelieu county on the Richelieu river and on the Quebec and Saguenay railway, 11 miles from Sorel.

In the present fiscal year the Dominion Government bought two plots of land adjoining each other, one from Mad. J. B. Paquette, including a small wharf, 17 feet wide by 23 feet long. This piece of land has a frontage on the river of 75 feet, and reaches back to St. Ours street, a distance of 84 feet from the water's edge, and has an area of six thousand five hundred and seventy-eight square feet (6,578), more or less.

The other one from M. A. Giard, has a frontage on the river of 75 feet, an average depth of 71 feet, and an area of five thousand three hundred and twenty-five square feet (5,325), more or less.

These two plots of land, including the wharf, were bought for \$600.

Repairs were made to the wharf, a new wooden flooring was laid on the head-block and approach, stringers were replaced, a new cap-piece was made, and the slope of the slip was altered.

This work was done by day labour.

TROIS-RIVIÈRES.

The city of Trois-Rivières, on the northern bank of the river St. Lawrence, is situated midway between Montreal and Quebec. Population, 22,000 inhabitants.

The new coal dock, 640 feet long, with an ice-breaker and a railway embankment, is built at the Western Section of the harbour. Work started in 1910 and was completed in 1914.

During the fiscal year repairs were undertaken in the superstructure and embankments. The following materials were used:—

Stone.—One hundred and twenty-two toise of stone were placed as a protection along the eastern and western embankments, also inside of the cribs where settlement has occurred on a length of 640 feet, a width of 16 feet and a depth of 3 feet.

Piles.—Piles were placed on the outside face of the timber dock, on a length of 40 feet. An open joint existing between two cribs of the structure was closed with square and round piles. Fifty pitch-pine poles, 50 feet long, 12 by 15 inches, were used in all.

Filling in.—A washout having occurred in the earth embankment, a bed of facines was placed on a surface of 150 by 80 feet, covered with 100 toise of stone, 300 cubic yards of blue clay, and 2,850 cubic yards of earth.

Flooring.—Fifteen thousand feet b.m. of 3-inch hemlock was placed to renew part of the flooring, and a large portion of the latter was re-levelled.

The stone and earth were delivered by agreement between the department and Mr. David Larivière, and the work was done by day labour.

VERCHÈRES.

Verchères, a post village in Verchères county, on the St. Lawrence river and on the Quebec, Montreal, and Southern railway; twenty-one miles from Montreal.

The public wharf built in 1905 consists of:—

- (a) A pile headblock, 116 by 40 feet;
- (b) A pile approach, 136 by 29 feet, including an icebreaker;
- (c) A shed, 48 by 18 feet, and
- (d) The stone approach, 200 by 18 feet.

The wharf was carried away by the ice shove this spring. In order to use the wharf during the last navigation season, minor repairs were made. The worst part of the wharf was reinforced and the approach repaired..

VERDUN.

Dredging.

The object of this dredging was to facilitate the passage of ferry boats between public wharfs at La Tortue and Verdun, a distance of $3\frac{1}{2}$ miles.

From July 6 to November 8, departmental dredge *No. 121* removed some 11,115 cubic yards, scow measurement, of clay, sand, boulders, and hardpan, in making an 8-foot channel and 7-foot basin. The number of cubic yards *in situ* corresponds with scow measurement with an expansion factor of $33\frac{1}{2}$ per cent for conversion into scow measurement. Hours of actual dredging, $809\frac{1}{2}$; cut, from 12 to 22 feet wide; face removed, from 1 to 6 feet; distance advanced, 7,583 feet.

Dimensions of work done: Cleaning of a basin immediately downstream of Verdun wharf, on a length of 100 feet alongside the bank by 50 feet wide average; a shoal 2,100 feet from Verdun wharf, 350 feet long by 60 feet wide; opposite cast-over, left years ago, or 1 mile from Verdun wharf, on a length of 380 feet for the upstream side by 200 feet for the downstream by a width of 250 feet; 1,400 feet from cast-over, 150 feet long by 50 feet wide; a basin immediately downstream of La Tortue wharf, 110 feet alongside wharf approach by 60 feet wide along shore, and in front of said wharf, cleaning of numerous boulders on an area of 100 feet. The whole to a depth of 8 feet below extreme low water level, for the channel, and 7 feet clear for basin.

Owing to hard material, site reasonably protected from storms, the probable duration of the improvement will be for over twenty years, but stones may be deposited in ferry channel every spring by ice shove.

ONTARIO.

RAYFIELD.

Bayfield, in the county of Huron, is situated at the mouth of the Bayfield river, where it empties into lake Huron.

Repairs were made to the north pier by day labour; work was commenced September 5 and completed December 7, and consisted of the following: Construction in concrete of a wall 60 feet in length in the inner face of the north pier. The sheet facing on the inner side of the south pier for a distance of 310 feet was secured. An effort was made to save the outer end of the north pier by timbering, but owing to stormy weather, a section about 90 feet in length was washed away to below water level.

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BELLEVILLE.

Belleville, in the county of Hastings, is situated at the mouth of the Moira river, which empties into the bay of Quinte.

A contract, dated March 6, 1916, was let for the construction of a warehouse; work was commenced April 20 and final estimate given July 3.

The building for which the above contract was let consisted of a baggage-room, waiting-room, and freight shed, 114 by 45 feet, with a metal shingle roof.

By Order in Council, dated October 12, 1916, the wharf and other structures were handed over to the Belleville Harbour Commission for maintenance and operation under certain conditions, the temporary light and its operation being also transferred.

BLACK RIVER.

Black river, in the county of Ontario, flows through the townships of Dalton and Rama, before emptying into the Severn river.

Until September 1 this department controlled the operation of the stop-logs in the dam at the junction of canal and Black river, in lot 17 in the 6th concession of Rama. On the above date, an Order in Council was passed transferring the control of this dam to the Department of Railways and Canals.

BOBCAYGEON.

Bobcaygeon, an incorporated village of 1,200 people, is situated 20 miles north-east of Lindsay, on the Canadian Pacific railway.

The work of constructing a floating wharf by day labour was commenced September 1, completed November 29, and consisted of a wharf 40 feet in length, 14 feet in width, and 2 feet 3 inches in depth; two anchorage pedestals were also constructed in concrete 4 by 4 feet, and landing-way 5 feet in length by 4 feet in width.

BRACEBRIDGE.

Bracebridge, township of Macauley, district of Muskoka, is a town of 3,500 population, situated on the north branch of the Muskoka river, 5 miles above its discharge into Muskoka lake.

The renewal in concrete of the wooden superstructure in the old wharf was performed by day labour; begun June 16, and completed December 31, 1916, consisted of the removal of all the old superstructure down to low water level, being 150 feet in length and 20 feet in width, and replacing same by concrete walls, stone-filled heart and concrete deck, and the replacing of the shelter and warehouse.

BRUCE MINES.

Bruce Mines is a town of about 700 in population, situated on the north shore of the north channel of lake Huron, on the line of the Canadian Pacific railway, about 40 miles easterly from Sault Ste. Marie.

Work of repair by day labour was commenced on 7th June, 1916, and completed on 13th January, 1917.

This wharf was built about the year 1903-04, and consisted of a stone approach 500 feet long by 20 feet wide; a pilework approach 450 feet long by 20 feet wide; and a combined crib and pilework head-block about 91 feet square. The work performed during the fiscal year 1916-17 consisted of the complete reconstruction of the wooden superstructure, excepting 350 feet of the inner end of the pile-work approach, which has been entirely replaced by stone-fill; the warehouse was enlarged

and reconstructed, and a small boat landing, 100 feet in length, constructed along the east side of the pile-work approach.

BURLINGTON.

Burlington, in the county of Halton, is situated near the westerly extremity of lake Ontario, about 30 miles west of Toronto, on the Grand Trunk and Canadian Pacific railways.

Work on the revetment wall was resumed on July 15, final estimate given on November 16, and consisted of the placing of 2,273 cubic yards of talus stone on outside of revetment wall and small items of work necessary to the satisfactory completion of the contract.

BURLINGTON BAY (ELSINORE WHARF).

Elsinore wharf is an old wharf situated on Burlington bay, about three-quarters of a mile from Burlington channel.

The removal of the above wharf, 400 feet in length by 20 feet in width, was commenced by day labour, June 20, and was completed July 13.

BURLINGTON CHANNEL.

Burlington channel, in the county of Wentworth, is simply a dredged channel through a low-lying piece of land, known as Burlington beach, connecting lake Ontario with Burlington bay.

To repair damage to site of Royal Hamilton Yacht Club, work was commenced August 10, completed September 7, and consisted in filling in the site with 800 cubic yards of sand, levelling, and top-dressing same. A picket fence was constructed along the pier and along the roadway to protect the public from the end of the bridge when swinging.

The bridge opened for the season April 7 and closed December 23.

Dredging.

In order to complete the removal of the shoal at the lake end of the channel, that was begun in 1915-16, it was necessary that dredging operations be continued, and departmental dredge *Quebec* proceeded with the work.

The removal of this material, commenced on July 10, was completed on August 16, and involved the excavation of 16,503 cubic yards, place measurement, or 22,330 cubic yards, scow measure, in securing a depth of 20 feet below zero level of lake Ontario. The area worked over extended from between the piers at the east end into lake Ontario for a distance of 730 feet, the width varying from 165 feet to 290 feet at the east end of the cutting.

COBOURG.

Cobourg, in the county of Northumberland, is situated on lake Ontario, on the Grand Trunk, Canadian Pacific, and Canadian Northern railways.

Work was commenced by day labour on June 19, completed October 31, and consisted in the following improvements:—

A section of old crib superstructure on east pier, 106 feet in length by 33 feet in width, was removed to a depth of 1 foot below zero of gauge, and was replaced by concrete superstructure, consisting of concrete blocks, reinforced mass concrete, 10-inch by 12-inch oak walling and two cast-iron nigger heads weighing approximately 400 pounds each.

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A section of checkwater, 28 feet in length at extreme west end, was entirely removed by dredging.

The superstructure on the next 50 feet adjoining removed section was torn down to one foot below water level and replaced with concrete superstructure, the outer 16 feet being at elevation of 252 above mean sea-level, and balance of 50-foot section, at elevation 250.2 above mean sea-level.

The work on checkwater commenced on September 15, and was completed November 16.

On the west side of east pier, a section, 45 feet in length at east end of checkwater, was repaired, consisting of renewal of face timbers, cross-ties, and back-filling.

Dredging.

Authority was given to have the R. Weddell Company complete the removal of the 11,612 cubic yards, place measurement, remaining from the quantity arranged for in the previous year; and an additional 10,000 cubic yards, place measurement, was authorized to complete the improvements. The entire quantity was removed for 20 cents per cubic yard, place measurement.

Work was commenced on May 24, completed on August 17, and consisted in providing depths varying from 16.5 to 17.5 feet below zero over irregular areas, and required the removal of 21,880 cubic yards, place measurement.

COLLINGWOOD.

Collingwood, in the county of Simcoe, is located on the Georgian bay, and is a station on the Grand Trunk railway, 95 miles northwest of Toronto.

In order that vessels might enjoy full benefit of the dredging done by the department in 1913, it was considered essential to the interests of navigation that an additional quantity, estimated at 19,600 cubic yards, place measurement, be removed in widening the entrance channel to the harbour where same curves and the range lines change.

Authority for the removal of this yardage by departmental dredge *Industry* was given and work was commenced September 23, completed October 25, and consisted in the removal to a depth of 20 feet, 15,874 cubic yards, place measurement, of clay, hardpan, and small boulders in enlarging the area dredged in 1913, on the east side of the curve in the entrance channel.

FORT WILLIAM.

Fort William, district of Thunder bay, a city of 18,850 people, is situated at the mouth of the Kaministikwia river, near the northwest end of lake Superior.

Contract was extended with the Thunder Bay Contracting Company, Limited, for the construction of 2,300 lineal feet of quay walls at the mouth of the Mission river, so as to include the placing of approximately 6,000 cubic yards of additional stone filling, which was found to be required in cribs Nos. 89 to 100, inclusive.

Authority was received to proceed with the rectification of cribs Nos. 101 to 105, inclusive, the work to be performed by the Thunder Bay Contracting Company, Limited, on the basis of cost, plus 10 per cent.

The work of placing the additional stone filling in cribs Nos. 89 to 100, inclusive, was performed between July 25 and August 11 last, a total quantity of 5,336 cubic yards being placed at the contract rate of \$1.30 per cubic yard. Operations in connection with the rectification of cribs Nos. 101 to 105, inclusive, were commenced on October 14, and were closed down for the season on December 9 last. The work performed in this connection to date consists: (1) In the removal of the concrete

superstructure on cribs Nos. 102 and 103; (2) in the dredging in rear of the cribs to be rectified to a depth of about 35 feet below L.W.L.; and (3) in the placing of heavy weights along the rear half of cribs Nos. 102, 103 and 104, so as to cause them to settle back into line. The operations referred to proved effective, and a much-improved alignment of these cribs was obtained. The weights were then removed and a certain amount of back filling was replaced in rear of the cribs in order to hold them in place. The work of rectification should be completed early during the coming season.

Dredging.

Dredging was performed in this harbour during the present season, under contracts Nos. 7170 and 7339, by the Great Lakes Dredging Co., Limited.

The object in doing the work performed, which was embraced in the above contracts, was to continue the development of the harbour to the depth and dimensions adopted by the department in 1908, in order to provide ample accommodation in all portions of the harbour for safe navigation by the largest freighters on the Great Lakes..

Extent of harbour, 13.02 miles of navigable channels, varying in depth from 20.0 feet to 27.0 feet and in width from 175 to 600 feet excepting through bridge spans.

Total area of present harbour, 805.0 acres.

Total area removed by dredging, 353.6 acres.

Harbour frontage available for dockage, exclusive of frontage in Thunder Bay, 22.2 miles. Frontage already built up with wharves and retaining walls, 7.62 miles.

Contract No. 7170.—Dredging under this contract was performed by dredge *No. 5* between June 3 and June 13 last, when the removal of the quantity authorized, namely, 12,422 cubic yards, scow measure, was completed. This work consisted in the removal of certain shoals to a depth of 25 feet below L.W.L. in the Grand Trunk Pacific terminal basin adjacent to the Mission channel.

The total quantity removed under this contract was 12,422 cubic yards, scow measure, which consisted almost entirely of class "B" material.

In connection with this contract, it might be stated that prior to the current fiscal year, a total quantity of 7,124,248 cubic yards, scow measure, had been dredged at a total cost of \$1,515,089.16, so that the total quantity removed on the completion of this contract is 7,136,670 cubic yards and the total expenditure \$1,517,147.96. In this work, a total area of 22,587 square feet was dredged and the average depth of cutting, allowing for 10 per cent expansion from place to scow measurement, was 1.34 feet.

The following unit prices obtained in this contract, viz.: Rock, \$2.85 per cubic yard, scow measure; all other materials, 16 cents per yard. Extra haul, 1 cent per cubic yard per mile over $3\frac{1}{2}$ miles.

Contract No. 7339.—Dredging under this contract, which consists in widening and deepening the Kaministikwia and Mission rivers, was performed by dredges *Nos. 5 and 6* and *Dominion*, and by clam-shell scow *Empire*, between the following dates: Dredge *No. 5*, between June 14 and November 25; dredge *No. 6*, between June 3 and October 4. scow *Empire*, between June 7 and September 15, although the operations of this scow were not continuous; dredge *Dominion*, between June 3 and December 9. Authority was received authorizing the removal of 276,941 cubic yards, scow measure, from the areas covered in the original contract, and 1,493,819 yards from the West Fort basin. An additional quantity of 250,000 cubic yards was authorized for removal from the former areas. The total quantity removed under this contract during the current season was 1,418,319 cubic yards, scow measurement, consisting entirely of class "B" material.

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The work performed was as follows:—

Kaministikwia river.—The turning basin at West Fort William was made much larger, about 16 acres included in the second expropriation being removed, and there now remains only about 1 acre, which will be removed during the coming year. Almost the whole of the West Fort basin has now been excavated to a depth of 25 feet below L.W.L., but it is found as a result of soundings taken during the past winter that there has been a large amount of filling-in over the area dredged last season. Such filling-in is due to bank slides and sedimentation. In this work, 940,973 cubic yards of sand and clay were removed.

The river was deepened along its south bank, where shoals had formed and slides had occurred, over an area extending from the bend in river below the West Fort turning basin to the Imperial Oil Company's property, a total quantity of 87,923 cubic yards being removed.

Small shoals were also removed on the south side of the river between the Canadian Pacific railway bridge, over this river, and the McKellar river, a total quantity of 4,489 cubic yards being removed.

A large area of the river was scraped and deepened where shoals had formed, extending from a point approximately opposite elevator "B" to the inner end of the Empire elevator wharf, the total quantity removed being 115,211 cubic yards.

The entrance channel to this river in Thunder bay was deepened and completed during the present season so as to have its full depth of 25 feet below L.W.L. for a total width of 600 feet. The actual dredging operations in this case were confined to the northerly half of the channel, and the total quantity removed by the dredge *Dominion* was 103,689 cubic yards.

The total quantity removed in widening and deepening under this contract in the Kaministikwia river during the present season was 1,252,285 cubic yards.

Mission River.

Deepening was performed, including the removal of a few shoal spots over a small area of this river fronting the Canada Starch works, and a few shoal spots were also removed near the junction of this river with the Kaministikwia river. The quantity removed was 9,984 cubic yards.

The whole of the entrance channel to this river in Thunder bay was scraped and deepened to a depth of 25 feet below L.W.L., excepting over a small section of the channel adjacent to the Mission River revetment wall, which forms its southerly boundary. The total quantity removed in this work was 156,050 cubic yards.

The total quantity removed in the Mission river under the above contract during the season was 166,034 cubic yards.

In the work performed under this contract, exclusive of the dredging performed in the West Fort turning basin, an area of 5,297,163 square feet, was dredged and the average depth of cutting, allowing for 10 per cent expansion from place to scow measurement, was 2.21 feet. In the West Fort turning basin in the total area dredged was 1,693,775 square feet, while the average depth of cutting after allowing 10 per cent for the expansion factor, was 13.6 feet.

In connection with Contract No. 7339, it might be stated that prior to the current fiscal year a total quantity of 12,934,065 cubic yards, scow measure, has been dredged at a total cost of \$2,122,595.56, so that the total quantity removed to date under this contract is 14,364,806 cubic yards, and the total expenditure \$2,373,901.93. Of the quantity authorized for removal under this contract, the balance to be moved at the end of the current fiscal year is 602,441 cubic yards, of which 552,846 yards is to be moved in connection with the extension authorized in the West Fort turning basin. It might also be pointed out that in order to complete the work originally contemplated in connection with this contract, additional authority for the removal of 1,235,152 cubic yards is required.

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The following unit prices obtain in this contract, viz.: Rock, \$2.40 per cubic yard, scow measure; all other materials, 10¼ cents for widening, and rock, \$2.85 per cubic yard, scow measure; all other materials, 22½ cents for deepening. One cent per cubic yard, scow measure, per mile, over 3½ miles of haul.

Synopsis of quantities of materials removed by the various dredges, operating in this district on the above contracts, during the current fiscal year:—

	Cubic Yards, Scow Measurement.
Dredge No. 5.	407,014
“ No. 6.	350,613
“ Dominion.	636,776
Clam shell Empire.	36,338
Total.	<u>1,430,741</u>

Synopsis of quantities removed by dredging under the above contracts in accordance with the respective locations of areas dredged:—

KAMINISTIKWIA RIVER.

	Cubic Yards, Scow Measurement.
West Fort turning basin.	940,973
West Fort turning basin to Imperial Oil Company	87,923
C.P. Ry. bridge to McKellar river	4,489
Elevator “B” to Empire Elevator Co.’s dock.	115,211
Northerly half of entrance channel.	103,689
Total.	<u>1,252,285</u>
MISSION RIVER.	
Entrance channel.	156,050
G.T.P. basin.	12,422
Kaministikwia river to Starch works.	9,984
Total.	<u>178,456</u>
Grand total.	<u>1,430,741</u>

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KAMINISTIKWIA RIVER.

	Width.	Least depth	Gen. depth.
	feet.	feet.	feet.
Entrance channel in Thunder bay.....	550-600	23-2	26-0
From Empire elevator, at mouth, to subway.....	400-350	23-2	26-0
From subway to C.P. Ry. bridge.....	350-300	20-0	24-0
Through C.P. Ry. bridge.....	110	20-6	
From C.P. Ry. bridge to Mission channel.....	300	20-3	22-5
From Mission channel to bend above elevator " D ".....	300	22-0	25-5
At waterworks crossing above elevator " D ".....	175	21-0	23-0
From waterworks crossing to G.T.P. bridge.....	400	22-5	26-0
Through G.T.P. bridge.....	90	18-4	
From G. T. P. bridge to upper end of C.N.R. coal wharf.....	350	23-3	26-0
At bend in river above C.N.R. coal wharf.....	200	23-2	
Over the West Fort turning basin to the Mutual elevator.....	1,300	20-3	24-0
<i>Mission Channel.</i>			
Entrance channel.....	450	22-2	25-5
Least depth along revetment wall over a width of from 50 to 150 feet from face.....		21-0	
From entrance channel 1,200 feet north of inner end of slip No. 3.....	300	22-0	25-0
From Fort William coal dock wharf to Fort William Starch works.....	350-400	22-5	25-5
From Fort William Starch works to junction with Kaministikwia river.....	400	21-0	24-0
Shoal opposite down stream end of Starch works.....		20-5	
G.T.P. turning basin, west of entrance channel.....			26-5
G.T.P. turning basin over area 150 feet out from limits.....		21-0	
G.T.P. Slip No. 1, the most westerly slip west of turning basin.....		22-9	25-0
G.T.P. Slip No. 2, west of turning basin.....			24-0
G.T.P. Slip No. 2, over area 50 feet from limits.....		22-3	
G.T.P. Slip No. 3, the most northerly slip west of turning basin.....			23-6
G.T.P. Slip No. 3, over area 190 feet from limits.....		21-7	
<i>McKellar Channel.</i>			
From Thunder Bay to C.P. Ry. bridge.....	350-400	23-2	26-0
Through C.P. Ry. bridge.....	70	22-2	

From the above statement, it will be seen that a considerable quantity of material is still required to be removed in connection with certain works of widening that have not yet been attended to in the local harbour and in deepening other portions thereof. The widening still required to be done in this harbour is as follows: (1) The removal of a certain area of land in the Mission river, at present occupied as a service ground by the Thunder Bay Contracting Company, Limited, in connection with their construction work for the department on the Mission River revetment wall; (2) the removal of a small portion of land on the Kaministikwia river where the city water mains cross; and (3) the removal of a small area of land still required to be dredged in connection with the extension to the West Fort turning basin. The first and third of these items should be proceeded with during the coming season, but it will be impossible to attend to the second item until the city of Fort William lowers the water mains referred to, or otherwise alters their location.

The sections of the harbour that particularly require deepening are as follows: (1) Kaministikwia river from subway through Canadian Pacific Railway bridge to the Mission channel; (2) through the Grand Trunk Pacific bridge; (3) over the West Fort turning basin to the Mutual elevator; (4) Mission channel from the junction with the Kaministikwia river to the Grand Trunk Pacific turning basin.

As regards the probable duration of the improvements effected, continuous work will likely be necessary to keep the dredged areas at the required depth.

FREDDY CHANNEL.

Freddy channel (Honey harbour) is located in the township of Gibson, district of Muskoka, and is about 15 miles distant by water from Midland. It is one of the direct channels on the boat route from Penetanguishene to Parry Sound, and is patronized by tourists during the navigable season.

For the purpose of securing a depth of water in the channel to allow boats having a draught of 9 feet to navigate in safety, work was begun in 1915, when 2,900 cubic yards, place measurement, was removed.

On May 23, 1916, authority was given to complete the work, and the Penetanguishene Dredging Co., Limited, resumed operations on May 23, and completed June 23, 1916.

The material removed consisted of 4,018 cubic yards, place measurement, class "B" material, clay, gravel, and boulders.

Shoal No. 1, eastward of Portage island, 409 feet in length, 50 feet wide, and dredged to a depth of 9 feet below zero of gauge.

Shoal No. 2, west of shoal No. 1, 215 feet long, 50 wide and dredged to a depth of 9 feet.

Shoal No. 3, opposite island No. 95, 918 feet in length, average width of 40, and dredged to a depth of 9 feet below zero of gauge, elevation 580.0, making a total length in the three shoals of 1,542 feet. The total area of work done is 51,015 square feet with an average cut of 2.13 feet.

The work is not permanent, being subject to filling in from northwest winds.

FRENCH RIVER—BIG CHAUDIÈRE.

Big Chaudière on the French river, 12 miles from its source, on lake Nipissing, 30 miles from Sturgeon Falls, 35 miles from North Bay, and 43 miles from Callander. The latter being the port best adapted for handling of heavy materials, freight, etc.

The construction of steel gates, towers, and operating machinery for the regulating dam across the Big Chaudière river, so as to regulate the level of lake Nipissing, was commenced August 1 and completed October 30, 1916.

Coffer Dam.

The construction of a coffer dam was undertaken to drain the site of the substructure, which was completed in October, 1915, and prepare the site for the erection of the superstructure. The original coffer dam was removed during the winter of 1916 in order to provide an outlet for the waters of lake Nipissing, which had reached an alarming level.

Work was done between November 1 and December 5.

Work was done enlarging the discharge section at the site of the original coffer dam built in 1914.

The discharge section at the site of the original coffer dam was made smaller than in a state of nature by rocks and sand accumulating in the bed of the river when the coffer dam was removed. This was dredged out to the original discharge area, by government dredge, from October 9 to November 4, 1916.

GODERICH.

Goderich, in the county of Huron, is situated at the mouth of the Maitland river, which empties into lake Huron.

Work was resumed on the Bermingham contract on April 1, was completed and final estimate given on August 8, and consisted in the construction of the last 300 feet of the southwest breakwater, with a width of 30 feet, the construction being concrete caisson substructure and mass concrete superstructure.

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Work on riprapping was commenced on October 2, was completed on October 31, and consisted in placing 1,046 tons, 75 pounds of riprap stone along the river breakwater.

Work on repairs to piers was commenced on August 10, continuing throughout the year, and consisted of the following:—

South Pier.

Patching decking of central and outer end to the extent of approximately 300 square feet, and patching the capping over same area to extent of 40 lineal feet with 12- by 12-inch timber.

At easterly end, commencing at concrete decking of Commercial dock, the two top-face timbers, including the capping, were completely renewed with 12- by 12-inch hemlock timber, for a length of 144 feet.

The decking commencing at the same point was renewed for 114.7 feet with 3-inch hemlock for a width of 3 feet, laid longitudinally with pier. Then 50.4 lineal feet laid crosswise of pier, at a width of 12 feet, and then 220.5 lineal feet laid crosswise of pier, at a width of 18 feet. The above decking includes sleepers and blocking.

Timber Dock.

Approximately 100 square feet of decking was patched, with the old planking taken from the south pier.

River Breakwater.

A new walk constructed of old south pier planking was built for 216 lineal feet, and 4 feet wide at outer end of river breakwater. Also 245 feet of new 12- by 12-inch hemlock capping was placed on the outer or river edge.

North Pier.

Approximately 100 feet of 12- by 12-inch capping was placed along the north pier in scattered positions, also 1,100 square feet of the decking was overhauled. This comprised levelling up, removing old decking, placing stringers where required and relaying decking. Some old planking was used again, but about two-thirds of the new decking, which was 2 inches thick, was entirely new.

The majority of the work was from about shore line outward for some 600 feet, and practically half the width of pier, but there were other scattered areas renewed.

Work on removal of checkwater was commenced July 13, was completed August 8, and consisted in removing, by dredging, checkwater crib 128 by 30 feet. Also the removal of 3,066 cubic yards of soft material.

HAMILTON.

Hamilton, in the county of Wentworth, is situated on Burlington bay, an inlet at the western extremity of lake Ontario, and is a station on the Grand Trunk and Canadian Pacific railways.

Authority was given for filling in behind revetment wall, in vicinity of Jutten and Marshall properties, said work to be done by the Ottawa contractors under agreement dated June 8. Work was commenced June 24 and was completed July 31.

To repair concrete on revetment wall, an agreement was entered into with the Ottawa contractors, under date of June 8, to do this work, which consisted in renewing surface in concrete of revetment wall, where required, also straightening channel bars.

Dredging.

Departmental dredge *No. 117* commenced work on August 17, 1916, and continued until October 12, when the plant was transferred from this district, and on October 13 it was resumed with departmental dredge *No. 114*, which carried on until October 28. The quantity removed by dredge *No. 117* was 59,086 cubic yards, scow measurement, and by *No. 114*, 3,264 cubic yards, scow measurement.

The removal of this total quantity of 62,350 cubic yards, scow measurement, resulted in the widening of the channel in front of the Oliver Plow Works from 40 to 100 feet for a length of 1,300 feet and to a depth varying from 19 to 20 feet below zero; the widening of the channel leading to the International Harvester Company by 80 feet for a length of 1,300 feet, and 40 feet for a length of 350 feet to a depth varying from 19 to 20 feet. In addition to this, an area 1,200 by 80 feet in dredged channel was cleaned up to a depth of 20 feet.

Owing to the silty nature of the material underlying a large part of the area gone over, it is expected that further dredging will have to be undertaken during the coming season.

HAWKESBURY.

Hawkesbury is located on the south shore of the Ottawa river, about 58 miles below the city of Ottawa.

In order to restore the navigable channel to Captain Lawlor's wharf, used for public traffic, departmental dredge *No. 103* continued the improvements started last season. The dredge operated here from May 27 to October 31, under an agreement with the Riordon Pulp and Paper Co., Ltd. During this period, the total yardage removed was 36,703, scow measurement, of which 22,560 yards was waste pulp, 7,535 sand and gravel, 1,639 clay, 4,644 hardpan, and 325 yards of boulders. Eight single cuts, 25 feet wide, were made, aggregating 2,270 lineal feet to grade elevation 118 or original bottom of channel.

From November 13 to 16, departmental dredge *No. 103* also removed 1,431 yards clay, in connection with the laying of new water main for the R. P. and P. Co., under an agreement with Fuller & Co.

KINGSTON.

Harbour Improvements, Combined Roadway and Wharf.

The object of this work is to provide bridges, roadway, and sidewalk for vehicular and pedestrian traffic over the Cataraqui river; also a wharf for general use of navigation in conformity with the plan for general improvements of Kingston harbour.

Work continued throughout the year, from April 1, 1916, to March, 1917, and has been completed.

Repairs to Temporary Bridge.

Driving a row of batter piles along both sides of bridge; building an extension to bridge for sidewalk and putting guard-rail along both sides of bridge so as to strengthen the bridge and make it safe for heavy traffic. Work was done from May 1 to October 15.

Highway Bridge.

This is a bascule bridge being built over the channel leading into the inner harbour or Anglin's bay, designed to be lifted so as to permit vessels to pass in and out.

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The delivery at site of steel, operating machinery, machinery covers, safety gates, lights, and all appurtenances for bascule bridge, the erection in place of approximately 95 per cent, and the inspection and testing of operations thereof.

This work is practically completed, and will be opened to permit of navigation on April 16, 1917.

Work continued throughout the year, from April 1, 1916, to March 31, 1917.

LITTLE DETROIT.

(This work is fully described in the annual report for 1916.)

Work was commenced on 4th October, and was completed on 2nd November, during which period 1,490.9 cubic yards, place measurement, of rock were removed.

OWEN SOUND.

Owen Sound, in the county of Grey, is situated on Owen Sound, an arm of the Georgian bay, and at the mouth of the Sydenham river.

Work of dredging was commenced May 25, completed July 6, and comprised the removal of 26,781 cubic yards, place measurement, or 35,762 cubic yards, scow measure of mud, sand, sawdust, and sunken logs. This material was scattered irregularly over the total area of the inner harbour, and when removed left a clear depth of 20 feet below zero, or elevation 580.0.

PENETANGUISHENE.

Dredging.

Penetanguishene is a town located on a part of the Georgian bay, in the township of Tay, county of Simcoe.

For the purpose of affording sufficient depth of water at the north end of the government wharf to allow large boats to turn into the main channel, the work consisted of the removal of material from an area 120 feet in length by 100 feet in width, amounting to 1,500 cubic yards, place measurement, class "B" soft clay.

An agreement was entered into with the Penetanguishene Dredging Co., Limited, to do the work at a price of 40 cents per cubic yard, place measurement, and work was begun July 4, and completed July 10, 1916.

The work is of a permanent nature.

Further work was done for the purpose of creating increased draught of water to enable large boats to navigate to and from the harbour in safety, and was done by the government dredge No. 109, and consisted of the removal of 50,938 cubic yards *in situ* or 67,917 cubic yards, scow measure; expansion factor, 33½ per cent.

The material dredged consisted of class "B" material, sand and mud. The dimensions of the work being 553,000 square feet, having an average length of 5,530 feet and an average width of 100 feet and an average cut of 2.45 feet and dredged to a depth of 20 feet below zero of gauge elevation 580.0. Shoal No. 1, opposite dumping ground, 100 feet wide and 300 feet long; shoal No. 2, opposite Trudeau point, length 1,500 feet by 100 feet wide; shoal No. 3, from end of shoal No. 2 to south end of Esplanade, an average length of 2,250 feet by an average width of 166 feet. The channel, as located and dredged, extends northerly from the wharf to the line of light, thence north-easterly.

The work was begun July 12 and completed September 15, 1916.

The work, as completed, will be of a permanent nature.

PICNIC ISLAND.

This work is fully described in the annual report for 1916.

Picnic island lies to the north of Manitoulin island in the district of Algoma, about $1\frac{1}{2}$ miles west of the town of Little Current, on the main steamship channel through the North channel of lake Huron.

Authority was given to resume work at this place, with the object of finally completing it during the season.

Work was commenced on June 29, and completed on November 3, 1916, during which time 9,810 cubic yards of rock were dredged and removed by scows.

PORT ARTHUR.

Port Arthur, district of Thunder Bay and Rainy River, has frontage on the lake, within its present limits which admit of further extension, of $7\frac{1}{2}$ miles.

Port Arthur, with Fort William, which directly adjoins Great Lakes navigation and is therefore one of the most important Canadian ports. Through it, a considerable portion of the western grain crop is handled for transshipment east. For this purpose, there are seven elevators in operation and two under construction. The total actual storage capacity is 16,865,000 bushels.

A contract was let early in the summer of 1913 to W. E. Phin, Esq., Hamilton, Ont., providing for the removal of 942,000 cubic yards, scow measurement, of class B material, in the main harbour, at a unit price of 13 cents; and 528,794 cubic yards, scow measurement, were removed in 1913.

In 1914, under the same contract 416,410 cubic yards, class B material were removed.

Contract No. 9490, extended.—Authorized, prior to December 15, 1916, the removal from the main harbour of 1,095,000 yards, scow measurement, class B material; and 611,729 yards were removed during the season of 1915.

Authority was received for the removal of 483,271 yards, being balance of the total quantity authorized April 14, 1915.

1. *Main Harbour South.*—Work started May 16, 1916, and the main harbour south was widened from an average width of 1,825 feet to a width of approximately 2,175 feet, having an average length of 2,615 feet.

The quantity excavated was 146,509 yards, scow measurement, class B.

2. *King's Channel.*—King's channel was also widened, and 40,316 yards, scow measurement, class B, material, were removed.

The place measurement from soundings is 32,289, giving expansion factor of 21.8 per cent.

The depth dredged was 25 + 1 foot for sub-grade.

3. *Alongside C. N. R. Steel Dock.*—On July 10, the removal of 8,200 yards, scow measurement, class B, was authorized, and 8,179 yards were removed.

Approximate dimensions as follows: Length, 300 feet; width, 75 feet; depth made, 22 + 1 foot for sub-grade.

4. *Joint Slip between Government Elevator and Davidson and Smith Elevator.*—Six thousand nine hundred and forty-eight yards, scow measurement, were also removed under authority, and the depth made was 25 + 1 foot for sub-grade.

5. *Channel and Slip to give access to Saskatchewan Co-operative and Grain Growers' Elevators.*—An Order in Council was passed on 8th July, extending Phin's dredging contract by the addition of 268,000 yards, scow measurement, class B material, to provide for the dredging of a joint slip between the Saskatchewan Co-operative and Grain Growers' Elevators, together with a channel extending out from the slip to the 25-foot line.

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This work was authorized and consisted of:—

Channel.—Length, 1,500 feet; width, 400 to 175, and average 288 feet; depth made, 25 + 1 foot for sub-grade; quantity removed, 108,021 yards.

Slip.—Length, 1,200 feet; width, 175 feet; depth made, 25 + 1 foot for sub-grade; quantity removed, 112,373 yards, scow measurement.

Approximately 35,000 yards, or 220 feet in length, still remain to be removed in this slip.

SUMMARY.

Widening main harbour south.	147,509	cubic yards, scow measurement.
Widening King's channel.	40,316	" " " "
Alongside C.N.R. coal dock.	8,179	" " " "
Joint slip between Government elevator and Davidson & Smith elevator.	6,948	" " " "
Channel to Saskatchewan and Grain Growers elevators.	108,021	" " " "
Joint slip between Saskatchewan and Grain Growers elevators	112,373	" " " "
	<hr/>	
	423,346	" " " "

All depths mentioned refer to zero of the Public Works Department staff gauge, which is 601.86 M.S.L. The water during the navigation season is practically always above this zero level.

All the material removed was class B, consisting of sand and clay, except in the slip between the Grain Growers' and the Saskatchewan Co-operative elevators, where hardpan and loose shale rock were encountered.

Satisfactory releases were obtained covering structures which might have been affected.

Only one dredge, the *Kennaquhair*, was employed during 1916.

The average haul to the dumping grounds was 2 miles, but the greater portion of the dredged material was deposited on the sites of the Saskatchewan Co-operative Elevator Company.

The work was closed for the season on December 14, 1916.

PORT BURWELL.

Port Burwell is at the mouth of Otter creek, on the north shore of lake Erie, and is an important harbour of refuge.

On May 22, instructions were received that repairs be made to the piers, revetment walls, etc.; work began July 17 and was finished November 30.

Owing to changed conditions in the harbour, piers, and breakwaters, it was thought best to remove the checkwater, about 40 feet in length. This was done by dredges Nos. 114 and 117.

Dredging.

Much sediment is deposited in the inner harbour by Otter creek, particularly when in freshet; also south of the breakwater, lake currents and storms drift sand into the dredged cuts. A great amount of dredging is thus necessary to maintain a depth of water to accommodate vessels using the port.

The quantity and cost of dredging was as follows:—

Dredge No. 114, April 26 to September 25, 52966 cubic yards at 20.3 cents.	\$ 10,799 90
Dredge No. 117, May 1, to June 24, October 24 to December 7, 10367 cubic yards at 17.7 cents.	18,437 86
	<hr/>
Total cost of dredging.	29,237 76

Area and dimensions dredged as follows:—

Location.	Dimensions.	Cubic yards place.	Expansion. p.c.	Cub. yds. scow.
Checkwater.....	100 by 80 by 12-07	3,576-05	23-6	4,420
North of ferry slip on east side along ferry dock.....	450 by 44 by 3-73	2,735-44	23-6	33-81
Turning basin.....	700 by 228 by 7-01	41,988-67	23-6	51,898
Between piers.....	1,075 by 110 by 2-37	10,372-17	23-6	12,820
Channel east of breakwater.....	1,160 by 250 by 4-72	50,763-02	26-34	64,134
South of outer end of breakwater.....	625 by 209 by 3-27	15,820-80	26-34	19,988
Total quantity.....				156,641

Depths dredged, south of turning basin, 20 feet; turning basin and between piers 20 to 24 feet; and end of piers southwardly, 20 to 25 feet.

Much difficulty was experienced during the season in maintaining in the turning basin and south of the breakwater a navigable depth of water.

Dredge No. 114 has not sufficient capacity to cope with the conditions at Port Burwell.

PORT HOPE.

Port Hope, in the county of Durham, is situated on the north shore of lake Ontario, 60 miles east of Toronto.

To provide the necessary depth of 16 feet in the approaches to the warehouse to enable vessels to discharge and take on cargoes, it was necessary that dredging be undertaken, and tenders were called on an estimated quantity of 38,000 cubic yards, *in situ*, and authority was given to have the removal of this yardage undertaken by the Randolph Macdonald Company at 18 cents per cubic yard. Work was started June 14, completed August 22, and consisted in the removal of 38,096 cubic yards, *in situ*, of sand and silt, spread over the following area: Starting at a point 150 feet north of the warehouse on the east pier, the area was 73 feet in width and increased to 177 feet in width 260 feet south from the starting point; the channel then averaged 179 feet in width for 425 feet, when it was again contracted to an average width of 165 feet between entrance piers, continuing at approximately this width, a distance of 200 feet to deep water.

PORT MAITLAND.

The work performed during season 1916, consists of dredging a 300-foot channel from deep water in the lake to a point in the river at the mouth of the Welland canal feeder discharge. Total length covered, approximately 5,000 feet; 200 feet on the west side of the channel, dredged through bar in outer entrance to piers, was dredged to 21 feet below L.W.L., the remaining 100 feet to an extreme depth of 28 feet below L.W.L. A channel, approximately 50 feet wide, and 400 long was dredged to 12, 12 and 14 feet below L.W.L. in the mouth of the Welland canal feeder discharge to allow fishing tugs to unload fish and take on coal supply.

The balance of the work performed consisted in dredging to 21 feet below L.W.L. the car ferry slip in the east side of the river, a turning basin on the opposite side of the river, and a portion of the proposed 435-foot channel to be dredged from the Welland canal feeder discharge upstream. Total length of channel improved, approximately 7,400 feet.

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Total length of proposed channel to be deepened and widened from deep water in the lake up to lot No. 10 is approximately 20,000 feet. Total amount of material to be removed in the whole project amounts to approximately 1,581,000 cubic yards, place measurement. Total amount authorized to be removed under present contract, 826,000 cubic yards, of which 628,703 yards was removed during last season. Nature of material removed: Channel through outer bar, sand and gravel; in river, silt, sand, and clay.

Total quantity removed (hydraulic and dipper), 626,319 cubic yards P.M.; total place measurement quantity removed by dipper dredge, 122,757 cubic yards P.M.; total scow measurement quantity removed by dipper dredge, 153,059 cubic yards S.M.; giving an expansion factor of 24.7 per cent.

Of this total amount of 122,757 cubic yards, 43,417 yards, place measurement, were removed within lines and grades as authorized, and spoiled. The balance of 79,340 yards is the amount removed below lines and grades and spoiled, together with the amount removed for commercial purposes.

Contract rate of payment, 12 cents per cubic yard, place measurement.

Contractor: The Great Lakes Dredging Co., Ltd., Port Arthur, Ont.

Period of operation: Hydraulic dredge *Shuniah*, June 10 to December 13, 1916; dipper dredge No. 8, June 30 to November 17, 1916. An additional two years will probably be required to complete the proposed improvements.

The spring survey shows that an exceptionally small amount of filling-in has taken place over the area dredged during season 1916.

RIVER THAMES.

Dredging.

The city of Chatham is on the Thames river, 18 miles from lake St. Clair.

There is a large and important water-borne traffic to and from this city.

The dredging at this place consisted of deepening the river in front of the wharf.

Area: 854 feet by 50 depth 10 feet below zero; quantity removed, 11,050 cubic yards, scow measurement.

The work was done by P.W. dredge No. 120; work was commenced on October 5 and ended October 30.

Distance scow towed to deposit, $3\frac{1}{2}$ miles downstream.

(Mouth.)

All traffic between the city of Chatham and points on the river Thames and the Great Lakes has to pass the bar in lake St. Clair at the mouth of the river.

For the purpose of deepening the entrance, Public Works dredge No. 120 worked from June 7 to October 2, dredging a channel 7,000 feet long by 50 wide, removing 50,270 cubic yards, scow measurement; depth dredged, 14 feet below zero.

Distance scows towed, to deposit, from 1 to 2 miles northeast of channel.

ST. JOHN CREEK.

St. John creek, in the county of Ontario, flows through the township of Rama, rising in St. John's lake and emptying into the Black river.

The department owned and operated a concrete stop-log dam for the regulation of water level.

By Order in Council dated September 1, this dam was transferred to the Department of Railways and Canals.

SAULT STE. MARIE.

Sault Ste. Marie, including the contiguous town of Steelton, has a population of some 20,000, and is situated on the St. Mary's river, opposite the St. Mary's falls.

Work of repair by day labour was commenced on June 6 and completed on October 31, 1916.

The work consisted in entirely renewing the concrete face wall of the wharf in places where it was badly eroded and in a dangerous condition. This wall is 6 feet high by 4 feet thick, and a total length of 200 feet was blasted out and renewed with fresh concrete. A large portion, about 24,000 square feet, of the surface of the wharf was refinished with fine trap rock and thoroughly solidified by a heavy steam roller. Some small repairs were also made to the warehouse.

Authority was given to construct a building on the government wharf for the use of the Customs Department, to replace the old one which was destroyed by a fire a short time previously.

Work was commenced on the 1st February, and was completed on 31st March, 1917.

The work consisted in the construction of a frame building, 42 feet long by 22 feet wide, the interior of which is divided into two offices and a storage room, the latter for the use of this department.

SEVERN RIVER.

Severn river, in the county of Ontario, runs from lakes Couchiching and St. John, flowing northwesterly through the township of Rama and district of Muskoka into the Georgian bay.

The dams are for regulating the water levels in lakes Simcoe and Couchiching, and were transferred to the control of the Department of Railways and Canals by Order in Council, dated September 1, 1916.

TORONTO.

(This work is fully described in the annual report for 1915.)

Toronto, county of York, is a city of some 500,000 inhabitants, situated on the north shore of lake Ontario.

Section "A" Sea Wall.—Actual construction of this proposed pile and reinforced concrete retaining wall has not yet been commenced.

Section "B" Breakwater.—Commenced crib building on May 28, 1914, the first crib being sunk in position at the west or Humber end of the work on July 31, 1914. From that date to December 31, 1916, forty 100-foot standard cribs and eight 30-foot return cribs have been placed. Of these, ten were built 14 feet in width; twenty, 16 feet in width, and the return cribs in accordance with the above. Of these cribs, thirty standard and six return cribs were placed on a sandy bottom on prepared berths, and practically filled with stone. Along both faces of this cribwork, some 1,303 piles 28 and 30 feet long have been driven in place at 5-foot centers. On June 23, 1914, preparatory to placing these cribs, the contractors commenced dredging berths at the Humber end, working in an easterly direction, and in all 56,149 cubic yards, scow measurement, of sand, clay, etc., were removed.

Work also commenced at the eastern end of this breakwater in close proximity to the northwestern corner of the new western channel, ten standard cribs 14 feet in width, and two 30-foot return cribs, scribed to conform to the rock bottom, were placed and filled with stone.

As these cribs were built for the sand section, and the contractors were required to scribe and place them on the rock section, they were allowed payment for the additional work required in scribing at cost, plus 10 per cent under clause 36 of their contract, the total additional cost to the department being \$2,688.16.

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Certain cribwork placed by the contractors during the season of 1914 required rectification, and this rectification was performed without extra cost during the past season, to the entire satisfaction of the department. In order to increase the stability of this section, the contractors have been instructed to construct all remaining cribs 16 feet in width.

The total expenditure on this section of the work to the end of the fiscal year amounted to \$170,963.07.

Section "C" Ship Channel and Turning Basin.—During the present year the following progress has been made: Round bent piles and anchor piles have been rectified over a length of 4,410 lineal feet of wall; new work has been performed to the extent of 4,735 lineal feet, making a total of 9,145 lineal feet of wall completed with 6- by 12-inch by 20-foot hemlock caps, and 10- by 12-inch by 20-foot British Columbia fir stringer. A total length of 8,786 lineal feet has been close-sheeted with 12- by 12-inch by 40-foot sheet piling, of which 4,410 lineal feet is rectified work and 4,376 lineal feet is new work. Waling of British Columbia fir, 12- by 12-inch by 22-foot has been placed over a total length of 8,001 lineal feet, of which 4,410 lineal feet is rectified work and 3,591 lineal feet is new work. The necessary structural steel has also been placed. The structure has been anchored back with 2-inch diameter anchor rods extending 50 feet to the anchor piles, in the rear of the wall, which have a barricade laid over a length of 8,511 lineal feet; 1,350.5 cubic yards of mass concrete have been placed over a length of 720 lineal feet. A total of 1,964,345 cubic yards have been dredged and deposited as back filling where directed. That portion of the work requiring rectification, which was contained in the area unwatered by means of coffer dams, was rectified by the contractors without cost, and to the entire satisfaction of the department.

It is the intention to complete the rectification of this section under the same terms during the coming fiscal year, when the remainder of the section will be unwatered. The total expenditure on this section of the work to the end of the fiscal year 1916-17 amounted to \$953,673.53.

Section "D" Retaining Walls and Northern Slip.—During the present year the following progress has been made: Round bent piles and anchor piles have been rectified over a length of 2,457 lineal feet of wall; new work has been done to the extent of 250 lineal feet, making a total of 2,707 lineal feet of wall completed with 6- by 12-inch by 8-foot hemlock caps and 10- by 12-inch by 20-foot British Columbia fir stringer. A total length of 2,707 lineal feet has been close-sheeted with 12- by 12-inch by 40-foot sheet piling, of which 2,457 lineal feet is rectified work and 250 lineal feet is new work. Waling of British Columbia fir 12- by 12-inch by 22-foot has been placed over a total length of 4,237 lineal feet, of which 3,737 lineal feet is rectified work and 500 lineal feet is new work. The necessary structural steel has also been placed. The structure has been anchored back with 2-inch diameter anchor rods extending 50 feet to the anchor piles, in rear of the wall, which have a barricade laid over a length of 1,937 lineal feet, 4,857 cubic yards of mass concrete have been placed over a length of 2,707 lineal feet. Extra anchorage rendered necessary over some 1,529 lineal feet of northern slip walls owing to defective nature of holding ground, entailed an expenditure of \$12,576.01, which was carried out by the contractors on a basis of cost plus 10 per cent, in accordance with clause 36, page 33 of the contract. The work on the northern slip or Don diversion portion of this section has been completed. That portion of this work requiring rectification, which was contained in the area unwatered by means of coffer dams, was rectified by the contractors without cost, and to the entire satisfaction of the department.

It is the intention to complete the rectification of this section under the same terms during the coming fiscal year, when the remainder of the section will be unwatered.

WAUBAUSHENE.

Waubauskene is a town on the Georgian bay, in the township of Tay, county of Simcoe, with a population of about 1,000. The Midland division of the Grand Trunk Railway system has a station and freight yards in the town.

The object in doing the work was for the purpose of making a channel of deeper draught of water to enable tugs towing blocks of logs direct into the mill-yards of the Georgian Bay Lumber Company and the Fesserton Lumber Company.

The channel is well sheltered from all quarters excepting from the northwest.

Authority was given to remove 18,500 cubic yards of class "B" material, place measurement. The work was let to the Penetanguishene Dredging Co., Limited, at a price of 26 cents per cubic yard. The material, as dredged, consisted of sand, mud, and some hard-pan. The dimensions are 5,637 feet long, average width 106 feet, and dredged to a depth of 11 feet below zero of water level; elevation 580.0, with an average cut of 3.2 feet. The area completed in 1916 is 156,094 square feet.

The remaining portion to be done to complete the channel is 52,199 cubic yards, *in situ*, class "B" material.

The work was begun July 31 and completed November 16, 1916. Quantity removed, 18,293 cubic yards, place measure.

In all probability the work, when completed, will be permanent.

MANITOBA.

ASSINIBOINE RIVER.

The floods in the spring of the year damaged the dykes along the banks of the Assiniboine river, east of Portage la Prairie, to such an extent that repairs had to be made to save the remainder of the work.

These repairs consisted of the installation of two 60-foot culverts, 3 feet in diameter, the building of 1,192 lineal feet of new dykes, and the repairing of 3,492 lineal feet of old dykes.

BIG GEORGE ISLAND.

In order to provide a much-needed harbour of refuge, work was begun on a channel from lake Winnipeg into a natural harbour at Big George island, Selkirk county. Part of the work consisted in dredging out a temporary shelter for the dredge.

The temporary shelter, as completed, has a length of 910 feet, a width in bottom of 35 feet, and carries a depth of 6 feet below low water. The channel, as completed, has a length of 455 feet, a width in bottom of 35 feet, and carries a depth of 9 feet below low water.

It was necessary to scow most of this material, and will in time require dredging owing to filling in.

Operations were carried on between July 17 and October 21, 1916, by dredge No. 204, the quantity removed being 7,675 cubic yards, scow measurement, clay, boulders, and gravel, which had to be towed a distance of 1 mile.

This work was done at a cost of 66.58 cents per cubic yard.

DAUPHIN RIVER.

To enable the lake-going boats to make use of the Marine and Fisheries wharf, the channel from the mouth of the Dauphin river, Selkirk county, to the wharf was deepened by dredging.

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Four cuts were necessary of a length of 2,382 feet and an average width of 35 on bottom, and carries a depth of 9 feet below low water.

It was necessary to scow the material a distance of about one mile. No filling-in is anticipated.

Operations were carried on between May 25 and July 15, 1916, by dredge *No. 204*, the quantity removed being 10,027 cubic yards, place measurement, of gravel, rock and boulders.

The work was done at a cost of 52.63 per cubic yard.

HOLE RIVER.

Hole river is situated on the east side of lake Winnipeg, opposite Black island. Above the fourth rapids on the Hole river a rock-fill dam was constructed, which was intended to hold the river at spring-water level and thereby make it navigable up to and across Hole River lake, a distance of about 15 miles. The dam as constructed was 90 feet long and an average height of about 5 to 7 feet.

All the rock was blasted nearby, and the number of yards placed in the dam is about 200.

Dredging.

To enable boats to navigate the river dredging was done, which consisted of the removal of blasted rock that was blocking the channel.

The total quantity of rock removed was 281 cubic yards. The channel now carries a depth of 9 feet below low water.

It was necessary to cast over the material; no filling-in will take place.

Operations were carried on between August 16 and August 23, 1916, by dredge *No. 202*.

The work was done at a cost of 117.33 cents per cubic yard.

LE PAS.

Le Pas, Le Pas county, is the northern terminus of the Canadian Northern railway, and the southern terminus of the Hudson Bay railway, with a population of about 2,000.

The site for the wharf has been acquired for the sum of \$1,870, and about twenty-eight cords of stone was acquired.

RED RIVER.

Crescent Island.

Owing to silting up of the river-bed at this point, dredge *No. 205* worked there improving the steamboat channel.

Three cuts were necessary of a total length of 5,363 feet to a width of 40 in the bottom, and carrying a depth of 10 feet below low water.

All of this material was towed a distance of 1 mile; further dredging will in time be required, owing to filling-in.

Operations were carried on between June 7 and July 20, 1916, and again from September 20 to October 31, 1916, by dredge *No. 205*, the quantity removed being 71,676 cubic yards, scow measurement, of mud and sand.

This work was done at a cost of 11.19 cents per cubic yard.

Middle Ground.

In order to improve the navigable channel and enlarge the sectional area of the river, thereby lessening the danger of ice jams and floods in the vicinity of Selkirk,

dredging was continued below Sugar island, about one and one-half miles north of Selkirk, at what is called the "Middle Ground."

The dredging consisted of three cuts having a total length of 5,210 feet by 160 wide, to an average depth of 4 feet, and carries a depth of 11 feet at low water.

It was necessary to cast over the material, which will in time require further dredging owing to filling-in.

Operations were carried on between July 31 and October 31, 1916, by dredge No. 201, the quantity removed being 123,590 cubic yards of silt, place measurement.

The work was done at a cost of 6.31 cents per cubic yard.

New Channel.

Owing to the spring freshets, the channel at the mouth of the Red river had to be dredged to remove deposits of silt.

Operations were carried on between May 6 and July 29 by the dredge No. 201, the quantity removed being 53,589 cubic yards, sandy clay, place measurement, which was all cast over, consisting of two cuts as follows: 1,182 feet by 100 by 3 feet, and 2,395 feet by 140 by 3 feet, and carries a depth of 11 feet below low water.

Operations were carried on between May 13 and May 24, 1916, by dredge No. 204, the quantity removed being 1,534 cubic yards of sand, scow measurement, tow, one-half mile. This work consisted of one cut 280 feet long, 40 wide in bottom, and carries 11 feet depth below low water.

Operations were also carried on between May 20 and June 7 by dredge No. 205, the quantity removed being 3,298 cubic yards, scow measurement, of sand; towed one-half mile. This work is 593 feet in length, 40 wide, and carries a depth of 10 feet below low water.

Total cubic yards, 58,421, and cost per cubic yard, 8.24 cents.

New Entrance Channel.

Owing to the ice preventing the placing of stone in the protection work at the mouth of the Red river during the winter of 1915-16, this work had to be left over until last summer, when it was completed.

The storms of 1916 completely wrecked a portion of the old protection wall on the west side of the channel at the mouth of the river, thereby endangering the remainder of the wall. About 648 feet of this was replaced by class B work, which seems to be the only type of work that will stand the action of heavy storms.

ST. ANDREWS LOCK AND DAM.

The work of removing the stone, which had been used as a cofferdam at St. Andrews, was completed this year. This stone seriously interfered with the proper escape of the water from the dam, the current being directed by it across the navigable channel, offering a menace to navigation.

Four cuts were necessary of a total length of 1,929 feet to a width of 40 in the bottom, of an average depth of 5.82 feet.

It was necessary to tow all material a distance of 1 mile. No filling-in is anticipated.

Operations were carried on between July 31 and September 19 by P.W.D. No. 205, the quantity removed being 14,900 cubic yards, scow measurement, of rock, gravel, and boulders.

The cost of this work was 27.4 cents per cubic yard.

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SELKIRK SLOUGH.

In order to improve the channel for navigation, further dredging was required this year in the West slough, which is used by the department as a winter harbour, and has the government shipyard near the head.

Two cuts were necessary of a total length of 4,932 feet to a width of 40 in the bottom and carried a depth of 10 feet below low water.

It was necessary to tow all of the material a distance of 1 mile. No filling-in is anticipated.

Operations were carried on between July 26 and August 16, and again between August 23 and October 31 by dredge No. 202, the quantity removed being 32,450 cubic yards, scow measurement, of clay.

The cost of this work was 24.45 cents per cubic yard.

SNAKE ISLAND.

Dredging was required at Snake island, Dauphin county, for the purpose of improving the channel from the lake to the government fish hatchery on the island.

The channel, as completed, consists of three cuts of a total length of 1,538 feet, a width of 35 on the bottom, and carries a depth of 6½ feet at low water.

It was necessary to scow the material a distance of one-quarter mile, and will in time require further dredging owing to filling-in.

Operations were carried on between August 16 and September 15, 1916, by dredge No. 210, the quantity removed being 5,581 cubic yards, scow measurement, of gravel, clay, and boulders.

The work was done at a cost of 28.38 cents per cubic yard.

WINNIPEGOSIS.

Owing to low water on lake Manitoba, the channel from Mossy river to the lake required dredging, as did also the channels at the Armstrong Trading Company's wharf, the Canadian Lake Fisheries dock, and the Standard Lumber Company's wharf.

The work, as completed, consisted of 3,414 lineal feet, with a width of 25 feet in the bottom; 479 lineal feet, 8 feet wide in the bottom; and 30 lineal feet, 20 feet wide in the bottom; and all carries a depth of 8 feet below low water.

All of the material was scowed a distance of three-quarters of a mile, and will in time require further dredging, owing to filling-in.

Operations were carried on between July 7 and August 17, 1916, by dredge No. 210, the quantity removed being 9,208 cubic yards, scow measurement, of sand, clay, boulders, and hardpan.

The work was done at a cost of 31.05 cents per cubic yard.

BRITISH COLUMBIA.

BELLA BELLA.

Bella Bella is situated on the east coast of Campbell island, 170 miles from Prince Rupert. This place is an old Hudson's Bay Company post, and has been used since 1833 as a landing place for supplies and mail for the settlers in the surrounding country. It is proposed to rebuild the wharf, which has been turned over to the Department by Mr. J. A. Pauline, its present owner. The proposed wharf would be 40 by 80 feet, with an approach 120 feet long, and will be built of creosoted piles.

BISHOPS BAY.

Bishops Bay, Comox-Atlin district, is situated on the mainland coast of British Columbia, on the strait of Georgia, about 20 miles west of Powell river, and some 100 miles northwest of the city of Vancouver. It is of considerable importance as a shipping point for fish, and a regular place of call for coastwise steamers.

Authority was granted to build a landing float on the bay. An agreement was entered into with James McDonald & Co. to supply all labour and material in place for \$689.12.

The complete work consists of a cedar log and timber-decked float 36 by 50 feet and approach 6 by 120 feet, with the usual anchorage, and shed 10 by 12 feet. Construction was started November 21, and completed November 27.

BURTON.

Owing to the action of the current on a high gravel bank, 1,900 feet long and 20 feet high, on the east side of the Columbia river, below Burton, bars were formed in the slack water at the head of the Lower Arrow lakes, necessitating almost continuous dredging to keep the channel open. To assist in establishing a permanent channel at this place, it was decided to protect the eroding bank by a brush-and-rock mattress.

Work was continued on November 7, 1916, and completed on February 6, 1917; during this time the lower portion of the bank was matted for a length of 1,450 feet and an average width of 55 feet. This work completed the bank protection on a length of 2,750 feet.

COURTENAY RIVER.

The Courtenay river runs in a southeasterly direction into Comox harbour. Courtenay, near its mouth, the northerly terminus of the Esquimalt and Nanaimo railway, is the principal town of the Comox valley, which is about 6 miles wide and 40 miles long.

During 1914 and 1915 the original tortuous channel over the tidal flats between Comox bay and the mouth of the Courtenay river had been straightened by dredging a new channel 3,000 feet long and 100 feet wide by means of the departmental dredge *King Edward*. Further improvements were required between the point where the dredge had ceased work and the town of Courtenay. Authorization was granted for the orange-peel bucket dredge *Victoria* to make a channel, 80 feet in width, by removing numerous boulders and snags, to provide additional depth over two bars, at the river mouth and below the town of Courtenay, respectively, to facilitate the navigation of boats coming up the river. The dredge commenced work on February 12, 1917, and on March 31 had covered a distance of 1,500 feet, commencing from the Courtenay bridge, in addition to improving the channel at the river mouth. The main portion of the work still to be done consists of providing additional depth on the upper bar.

The material was all overcast to the sides of the channel. The estimated quantity was 2,999 cubic yards, including 132 isolated boulders; also fifty-two snags. Filling-in may take place, necessitating further work in two or three years in order to keep the channel clear.

CRACROFT.

Cracraft float, Comox-Atlin district, is situated on the southwesterly coast of Cracraft island, and is a regular place of call for coastwise steamers.

A new float, 30 by 50 feet, with an approach 350 feet long by 6 feet wide, shed 12 by 16 feet, with the usual anchorage, was built.

Work was commenced on November 24 and completed March 3, under agreement with James McDonald & Co., at unit prices.

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FRASER RIVER—NORTH ARM JETTY.

The work undertaken at the mouth of the north arm of the Fraser river has for its object the making and maintaining of a navigable channel through the Sandheads at the mouth. The complete scheme embraces the dredging of a channel 21,685 feet long, 300 wide, to 10 feet at L.W.O.S.T., and the construction of a bulkhead and mattress jetty, 22,191 feet long, paralleling the dredged channel on the south side.

The construction of the jetty was completed in the fiscal year 1915-16, details of which may be found in the annual report for that year.

The Pacific Dredging Company, of Vancouver, completed this contract on December 31. During this fiscal year, 747,728 cubic yards of material have been removed, making a total of 3,028,234 cubic yards removed to complete the cut.

Dredging.

A request was made by the New Westminster Board of Trade and various industries interested to do some dredging at the mouth of the North arm of the Fraser river, below Lulu Island bridge.

Authority being granted, the *King Edward* commenced on July 24 to dredge a channel some 1,200 feet long, 150 feet wide, to 10 feet B.L.W. and completed in August 26 the removal of 37,300 cubic yards of sand and fine gravel, which was deposited at the upper end of Poplar island.

It is quite possible that more dredging will have to be undertaken in this locality in the near future, as the natural tendency is to silt up.

South Branch.

The South branch is that portion of the north arm running from Eburne south and southwest to the gulf of Georgia. The object of the work is to provide a channel with a depth of 10 feet at L.W.O.S.T., connecting with the channel dredged by the department in front of Eburne in 1911.

The whole work consists of a channel 6,225 feet long and 150 feet wide, the total material removed being 227,025 cubic yards of sand and silt in place, of which 101,790 cubic yards were removed on a distance of 3,700 feet last year.

Authority being granted to complete this work, the *King Edward* started operations April 10 and continued to the 18th, when she was ordered to Powell river. Starting again on May 16, work was resumed to completion on July 30, during which time 125,235 cubic yards were removed. It is expected that this work will be permanent.

Steveston Jetty (2nd Unit).

The work being done at the mouth of the main branch of the Fraser river has for its object the confining of the waters passing over the Sandheads to a defined channel, which is being dredged parallel to the proposed jetties. The proposed jetty on the north side of the channel is 27,000 feet long. Of this total length there was completed, by March 31, 15,800 feet, including 6,900 lineal feet of the first unit.

The work done during the fiscal year 1916-17 was the building of the second unit of the jetty, with a length of 7,100 feet and an extension to the second unit of 1,800 feet. The contract for the construction of this second unit was let to the Marsh-Hutton-Powers Company, of New Westminster, dated June 4, 1915. The extension of this contract was authorized by Order in Council passed on 15th August, 1916, for an additional length of 1,800 feet.

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Work was begun on June 18, 1915, and consists of a brush mattress and rock mound, which is made up of the following materials, the quantities being approximate:

—	Original contract.	Extension.	Total.
Brush mattress.....	120,262 cubic yards	25,000 cubic yards	145,262 cubic yards
Rock, large.....	48,350 tons.	12,500 tons.	60,850 tons.
Rock, small.....	77,800 tons.	19,100 tons.	96,900 tons.
Lumber.....	42,600 feet B.M.	6,300 feet B.M.	48,900 feet B.M.

The following table shows the materials already placed and the balance yet to be done:—

—	—	Balance to be done.
Brush in mattress.....	141,700 cubic yards	3,562 cubic yards
Rock, large, in place.....	54,000	6,850 tons to be
Rock, not graded.....	6,850	graded.
Rock, small.....	96,100	800 tons.
Lumber.....	35,500 feet B.M.	13,400 feet B.M.

Sandheads.

The Fraser river sandheads extend from Steveston west about 5.5 miles to deep water in the gulf of Georgia. These sandheads are bare at low water, except the channel runs between them. Several years ago, this channel showed a tendency to cut a straight course through the bar to the north of the old channel, and the natural tendency of the river, materially assisted by dredging, has resulted in the production of the main ship canal at this place. This channel has obtained a minimum depth of 15 feet at low tide, and it is to maintain or increase this depth and straighten out the channel that the work is being performed.

The department dredges *No. 303* and *King Edward* have been employed this year maintaining and improving the channel paralleling the jetty from buoy No. 24 to the gulf of Georgia. The following table shows the work performed by each dredge:—

Dredge "303".

Intervals of dredging.	Cubic yards (Hopper measurement)	Material.
April 1st, 1916, to March 31st, 1917.....	692,800	Sand and clay.

King Edward.

Intervals of dredging.	Cubic yards (Place measurement)	Material.
Aug. 28th to Oct. 10th.....	41,460	Sand and clay.
Oct. 16th to Nov. 25th.....	34,855	
	76,315	

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This shows a total of 769,115 cubic yards removed from the channel during this fiscal year.

The *King Edward* confined its operations to a cut 1,800 feet long by 150 wide, through a bar that had formed at the outer end of the cut between buoys Nos. 1 and 3, while the *No. 303* assisted the *King Edward* in widening the cut at this point, besides removing material from various parts of the channel between No. 3 and No. 24 buoys.

On the whole, the dredged channel appears to be maintaining the depth dredged, alternate filling-in of the bottom taking place at different stages of high water in the river.

HOPE POINT.

Hope point, Comox-Atlin district, is situated on the southeasterly end of Gambier island, Howe sound, about 20 miles northwest from the city of Vancouver.

Authority was granted to build a float at Hope Point, and an agreement was entered into with James McDonald & Co., of Vancouver, to supply all labour and material in place for the lump sum of \$921.22.

The completed work consists of a cedar-log and timber-decked float, 34 by 44 feet, with an approach 6 by 100 feet connected with the shore by cribbing 8 by 10 feet, and fastened at the outer end by boomsticks to the shore. A shed, 10 by 12 feet, was built on the float. Work was commenced September 6 and completed September 22.

JEDIDIAH ISLAND.

Jedidiah island, Comox-Atlin district, is situated between Texada island and Lasqueti island in the strait of Georgia, some 50 miles northwest of the city of Vancouver.

Authority was granted to build a float on the island; work was commenced October 5, by day labour, and completed March 31.

The completed work consists of a new float, 16 by 34 feet, approached 10 by 120 feet on sawn-timber bents, a gangway 6 by 32 feet, and a shed 10 by 12 feet.

KITIMAT VILLAGE.

This village is situated at the head of Kitimat arm on the west coast of British Columbia, 150 miles from Prince Rupert.

The work of building a landing float started early in November and completed in the same month. This float is 20 by 60 feet, with a floating approach 6 feet wide and 190 feet long. Three clumps of dolphins were driven in front of the float so as to break the weight of any large ships which land at this point. In August last, the settlers of Kitimat village requested that two floats be built in Kitimat bay instead of one, building the smaller float on the opposite side of the bay, where the large one was to be built, to accommodate small gasoline boats. Authority to proceed with this extra work was received, and work was done by day labour in a most satisfactory manner.

LILLOOET RIVER.

The Lillooet river, New Westminster district, drains Lillooet lake, passes through a flat country known as Pitt Meadows, and empties into Pitt river, about two miles above the junction with the Fraser.

Authority was granted to make a diversion of the river by cutting a straight channel through a narrow neck of land, doing away with a sharp bend, to facilitate the driving of logs and prevent the water from backing up and overflowing the land.

An agreement was entered into with J. W. Pike, of Vancouver, to make a cut 328 feet long, 80 wide, and 4.5 feet deep, representing the removal of 8,425 cubic yards, including slopes, at the rate of 12 cents per cubic yard.

LITTLE RIVER (CAPE LAZO).

Authorization was granted for the construction of a wharf at Little river, Comox-Atlin district, about 3 miles north of cape Lazo, on the east coast of Vancouver island, where there is a Dominion Government wireless station.

A wharf, 80 by 30 feet, was constructed, with shed and slip and approach 315 by 14 feet with an additional 30 feet widened to assist the turning of teams. The work was carried out by contract by James MacDonald & Company, and completed in December, 1916.

LLOYD POINT.

Lloyd point, Comox-Atlin district, is situated on the mainland coast of British Columbia, opposite Redonda island, in Homfrey channel, some 120 miles northwest of the city of Vancouver.

It was considered that a float would be cheaper and more convenient than a wharf for the settlers at this point, so a float 30 by 40 feet was built. A small shed, 10 by 12 feet, with 8-foot wall, was built on the float to accommodate the public and to store freight in bad weather. An agreement was entered into with James McDonald & Co. to build this float, supply all labour and material in place.

Work commenced November 21 and was completed February 26.

NANAIMO.

Nanaimo, Nanaimo district, is the centre of the coal mining industry of Vancouver island; also of the herring fisheries. It is about 40 miles distant from Vancouver, and 73 miles north of Victoria.

Nineteen fir and twenty creosoted bearing piles were driven in the wharf-head and approach, and the caps, stringers, joists, decking, and handrail renewed. The original approach was lengthened 20 feet in order to reduce the grade to the street, and the shed removed to the northwest corner of the wharf.

The work was completed by day labour between September 19 and October 23, 1916.

Dredging.

(This work is described in the annual report for 1916).

The Lobnitz rockbreaker was engaged the whole of the year, reporting an estimated quantity of 11,537 cubic yards of rock broken. The departmental dredge *Ajax* removed the following material, according to dredge captain's returns, between November 1 and December 8, 1916:—

		Rock.	Hardpan, gravel, silt, etc.	Total cubic yards, scow measurement.
North Channel.	{ Nicol rock	3,483	390	3,873
	{ Block " H "	545		545
	{ Block " I "	268		268
	{ Block " J "	1,396		1,396
Removed 1916-17.....		5,692	390	6,082
" " " " 1914-15.....		3,940	890	4,830
" " " " 1915-16.....		11,100	4,450	15,550
		20,732	5,730	26,464

This leaves an estimated quantity of 27,874 cubic yards (place measurement) still to be removed.

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No further work is required on block "I," which has now a minimum depth of 29 feet at low water. The present minimum depth at low water on block "H" is 24.8 feet, on block "J" 21.7 feet, and on Nicol rock is 18.6 feet. A considerable quantity of broken rock was ready for excavation at the end of the fiscal year, but before sending the dredge to remove it, further work was considered desirable.

NEW BRIGHTON.

New Brighton, Comox-Atlin district, is situated on the southwest side of Gambier island, some 35 miles from the city of Vancouver.

Authority was granted to build a float at Brighton Beach, and an agreement was entered into with James McDonald & Co., of Vancouver, to supply all labour and material in place.

The completed work consists of a cedar-log and timber-decked float, 34 by 46 feet, an approach 6 by 280 feet with the usual anchorage, and a shed 12 by 14 feet.

Work was commenced September 13 and completed September 26.

OKANAGAN RIVER.

When the regulating dam at the head of the Okanagan river was built, the static head provided for, based on the lowest known discharge from Okanagan lake of 400 c.f.s., was one-half foot. It was found, however, in the spring of 1916, this discharge had dropped to 180 c.f.s., necessitating the placing of a stop-log, a foot vertical, across the discharge opening, in an endeavour to maintain the lake level at near low-water mark. This formed a head of 1.8 foot, which caused considerable scouring to the river bottom for some distance below the dam and, owing to the extra pressure, some leakage through the dam. This scouring and leakage could be arrested by placing rock and brush along the back of dam, and rock on the bottom where the scouring was taking place; advantage was taken of high water from 8th to 22nd August to haul the required material by scow, and the dredge *Heron* was used to handle the rock at the dam. During this period, about 75 cubic yards of rock was placed in the channel where the scouring was taking place, and the same quantity piled on the bank at the dam. Between September 28 and October 11, the water having dropped, this latter rock was carefully hand-placed, on brush and tules, along the back of the dam.

During this winter, a second stop-log, 10 inches vertical, was placed in the discharge opening of the dam, which has had the following effect: On May 5, the discharge through the dam over one stop-log, with level of lake at minus .45 was 417 c.f.s.; with second stop-log, lake at same level, was 223 c.f.s. From this, it may fairly be inferred that the difference between the two discharges, 194 c.f.s., was being throttled by the extra stop-log, which would naturally raise the level of the lake; or that the inflow to the lake was 194 c.f.s. below normal, and that the dam was holding the lake above the level, due to quantity of water discharged into it.

From 26th to 31st March, eight loads of rock were placed about the central swing pier of the road bridge, crossing the head of the Okanagan river, immediately below control dam, to counteract the effect of the current from the dam on the river bed, and stop scouring. Thirty-four loads of rock were also deposited on the banks, near control dam, for use in future repairs.

The dumps made by dredge near the Fairview road bridge were scraped, levelled, and otherwise trimmed up so as to prevent material washing back into the river channel.

Dredging.

From 12th May the *Heron* was employed until 13th July running a cut south from the railway bridge, involving the handling of 7,513 cubic yards. This distance was

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again gone over and 3,391 yards was rehandled, the work terminating on 7th August. The total amount of material handled, consisting of sand and gravel, was 10,904 cubic yards.

On 24th August the *Heron* was engaged until 27th September in deepening channel to grade line from above the railway bridge near Beaver creek. On this work, 3,863 cubic yards was single-handled.

PORT CLEMENTS OR QUEENSTON.

Port Clements is situated at the head of Masset inlet, on Graham island, one of the Queen Charlotte islands, which are located 100 miles in the Pacific ocean, west from Prince Rupert.

The wharf, built in 1913, using green piles, was in such bad condition from the action of teredoes that it was in danger of total collapse. The rebuilding of the wharf, as well as the approach, by using creosoted piles, was done by day labour, and was started early in July, completed in October, and is a very satisfactory piece of work, and it is expected will stand about ten or twelve years. This wharf is 40 by 60 feet wide, an approach of 650 feet long and 16 feet wide, with a freight-shed built on the wharf, 16 by 16 feet. A pile dolphin was also driven 60 feet out from the wharf, against which the stern of a ship rests when laying at the wharf.

POWELL RIVER.

Powell River, Comox-Atlin district, is a town with a population of about 2,000, situated on the mainland of British Columbia, 80 miles northwest of Vancouver city.

The harbour is protected from southeast winds by a breakwater, built in 1911-12, by the Powell River Paper Company and purchased by the department the same year. Authority was granted to build a wharf, and it was decided to construct it along the west side of the breakwater.

An agreement was entered into with James McDonald & Co., on July 15, to build the wharf, supply all labour and material in place for \$2,500.

The completed work consists of a pile and post-bent and timber superstructure, 46 by 70 feet, an approach 14 feet wide and 650 feet long, and a small shed 16 by 26 feet. The east side of the approach and pier-head rest on the breakwater. Work was started July 22 and completed on August 8.

Dredging.

Authority being granted to dredge a berthing channel alongside the Powell River Paper Company's wharf, the *King Edward* started May 1 to remove a cut 350 feet long by 175 wide to 30 feet B.L.W.O.S.T., removing 14,515 cubic yards of sand, silt, gravel, and clay, by May 10.

REFUGE BAY.

The wharf at Refuge bay is situated on the north of Porcher island, about 26 miles in a southwesterly direction from Prince Rupert. This wharf, having fallen down owing to the action of teredoes, was rebuilt with creosoted piles in 1915, and is 40 by 60 feet, with a freight shed 14 by 16 feet.

The work of rebuilding the approach was completed this year, and was done by day labour, creosoted piles being used, and was started about October 15, and by the middle of November it was necessary to stop work owing to shortage of creosoted piles, but the work was resumed again and completed in January. This approach is 390 feet long and 16 wide.

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ROBERTS CREEK.

Roberts Creek, Comox-Atlin district, is a settlement on the mainland coast of British Columbia, some 23 miles west of the city of Vancouver, and a regular port of call for coastwise steamers.

This wharf was built in the year 1914-15.

An addition was built, 20 by 120 feet, along the east side of the old pier-head, forty creosoted and thirty-five fir piles were used, and 16,037 feet of lumber, as well as eight fender piles driven on the face of the old wharf.

Work was commenced June 15 and completed July 25.

SMITH'S LANDING.

Smith's Landing, Comox-Atlin district, is situated on the south shore of Howe sound, about two miles from Granthams Landing and some 25 miles from the city of Vancouver. It is a regular place of call for steamers from Vancouver.

Work at this point was the construction of a new pile bent and timber decking wharf, 36 by 48 feet, with a pile bent addition 14 by 30 feet to the existing approach, and a shed 10 by 12 feet.

All the bearing piles in the wharf were creosoted to withstand the attacks of the teredo.

The work was performed by James McDonald & Co., at unit prices, between August 22 and September 5.

SMITHS LANDING (CORTEZ ISLAND).

Smiths Landing, Comox-Atlin district, is situated on the east side of Cortez island, some 105 miles northwest of the city of Vancouver.

To build a float at this point, a contract was entered into with James McDonald & Co. at unit prices of \$30 per M. for lumber, and \$22 for cedar logs in place.

This work consists of a float, 30 by 45 feet, of cedar logs with deck of 6- by 6-inch cross-ties and 2- by 12-inch planking, and 6- by 6-inch cross-ties, and an approach 6 by 250 feet, with the usual anchorage, and a shed 10 by 12 feet.

Work was commenced November 20, 1916, and completed March 27, 1917.

SQUAMISH.

Squamish, Comox-Atlin district, is a town of considerable importance as a terminus of the Pacific-Great Eastern railway, situated at the head of Howe sound.

A retaining wall to prevent the material dredged from the channel at the mouth of the east branch of the Squamish river from working back into the channel was built. The retaining wall is 2,300 feet long and 14 high along the east side of the approach to the Squamish wharf, with a wing 200 feet long on the outer end.

Work started August 1, 1916, and was completed February 5, 1917.

Dredging.

Authority was granted to dredge a channel in the east branch of the river, 7,200 feet long, 120 wide at the bottom to 8 feet B.L.W.O.S.T., from deep water at the mouth to the town of Squamish, entailing the removal of some 400,000 cubic yards of sand, gravel, etc.

The *King Edward* started on this work November 27, and up to March 31 removed 125,800 cubic yards, or 31.5 per cent of material from the outer end of the channel and deposited it behind the retaining wall built this year alongside the Government wharf.

As this channel is protected on both sides, the dredging is expected to be of a permanent nature.

STAPLEBY.

Stapleby, Comox-Atlin district, is about three miles from Ucluelet on the west coast of Vancouver island, and is the natural point of outlet from Kennedy lake, Wreck bay, and Long beach. A boat landing has been constructed consisting of a float, 20 by 15 feet, approach on piles 170 by 6 feet, with head 34 by 9 feet, shed 9 by 15 feet, and gangway 32 by 4 feet. This work was completed by day labour between the 2nd and 31st October, 1916.

SURGE NARROWS.

Surge Narrows float, Comox-Atlin district, is situated on the northwest coast of Read island, and is a regular place of call for coastwise steamers.

An agreement was entered into with James McDonald & Co. to build a float, supplying all labour and material in place.

The completed work consists of a cedar-log and timber-decked float, 34 by 60 feet, with boomsticks to keep float in position, and a shed 12 by 20 feet was built on the float.

Construction was commenced November 21 and completed February 27.

VANCOUVER.

A contract for the construction of a wooden freight shed on the government wharf was let to Messrs. Snider Bros. and Brethour, for the sum of \$44,990.

Work was commenced in April and completed, with the exception of some minor details, on November 30.

Messrs. Snider Bros. and Brethour supplied, in addition to the above, one valve to reduce the pressure on plumbing fixtures, one hydrant and two 8-inch gate valves and brackets under electric supports, amounting to \$348.25, while the city of Vancouver laid and connected an 8-inch water main from Powell street to the wharf system at the north end of Salisbury drive.

Railway Track.

Authority was granted to build a spur track on the government property on the east side of the government wharf, to assist in the handling of freight which is loaded directly from ship to car or *vice versa*, thus avoiding delay and expense in trucking through the shed, and for the use of a travelling crane.

The track as laid out on the ground includes a tangent 1,139 feet along the east face of the government shed and 217 feet of a 15-degree curve to the north side of Stewart street. This will eventually be produced across Stewart street and connected by the Canadian Pacific Railway to their own line, when permission is granted by the Railway Commission.

Work was commenced February 7, by day labour, and completed March 22.

Roadway.

Authority was granted to build a plank roadway from the end of Salisbury drive to the lower end of the railway entering the shed at the south end of the Government wharf.

The completed work which was done by day labour, consists in a plank roadway 258 feet long and 24 wide, 4-inch plank and 6- by 12-sills being used.

This work was commenced February 2 and completed February 16.

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FIRST NARROWS.

Dredging.

The entrance to Burrard inlet from the sea is through a contracted channel known as the First narrows. This channel is of varying width, the least being opposite Prospect point, where it was originally 450 feet between 30-foot contours. The work being performed has for its object the widening of this channel to 1,200 feet and deepening it to 35 feet below L.W.O.S.T. The departmental ladder dredge *Mastodon* has been used on this work with very satisfactory results. The following table gives the details for this year:—

Dates between which work was performed.	Cubic yards, scow measurement.	Material.
April 1, 1916, to March 31, 1917.	516,510	Gravel and sand.

The work undertaken this year was performed under considerable difficulty. The outer main cut has been worked periodically from year to year from the outer ends to the centre, on account of the city water pipes that cross the narrows having to be removed to allow the dredging to be done. A hogsback, some 850 feet long by 400 wide, remained to be removed this year. The action of the strong current caused the upper part to spread, and necessitated covering additional area as the cut silted up on each side of the hogsback.

The dredge operated with only one shift this year which necessarily made the yardage smaller than previous years. The following table gives the amount removed to the 31st March, 1817:—

1911-12.	249,620	cubic yards, scow measurement.
1912-13.	207,000	" " " "
1912-13, Parthia Shoal.	134,700	" " " "
1913-14.	737,150	" " " "
1914-15.	922,480	" " " "
1915-16.	969,020	" " " "
1916-17.	516,510	" " " "
	<hr/>	
	3,736,510	" " " "

The grand total for the improvement of the First narrows as outlined in 1915-16 annual report, amounted to 3,553,526 cubic yards, place measurement, or 4,264,231 cubic yards, scow measurement, with an expansion factor of 20 per cent; of this amount there still remains 527,721 cubic yards to complete the original scheme. The work as proposed embraces this 527,721 yards from the original north shore cut, 88,587 yards from a triangular piece at the extreme east end, and 197,755 yards to complete Parthia shoal to a minimum depth of 35 feet, making a total of 814,065 yards, scow measurement, to complete the work in the narrows to 35 feet B.L.W.O.S.T., as at present contemplated. Of this amount it is proposed to remove 676,743 cubic yards during the year 1917-18.

It is not possible to give the dimensions of the work this year, owing to its irregular nature.

False Creek.

The dredging in False creek has for its object the utilizing as an additional harbour to that of Burrard inlet of a long, narrow, shallow basin of tidal water running from English bay to the centre of the city. This work necessitates the deepening of a channel some 13,500 feet long, 350 wide, and 20 feet deep at L.W.O.S.T. from grade at English bay to the Great Northern Railway Bridge crossing the creek, together with a dredged cut some 2,400 feet long and having an average width of 188 feet, running northerly from the inner end of the main channel and having a depth of 12 feet B.L.W.O.S.T, besides providing for two turning basins on opposite sides of the channel.

On March 3, 1913, a contract was awarded to the Pacific Dredging Company of Vancouver, B.C., to remove 3,300,000 cubic yards of various materials at a flat rate of 21 cents per cubic yard, place measurement. A further amount of 542,000 cubic yards was authorized on December 24, 1913, to be taken out of the turning basin at the inner end of the cut. Authority was also granted to remove 425,274 cubic yards from a turning basin on the south side of the main channel just east of Granville Street bridge.

This work was completed during the month of April. The total excavation is made up as follows:—

Main channel..	3,108,727'60	cubic yards.
" slopes..	267,123'40	" "
Turning basin No. 1..	539,662'00	" "
" No. 1, slopes..	41,520'05	" "
" No. 2..	337,080'50	" "
" No. 2, slopes..	16,082'70	" "
	<hr/>	
	4,310,196'25	" "

VICTORIA HARBOUR.

Victoria, the capital of British Columbia, with a population of 50,000, lies at the southern end of Vancouver island and at the eastern end of the Juan de Fuca strait. Ocean-going vessels at present dock at the outer wharves near the entrance to the inner harbour, which is between Shoal and McLoughlin points.

The dredging carried out during the past year had as its main object the further improvement of the channel to James bay by the removal of rock to the south of Pelly island and to the west of Songhees point, also the removal of rock to the east of Songhees point to provide additional facilities for vessels leaving the Canadian Pacific Railway wharves, and the removal of Turpel's rock in the centre of the upper harbour. The navigable area is being gradually increased year by year, and the grade of 20 feet below low water, over areas already covered, is maintained. The following plant, which worked on single shift only, assisted with the work done: Dredges *Ajax*, *Mud-lark*, *Victoria*, *Lobnitz* rockbreaker *No. 1*, drill plants *No. 1* and *2*. The dredges *Ajax* and *Victoria* worked at various places away from Victoria during the year.

The dredging which is being carried out at the entrance to the harbour by the Pacific Dredging Company to provide fill for the piers constructed at Ogden point has resulted in the widening of the west side of the channel between McLoughlin point and Behren's island from 100 to 300 feet, while a considerable improvement has been made at the entrance to the outer wharves by the deepening of an area approximately 16 acres in extent from 30 to 35 feet below low water, which will facilitate the manœuvring of vessels when entering and leaving. A considerable amount of material has also been removed from West bay. While this work has been in progress, the departmental plant has been withdrawn from this part of the harbour. The removal of rock to the south of Pelly island has been continued, resulting in an increased width of about 200 feet. Platform rock, which at the beginning of 1914 was dry at low tide, has been entirely removed, and Princess rock has been cut back about 150 feet. The beacon marking the channel south of Pelly island has been placed 250 feet west and 100 north of its position one year ago, with the result that vessels are now enabled for the first time in the navigation of the harbour to take an approximately straight course between Laurel point and the bend in the channel at Shoal point.

The dredging of a new channel to the north of Pelly island has been commenced where it has been ascertained that a minimum width of 300 feet can be obtained without any rock work. An additional average width of 80 feet was provided near the narrowest part of the channel on its northerly side, west of Songhees point. The entrance to the Canadian Pacific railway wharves, where silting up had taken place, was dredged to 20 feet below low water, and a mooring basin having the same depth was

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provided in James bay. A great improvement was made to the southeast of Songhees point by the complete removal of Beaver and Tuzo rocks, resulting in an additional 200 feet of width, straightening the channel for the Canadian Pacific Railway boats when leaving port and enabling the spar buoy to be dispensed with. Additional width of about 80 feet has been provided at Hospital rock east of Songhees point, and further improvement will be given at this point in the near future which will be of considerable assistance to vessels when manœuvring on leaving port. The removal of rock immediately south of the Esquimalt and Nanaimo Railway bridge has been commenced, as it is advisable that this work should be done prior to the construction of the proposed Johnson street bridge. A basin was dredged to 14 feet at low water at the city garbage wharf at the expense of the city of Victoria and additional depth provided at the Marine Department's wharf. Progress is being made with the removal of Turpel's rock, the main obstacle remaining in the upper harbour. A berth was provided at the shipbuilding yards, in which new vessels can lie in the period between launching and completion, while the area fronting their launching ways is being deepened to 20 feet below low water, and this same depth has been given at the Victoria Whaling Company's wharf. A channel dredged to 5 feet below low water to the city yard north of the Point Ellice bridge was completed early in the fiscal year.

Summary of material removed from Victoria harbour during the year by the departmental plant:—

	Rock.	Cubic Yards.	Total.
North side of channel, Pelley island to Songhees point..	13,689		
Songhees point to E. & N. Ry. bridge.....	7,700		
Turpel rock, upper harbour.....	1,407		
			22,196
		Hardpan, Clay and Silt.	
To 20 feet below L.W.L.—			
Near Shoal point.....		6,800	
Improvements to, and widening of channel between entrance to harbour and Songhees point.....		135,819	
Adjacent to C.P. Ry. wharves.....		21,804	
West side of channel between Songhees point and E. & N. Ry. bridge.....		18,342	
Upper harbour, north of E. & N. Ry. bridge.....		16,016	
To 14 feet below L.W.L.—			
City garbage wharf, Upper Harbour.....		620	
To 5 feet below L.W.L.—			
Channel to city asphalt plant.....		958	
			200,389
Total excavation during the year (sco w measurement).			222,585

The quantities of rock to be credited to the drill plants and rock breaker are as follows:—

Lobnitz rock breaker "No. 1".....	11,978	cubic yards.	
Drill plant "No. 1".....	6,646	"	"
Drill plant "No. 2".....	3,572	"	"
	22,196	"	" sco w measurement.

The excavated material was removed as follows:—

	Rock.	Hardpan, Clay and Silt.	Total.
By dredge <i>Ajax</i>	16,441	95,815	112,256
" " <i>Mudlark</i>		100,985	100,985
" " <i>Victoria</i>	5,755	3,589	9,344
	22,196	200,389	222,585
The calculated place measurement quantities removed are as follows.	12,170	151,476	163,646

The nature of the material removed consisted of granite of a very hard nature and lacking in cleavage, hardpan, blue clay, mud and sand.

The work of first importance during 1917-18 is the further removal of rock to the south of Pelly island, in the vicinity of Songhees point and on the west side of the channel between Songhees point and the Esquimalt and Nanaimo Railway bridge, and the removal of Turpel's rock.

The excavation of the new channel to the north of Pelly island will be continued, and this may be looked upon as preliminary to the eventual removal of the whole of the rock in this vicinity and in the meantime will give an alternative entrance to the harbour.

WELCOME HARBOUR.

Welcome harbour, Comox-Atlin district, is situated in Half Moon bay on the mainland, opposite Welcome pass, and about 40 miles from Vancouver. The work consists of a float, 28 by 42 feet, of nine cedar logs, nine cross-ties, 8 by 10, fastened to the logs by drift bolts, and flooring 2 by 12 plank spiked to the cross-ties with 6 by 6 guard rails all around. This float is anchored to a 6-ton rock connected with a 1-inch chain, 110 feet long. A shed, 12 by 16 feet, was built on one end.

This work was performed by day labour, commenced October 4 and completed October 21.

WESTHAM ISLAND.

To do very necessary protection work at Westham island, in the main channel of the Fraser river, where the current has been eroding the banks and endangering the dykes, wing dams were built. The completed work consists in 300 feet of bank protection and a new wing dam 125 feet long.

Work was commenced in June and completed in October.

WILLIAM HEAD.

William Head is a quarantine station on the Juan de Fuca straits, 10 miles from Victoria, where ocean-going steamers report before proceeding to Victoria and Vancouver.

The work carried out during the fiscal year 1916-17 was as follows:—

Approach to Main Wharf.—The southerly approach to the main wharf, 374 feet in length, which was about twenty years old, required general renewals. Three bents at the shore end were renewed, together with caps, stringers, and handrail throughout the approach. The water pipe to the wharf was replaced and covered in.

Included with the above was the renewal of a Howe truss, 48 feet, and repairs to the bents carrying same; also replacing of the gates leading to the wharf.

Repairs to coal wharf.—One outside stringer, two fender chocks, and the guard were renewed.

Repairs to float and boat-house.—Two cedar logs, 35 feet long, were taken from the beach and bolted in place, and the decking renewed.

The timbers of the derrick on the main wharf were renewed and the water main and roads repaired.

Dredging.

A request was received from the medical superintendent of the station that additional depth be provided adjoining the coal wharf for turning and mooring facilities for the D.G.S. *Madge*. The removal of 1,639 cubic yards, place measurement, of sand and mud was made by the dredge *Victoria*. A depth of 16 feet at low water was given over most of the area covered and 1,645 cubic yards, place measurement,

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or 2,286 cubic yards, scow measurement, of material were removed between October 16 and 26, 1916. The area dredged will fill up by deposit of silt at a slow rate, and should not require re-dredging for ten years.

Repairs and improvements were made on harbour works at the following places that are not mentioned in the body of the report:—

Nova Scotia.—Anderson's Cove, Arichat, Baker's Point, Barrington Head, Bass River, Battery Point, Belliveau's Cove, Black Point, Blanche, Boularderie Centre, Broad Cove Marsh, Burlington, Canso, Caribou Island, Catalone Gut, Centreville, Chebogue, Chegoggin, Comeau's Cove, Cottage Cove, Cow Bay, Devil's Island, Digby, Eatonville, East Chezzetcook, Findlay Point, Fox Island, Gabarous, Georgeville, Glace Bay, Hall's Harbour, Hampton, Herring Cove, Irish Cove, Jamesville, Jeddore, Johnston's Harbour, Kelly's Cove, L'Ardoise, Lingan Beach, Little Anse, Little Bras d'Or, Little Harbour, Livingston's Cove, Long Cove, Mabou, Marble Mountain, Margaree, Margee Island, Margaretville, Meteghan, Meteghan River, Middle River, Mill Cove, Morden, McKay's Point, Necum Teuch, Neil's Harbour, New Campbellton, Newellton, North River, Nyanza, Parker's Cove, Path End, Phinney's Cove, Pictou Island, Pleasant Bay, Port George, Port Hastings, Port Hood, Port Lorne, Port Maitland, Port Wade, Portuguese Cove, Poulemond, River Hebert, River John, Rose Bay, St. Joseph's, Salmon River, Sandy Cove, Saulnierville, Seaforth, Seal Island, Seaside, Selma, Short Beach, Skinner's Cove, South Cove, South Side, South Wallace, Spry Bay, Stony Island, Summerville, The Wharfs, Three Fathom Harbour, Trout Cove, Turner's Island, Upper Washabuck, Upper Woods Harbour, Washabuck Centre, Wedge Point, West Chezzetcook, Western Head, West Pubnico, White Point, Whitewaters, Whyecomagah, Wolfville, Yarmouth.

Prince Edward Island.—Belfast, Brae, Brudenell, Chapel Point, China Point, Cranberry, Cove Head, Graham's Pond, Head St. Peter's Bay, Hickey's, Hurd's Point, Little Sands, Lennox Island, Murray Harbour South, Naufrage Pond, New London, Prim Island, Pownal Bay, Port Hill, Summerside, Tignish.

New Brunswick.—Albert, Anderson's Hollow, Baker's, Bass River, Bay du Vin, Black's Harbour, Burnt Church, Campbellton, Chockfish, Dorchester, Earl's Wharf, Edgett's Landing, Fairhaven, Gautreau Village, Grand Anse, Hatfield Point, Hopewell Cape, Iroquois River, Lameque, Leonardville, Loggieville, Long Point, Mills' Point, Maugerville, McGowan's, North Head, Oak Point, Oromacto, Petit Rocher, Portage River, Quaco, Richibucto Beach, St. Andrew's, Sackville, Scotchtown, Stonehaven, Thomas Creek, Wilson's Beach.

Quebec.—Anse St. Jean, Anse a l'Eau, Anse aux Gascons, Ayer's Cliff, Aylmer, Barachois de Malbaie, Beileil, Berthierville, Brewer's Creek, Bryant's Landing, Buckingham, Cap St. Ignace, Carleton, Chateauguay, Chicoutimi, Contrecoeur, Cross Point, Desjardins, Dodd's Landing, East Templeton, Escoumains, Esquimaux Point, Fabre, Fassett, Gatineau River, Georgeville, Glen Almond, Grindstone, Grosse Isle, Grosse Roche, Havre aux Maisons, High Falls, Hudson, Iberville, Ile Perrot North, Kamouraska, Lake Megantic, Lanoraie, Lavaltrie, Les Eboulements, PIslet, Magog, Malbaie, Matane, Mechins, Mille Vache, Montmagny, Moose Bay, Natashquan, Nominique, North Hatley, Peribonka, Piche Point, Pierreville, Pointe St. Pierre, Pointe a Cote, Pointe a Elie, Point Shea, Poltimore, Repentigny, Rigaud, Riviere aux Vases, River du Loup, River Noire, St. Alexis, St. Alphonse de Bagotville, St. Andrew's, Ste. Anne de la Pocatiere, St. Anicet, St. Antoine Station, St. Barthelemi, St. Charles Borromee, St. Charles de Caplan, St. Eloi, St. Emelie, St. Famille, Ste. Felicite, St. Francois du Lac, St. Francois Sud, Ste. Genevieve, Ste. Genevieve de Batican, St. Godfroy, St. Ignace de Loyola, St. Ireneé, St. Joseph de Sorel, St. Laurent, St. Louis River, St. Mathias, St. Michel, St. Omer, St. Ours, St. Paul de PIsle aux Nois, St. Simeon, St. Valier, Seven Islands, Sorel, Squateck, Terrebonne, Vaudreil, Verdun, Ville Marie, Wendover, Woburn, Woodman's Beach.

Ontario.—Allandale, Beaumaris, Brighton, Burleigh Falls, Charlton, Crow's Landing, Cumberland, Dyer's Bay, Grand Bend, Griffith's Island, Juniper Island, Kenora, Kensington, Kingsville, Leamington, McCracken's Landing, Meaford, Midland, Minaki, Oliphant, Pelee Island, Pembroke, Porcupine, Port Bruce, Port Stanley, Rondeau, Rosseau, St. Joseph's Island, St. Williams, Sand Point, Sandy Point, Saugeen River, Silver Centre, Southampton, Stauley Island, Sturgeon Falls, Thornbury, Wheatley, Warton.

Manitoba.—Gimli, Inausa, Winnipeg.

British Columbia.—Ainsworth, Argenta, Bingley's Landing, Bold Point, Campbell River, Capilano, Chilliwack, Churchouse, Comox, Cowan's Cove, Crofton, Deer Park, Dignan's Bay, Eagle Cliff, East Arrow Park, Eburne, Fanny Bay, Fulford Harbour, Gillies Bay, Glen Valley, Gower Point, Grace Harbour, Granite Bay, Grant-ham's Landing, Gray Creek, Halcyon, Heriot Bay, Kincolith, Lund, Maples, Mary Island, McDonald's, Metchosin, Nootka Island, Pender Harbour, Pitt River, Prince Rupert, Quatsino, Renata, Revelstoke, Robert's Bay, Roy, Royston, Saanichton, Savary Island, Seaside Park, Shoal Bay, Shushartie Bay, Sidney, Sidney Island, Skidegate, Stewart, Stag Bay, Tofino, Tucker Bay, Union Bay, Van Anda, Vargas Island, Whaletown, Winter Harbour, Wolfsens Bay, Wyatt Bay.

DREDGING OPERATIONS.

Contract Dredging 1916-17.

Brundages Point, N.B.—Under agreement with New Brunswick Dredging and Construction Co. Dredge *New Brunswick*.

Quantity removed: 2,699 cubic yards, place measurement, at 27½ cents per cubic yard.

Class B, sand.

Amount passed for payment, \$742.23; inspection, \$18.61; total expenditure, \$760.84.

Work commenced: May 22, 1916; completed, May 25, 1916.

Object of work: To provide depth of 4 feet below low water in log pond of Wilson Box Co. at above place.

Bathurst, N.B.—Under contract No. 10158 with Northern Dredging and Construction Co., Ltd. Dredges *Huyward* and *Invader*.

Quantity removed: 285,091.9 cubic yards, place measurement, at 30 cents per cubic yard. Class B, sand and mud.

Amount passed for payment, \$92,598.90; inspection, \$1,941.52; total expenditure, \$94,540.42.

Work commenced: June 27, 1916; suspended for season, November 24, 1916.

Object of work: To dredge turning basin 21 feet deep at L.W.O.S.T., and at highway bridge and channel in inner harbour, up to basin, 17 feet deep and 200 feet wide.

Black River, N.B.—Under agreement with Felix Michaud. Dredge *Excavator*.

Quantity removed: 6,692.56 cubic yards, scow measurement, at 36 cents per cubic yard. Class B, mud sand, and shells.

Amount passed for payment, \$2,332.77; inspection, \$228.25; total expenditure, \$2,561.02.

Work commenced: July 1, 1916; Completed, October 2, 1916.

Object of work: To dredge a channel 30 feet wide, 1,000 feet long, above the highway bridge across the flats which at low tide cut off deep water above the bridge from Buctouche harbour.

Cobourg, Ont.—Under agreement with R Weddell Co. Dredges *Togo* and *Trenton*. Quantity removed: 21,888 cubic yards, scow measurement, at 20 cents per cubic yard.

Class B, sand.

Amount passed for payment, \$4,377.60; inspection, \$199.60; total expenditure, \$4,577.20. Work commenced: May 24, 1916; completed, August 17, 1916.

Object of work: To complete widening and deepening of outer harbour and to facilitate turning of ear ferry south of check-water when inner harbour is frozen.

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Church River, N.B.—Under agreement with F. A. Fowle. Dredge *Fowle*.
Quantity removed: 6,568.9 cubic yards, scow measurement, at 35½ cents per cubic yard. Class B, mud and sand.

Amount passed for payment, \$2,331.96; inspection, \$186.26; total expenditure, \$2,518.22.

Work commenced: August 21, 1916; suspended for season, November 11, 1916.

Object of work: To dredge channel 40 feet wide through shoals above and below the bridge and give passage from Miramichi bay to deep water in river.

False Creek, B.C.—Under contract No. 9,493 with Pacific Dredging Co., Ltd. Dredges *Puget Sound* and *Robson No. 1*.

Quantity reported to have been removed: 1,073,745 cubic yards, place measurement, at 21 cents per cubic yard. Class B, sand, gravel, clay and boulders.

Amount passed for payment, \$225,486.45; inspection, \$13,263.97; total expenditure, \$238,750.42.

Work commenced: April 1, 1916; completed, March 7, 1917.

Object of work: To complete dredging of channel 350 feet wide and 20 feet deep at L.W.O.S.T., up to Columbia street, channel at Columbia street 12 feet deep, commenced in 1913, and to provide another turning basin east of Granville Street bridge.

Freddy Channel, Ont.—Under agreement with Penetanguishene Dredging Co. Dredge *Hackett No. 4*.

Quantity removed: 4,018 cubic yards, place measurement, at 40 cents per cubic yard. Class B, sand, clay, mud, hardpan and rocks.

Amount passed for payment, \$1,607.20; inspection, \$98; total expenditure, \$1,705.20.

Work commenced: May 23, 1916; completed, June 23, 1916.

Object of work: Removal of shoals 2 and 3. To complete main channel by dredging a cut about 740 feet long 48.5 feet wide and 10 feet deep.

Fort William, Ont.—Under contract No. 7170 with Great Lakes Dredging Co. Dredge *No. 5*.

Quantity removed, 26½ cubic yards, class A, at \$2.85; 12,395½ cubic yards, class B, at 16 cents, scow measurement, sand, clay, and boulders.

Amount passed for payment, \$2,058.80; inspection is included with contract 7339.

Work commenced: June 3, 1916; completed, June 13, 1916.

Object of work: To dredge slip No. 2 of the Grand Trunk Pacific Terminal basin.

Fort William, Ont.—Under contract No. 7339 with Great Lakes Dredging Co.

Dredges *Empire, No. 5, No. 6, and Dominion*.

Quantity removed: 1,418,319 cubic yards, scow measurement, at 14½ cents to 26½ per cubic yard, according to locality and haul. Class B, clay and sand.

Amount passed for payment, \$251,306.35; inspection, \$3,857.40; total expenditure, \$255,163.75.

Work commenced: June 7, 1916; suspended for season, December 9, 1916.

Object of work: To widen to 500 feet and deepen to 25 feet the Kaminstikwia and Mission rivers from deep water in Thunder bay up to and including the enlarged turning basin at Westfort.

Grand Lake, N.B.—Under contract No. 10889 with L. W. Nickerson. Dredge *New Brunswick No. 1*.

Quantity removed: 13542.9 cubic yards, place measurement, at 14½ cents per cubic yard. Class B, mud, clay, and sawdust.

Amount passed for payment, \$1,963.72; inspection, \$52.50; total expenditure, \$2,016.22.

Work commenced: May 31, 1916; completed, June 16, 1916.

Object of work: To provide a channel 150 feet wide and 9 feet deep at the outlet of Grand lake into the Jemseg river.

Little Detroit, Ont.—Under contract No. 10531 with C. S. Boone Dredging and Construction Co., Ltd. Dredge *Kingsford*.

Quantity removed: 1,490.9 cubic yards, place measurement, at \$3 per cubic yard. Class A, rock.

Amount passed for payment, \$4,472.70; removal of wreck, \$100; inspection and survey, \$419.66; total expenditure, \$4,992.36.

Work commenced, October 4, 1916; completed, November 2, 1916.

Object of work: To give a minimum width of 100 feet and depth of 18 feet in Little Detroit channel.

Lillooet River, B.C.—Under agreement with I. W. Pyke.

Amount passed for payment, \$1,011; inspection, \$150; total expenditure, \$1,161.

Maloney's Wharf, Nelson, N.B.—Under agreement with Peter England. Dredge *Peter England*.

Quantity removed, 13,495 cubic yards, scow measurement, at 35½ cents per cubic yard. Class B, mud, clay and gravel.

Amount passed for payment: \$4,824.46; inspection, \$146.56; total expenditure, \$4,971.02.

Work commenced: August 16, 1916; completed, November 3, 1916.

Object: To dredge berth at John Maloney wharf.

Nigger Island, Ont.—Under contract No. 9,015, with R. Weddell & Co. Authority of O.C., December 22, 1916.

Quantity removed: 7,667 cubic yards. Class A, rock at \$4.50 per cubic yard, place measurement.

Amount passed for payment, \$34,501.50.

Object of work: To pay for dredging done in 1913 in widening the channel at Nigger Island to 200 feet and 14 feet depth.

Port Arthur, Ont.—Under contract No. 9490. Dredge *Kenniquhoir*.

Quantity removed: 427,753 cubic yards, scow measurement, at 13 cents per cubic yard. Class B, sand and clay.

Amount passed for payment, \$55,416.93; inspection, \$690; total expenditure, \$56,106.93.

Work commenced: May 16, 1916; suspended for season, December 14, 1916.

Object of work: Dredging main harbour south to 25 feet, provide joint slip 25 feet deep between elevators proposed to be constructed by Saskatchewan Co-operative Elevator Company and Grain Grower's Grain Company, together with channel extending to area already dredged to 25 feet.

Picnic Island, Ont.—Under contract No. 7816 with C. S. Boone Dredging and Construction Co., Ltd.

Inspection: \$3,129.88.

Final estimate, 228,798 cubic yards, \$392,946.04.

No payment involved.

Completed, October 17, 1916.

Object of work: Completion of channel 5,000 feet long, 300 feet wide and 22 feet deep through Picnic Island shoals.

Port Hope, Ont.—Under contract No. 11028 with Randolph Macdonald Co., Ltd. Dredge *McDonald No. 10*.

Quantity removed: 38,096 cubic yards, place measurement, at 18 cents per cubic yard. Class B, sand and mud.

Amount passed for payment, \$6,857.28; inspection, \$246.61; total expenditure, \$7,103.89.

Work commenced: June 14, 1916; completed, August 31, 1916.

Object of work: To clean up to 16 feet below low water inside the harbour and to 18 feet below low water in outer entrance channel.

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Port Maitland, Ont.—Under contract No. 11062 with Great Lakes Dredging Co., Ltd. Dredges *Shuniah* and No. 8.

Quantity removed: 628,703.15 cubic yards, place measurement, at 12 cents per cubic yard. Class B, sand, clay, and gravel.

Amount passed for payment, \$75,444.38; inspection, \$1,518.48; total expenditure, \$76,962.86.

Work commenced: June 29, 1916; suspended for season, November 17, 1916. Object of work: To dredge entrance channel 325 feet wide to Grand River channel in river 435 feet inside from its mouth to the T. H. and B. ferry slip and turning basin opposite ferry slip, and continue channel up to near Broad creek.

Palmers Wharf, N.B.—Under agreement with New Brunswick Construction Co., Ltd. Dredge *New Brunswick*.

Quantity removed: 1,674.1 cubic yards, place measurement, at 30 cents per cubic yard. Class B, mud.

Amount passed for payment, \$502.23; inspection, \$12.62; total expenditure, \$514.85.

Work commenced: June 27, 1916; completed, June 30, 1916.

Object of work: To dredge basins 9 feet deep upstream and downstream of low water wharf.

Penetanguishene, Ont.—Under agreement with Penetang Dredging Co.

Quantity removed: 1,500 cubic yards, place measurement, at 40 cents per cubic yard.

Amount passed for payment, \$600.

Completed: July 10, 1916.

Object of work: To enlarge the basin 20 feet deep to 500 by 500 feet at Esplanade wharf.

River St. Maurice, Que. (Middle channel).—Under agreement with F. C. Burns. Dredge *Capital*.

Quantity removed: 25,448 cubic yards, scow measurement, at 19½ cents per cubic yard. Class B, sand, clay, and slates.

Amount passed for payment, \$4,962.36; inspection, \$197.20; total expenditure, \$5,159.56.

Work commenced: May 4, 1916; completed, July 3, 1916.

Object of work: To clean out the log-floating channel 4 feet deep, and barge channel 8 feet deep, in middle channel of river St. Maurice, at Three Rivers.

River St. Maurice, Que. (Western outlet).—Under contract No. 11117 with La Cie Generale d'Enterprises Publique. Dredge *New Welland*.

Quantity removed: 45,634 cubic yards, scow measurement, at 9 cents per cubic yard. Class B, sand and clay.

Amount passed for payment, \$4,107.06; inspection, \$190.88; total expenditure, \$4,297.94.

Work commenced: November 4, 1916; suspended for season, November 21, 1916.

Object of work: To dredge channel from deep water in St. Lawrence river up Western channel to proposed wharf, 4,200 feet long to 15 feet below L.W. and 80 feet wide.

Sand Point, N.B. (St. John, N.B.)—Under agreement with J. S. Gregory. Dredge *Keta*.

Quantity removed: 6,002.5 cubic yards, scow measurement, at 29 cents per cubic yard. Class B, mud.

Amount passed for payment, \$1,800.75; inspection, \$42; total expenditure, \$1,842.75.

Work commenced: October 2, 1916; completed, October 12, 1916.

Object: To clean up Sand Point berths.

St. John West, N.B., Slip No. 1.—Under agreement with Maritime Dredging and Construction Co., Ltd. Dredges *Beacon Bar* and *Beaconfield*.

Quantity removed: 12,787 cubic yards, scow measurement, at 37 cents per cubic yard. Mud, clay, gravel and stones.

Amount passed for payment, \$4,859.06; inspection, \$166.80; total expenditure, \$5,025.86.

Work commenced: October 16, 1916; completed, December 20, 1916.

Object of work: To clean out deep water berth at this wharf.

St. Croix River, N.B.—Under agreement with Government of the United States.

Amount passed for payment, \$19,891.65 (being 10 per cent of total cost); inspection, \$1,090.30; total expenditure, \$20,981.95.

Work commenced: April 24, and completed, October 26, 1916.

Waubaushene, Ont.—Under agreement with Penetang Dredging Co. Dredge No. 4. Quantity removed: 18,293 cubic yards, place measurement, at 26 cents per cubic yard.

Class B, clay, hardpan, rocks and boulders.

Amount passed for payment, \$4,756.18; inspection, \$336.08; total expenditure, \$5,092.26.

Work commenced: July 31, 1917; completed, November 16, 1917.

Object of work: To provide least width of 100 feet, depth 11 feet, in Sturgeon Bay tug channel, length about 5,640 feet.

Clementsport, N.S.—Under direction of District Engineer Dodwell. Day labour, 4,252 cubic yards.

Amount passed for payment, \$1,600.

Object of work: Improvement of channel.

Cowichan, B.C.—Under direction of District Engineer Mitchell. Day labour.

Amount passed for payment, \$312.75.

Object of work: To provide small boat channel by removal of boulders from bed of Cowichan river between the lake and the town.

Cocagne, N.B.—Under direction of District Engineer Stead. Day labour, 5,858 cubic yards.

Amount passed for payment, \$1,745.80.

Object of work: To continue dredging of channel 30 feet wide, 2½ feet deep, and 8,400 feet long, to provide passage from Cocagne harbour north to fishing grounds in Northumberland strait.

East River, N.S.—Under District Engineer Millidge. Day labour.

Amount passed for payment, \$75.

Object of work: Removal of boulder from channel being dredged by P.W.D. No. 5 in East river of Pictou harbour, N.S.

Grand Anse, N.B.—Under direction of District Engineer Stead, day labour.

Amount passed for payment, \$709.30.

Object of work: To dredge inside east pier and inside breakwater pierhead.

Hampstead, N.B.—Under agreement with L. W. Nickerson.

Amount passed for payment, \$75.

Object of work: Removal of old crib.

Kouchibouguac River, N.B.—Under direction of District Engineer Stead. Day labour, 1,782 cubic yards.

Amount passed for payment, \$533.67.

Object of work: To dredge channel to allow scows to carry mussel, mud, gravel, etc., on river.

Malagawatch, N.S.—Under direction of District Engineer Bernasconi. Day labour, 974 cubic yards.

Amount passed for payment, \$621.59.

Object of work: To clean out Malagawatch channel.

Main River, N.B.—Under direction of District Engineer Stead. Day labour, 580 cubic yards.

Amount passed for payment, \$210.72.

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Object of work: Removal of shoal in passage through swing bridge on Richibucto river at Main river.

Margaree Harbour, N.S.—Under agreement with Ernest F. Munro.

Amount passed for payment, \$200.

Object of work: Removal of boulders from channel entrance between piers.

Point Sapin, N.B.—Under direction of District Engineer Stead. Day labour.

Amount passed for payment, \$815.96.

Object of work: To dredge channel entrance 100 feet wide, 80 to 200 feet long through obstructing shoal, and to dredge sheltered basin inside pierhead 200 feet by 100 feet for vessels to shelter.

Parker's Cove, N.S.—Under direction of District Engineer Dodwell. Day labour, 1,130 cubic yards.

Amount passed for payment, \$990.73.

Object of work: To effect improvement by removal of an accumulation from westward of the breakwater.

River St. Louis, N.B.—Under direction of District Engineer Stead. Day labour, 1,169 cubic yards.

Amount passed for payment, \$434.84.

Object of work: To dredge a berth on southeast side of public wharf.

Shediac Bay, N.B.—Under direction of District Engineer Stead. Day labour.

Amount passed for payment, \$628.37.

Object of work: Dredging of channel across shoal area to provide passage from Grandigue wharf to Shediac bay.

St. Charles River, N.B. (Big Aldouane River.)—Under direction of District Engineer Stead. Day labour, 2,892 cubic yards.

Amount passed for payment, \$889.50.

Object of work: Completion of channel 30 feet wide, and about 1 foot deep at low water, being continuation of past three seasons' work.

St. John River, N.B.—Under direction of District Engineer Small. Day labour.

Amount passed for payment, \$1,975.

Object of work: Removal of snags from St. John river and its tributaries between Fredericton and St. John.

Tabusintac, N.B. (Black Lands.)—Under direction of District Engineer Stead. Day labour, 1,982 cubic yards.

Amount passed for payment, \$799.95.

Object of work: Deepening of channel to assist passage of rafts of logs.

DEPARTMENTAL DREDGES, CALENDAR YEAR 1916.

Dredge Number.	Worked, 1916.	Place.	Quantity.	Total.	Cost.	Cost per Yard.
1	Jan. 1-Dec. 23..	St. John, N.B. Digby, N.S. Yarmouth, N.S.	123,203 54,150 57,065	234,418	92,559 42	-394
3	July 10-Nov. 15..	Buctouche, N.B. Bathurst, N.B.	No record 65,917	65,917	27,001 86	-409
5	June 28-Nov. 2..	East River, N.S. Pictou, channel....	50,001 385,001	435,002	41,102 89	-094
6	Jan. 3-Dec. 31..	Canso, N.S. Lunenburg, N.S.	100 69,515	69,615	46,113 93	-662
7	June 30-Nov. 18..	Liverpool, N.S.	48,700	48,700	25,814 17	-530
9	Aug. 7-Nov. 25..	Georgetown, P.E.I. Panmure Island.... St. Marys..... Sturgeon..... Poplar Point.... Grand River	3,200 11,240 4,300 6,800 2,000 4,900	32,440	18,416 27	-567
10	May 30-Nov. 21..	Charlottetown, P.E.I.— Railway wharf.... Asylum wharf.... McAuleys shore.... Connelleys wharf.... McConnells wharf.... Pownal wharf....	7,500 12,475 6,800 6,250 3,725 3,175	39,925	17,789 34	-445
11	July 21-Nov. 1..	Malpeque, P.E.I. Rustico, P.E.I.	13,275 2,950	16,225	10,650 55	-656
13	June 19-Dec. 6..	Buctouche, N.B.	58,196	58,196	21,417 00	-368
14	May 27-Nov. 1..	Amherst, N.S.	20,250	20,250	6,068 21	-299
15	June 22-Dec. 2..	Oaklands, N.S. Lunenburg, N.S. Gold River, N.S. Eastern Point.... West Dublin, N.S.	7,068 4,510 3,215 971 1,956	17,720	5,439 90	-274
Rock-breaker No. 3	Jan. 1-Dec. 4....	Lunenburg, N.S.	28,262	28,262	14,207 06	-502
102	June 24-Nov. 11..	La Salette, P.Q. Poupore, P.Q.	2,123 25,673	27,796	12,722 90	-457
103	May 20-Dec. 9....	Hawkesbury, P.Q.	38,134	38,134	11,587 27	-303
106	May 15-Nov. 18..	Batiscan, P.Q. Riv. du Loup, P.Q. Ottawa, Ont.	38,215 11,936 409	50,560	11,214 76	-221
109	May 8-Nov. 22..	Owen Sound, Ont. Penetanguishene, Ont. Collingwood, Ont.	35,762 67,915 19,104	122,781	22,858 01	-186
110	May 15-Dec. 7....	Longueuil, P.Q. Bagotville, P.Q.	24,387 81,032	105,419	28,992 82	-275
112	Oct. 5-Nov. 25....	French River, Ont.	1,875	1,875	4,198 33	2-239
114	April 24-Nov. 13..	Port Burwell, Ont. Hamilton, Ont.	52,966 3,264	56,230	11,919 02	-211
115	May 15-Dec. 9..	Les Eboulements, P.Q. Bagotville, P.Q. Saguenay river, P.Q.	3,389 2,662 67,746	73,797	33,453 06	-453

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DEPARTMENTAL DREDGES, CALENDAR YEAR 1916—Continued.

Dredge Number.	Worked, 1916.	Place.	Quantity.	Total.	Cost.	Cost per Yard.
117	April 17-Dec. 30	Port Burwell, Ont. Hamilton, Ont. Burlington, Ont.	103,674 59,086 22,330	185,090	36,367 32	.196
119	June 8-Nov. 15...	Longueuil, P.Q. Ile Perrot, P.Q. Lachine, P.Q. Charlemagne, P.Q. River Chicot, P.Q.	2,014 4,979 174 14,834 5,855	27,856	10,249 68	.367
120	May 13-Nov. 18...	River Thames, Ont. Chatham, Ont.	50,270 11,050	61,320	16,449 23	.268
121	May 17-Dec. 2...	Verdun.	17,610	17,610	10,423 32	.591
123	May 22-Dec. 5...	Ste. Anne de Bellevue, Que.	33,978	33,978	16,889 11	.497
Steam Derrick	June 26-Nov. 17...	St. Alphonse, Que. Anse St. Jean, Que. Chicoutimi, Que. St. Catharines, Que.	1,025 2,135 50	3,210	3,554 48	1-107
201	May 6-Oct. 31...	Red River, Man. Selkirk, Man.	53,589 123,590	177,179	11,158 24	.063
202	July 17-Oct. 31...	Selkirk, Man. Hole River, Man.	34,102 281	34,383	9,015 81	.262
204	May 13-Oct. 20...	Red River, Man. Dauphin River, Man. Big George Island, Man.	1,534 10,027 7,675	19,236	11,339 35	.589
205	May 20-Oct. 31...	Red River, Man. Crescent Island, Man. Lockport, Man.	3,298 71,676 14,900	89,874	12,437 70	.139
210	July 6-Sept. 15...	Mossy River, Man. Snake Island, Man.	9,208 5,581	14,789	4,957 50	.335
301	Jan. 1-Dec. 31...	Victoria, B.C. Nanaimo, B.C. Union Bay, B.C. Roys Beach, B.C.	130,626 13,582 10,399 3,598	158,205	58,771 31	.371
302	Jan. 1-Dec. 31...	Proctor Narrows, B.C. Kootenay Landing, B.C. Cedar Creek, B.C.	2,160 11,545 345	14,050	6,614 61	.470
303	Jan. 1-Dec. 31...	Fraser River, B.C.	742,400	742,400	58,469 47	.078
304	Jan. 1-Dec. 31...	Summerland, B.C. Kelowna, B.C. Penticton, B.C. Okanagan river, B.C. Okanagan Landing, B.C.	3,347 6,523 2,223 15,559 1,981	29,633	9,050 13	.305
305	Jan. 1-Dec. 31...	No Arm Fraser river, B.C. Powell river, B.C. Lulu Island, bridge, B.C. Steveston, B.C. Wallace Shipyard. Squamish.	227,425 14,515 37,300 76,315 950 44,725	401,225	54,173 36	.134
306	Jan. 1-Dec. 31...	Vancouver, B.C.	680,128	680,128	102,290 24	.150
307	Jan. 1-Dec. 31...	Victoria, B.C.	103,535	103,535	33,484 76	.323

DEPARTMENTAL DREDGES, CALENDAR YEAR 1916—*Concluded.*

Dredge Number.	Worked, 1916.	Place.	Quantity.	Total.	Cost.	Cost per Yard.
311	Jan. 1-Dec. 31.	Two Beacon Bar, B.C.....	15,350			
		Grahams Landing, B.C.....	20,600			
		Forest Glen, B.C.....	16,200			
		Arrowhead, B.C.....	28,000	80,150	9,607 25	.122
313	Jan. 1-Dec. 31	Victoria, B.C.....	24,269			
		Esquimalt, B.C.....	490			
		Williams Head, B.C.....	2,286	27,045	15,274 81	.564
Rock-breaker No. 1	Jan. 1-Dec. 31	Victoria, B.C.....	9,666	9,666	29,229 85	3.020
Rock-breaker No. 2	Jan. 1-Dec. 31	Nanaimo, B.C.....	5,422	5,422	28,414 68	5.240
Drills Plants Nos. 1 & 2	Jan. 1-Dec. 31	Victoria, B.C.....	7,056	7,056	34,911 80	4.940

The following dredges were laid up for the year:—

		Expenses.
2	St. John, N.B.....	18,946 33
12	"	5,220 42
Stonelifter, No. 1	"	1,676 76
101	River St. Louis, P.Q.....	1,907 35
4	Magdalen Islands, P.Q.....	6,500 50
111	Roberval, P.Q.....	4,727 09
116	Ottawa, Ont.....	28,191 51
118	Haileybury, Ont.....	4,401 43
122	Grand Piles, P.Q.....	2,645 23
208	Cumberland House, Sask.....	6,309 31
930	Chase, B.C.....	162 25

DRY DOCKS.

LÉVIS DRY DOCK.

During the past fiscal year no important works of repair were executed; the dock and grounds were maintained and kept in good condition to dock and undock vessels as usual. The total expense for management, maintenance and repair was \$22,849.82; the revenue being \$25,588.16.

LAUZON.

(This work is described in the annual report for 1915.)

During the year 1916-17, the dry dock excavation was carried on for 200 feet in length, on its full width and depth, and for 200 feet in length, on half the width of dock and to full depth. The pump-house excavation was completed early in the summer.

The work on excavation started about April 10 and stopped around November 10, 1916, and was used as backfilling.

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The dredge *King Edward* started work July 8 on the crib foundations and entrance channel, and stopped on September 24, after dredging 10,000 cubic yards of submarine rock.

On September 30 the work was resumed by dredge *No. 6, Harbour Commissioner of Montreal*, and up to November 25 she dredged about 23,000 cubic yards of submarine rock.

During the year six cribs were sunk; four for the eastern guide pier, one for the western guide pier, and one on the return crib from landing wharf. There are two more built, which are ready to be sunk this coming season. The cribwork was started in June and ended in November.

The concrete work started in May and ended in November. The main walls of dock were built from station 11+30 to station 7+00, and the bottom of dock from station 10+97 to station 7+00. The concrete foundations for the pump-house were built complete. The tunnel was also lined in with concrete during the present season.

The work on the rolling and floating caissons was carried on, and 102 tons of steel were erected for the rolling caisson and 710 tons of steel for the floating caisson.

In the power-house the erection of machinery was continued. In the generator room, two generators were installed (750 k.w. and 100 k.w.), and other machinery as condensers, pumps, etc. The switchboard and connections was also completed. In the boiler-room, the erection of the boilers was completed, the coal bunkers and mechanical stokers were partly built.

On March 31, 1917, a considerable amount of materials was on the work.

ESQUIMALT GRAVING DOCK.

During the past fiscal year, the staff have been employed in docking and undocking twenty-two ships, besides the usual routine work of keeping the ground clean and the buildings and machinery in repair.

An electrically driven direct-acting 6-inch submerged vertical centrifugal pump has been installed to replace the old steam-driven centrifugal pump.

The old carpenter and blacksmith shop, which was beyond repair, was renewed, a new building 24 by 60 feet, with concrete foundations, being erected.

An electric crane for hauling material to and from the dock floor is still urgently needed.

LOCKS AND DAMS.

QUEBEC.

RIVIÈRE DU LIÈVRE LOCK AND DAM.

At Poupore, in Labelle county, 12 miles above Buckingham, on the Rivière du Lièvre, a lock and dam was built in 1886-92, to overcome Little rapids, for navigation to High Falls, 12 miles upstream. In 1903, an extensive landslide destroyed the dam, which had to be reconstructed, lock gates, etc., repaired and improved and considerable dredging done, before navigation was restored in 1907.

Work during the past year consisted of: Operating the lock, placing and repairing booms, new safety boom bought, renewing a number of stringers and sheeting on apron of dam, and minor repairs made to the lockmaster's residence.

RIVER ST. CHARLES.

Locks and Dam.

(The work and progress already made is described in the annual report for 1915-16.)

Year 1916-17, the work which was commenced on the locks and dam in 1913 has been continued during each working season without interruption. The work performed for the fiscal year is as follows:—

The down-stream wall along the north side of the sluiceway has been completed and back-filled with dredged material.

Pier No. 3 on the north side of the up-stream lock entrance was completed, except the bascule bridge seats.

The concrete mattress above the dam, 400 feet northwards from the Quebec side of the river, was finished.

A concrete section for a part of the mitre sill platform for the south lock entrance was sunk to grade by the open-pocket method for excavation.

The substructure of the guide pier at the lower end of the locks was sunk to grade; it consists of three concrete blocks in line with the centre wall of the lock, sunk by the open-pocket method of excavation; there are three openings between the blocks to be spanned by reinforced concrete beams, for the floor to be continuous over the whole pier.

This structure, when complete, will be 300 feet long, 40 feet wide and 64 feet high, from foundation to coping.

Interlocked steel piles were driven entirely around the space to be occupied by the locks, also to make the connection between those under the dam on the south side of the river and pier No. 5 and the line across the upper end of the locks.

The dredging for the locks, mattress and sluiceway was continued, until the close of the season, by a dipper and suction dredge, the greater part of the material was deposited for making ground along the north side of the Louise embankment and on the Limoilou side of the river.

A portion of the crib-work of the Canadian Northern Railway was removed on the north side of the river to allow the sluiceway piers to be built; temporary steel girders were used to carry the railway over the work.

The construction of the floating caisson for the lower lock entrance which was ordered to be proceeded with under special agreement has been commenced; a workshop, for the purpose of fabrication, has been built, and just enough machinery suitable for that work has been provided; the shop will in future be required for storage and for lock maintenance repairs.

A large quantity of concrete materials and reinforcing metal for the lock floor is on hand for the next season's work. The progress made, after taking into consideration the uncertainty of labour, the limited space for working heavy plant, and delays due to the tides and passing of tugs and scows from one part of the work to the other through the swing bridge and other navigation annoyances, can be considered as fairly good.

YAMASKA CRIB DAM.

Owing to the high level of the water, the work of reconstructing a break which occurred in the dam started only on December 27, 1916, was carried on until March 7, 1917, and consisted in building a solid close-faced stone-filled crib, 90 feet long by 16 feet wide and 15 feet high, sheathed on its four faces, and sunk immediately in front of the opening in the dam. It was found better to let the crib settle before building the top so that when completed, some time during the summer of 1917, the crest may remain level.

ST. ANDREWS LOCK AND DAM.

The work of regrading the river bank west of and northerly from the lock was proceeded with this year. The freshet in the spring of 1916 badly cut the toe of the slope and fresh slides occurred which carried with them part of the roadway at the crest of slope. To prevent future erosion of this kind, the toe of the slope was this

year rip-rapped up to high water mark. This work extends one-third way up the slope, and is from two to three feet in depth, all hand-packed, composed of limestone from the river bed.

Buildings.

The shed which was needed for the proper protection of machinery was erected this year and at the same time the old buildings on the property were removed.

Dredging.

The work of removing the stone which had been used as a cofferdam at St. Andrews was completed this year; this stone seriously interfered with the proper escape of the water from the dam, the current being directed by it across the navigable channel, thus offering a menace to navigation.

Four cuts were necessary on a total length of 1,929 feet to a width of 40 feet in the bottom and of an average depth of 5.82 feet.

It was necessary to tow all of the material a distance of one mile; no filling-in is anticipated.

Operations were carried on between July 31 and September 19 by dredge *No. 205*, the quantity removed being 14,900 cubic yards, scow measurement, of rock, gravel and boulders.

The cost of this work was 27.4 cents per cubic yard.

SLIDES AND BOOMS.

OTTAWA RIVER WORKS—ORDINARY REPAIRS.

OTTAWA RIVER.

North Chaudière Station.—A section of the upper slide, immediately below the bulk-head, 45 feet in length, was rebuilt. The slide was narrowed $3\frac{1}{2}$ feet at the entrance, and on this account glances had to be built, on each side above the stop-logs, to guide logs and timbers.

TRIBUTARIES OF OTTAWA RIVER.

Gatineau River.—The main boom was strengthened; defective pieces in the stiff sections of the boom were taken out and replaced by new timbers, and the usual repairs were made.

Madawaska River.—At Arnprior, the planking in the bottom of the slide was repaired.

At Springtown station, the pier in the centre of the river, for the support of the retaining boom, was rebuilt from low-water level. The pier is 22 feet square, 10 feet high, and filled with stone.

At High Falls station, the boom at head of slide was taken ashore, straightened and new chains were substituted for the old, and general repairs were made.

Black River.—At the retaining boom, a short distance above High Falls' slide, three piers were rebuilt from low-water line to a height of 9 feet; one of the piers is 14 feet square, another 16 feet square, and the third is $18\frac{1}{2}$ feet by 19 feet. A new pier 18 feet square at base and 16 feet square at top with a height of 20 feet was required as the space between the last pier and the north bank had become too great. Adjacent to the new pier, a glance crib, 45 feet long, 10 feet wide at base, and 8 feet wide at top, was built and carried up to the same level as the tops of the piers.

Petewawa River.—At the mouth of the Petewawa, four new piers were built in connection with the retaining boom; they are all 16 feet square, one being 14 feet high, two 10 feet high and the fourth 9 feet high.

At Cedar Lake station, the flat dam to the south of waste gate was replaced by a pier 32 feet long, 10 feet wide and 14 feet high, sheeted in front with 3-inch plank, and gravelled.

In the spring of 1916, the water in the Ottawa river and its tributaries was very much higher than usual. It commenced to rise early in April and reached its highest point on May 8. It then fell a little, but rose again around the 20th of the month, after which it receded steadily. In the fall, it was exceedingly low, but owing to numerous rainfalls at different times during the summer, the season, as a whole, was very favourable for the lumbermen.

ST. MAURICE RIVER WORKS.

Log-driving is the most important problem to be considered on the St. Maurice river; during the last season, 11,127,027 logs have been sorted through the different companies' gaps along the river.

Last autumn, after the river was cleared of all logs, an inspection of piers and other construction works was made and the most urgent repairs done. All booms were put in winter quarters to be ready for the spring of 1917.

Grandes Piles.—Inspection and maintenance of booms and piers.

Ste. Flore.—400 cubic yards of stone placed in piers; raising of 4 wooden piers with concrete superstructure and 500 feet of booms repaired.

Grand Mère.—One concrete pier built at Pointe à Paquin, and raising of 7 wooden piers with concrete superstructure.

Shawinigan Falls.—Construction of 300 feet of 3-piece booms.

Trois Rivières.—Construction of 300 feet of 3-piece booms.

BRIDGES AND ROADS.

OTTAWA.

Laurier Bridge.—A wooden guard-fence, 67 feet long, was built at the western end of this bridge, on the northern side. The dry masonry wall north of western abutment was built with cement mortar, and a concrete cap was provided; the wall is 44 feet long and 4 feet high. The rolled steel hand-rail of the bridge had become so corroded that in many places the metal was completely eaten through; the rail on south side of the bridge has been replaced with one of cast-iron. The sandstone pavement on the western approach was raised to grade where the foundation had settled.

The Chaudiere and Union bridge and the roadway between Hull and Ottawa were kept in repair.

ONTARIO AND QUEBEC.

Bryson Bridge.—The roadway planking on the two truss spans of this bridge had to be laid new, the flooring is laid in one course of pine and hemlock plank, three inches in thickness, with a wheel guard of 6-inch cedar on both sides; the portion re-laid was 384 feet in length with a width of 16½ feet.

Chapeau Bridge.—The northern approach to this bridge was improved by building an embankment of stone, gravel and earth, and a retaining wall of concrete was built along the bases of the fill; the wall on the upper side is 140 feet long, and that on the lower side 104 feet; both vary in width from 2 to 3 feet at the base, according to the height, and are drawn in to 1 foot at top, the average height being about 6 feet; the walls are perpendicular in the rear, all the batter being at the front, and each provided with a suitable cap or coping, slanting outward to shed the water. Additional stone was placed in the embankment to fill the space at the back of the walls.

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ALBERTA.

Bow River Bridge.

The steel bridge crossing the Bow river in the town of Banff, Rocky Mountain park, Alberta, was found inadequate to carry the heavy tourist and other summer traffic, and it has been found necessary to arrange and design another bridge to occupy this position.

During the months of December, 1914, and January and February, 1915, this bridge was removed to a temporary position some sixty feet down stream from the line occupied.

It was subsequently considered necessary to examine and repair all deficiencies in this structure as the bridge would require to remain on temporary site and take all traffic until such time as new bridge is erected. Floor decking had become worn and irregular, and iron-work was showing signs of weather, therefore the work of re-flooring the roadway and painting the whole structure was proceeded with, and this work was carried out by day labour.

GOVERNMENT TELEGRAPH SERVICE

By D. H. KEELEY, GENERAL SUPERINTENDENT.

Location of Lines.	Points connected.	Year.	LENGTH OF LINES			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
Newfoundland.	Port au Basque—Cape Ray	1883	14	.....	14	2	
Nova Scotia	North Sydney—Meat Cove (with loops).	1880-02	168 ³ / ₄	.....	170	25	}
"	Across Bras d'Or Channel	1880	.....	.....	
"	" St. Anns Harbour (Englishtown).	1887	.....	.....	
"	" Ingouish Harbour	1887	.....	.....	
"	French River	.....	.....	.....	.....	.....	.....
"	Big Bras d'Or—Kempt Head	1904	20	.....	20	3	
"	Meat Cove—St. Pauls Island	1890	.....	20	23	1	
"	On St. Pauls Island	1890	3	.....	8	4	
"	Bay St. Lawrence to Money Point	1907	8	.....	8	4	
"	Mabou—Meat Cove	1887-60	116 ¹ / ₄	.....	116 ¹ / ₄	12	
"	Barrington—Cape Sable	1883	16	.....	17 ³ / ₄	Leas- ed.	}
"	Across Bear Point Channel	1883	.....	1 ¹ / ₄			
"	" Lt. House Channel	1883	.....	.....	.....	.....	.....
"	Mabou—Port Hawkesbury	1903	41 ³ / ₄	.....	73 ³ / ₄	9	}
"	Port Hawkesbury—St. Peters	1903	32	.....		
"	St. Peters—Main à Dieu	1904	83 ¹ / ₄	.....	133 ¹ / ₂	19	}
"	Main à Dieu—Scatari	1902-09	1	3 ³ / ₄			
"	On Scatari Island	1904	7 ¹ / ₄	.....	.....	.....	.....
"	Gabarus—North Sydney	1904	38 ¹ / ₂	.....	34 ¹ / ₂	6	}
"	Little Bras d'Or—Kempt Head	1905	34 ¹ / ₂	.....		
"	North Sydney—Eskasoni	1905	31	.....	31	10	
"	Eskasoni—Grand Narrows	1908	22	.....	22	3	
"	Grand Narrows—Shenacadie—Beaver Cove	1910	15 ¹ / ₂	.....	15 ¹ / ₂	1	
"	Leitches Creek—Steeles Crossing (loop).	1910	28	.....	28	1	
"	Baddeck—Little Narrows	1910	19 ¹ / ₂	.....	19 ¹ / ₂	1	
"	North Sydney—Little Bras d'Or (second wire)	1906	6	.....	6	21,270	
"	Grand River—Enon	1907	19 ¹ / ₂	.....	19 ¹ / ₂	2	
"	Enon—Gabarus	1909	29	.....	29	3	
"	Strathlorne—Wycocomagh	* 1909	33 ¹ / ₂	.....	33 ¹ / ₂	7	
"	S. W. Margaree—Whycomagh—Little Narrows	1912	38 ¹ / ₂	.....	38 ¹ / ₂	8	
"	Loch Ban—Scottsville	1912	7	.....	7	5	
"	Whycomagh—Orangedale	1912	8	.....	8	5	
"	North Sydney—Sydney Mines—Florence	1912	7	.....	7	4	
"	Little Narrows—Washabuck Centre	1912	12	.....	12	1	
"	Loop, Eskasoni—McAdams Lake	1912	5	.....	5	6	
"	Baddeck, Nyanza—Big Intervale	1913	39 ¹ / ₂	.....	39 ¹ / ₂	6	
"	Brook Village—Glendale	1914	32	.....	32	6	
"	Washabuck Centre—Grass Pond	1916	7 ¹ / ₂	.....	7 ¹ / ₂	4	
<i>Port Hood, Island Branch</i>							
(Length of construction in loop.)							
"	On mainland at Port Hood	1907	1 ¹ / ₂	.....	13 ¹ / ₂	4	}
"	Port Hood—Smiths Island	1907	.....	2			
"	On Smiths or Inner Island	1907	4	.....		
"	Smiths Island to Henry Island	1907	.....	3			
"	On Henry or Outer Island	1907	4	.....	.....	.....	.....
New Brunswick.	Chatham—Esquimaux—Point Sapin	1885	56 ¹ / ₂	.....	56 ¹ / ₂	22	7,016
	Carried forward	.....	1010	31 ¹ / ₂	1,041 ¹ / ₄	168	28,286

GOVERNMENT TELEGRAPH SERVICE.—Continued

Location of Lines.	Points connected.	Year.	LENGTH OF LINES.			Number of Offices.	Messages Sent.	
			Land Lines.	Cables.	Total.			
			Miles Wire.	Kt's.				
Brought forward.....			3,330½	253½	3,584	395	92,418	
<i>Northwest Lines—</i>								
Saskatchewan.	Qu'Appelle—Onion Lake.....	1883	402		402	9	} 27,148	
"	Moosejaw—Wood Mountain.....	1885	107		107	4		
"	Wood Mountain—Willow Bunch.....	1904	39		39	2		
"	Gravelbourg Loop.....	1910	38		38	1		
"	Leville Loop.....	1912	28		28	1		
"	Saskatoon Loop.....	1892	28		28	1		
"	Duck Lake—Batoche.....	1902-10	9		9	2		
"	Duck Lake—Indian Agency.....	1902	3½		3½	3		
"	Lloydminster Loop.....	1901-09	58		58	1		
"	Lipton Loop.....	1906	2		2	1		
"	Fort Qu'Appelle—File Hills Agency.....	1907	28		28	4		
"	Kamsack—Indian Agency.....	1907	6½		6½	2		
"	Kamsack—Indian Agency—Pelly.....	1910	17½		17½	4		
"	Battleford—Isle-à-La-Crosse.....	1912	275		275	6		
"	Meota Loop.....	1912	20		20	1		
"	Sintaluta—Assiniboia Reserve.....	1913	8		8	1		
Alberta.	Onion Lake—Edmonton.....	1883	205		205	8		
"	St. Paul—Durlingville.....	1912	48		48	3		
"	Edmonton—Athabaska.....	1904	98		98	2		
"	Athabaska—Mirror Landing.....	1909	70		70	1		
"	Mirror Landing—Peace River.....	1910	159		159	4		
"	Peace River—Dunvegan.....	1911	74		74	2		
"	Dunvegan—Lake Saskatoon.....	1912	76		76	2		
"	Grand Prairie City Loop.....	1912	16		16	1		
"	Lake Saskatoon—Fort St. John.....	1914-15	145		145	3		
"	Fort St. John—Hudson Hope.....	1915	62		62	2		
"	Peace River—Shaftsbury.....	1911	15		15	4		
"	Athabaska—Fort McMurray.....	1914-15	245		245	4		
"	Athabaska—Lac la Biche (Plamondon).....	1914	58		58	1		
"	Plamondon—Roman Catholic Mission.....	1915	12		12	1		
"	Edmonton—Indian Agency—Stony Plain.....	1904	32		32	5		
"	Edmonton—St. Albert.....	1887	9		9	1		
"	St. Albert—Qui Barre—Alexandre.....	1902	25		25	3		
"	Andrew Loop.....	1904	10		10	1		
"	Lamont Loop.....	1910	7		7	1		
"	Saddle Lake—Industrial School.....	1906	6½		6½	1		
"	Grouard—High Prairie.....	1912	5		5	12		
"	High Prairie—Prairie River.....	1913-14	13½		13½	2		
<i>British Columbia Lines—</i>								
British Columbia	Kamloops—Vernon—Penticton.....	1899-11	467½	1½	469	57	} 93,057	
"	Kamloops—Mount Olie.....	1908-10-15	84		84	18		
"	Kamloops—Savonas.....	1913	27		27	6		
"	Kamloops—Barnhart Vale—Rose Hill.....	1911	14		14	5		
"	Kamloops—Notch Hill—Revelstoke.....	1914-15	204½	1½	206	27		
"	Fairview—Midway.....	1914	93		93	11		
"	Whitemans Creek—Kelowna.....	1914	29	1	30	6		
"	Nelson—Trail.....	1914	61		61	12		
"	Proctor—Sirdar—Creston.....	1914-16	87½	2½	90	15		
"	Nakusp—Edgewood.....	1912	59	1	60	14		
"	Golden—Windermere.....	1901	90		90	18		
"	Hefley Creek—Upper Louis Creek.....	1916	29		29	7		
"	Deer Park—Renet.....	1916	24½	¾	25	9		
"	Merritt—Manchette Lake—Camford.....	1916	30		30	6		
"	Kamloops—Goose Lake.....	1916	14		14	3		
"	Enderby—Vernon.....	1916	26		26	2		
Carried forward.....			7,197½	262½	7,460½	718		251,284

GOVERNMENT TELEGRAPH SERVICE—Concluded.

Location of Lines.	Points connected.	Year.	LENGTH OF LINES.			Number of Officers.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
	Brought forward.....		7,197 ¹ / ₂	262 ³ / ₄	7,459 ³ / ₄	718	251,244
	<i>British Columbia Lines—Concluded.</i>						
Vancouver Island	Victoria—Banfield.....	1891	169	169	12	82,559
"	Alberni—Banfield.....	1899	53	.....	53	2
"	Alberni—Clayoquot.....	1902	95 ¹ / ₂	.....	97 ¹ / ₂	5
"	Clayoquot—Nootka.....	1913	62 ¹ / ₂	12.....	74 ³ / ₄	8	
"	Clayoquot Branch.....	1913	1	.....	1	2
"	Toquait—Sechart.....	1907	7 ¹ / ₂	.....	9 ¹ / ₂	1
"	Fohno—Mosquito Harbour, Bear River, Clayoquot Sound—Leonard Is. Light..	1911-14	55	3 ³ / ₄	58 ³ / ₄	.....
"	Nanaimo—Comox—Campbell River....	1893-68	118	.....	118	8
"	Parksville—Alberni Branch.....	1895	30	.....	30	1
"	Comox—Cape Lazo Branch.....	1910	6	.....	6	.....
"	Union Bay—Denman & Hornby Islands.	1907	21	2	23	4	
"	Nanaimo—Gabriola Island.....	1909	16	.....	16 ¹ / ₂	4
"	Campbell River—Powell River.....	1910	65 ³ / ₄	13 ¹ / ₂	79 ¹ / ₂	11	
"	Powell River—Vancouver.....	1913	108	12	120	19	
"	Campbell River—Hardy Bay.....	1911	203 ¹ / ₂	4 ¹ / ₂	207 ³ / ₄	18	
"	Vancouver—Squamish.....	1914	44 ¹ / ₂	1 ¹ / ₂	46	6	
"	Salt Spring Island Line.....	1902-14	88	7 ¹ / ₂	95 ¹ / ₂	19	
"	Sidney—Ganges Line.....	1910	21	2 ¹ / ₂	23 ¹ / ₂	.....
"	Chemainus—Kuper—Thetis Islands.....	1912	3 ¹ / ₂	4	7 ¹ / ₂	5	
"	Saanichton—James Island.....	1912	3 ¹ / ₂	1	4 ¹ / ₂	2	
"	Sydney and Sydney Island.....	1910	3	3	6	2	
"	Bamberton Works, Keatings Branch.....	1914	.....	1	1	1
Yukon	Ashcroft—Dawson and Boundary.....	1899-12	1,777	1,777	78	78,091
"	Ashcroft—Quesnelle (local wire).....	1878-87	215	.....	215	.....
"	Ashcroft—Lillooet Branch.....	1895	67	.....	67	12
"	Lillooet—Pioneer Branch.....	1912	66	.....	66	15
"	Lillooet—Lytton Branch.....	1913	49 ¹ / ₂	.....	49 ¹ / ₂	12
"	Ashcroft—Savonas Branch.....	1914	40	.....	40	5
"	150 Mile House—Quesnelle Forks.....	1902	89	.....	89	5
"	150 Mile House—Bella Coola Branch.....	1912	329	.....	329	28
"	Quesnelle—Barkerville Branch.....	1887	61	.....	61	5
"	Hazleton—Prince Rupert Branch.....	1901-07	218	.....	218	22
"	Terrace—Stewart Branch.....	1910-11	174	.....	174	8
"	Queen Charlotte Island Line.....	1913-14	123	.....	123	13
"	Hootalinqua—Livingstone Creek, Y. T. Branch.....	1907	70	.....	70	2
"	Ashcroft—Highland Valley.....	1916	30	30	5	
	Total.....		11,680 ³ / ₄	336	12,016 ³ / ₄	1,058	411,934

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TELEGRAPH SYSTEMS OF THE DOMINION.

As a matter of general interest, pursuant to the statement submitted last year, the latest figures to hand showing the extent of telegraph lines in operation in the Dominion are as given hereunder.

Canada.	LENGTH OF LINES IN MILES.				LENGTH OF CONDUCTORS IN MILES.				No. of Offices
	Aerial.	Under-ground.	Sub-marine.	Total.	Aerial.	Under-ground.	Sub-marine.	Total.	
1916-1917.									
Great North Western Telegraph Co	10,064	7	13	10,084	31,357	192	78	31,627	
Canadian Pacific Telegraph	14,617	23	95	14,735	106,143	820	227	107,190	1,519
Government Telegraph service	11,390		330	11,720	11,680		336	12,016	1,058
Grand Trunk Pacific Telegraph	5,279	1	1	5,279	19,525	18 25	2 19	19,545	279

REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the Government lines in the several districts hereinbefore mentioned, are given in the following table:—

* 1916-1917.	Expenditure.	Revenue.
Lower St. Lawrence and Maritime Provinces—	§ cts	§ cts.
Anticosti lines	8,333 90	1,383 13
Bay of Fundy	5,709 83	1,361 58
Cape Breton	46,429 78	4,637 80
Cape Ray (subsidy)	250 00	
Escuminac	1,453 91	952 26
Father Point (Agency)	500 00	
Ile aux Coudres (subsidy)	200 00	
Magdalen Islands	6,665 85	2,505 05
North Shore, east of Bersimis	28,329 12	6,809 74
North Shore, west of Bersimis	20,821 33	1,634 06
Orleans telephone	1,860 64	425 84
Quarantine system	6,744 79	213 21
Quebec County Lines	1,943 60	871 37
Prince Edward Island and Mainland	15 50	
Cable ship <i>Tyrian</i> —		
Maintenance	60,096 88	
Generally—		
Gulf and Maritime Provinces	2,290 29	
Tiniskaming District—		
Telephone line	3,415 98	255 65
Ontario—		
Pelee Island telephone	2,652 25	134 35
North West Lines—		
Saskatchewan	48,623 53	7,608 28
Alberta	67,782 80	18,851 35
British Columbia—		
Mainland	56,035 86	29,143 45
Vancouver Island	91,509 47	28,204 56
Yukon—		
Ashcroft—Dawson	£12,666 15	86,488 67
Telegraphic service generally	357 28	
Total	674,688 74	191,453 35

DEPARTMENTAL TELEPHONE SERVICE.

Up to date of this report (April 1, 1917) the telephone connections with the central office of the Bell Telephone Company at Ottawa, listed as chargeable to the special appropriation, numbered 1,090, the annual charge for which amounts to \$47,191.50. The connections are distributed amongst the several departments, as hereunder:—

Department.	NO. OF TELEPHONES.		Total.	Cost per Annum.
	Offices.	Residences.		
				\$ cts.
Agriculture.....	36	15	51	2,620 00
Auditor General.....	14	2	16	753 00
Census.....	1		1	80 00
Civil Service Commission.....	4	3	7	342 00
Clerk of Crown in Chancery.....	1	1	2	85 00
Conservation Commission.....	5	1	6	375 00
Customs.....	24	6	30	1,235 00
Dominion Archives.....	2	1	3	160 00
Dominion Police.....	15	5	20	780 00
Economic Development Commission.....	2		2	80 00
Exchequer Court.....	2	1	3	145 00
External Affairs.....	7	2	9	388 00
Finance.....	18	5	23	950 00
Governor General.....	6	6	12	495 00
" " Private Line.....				123 00
" " P. B. X.....	14		14	1,052 00
House of Commons.....	17		17	720 00
Indian Affairs.....	14	2	16	646 00
Inland Revenue.....	18	4	22	934 00
Interior Department.....	118	9	127	5,552 06
Justice.....	20	15	35	1,476 50
Labour.....	6	3	9	445 00
Library of Parliament.....	3	2	5	185 00
Marine Department.....	20	8	28	1,185 00
Militia and Defence.....	31	13	44	2,142 60
" " P. B. X.....	158		158	6,127 00
Military Hospital Commission.....		1	1	40 00
Mines Department.....	18	1	19	807 00
" " P. B. X.....	36		36	1,329 00
Mounted Police.....	4	2	6	230 00
National Service Commission.....	3		3	165 00
Naval Service.....	25	6	31	1,316 00
Northwest Territories.....		1	1	35 00
Patriotic Fund Committee.....	1		1	80 00
Post Office.....	42	9	51	2,090 00
Printing and Stationery.....	19	12	31	1,268 00
" " P. B. X.....	49		49	1,079 00
Privy Council.....	7	5	12	525 00
Public Works.....	74	19	93	4,321 00
Railways and Canals.....	21	13	34	1,516 00
Secretary of State.....	13	4	17	779 00
Senate.....	16	4	20	837 00
Supreme Court.....	1		1	40 00
Trade and Commerce.....	11	3	14	615 00
War Purchasing Commission, Private Branch Exchange.....	10		10	1,050 00
	906	184	1,090	47,191 50

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CAPE BRETON LINES.

The revenue was the largest thus far recorded for any similar period, caused by a general revival of trade, the demand for sea products, fish, lobsters, etc., being active at increased prices.

New Telegraph Offices.

Munros Point (St. Annes, C.B.), loop from South Gut office; line completed April 30 and office opened on May 1. In charge of Mr. J. McKillop, agent and operator. Remuneration 25 per cent of receipts and checks, guaranteed \$50 a year

Black Brook, C.B., between Hillside and Groves point, on the Boularderie line. Opened February 14, Mr. H. McNeil, agent and operator. Remuneration 25 per cent of receipts and checks, guaranteed \$50 per annum.

Offices Closed.

Hillside, C.B., on Boularderie line, closed February 14, in view of opening of new office at Black Rock.

South Gut, C.B., closed December 31; the business is being handled through the office at Englishtown until such time as office is reopened.

New Telephone Offices.

Gillies Point, C.B., agent, N. A. McNeil; Gillies Point East, C.B., agent, J. R. Morrison; Grass Pond, C.B., agent, N. M. McNeil; McNeils Vale, C.B., agent, D. S. McNeil.

These offices were opened November 11, and the instruments installed.

East Lake Centre, C.B., agent, Howard McKinnon, opened March 27; Melford, C.B., agent, Mrs. Flora McDonald, opened October 9.

Changes in Agents.

Baddeck, C.B., Mr. D. Dunlop, agent and operator, died suddenly on September 23, and Mrs. Christie Dunlop received the appointment as agent; on February 28, Mrs. C. Dunlop resigned and Mr. Gerald Dunlop was appointed; the office up to the end of the fiscal year being in charge of Miss Simpson, instructor.

Craigmore, C.B., Allan Cameron, agent and operator, died February 26; office transferred March 3 to Mary K. Cameron, on same terms and conditions as applied when former agent was in charge.

Pleasant Bay, C.B., Mrs. Geo. P. McIntosh, agent and operator, superseded November 30 and office moved to residence of Miss Annie McLean, new appointee, at same remuneration, 25 per cent of receipts, and checks guaranteed, \$50 per annum.

Grand Anse, C.B., Miss N. A. McPherson resigned November 30 and was succeeded by her sister, Miss Barbara McPherson; no change in remuneration.

Dingwall, C.B., on October 18 office was moved to the residence of Mr. Wm. LaRousie, succeeding Mr. G. W. McPherson; no change in remuneration.

Benacadie Pond, C.B., John H. McNeil, agent and operator, superseded November 1 by James N. McNeil, new appointee; no change in remuneration.

South Ingonish, C.B., Mrs. M. C. Williams, superseded December 27 by Miss Mary A. Young, new appointee; no change in remuneration.

Grand River Falls, C.B., Mrs. E. D. McKillop, agent and operator, succeeded by Mrs. R. J. McLeod, September 1, on same terms and conditions as applied to former incumbent.

Hayes River, C.B., H. R. Beaton, agent and operator, succeeded by Mrs. Florence Beaton on July 31; no change in salary or conditions.

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Grand River, C.B., Miss E. A. Finlayson, agent and operator, resigned June 15 and Mrs. Arch. Finlayson was appointed; no change in conditions.

Eskasoni, C.B., reopened May 8, Miss Rose McAdam appointed agent and operator; no change in remuneration.

Iron Mines, C.B., telephone office transferred October 15 to Mr. Donald D. McDonald; no change in rate of commission.

Orangedale, C.B., telephone office removed July 25 to residence of Mr. N. A. McLean, new appointee; no change in commission.

Change in Repairers.

Port Hood, C.B., office to Outer Island, C.B., Ambrose Smith superseded by John Eldridge Smith, dating from November 1; no change in remuneration.

Little Bras d'Or, Upper Kemp Head, C.B., Murdock McLeod superseded by John L. McPhee, of Groves Point, C.B., dating from November 4; no change in remuneration.

Pleasant Bay, Barren, C.B., A. D. Moore superseded by Rod Fraser, of Pleasant Bay, C.B., dating from October 5; no change in remuneration.

Grand River, Enon, C.B., Hector Urquhart superseded by Dan. A. McLennan, of Head of Loch Lomond, dating from October 5; no change in remuneration.

Repairers Appointed.

Middle River bridge north to county line, distance fifteen miles, Allan J. Grant, of Middle River; service dating from March 20; salary \$60 per annum.

Baddeck, Nyanza, Middle River bridge, distance nine miles, Daniel Morrison, of Baddeck; service dating from March 20; salary \$36 per annum.

Strathlorne, Brooks village, distance twenty-one miles, Alex. McMaster, of Brooks village; dating from June 16; salary \$84 per annum.

BAY OF FUNDY LINES.

Toward the latter part of June, 1916, the Gannet Rock cable gave out; the *Tyrian* arrived shortly after and repaired it. The Seal Cove-Wood island section gave out on December 16, 1916; on March 31, 1917, the *Tyrian* repaired it; also repaired the White Head cable No. 1, which broke during a storm, December 16, 1916. The Duck Island-Nantucket cable was replaced, as it was too far gone to repair.

On September 14, 1916, the Eastport-Campobello cable No. 1 gave out; was repaired and is working well.

The Flaggs Cove-Campobello cable No. 1 broke during a storm in December, and was replaced by 2,000 feet of new cable.

When reconstruction on the line was commenced, a temporary line was built to Seal Cove, on which telegraph and telephone instruments were installed at the several offices, and the reconstruction is now nearing completion.

MAGDALEN ISLANDS LINE.

The Meat Cove cable had been interrupted since December 24, 1914; was put in operation June 22. During the period of interruption all traffic to the mainland was handled by the Marconi wireless station at Grindstone.

On June 17, the Bryon Island cable, which had been interrupted since January 25, was repaired by the *Tyrian*, and is now in fairly good working condition.

New Telephone Stations.

On October 24, the telephone instrument which was at Grand Entry village was moved to Mr. Charles Doyle's at Muck Cove, halfway between Grand Entry and Old

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Harry; operated on commission. On November 7, an office was opened at Alfred Gallant's, Etang des Caps; a 2½-mile extension was built to connect the office with the main line; office is operated on 25 per cent commission.

Conditions Generally.

Our land wires now cover about 100 miles. There are twenty-seven telephone boxes, of which twenty are on salary and commission; Etang des Caps, Muck Cove, Grand Ruisseau, and Grand Entry Point are on commission only.

ANTICOSTI ISLAND LINES.

No additional mileage built during the past year. Fox Bay office is still closed but in communication by telephone with Heath Point office during the summer.

There has been no change in the staff. The North Shore cable was repaired on July 13 by the cable ship *Tyrian*, and since then has been working well.

NORTH SHORE ST. LAWRENCE LINES.

West of Bersimis.

An extension of five miles was built in the month of July, from Murray Bay to Nairns Falls. The line between Bay St. Paul and St. Agnes was re-poled with cedar, as was also a section of the Peribonka line. On the Port-Neuf-Bersimis section one of the main road bridges and a camp were rebuilt. Outside of damage by fires the general repairs were made with a very small outlay.

The changes were as follows: Lac Charles re-opened May 25, 1916; agent, Mrs. J. Bouliane; Nairns Falls opened July 16, 1916, agent, N. F. Paper & Pulp Co.; Les Eboulements opened as a joint office July 16, 1916, agent, J. A. DesGagne; St. Irenee opened as a joint office July 16, 1916, agent, A. Girard; River au Moulin, opened September 1, 1916, agent, A. T. Villeneuve; Lac Charles, closed October 1, 1916; St. Simeon, agent, Jos. Morin, replaced by J. Tremblay March 12, 1917.

Quebec County Telephone Lines.

Some extensions were made, and nine new instruments were installed, against three withdrawn.

Escuminac Telephone Line.

A small extension was made in September, and two new stations opened, bringing the total number up to 21. The operation of the line by the New Brunswick Telephone Company has been satisfactory during the year.

East of Bersimis.

The lines were kept in good working order throughout the year; very few interruptions which were promptly repaired. During the course of the year, three local telephone lines were erected as accommodation offices; one, a half mile long, was constructed at Natashquan, between the telegraph office and the clergyman's residence, in operation August 4, 1916; a second at Seven Islands, between the telegraph office and the Bishop's palace a distance of one-third of a mile, in operation September 25, but the palace was destroyed by fire December 21, and telephone boxes and apparatus were lost; another line was strung on the telegraph poles, between the Pigou office and the office of the Gulf Pulp & Paper Company, a distance of two miles.

Change in Agents.

June, 1916, John Bolger was appointed agent and repairer at West St. Modest, succeeding his father, Mr. James Bolger. February, 1917, Miss Ella Chevalier, appointed as agent at Bonne Esperance in place of Miss M. Chevalier, deceased. An accommodation office was opened at Shelter Bay on May 11, 1916, with Mr. J. P. Boulianne as agent.

QUARANTINE LINES.

The Crane Island-Montmagny cable which was raised November 12, 1915, was relaid April 21, 1916; again raised November 15, and stored for the winter. The St. Francois-Isle aux Reaux cable was broken by ice March 10, 1916, and repaired in May; 500 feet being replaced near the Isle aux Reaux end. The Isle aux Reaux cable, interrupted May 9, was defective and out of service; was replaced by some new cable and some serviceable cable saved from the abandoned Grosse Isle-Crane Island cable. The Orleans Island-Bellechasse cable, raised November 13, 1915, was relaid April 27, 1916; broken on August 10, not repaired but was raised in November and stored at Quebec. One of the St. Francois-Isle aux Reaux cables was broken by a vessel anchor on October 4 and repaired on October 20; three joints being replaced close to Isle aux Reaux; broken by ice on December 22.

One of the Ange Gardien-St. Pierre telephone cables was broken by ice March 20, 1916, and repaired June 26, but again broken by ice February 5, 1917.

In June, 1916, the Grosse Isle-Crane Island cable was removed from its original location and relaid from Grosse Isle to St. Margaret island, one and a half knots, thence one mile of land line and two and a half knots of cable from St. Margaret island to the west end of Crane island. On December 1 this cable was broken in three places by a gas buoy adrift in the ice; repairs were effected December 12.

A steel wire was strung from Maheux bay to St. Laurent wharf for use of the signal service.

PELEE ISLAND, ONTARIO, LINES.

After repairing the cable in May, 1916, it has worked most satisfactorily, with the exception of a short interruption in October, 1916, and is still working well.

The Point Pelee branch on the mainland is in need of new wire, as quite a few places in the old wire, in use since 1888, are badly rusted. This section should be made metallic and have a double instead of a single wire service.

NORTHWEST ALBERTA DISTRICT LINES.

During the year reconstruction of the line between Edmonton and Athabaska was begun and carried through from Edmonton to a point 20 miles from Athabaska.

The High Prairie telephone line was extended to Grouard, a distance of one mile, thence a half mile line was built to the Dominion lands office.

Requests have been received for the extension of the Athabaska-Fort McMurray line to lake Athabaska, a distance of about 100 miles, and another request for a line from Peace River crossing to Vermillion, about 250 miles farther down the river. These extensions would open up new agricultural and mining districts.

BRITISH COLUMBIA LINES.

During the year 172 miles of new lines were built, 56 reposed, 86 miles of pole line reset, and there are 217 offices, an increase of 35.

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Vernon-Kamloops Section.

This line was overhauled and 900 poles reset; an extra wire was strung from Holmwood to Vernon, giving a metallic circuit, to use the simplex system of telephone and telegraph, and completing the telegraph line from Ashcroft to the boundary line at Oroville.

Kamloops-Mount Olie-North Thompson Section.

This section was overhauled last year; several new offices have been opened, and business has been very satisfactory.

Heffley Creek-Upper Louis Creek Section.

Built last fall, work starting in September, was completed November 10, and is operated by a switch at Heffley Creek office to the main North Thompson line; seven offices were opened.

Kamloops-Goose Lake Section.

Since last year this line has been brought direct into Kamloops office; previously it was a spur from the Nicola line at Knutsford. At Goose lake, connection is made with the Dominion Forestry Branch line to Fish lake, and a public call office opened at that place.

Kamloops-Revelstoke Section.

(Via Chase, Notch Hill and Sicamous.)

The line from Malakwa to Revelstoke, 35 miles, was made metallic. The section along the east side of Mara lake will be transferred to the government road, which is now completed.

Enderby-Vernon Section.

Built during the past year and opened in December, 1916, connects the telephone system in the northern part of the Okanagan valley with Vernon and the south, also gives the public a service from the Revelstoke district direct to the Vernon district.

Penticton-Midway Section.

The switching office at Fairview has been closed, and switching is done at Penticton. The old single line from Fairview to Keremeos has been taken down and the wire will be used elsewhere.

Merritt-Mammette Lake Section.

Built during the year, commencing at Merritt, thence via Lower Nicola to Mammette lake. Three offices have been opened.

Proctor-Creston-Yahk Section.

This pole line was extended through from Creston to Yahk, 29 miles farther east, where connection will be made with the Kootenay Telephone Company to Cranbrook. The wire line was not completed but will be finished in the spring, when four new offices will be opened. The pole line was completed in October, 1916.

Nakusp-Edgewood Section.

Three new offices have been opened. It is important that this line be extended along the Arrow lakes to Renata, 24 miles, to connect the line with the Nelson district.

Castlegar-Renata Section.

Last fall this section was built as far as Deer Park, and this spring, 1917, it was completed to Renata; the cable across the lake at Renata was not laid until April. Nine offices have been opened, and business prospects are good.

YUKON TELEGRAPHS.

The line between Hazelton and Kispiox was re-poled, completing the work of general re-poling between Hazelton and Fifth Cabin first undertaken in 1914. 202 new cedar poles were put in between Hazelton and Kispiox. An extension was built from New Hazelton to the Silver Standard Mines, a distance of four and a half miles, the mining company erecting the pole line at their own expense.

A connection was also made between our office at Nechacco and the town of Vanderhoof, on the Grand Trunk Pacific railway, a distance of approximately four miles. Telephones were installed at Vanderhoof, Nechacco and Fort Fraser.

The pole line between Hazelton and New Hazelton was cross-armed with six-pin cross-arms, and lines terminating at New Hazelton were brought in to Hazelton.

High water during the month of July carried out the pack train bridge over the Naas river near Seventh Cabin, as well as foot bridges near Ninth Cabin and over Owl creek.

The renewal of the pack-train bridge necessitated sending a bridge gang from Hazelton, the centre pier and abutments having been carried away a site further up stream was selected and a one-span truss-bridge put in, doing away with a centre pier. The span is seventy-eight feet in length between abutments.

Ashcroft Local.

At Ashcroft, on July 5, at 7 p.m., a fire which started in the Ashcroft hotel completely destroyed the business portion of the town, including our office and a considerable portion of our equipment. Temporary space was obtained in the Canadian Pacific railway depot, and by noon next day all circuits were installed and normal conditions restored.

Construction Ashcroft-Highland Valley Line.

Work on the construction of this line (28 miles) was begun September 28 and completed October 27. Four telephones were installed at various points.

Houston-Oosta Lake.

This line from Houston to the west end of Oosta Lake (41 miles) was begun on August 25, and the pole line constructed (26 miles) October 30, the work of stringing the wire the above distance was begun March 14 and completed March 24. This leaves 15 miles to be constructed to the objective point at the west end of Oosta Lake.

VANCOUVER ISLAND LINES.

The line between Sechart and North West bay, a distance of 5 miles, which formerly followed the trail through heavy timber, was re-built along the new wagon road, and the wire transferred to the new poles.

On the Pender Harbour section, a new piece of line was built from the narrows at the head of the harbour to two miles beyond Donnelly's Landing, a total distance of five miles and a short piece of cable laid across the mouth of the harbour to the hotel, and the line continued around the bluffs to the cable box where the cable crosses to Nelson island shortening the line by about five miles.

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The cable between Quathiaski Cove and Campbell River was again interrupted in May, and the service of the British Columbia Telephone Company's repair outfit secured to pick up, repair and relay cable in a new position. Advantage was taken to make use of old cable on hand to lay a second cable between these points, to avoid interruption to the main line in the event of a future break in the first cable. The extra cable was put into service to connect the branch line between Quathiaski Cove and Heriot Bay with our Campbell River office.

The cable between Sarah Point and Cortez Island also became interrupted in October, and after several attempts by our line foreman to repair the break, with local assistance, the services of the British Columbia Telephone outfit was again secured and the cable repaired and relaid in a new position.

On October 11, the cable between Tofino and Clayoquot was interrupted, and on examination it was found to be broken between Tofino and Round Island, and was repaired the following day.

The Telephone Exchange on Salt Spring islands was thoroughly overhauled and necessary repairs made to the lines and equipment. About two miles of new line was constructed to give connection to four new subscribers at the standard rental.

Construction of line from Fisherman's Bay to Shushartie Bay was begun September 1 and completed December 10; approximate length, 26½ miles. Telephones were installed at Fisherman's Bay, Stramby, Nawitti, Shurshartie Cannery and Shurshartie Bay.

There has been a steady increase in the revenue of the Vancouver Island lines, and indications point to a further increase, as renewed activity is reported in the logging, fishing, and mining industries.

Telephones have been installed in several new logging camps and three new mining camps.

"SS. TYRIAN."

Grand Manan Section.

On April 3, a new cable 1.25 knots, was laid from East Port, Maine, to Owens Head, Campobello.

On 5th, laid a new cable from White Head island to Chaney's island, and on the 6th, laid cables from Chaney's island to Ross island and from Ross island to Grand Harbour. The cable from White Head to Chaney's is three-quarters of a knot, from Chaney's island to Ross island is half a knot, and from Ross island to Grand Harbour one-quarter knot.

On 8th, laid a new cable from Hay island to Kent island, .31 knot.

On 7th, repaired the Gannet Rock cable a short distance from the rock. This cable failed again, and the ship went there in July; removed a leak on August 2, landing it at Hay island instead of Little Wood island, thus saving cable.

August 8, made a repair on the Deer Island-Wilsons Beach cable near Deer Island landing. This cable is badly corroded.

15th, diverted the Gannet Rock cable from Little Wood island to Hay island, length now is 4.71 knots, and built the connecting line on Hay island.

March 31, repaired the Seal Cove-Big Wood Island cable 300 feet from the island shore.

Prince Edward Island Cables.

June 6, repaired the Wood Island-Caribou cable off the wharf at Wood islands, putting in 80 feet of new cable.

7th, repaired the same cable one mile off Caribou, Pictou county, N.S.

Magdalen Island Cable.

June 5, repaired an ice crush at the Meat Cove landing.

22nd, repaired the same cable five miles off Meat Cove, where it had been broken by a fishing vessel's anchor.

Long Point-Anticosti Cable.

June 29, repaired this cable just below high-water mark.

July 11, made repair one mile off Anticosti, and on the 13th made a repair of seven miles off.

Bryon Island-Grosse Isle Cable.

July 14, repaired this cable just outside of low-water mark at Grosse Isle, where it had been crushed by ice, and on the 17th made another repair one mile off shore, where cable had corroded.

Scatari—Main-à-Dieu Cable.

Repaired this cable on July 21, near the island shore, where it had been crushed by ice.

St. Peters Canal Cable.

This cable had been cut by a dredge, on September 21; it was repaired and left coiled on the bank of the canal to be laid across when the dredging would be completed.

McNutt's Island Cable.

On August 21, laid a new cable, 1-15 knots, from McNutt's island to the mainland, Shelburne county, N.S.; this cable is to be used by the Barrington Telephone Company.

Bermuda Cable Company.

Repaired the Bermuda Cable Company's cable at the Halifax shore end.

Burgoe-Rameau—Newfoundland.

September 30, repaired this cable about two miles from Rameau; cable chafed and corroded over bad bottom. On October 2, put in a new shore-end section at the Burgoe end, where it had been chafed by ice.

St. Paul Island—Bay St. Lawrence Cable.

On October 13, repaired this cable one-half mile off Bay St. Lawrence, and on November 14 made another repair 5 miles off St. Paul island.

Seal Island—Woods Harbour, N.S., Cable.

Made one repair a mile from Seal island on March 17, and another three miles farther out on the 29th.

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DEEP SEA CABLE.			
Date.		Knots.	Knots.
1916.			
April 1	Cable on hand from last year		10 08
" 3	Laid East Port—Owens Head, Campobello	1 25	
" 5	" White Head Island—Chaney's Island	75	
" 6	" Chaney's Island—Ross Island	50	
" 6	" Ross Island—Grand Harbour	25	
" 23	" Sent cable to Levis, Que.	3 00	
May 6	Gannet Rock—Picked up		39
" 6	" Laid	30	
" 13	Seal Island—Picked up		58
" 13	" Laid	1 07	
June 17	Condemned	14	
June 17	Magdalen Island—Picked up		5 13
" 22	" Laid	5 27	
July 13	Condemned	16	
July 13	Long Point—Picked up		4 67
"	" Laid	5 53	
" 17	Condemned	30	
" 17	Bryon Island—Laid	12	
August 2	Gannet Rock—Picked up		05
"	" Laid	13	
" 9	Deer Island—Laid	19	
" 16	Gannet Rock—Picked up		6 93
"	" Laid	4 46	
" 21	Condemned	20	
" 21	McNutt's Island—Laid	1 15	
October 13	St. Paul Island—Picked up		39
"	" Laid	1 00	
" 31	Took aboard at Halifax		17 25
November 14	St. Paul Island—Picked up		5 85
"	" Laid	5 85	
December 5	Condemned	50	
December 5	Sent to British Columbia	7 25	
1917.			
March 29	Seal Island, N.S.—Picked up		58
"	" Laid	52	
" 31	Big Wood Island—Laid	02	
" 31	Cable on hand	11 99	
		51 90	51 90
SHORE END CABLE.			
Date.		Knots.	Knots.
1916.			
April 1	Cable on hand		1 33
May 8	Gannet Rock—Picked up		05
1917.			
March 31	Cable on hand		1 38
FOUR CORE CABLE.			
March 31	Cable on hand		1 19
TWO CORE CABLE.			
March 31	Cable on hand		1 50

COLLECTION OF REVENUE

By E. T. SMITH, COLLECTOR OF PUBLIC WORKS REVENUE.

During the year 1916-17, the revenue accrued from public works shows an increase of \$19,452.43, being \$292,316.11, while in the preceding year it was \$272,863.68. The collections show a decrease of \$5,783.47, being \$256,789.57, while in 1915-16 they amounted to \$262,573.04.

The revenue accrued from slides and booms was \$97,196.01, or \$11,031.40 less than for the year ended March 31, 1916. The collections were \$97,142.16, or \$11,085.25 less than for the previous year. The outstanding uncollected revenue from slides and booms was \$53.85 more than in 1915-16.

The graving docks yielded \$64,918.37, or \$9,702.14 more than in 1915-16.

Sales and rents collected amounted to \$94,729.03, being \$4,599.64 more than the previous year.

Having dealt with the revenue in a general way, I now submit the particulars in detail, relative to the several services under their respective heads.

SLIDES AND BOOMS.

OTTAWA DISTRICT.

The tolls charged up amounted to \$16,050.97, or \$15,216.64 less than in 1915-16. The number of saw logs that passed through the works was 2,516,375, or 1,395,529 pieces less than the previous year. Of square timber there was none.

All the revenue accrued during the year was collected but \$38.85 overcharged. Of the dues accrued since July 1, 1889, when this department took over the collection, there remains uncollected \$9,200.46. Of the dues accrued before July 1, 1889, there still remains \$56,805.65, all of which should be written off.

The accounts for the Ottawa district stand thus:—

Dues accrued during the year to March 31, 1917.	\$16,050 97
Outstanding, March 31, 1916.	9,161 61
	<hr/>
Collected.	\$25,212 58
	16,012 12
	<hr/>
Balance outstanding, March 31, 1917.	\$ 9,200 46

Being composed of:—

Dues of 1889-90.	\$ 6,903 05
" 1890-91.	28 42
" 1892-93.	379 80
" 1896-97.	196 71
" 1903-04.	637 37
" 1911-12.	723 63
" 1912-13.	251 15
" 1913-14.	25 31
" 1914-15.	16 17
" 1916-17.	38 85
	<hr/>
	\$ 9,200 46

Balance of dues outstanding prior to July 1, 1889, when this department took over the collection, \$56,805.65.

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Herewith are statements in detail regarding the year's business:—

No. 1.—Statement of the number of pieces of square timber, sawlogs, etc., which passed through the Ottawa works during the year ended March 31, 1917.

No. 2.—Statement of dues accrued from each of the slides and works of the Ottawa district during the year ended March 31, 1917.

Apart from two accounts amounting to \$1,044.68, all the revenue from the Ottawa slides and booms, since I took charge in 1889, has been collected, excepting such as should have been written off long ago, or a few items in dispute which I expect will have to be forgiven.

The number of saw logs which passed through the works during the past year was 1,395,529 less than during the previous season, and there were 16,840 cords of pulpwood less than in 1915-16.

The DuMoine works were the only ones of the whole Ottawa River system which gave more revenue than the previous year, and it only amounted to \$176.35. I expected a considerably greater revenue than we had in 1915-16, but the scarcity of labour, lack of water in the streams, and holding back logs made on the tributaries, to enable the operators on the main Ottawa to get their logs down, tended to make the revenue of 1916-17 the smallest on record.

ST. MAURICE DISTRICT.

The revenue, being the largest ever accrued from this district, was \$80,150.45, being \$5,427.10 more than in 1915-16. The collections amounted to \$80,150.45, or \$5,427.10 more than in 1915-16. With the exception of an item of \$3,709.62, dues of 1909-10, disputed, all the dues accrued in this district since I took it in 1892 have been collected.

The amount outstanding prior to July 1, 1892, remains unchanged, viz., \$14,481.49, and should be written off.

The number of pieces of all kinds of timber that passed through the works was equivalent to 10,845,075 pulp and saw-logs or 1,338,775 more than the previous year.

The St. Maurice boom and slide system was leased to The St. Maurice Boom and Driving Association for a period of three years at a rental of \$1 a year; the company is to levy the rates of toll as authorized by Order in Council, and after deducting cost of operation and repairs authorized by the Minister of Public Works, any surplus of revenue is to be paid over to the Government.

NEWCASTLE DISTRICT.

The dues accrued from this district amounted to \$498.09, being \$136.45 less than the previous year, all of which have been collected at this date.

The totals outstanding on March 31, 1917, amounted to \$3,556.89, of which \$3,521.19 should be written off in accordance with a judgment in the Exchequer Court. \$35.70 will also have to be forgiven, the debtor being hopelessly insolvent at the time of his decease.

SAGUENAY DISTRICT.

The dues accrued during the year ended March 31, 1917, amounted to \$496.50, all paid but \$15, of which \$5 is uncollected to date, being \$1,105.41 less than in 1915-16. As the Chicoutimi Pulp Company had no logs coming by the Saguenay river of late years, the revenue has gradually declined, but as soon as the new mill at Bagotville is completed, they will again have large quantities to come through this boom.

GRAVING DOCKS.

ESQUIMAULT GRAVING DOCK.

The revenue from this service was \$17,472.08, being \$4,792 less than the previous year. (See statement No. 3). Of the 136 days the dock was occupied during the year, it was used for 80 days by H.M. and C.G. vessels.

The total number of vessels docked was 22, of 72,731 tons.

LEVIS GRAVING DOCK.

The revenue was \$4,280.52 less than for the year 1915-16, being \$26,215.11. (See statement No. 4.) During the season of navigation the dock was occupied for 239 days by 16 vessels, of 26,168 tons. During the winter of 1916-17, it was occupied by ss. *McVittie*, yacht *Courcellette*, and dredges *Galveston* and *Fruhling*.

KINGSTON GRAVING DOCK.

On May 1, 1910, the Kingston Shipbuilding Company took possession of this dock under lease, the rental of which, \$10,000 per annum, was payable at the end of each and every year. \$20,000, being two years' rent to May 1, 1916, was collected during the financial year. The rental to May 1, 1917, was also paid, and the rent was reduced to \$5,000 per annum for three years from May 1, 1917.

SELKIRK REPAIR SLIP.

During the last fiscal year the revenue was \$1,181.19, being \$275.34, less than the preceding year.

The total number of vessels drawn up on the slip was 22 and 4 lock gates. The slip was occupied for 21 days by 8 Government vessels, 849 tons, for two days by 4 lock gates, 280 tons, and 14 other craft of 1,343 tons. (See statement No. 5.)

HAILEYBURY SHIP WAYS.

The sum of \$50 was received for hauling out the steamer *Meteor*, which remained on the ways for seven days in July, 1916.

RENTS.

During the year the revenue accrued from government properties has been in 1916-17, sales and interest, \$140,201.72, or \$39,781.69 more than in 1915-16.

The account stands thus:—

Balance from others years	\$ 35,026 32
Accrued year ended March 31, 1917	140,201 72
	<hr/>
	\$175,228 04
Collected	\$ 94,729 03
Written off	11,339 81
Balance due March 31, 1917	69,159 20
	<hr/>
	\$175,228 04

The amount written off, namely, \$11,339.81, is composed of commission on collection, cost of maintenance, allowed in lieu of repairs or cancelled on account of poverty, etc. Of the amount uncollected, \$69,159.20, more than one-half of which is an account being adjusted by the Department of Justice. I hope to see this reduced substantially this year, although a very considerable portion will have to be forgiven, some of the parties having disappeared, and others being too poor to pay.

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In the administration of these properties there are serious obstacles to obtaining as favourable results, rentals, etc., as compared with the same property in the hands of private individuals. The latter can make terms, periods of leases, etc., as they see fit, but we cannot give any assurance in most cases for more than a thirty-day term, as we do not know when some of these properties may be required for government purposes. Hence, we cannot expect to obtain as good rentals as parties who can give a lease for one or more years, and I may say here that this condition makes it difficult for our agents to retain the tenants we may have. The four agents who look after the Wellington Street property have done their work well, and I do not anticipate much loss of rent, except perhaps from unavoidable misfortune to some of our tenants.

The following is a summary of rents collected from public properties during the year ended March 31, 1917, viz.:—

Hydraulic and other rents.	\$ 3,526 50
Ottawa, Sussex street.	2,064 00
“ Egan block.	691 59
“ Wellington street north.	66,299 71
Toronto Post Office site.	7,729 71
Province of Manitoba.	441 00
Victoria and Vancouver, B.C.	2,244 60
Public Building sites.	6,967 30
Sundry places.	1,479 71
Sales and interest.	3,285 47
	<hr/>
	\$94,729 03

8 GEORGE V, A. 1918

Annexed hereto is a comparative table of the public works revenue accrued and collected for the year ending March 31, 1917, compared with that of the fiscal year ending March 31, 1916:—

COMPARATIVE Table of Public Works Revenue accrued during the year ended March 31, 1917, compared with that of the Fiscal Year ended March 31, 1916, and amounts collected on account of same.

	Year ended March 31, 1917.	Year ended March 31, 1916.	Increase, 1917.	Decrease, 1917.
<i>Slides and Booms.</i>				
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Ottawa District.....	16,050 97	31,267 61		15,216 64
St. Maurice District.....	80,150 45	74,723 35	5,427 10	
Newcastle District.....	498 09	634 54		136 45
Saguenay District.....	496 50	1,601 91		1,105 41
Net decrease, \$11,031.40.....	97,196 01	108,227 41	5,427 10	16,458 50
<i>Graving Docks.</i>				
Esquimalt, B.C.....	17,472 08	22,264 08		4,792 00
Kingston, Ont.....	10,000 00	10,000 00		
Lévis, P.Q.....	26,215 11	30,495 63		4,280 52
Selkirk Repair Slip, Man.....	1,181 19	1,456 52		275 34
Haileybury Slip, Ont.....	50 00		50 00	
Decrease, \$9,297.86.....	54,918 38	64,216 24	50 00	9,347 86
<i>Rents and Sales.</i>				
Hydraulic rents.....	3,487 00	3,492 00		5 00
Minor Public Works.....	26 00	26 00		
Other public properties.....	136,688 72	96,902 03	39,786 69	
Net increase, \$39,781.69.....	140,201 72	100,420 03	39,786 69	5 00
<i>Accrued.</i>				
Slide and boom dues.....	97,196 01	108,227 41		11,031 40
Graving docks.....	54,918 38	64,216 24		9,297 86
Rents and sales.....	140,201 72	100,420 03	39,781 69	
Net increase, \$19,452.43.....	292,316 11	272,863 68	39,781 69	20,329 26
<i>Collected.</i>				
Slide and boom dues.....	97,142 16	108,227 41		11,085 25
Graving docks.....	64,918 38	64,216 24	702 14	
Rents and sales.....	94,729 03	90,129 39	4,599 64	
Net decrease, \$5,783.47.....	256,789 57	262,573 04	5,301 78	11,085 25

SESSIONAL PAPER No. 19

No. 1.—STATEMENT of the number of pieces of Square Timber, Saw Logs, etc., that passed through the Government Slides and Works on the Ottawa river and its tributaries during the fiscal year ended March 31, 1917.

	Pieces.
Square timber.	None.
Saw logs.	2,516,375
Boom and dimension timber.	16,190
Railroad ties.	90,780
Cedars.	1,023
Fence posts.	13,642
	<hr/>
	2,638,010
	<hr/>

Also 34,739.97 cords pulpwood.

The revenue accrued on the above was \$16,050.97.

No. 2.—STATEMENT showing the Dues accrued on the undermentioned works on the Ottawa River and its tributaries during the fiscal year ended March 31, 1917.

River or other improvements—	Amount.
Main Ottawa.	\$ 1,261 87
Cheneaux Boom.	2,075 30
River Petewawa.	3,877 53
River Madawaska.	110 63
Coulonge.	2,953 77
Dumoine.	322 22
Black River.	309 91
Gatineau.	5,039 74
	<hr/>
	\$16,050 97
	<hr/>

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THE DRY DOCK AT LEVIS, P.Q.

STATEMENT of Dues and other charges collected during the year ending March 31, 1917.

Name of Vessel Docked.	Tonnage.	Period of Dockage.		Dockage Charges.	Other Charges.	Total.
		From	To			
S.S. "Cascapedia".....	1849	1915-	1916-	\$ cts.	\$ cts.	\$ cts.
S.S. "Gaspesian".....	490	Wint.	ering.	800 00	.....	800 00
Dredge "Fruhling".....		Wint.	ering.	200 00	.....	200 00
S.S. "Lord Strathcona".....	495	Wint.	ering.	200 00	.....	200 00
2 Pontoons.....		April 19.	April 24..	150 00	50 00	200 00
S.S. "D. A. Gordon".....		Entry	fee.	400 00	.....	400 00
Dredge "Ottawa No. 115".....		Entry	fee.	200 00	.....	200 00
2 Pontoons.....		Wint.	ering.	400 00	.....	400 00
Yacht "Chanticleer".....		April 19.	April 24..	200 00	.....	200 00
D.G.S. "Lady Evelyn".....		May 30.	May 31..	200 00	.....	200 00
New Dry Dock.....		Wint.	ering.	400 00	.....	400 00
Dredge "Ottawa".....		Lab.	or.	.....	15 81	15 81
S.S. "Huron".....	1945	Lab.	or.	.....	23 68	23 68
S.S. "St. Paul".....	2029	May 31.	June 5..	525 06	4 50	529 56
S.S. "Eaton Hall".....	3711	June 5.	June 6..	200 00	.....	200 00
S.S. "Lord Strathcona".....	495	Entry	fee.	.....	.....	.....
S.S. "Plessis".....		June 10.	June 13..	421 10	.....	421 10
S.S. "Montcalm".....	170	June 19.	June 21..	350 00	.....	350 00
S.S. "Eureka".....	556	Entry	fee.	200 00	.....	200 00
S.S. "Cartier".....	559	Entry	fee.	200 00	.....	200 00
S.S. "Plessis".....		April 19.	April 24..	300 00	.....	300 00
S.S. "Arachne".....		April 24.	April 29..	250 00	.....	250 00
S.S. "Harry E. Packer".....		June 14.	July 1..	800 00	.....	800 00
Dredge "Beaujeu".....	2049	Entry	fee.	200 00	.....	200 00
S.S. "G. R. Crowe".....	2940	Entry	fee.	200 00	.....	200 00
S.S. "Fremona".....	522	June 22.	June 29..	895 88	.....	895 88
S.S. "Champlain".....	1432	July 11.	July 28..	1,723 20	29 75	1,752 95
S.S. "Montcalm".....	3898	Entry	fee.	200 00	.....	200 00
S.S. "Arachne".....		May 31.	June 10..	652 50	.....	652 50
S.S. "McVittie".....		April 28.	June 30..	2,024 40	24 50	2,048 90
Dredge No. 1.....		July 28.	Sept. 13..	5,190 44	41 80	5,232 24
Dredge No. 2.....		Entry	fee.	200 00	.....	200 00
Grain boat.....		Entry	fee.	200 00	.....	200 00
S.S. "Femona".....	3028	Entry	fee.	200 00	.....	200 00
Yacht "Courcellette".....		Sept. 15.	Nov. 29'.	7,275 84	66 65	7,342 49
S.S. "Lord Strathcona".....		Entry	fee.	200 00	.....	200 00
				25,958 42	256 69	26,215 11

SESSIONAL PAPER No. 19

REPORT OF THE CHIEF ACCOUNTANT

By A. G. KINGSTON, CHIEF ACCOUNTANT.

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
PUBLIC BUILDINGS.																			
<i>Nova Scotia.</i>																			
Amherst experimental farm.....			23 59							248 20		1,748 32		80 00				23 59	
" post office, etc.....			441 06															3,229 31	
Annapolis immigration office.....					135 00													1,123 77	
" post office, etc.....					45 00													1,235 00	
Antigonish post office, etc.....			102 13							279 18		247 50		50 00				1,123 77	
Arichat post office, etc.....			120 12							326 07		272 10		60 00				1,273 32	
Baddeck post office.....			28 82							342 00		60 04						631 31	
Bellefleur post office.....			1 67							230 00		81 90						1,657 31	
Bear River post office.....																		500 00	
Bridgewater post office, etc.....			69 20							183 31		364 20		31 50				1,107 82	
Canso post office.....			140 21							434 28		317 15						1,226 14	
Dartmouth post office (old).....			112 11							232 90		161 75		19 00				1,067 69	
" (new).....			91 80							376 39		239 66						5,193 48	
Digby post office.....			245 63							344 50		481 83		112 00				2,159 23	
Glouce Bay post office.....			123 27		2 00					498 60		365 40		44 00				1,666 40	
Guysborough post office.....			126 15							340 50		291 45						986 63	
Hatfield archives office.....					280 00					18 00		12 00						310 00	
" custom house, etc.....					72 21					5,940 24		452 86		554 53				10,671 87	
" examining warehouse, etc.....					58 90					933 53		363 00		23 34				2,631 67	
" fisheries inspector's office (McCurdy Building).....					100 00					4 50								104 50	
" immigration building.....			18 35							222 70								241 05	
" detention hospital.....			308 18											459 10				459 10	
" Dennis building (Mil. and Del.).....			1,388 91							1,198 38		1,818 40		632 39				9,590 18	
" post office, etc.....					9,237 00													12,173 85	
" postal station (north end).....																		12,173 85	
" Public Works office (clerk of works res.).....					52 50					2 45								54 95	
Inverness post office.....			98 97							210 30		276 70		33 75				1,042 53	
Kentville experimental farm.....										414 19		224 68						1,209 43	
" post office, etc.....			776 35							270 96		444 90		50 00				1,980 42	

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
PUBLIC BUILDINGS—Continued.									
<i>Nova Scotia—Concluded.</i>									
Liverpool post office.....		97 19		413 44	274 75	243 37	18 00		1,046 75
Lunenburg post office.....	588 87	2 00		437 71	341 61	581 36	59 00		2,010 55
Napan experimental farm.....	2,474 22					295 08			2,769 90
New Glasgow post office, etc.....		467 33		498 96	336 10	587 74	100 00		1,990 13
North Sydney immigration building.....		389 83		454 45	100 00	10 11	7 00		1,177 11
“ “ public works office (engineer).....			605 25			629 95	32 00		1,873 95
“ “ post office.....		53 70	30 00	466 96	343 50	1 00	18 00	7 00	1,624 25
Pictou custom house, etc.....		136 90		300 00	646 53	9 48	52 00		1,222 06
“ “ post office.....	1,356 66	583 65		306 15	214 00	55 34	25 00		1,117 91
Sheburne post office, etc.....	615 20			445 76	381 78	295 08			2,540 80
Springhill post office, etc.....		296 51		568 22	289 00	294 05	30 00		1,737 82
Stewiacke post office.....	8 95	27 25							1,477 79
Sydney immigration building.....									8 95
“ “Post” building (Marine and Fisheries).....			540 00						27 25
“ “ post office, etc.....	1,086 99	31 41		672 09	333 08	675 59	58 00		540 00
Sydney Mines post office, etc.....		59 49		427 50	308 25	397 05	30 00		2,837 16
Turo post office.....		20 71		525 60	372 25	425 64	30 00		1,222 29
“ “ new public building.....	442 34								1,374 20
Westville post office.....		186 65		433 90	179 85	231 04	21 00		442 34
Weymouth post office.....		7 57	100 00						1,052 44
Windsor immigration office.....		178 36	56 25			12 69			100 00
“ “ post office, etc.....		104 61		584 81	323 74	775 20	50 00		76 51
Wolfville post office.....		216 85		437 80	373 90	198 00	38 00		1,912 11
Yarmouth post office, etc.....	710 60			486 30	552 94	712 21	72 00		1,212 31
Minor offices throughout the province.....		158 37							2,750 90
Totals, Nova Scotia.....	14,001 96	8,450 83	12,455 21	27,092 80	14,612 13	14,613 29	2,884 61	756 57	94,817 40
<i>Prince Edward Island.</i>									
Charlottetown experimental farm.....	221 34				584 38	122 00			877 72
“ “ custom house, etc.....	547 21	183 52	70 00	673 19	747 13	12 71	34 00		2,267 76
“ “ immigration office.....		245 40	160 38			2 34			162 72
“ “ post office, etc.....	3,735 21		14 48	2,695 27	1,052 04	1,228 95	225 00		9,196 45

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Public Works office (clerk of works res.).....	29 00	24 00	405 03	44 46	4 50	53 00
Georgetown post office.....	197 74	137 40	405 03	44 46	4 50	789 13
Montague post office.....	55 80	184 71	401 61	73 78		715 90
Souris post office.....	520 40	448 35	511 48	190 00		1 670 23
Summerside post office.....	295 22	486 90	751 75	548 85	45 00	2 127 81
Tynish post office.....	355 98	472 25	573 75	131 42		1 554 07
Totals, Prince Edward Island.....	1 883 06	5 098 16	4 977 17	2 354 51	308 50	19 394 79
<i>New Brunswick.</i>						
Bathurst post office, etc.....	418 65	432 86	473 45	470 13	5 50	1 800 59
Campbellton post office, etc.....	62 20	49 15	494 52	646 20	52 00	1 676 08
Chatham post office, etc.....	226 85	316 75	530 05	301 09	20 00	1 439 71
Clair immigration office.....		90 00				90 00
Dalhousie post office, etc.....	55 16	413 89	340 25	96 76	26 00	922 06
Edmundston immigration office.....		156 00				156 00
Fairville post office.....	110 70	479 75	349 50	116 01	18 00	1 136 01
Fredricton experimental farm post office, etc. (old).....	5 835 52		375 53		22 05	6 211 05
" " (new).....	4 479 06		373 53			3 818 38
Grand Falls post office.....	181 72	584 65	488 00	185 87	81 00	3 570 94
Hillsborough post office, etc.....	216 83	651 26	1 075 75	1 150 34	48 41	1 097 31
Hillsborough post office, etc.....	188 10	396 72	398 79	32 97	32 00	1 164 80
Marysville post office.....	115 73	512 42	417 28	17 00	30 00	807 59
Milltown post office.....	34 95	431 39	125 74	134 73		632 16
Moncton post office.....	95 85	161 15	306 71	49 35	80 00	1 171 08
Moncton post office, etc.....	95 85	423 52	252 60	334 61	14 50	3 487 98
Newcastle post office, etc.....	487 11	612 22	588 76	440 91	135 25	2 093 50
Osekeag (Hampton) post office.....	353 83	597 07	457 50	650 10	35 00	1 135 02
Richibucto post office.....	276 79	464 10	326 63	42 50		1 208 05
St. John Bank of Commerce building (Marine agency).....	200 15	449 06	512 00	46 84		148 06
" " quarantine station.....	206 09	720 00		1 16		3 044 38
" " custom house, etc.....	1 294 29	4 582 93	2 988 05	717 67	224 15	11 964 09
" " savings bank.....	82 69	43 15	451 53	212 26	24 84	915 87
" " immigration building.....	844 73	120 00	4 517 59	1 262 48		6 744 80
" " post office, etc. (old).....	2 295 75	2 543 67	1 026 47	308 49	537 96	7 689 54
" " (new).....	80 034 37	5 522 09	2 986 55	2 746 69	846 11	98 105 91
St. Stephen immigration office.....	52 70	461 86	152 90	172 50	10 50	550 46
" " post office, etc.....	193 41	150 40	30 70	298 40	12 69	387 20
" " Bridge post office, etc.....		576 41	277 50	10 80		1 233 79
Sackville post office.....	1 60					10 80
Sussex post office, etc.....	289 03	411 01	528 00	143 23	58 00	1 498 14
Tracadie lazaretto.....	58 67	1 022 66	2 453 53	43 68		5 382 50
Woodstock post office.....	129 78	500 22	338 69	456 91	34 00	1 459 60
Minor offices throughout the province.....	363 16					363 16
Totals, New Brunswick.....	8 096 52	23 921 97	23 154 57	11 154 68	5 708 60	170 488 44

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Carttakers.		Heating.		Lighting.		Water.		Power.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
PUBLIC BUILDINGS—Continued.																			
<i>Quebec.</i>																			
Acton Vale post office.....			381	95				545	40	184	93	202	81	28	00			1,343	09
Armstrong (Beauce) customs office and immigration office.....	1,112	50						482	75	47	50	151	67	100	00			1,173	39
Arthabaska post office.....			652	25			200	00		269	20							1,655	87
Asbestos post office.....								143	71	262	25	248	50	24	75			200	00
Aylmer post office.....							225	00		140	00							752	47
Beauharnois post office.....			100	49			175	00	81	15		47	99	36	25			225	00
Black Lake post office.....							24	99										414	88
Browning post office.....			147	55			50	00	223	92	263	73	193	35	18	60		175	00
Buckingham post office.....																		24	99
Caouara post office.....																		847	15
Cap Reaure experimental farm.....	3,861	97								721	89							50	00
Chicoutimi post office, etc.....	1,269	87	133	63	105	00		501	26	516	82	537	85	300	00			4,583	86
Coaticook post office, etc.....			65	12				539	53	365	12	237	52	50	01			3,454	43
Compton post office.....					110	00												1,277	30
Cookshire post office.....			264	08				401	51	254	50	134	71	29	00			1,074	80
Drummondville post office, etc.....			396	10				663	85	179	55	107	84					1,347	34
Dundas custom house.....			9	99						164	80	78	69					253	48
East Angus post office.....	3,290	10	164	12				455	06	137	21	311	60					4,358	90
Farmham post office.....			180	00				327	80	94	00	102	13					2,033	93
Fraserville post office, etc.....			947	54				422	11	256	65	206	94	260	00			2,033	24
Granby post office.....			416	19				394	17	304	05	151	76	150	00			1,416	17
Grand Mere public building (site).....	407	50																15,407	50
Grosse Ile quarantine station, improvements.....	15,026	14																15,026	14
Highwater (Bromie Co.) immigration office.....	4,489	23																4,489	23
Hull post office.....			30	22				168	71	258	76	104	12	342	94			1,307	01
Huntington post office.....			22	48				480	00	70	09	29	12					834	00
Huntington post office.....			216	80														834	00
Joliette custom house—temporary.....			33	21														83	81
Joliette custom house—temporary.....			22	00														44	08
" " post office, etc.....	7,050	14	165	08				623	89	517	13	334	20					8,690	41
" " inspector's office (temporary).....																		44	00
" " (temporary).....			7	80														145	62

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weights and measures office (temporary)	831 63	45 51	264 00	459 56	272 05	106 68	21 64	284 00
Jonquieres post office.....		45 09		170 17	230 60	133 40	21 00	1,737 07
Knoxville post office, etc.....		637 31		123 06	232 99	133 29	42 18	1,259 26
Lachine post office.....		11 15		445 18	189 54	447 96	37 50	1,209 43
Lacolle immigration office.....		15 00	80 00		40 50			1,134 33
Lacolle post office.....		272 83		171 48	179 32	89 50	45 00	1,42 50
L'Assomption post office.....	12, 033 84	246 27		303 55	144 35	95 94	65 00	758 33
Lennoxville experimental farm.....		167 25			126 70	34 54		855 41
Le's armoury and gun shed.....		135 00						12,195 08
Longueuil post office.....		207 46		543 97	507 50	196 94	524 25	2,529 36
Louisville post office.....		38 72		462 63	185 62	61 14	61 40	978 25
Magog post office, etc.....		48 80		491 14	210 51	218 80	20 00	999 17
Mariville post office.....		55 96		478 05	338 16	227 58	78 56	1,171 15
Matane post office.....		217 68		393 84	254 59	120 00	28 00	1,852 39
Megantic post office.....	180 00	241 67		487 55	286 59	31 58	60 00	1,083 40
Montagny post office, etc.....		213 00	50 00	444 02	147 92	308 97		1,292 23
public works storage.....			240 00		195 30	212 05	50 00	1,121 12
Mont Joli post office.....		4 75	240 00	3 00	58 00	17 02		50 00
Montreal archives office (Duluth building).....			720 00			3 63	16 49	322 77
" Atlantic building, mail room.....			210 00			33 48	23 28	740 12
" Bonaventure station, mail room.....		0 50						266 76
" customs express (Read building).....			2,083 33					0 50
" custom house, etc.....			14 25	757 28	983 87	488 15	426 80	2,151 98
" canal office.....		19 59			18 40	49 90	11 64	5,199 98
" (old).....								99 53
" examining warehouse (new).....		292 50						3,134 83
" (old).....				2,978 32	4,478 42	1,449 42	2,328 00	59,376 84
" forest products laboratory.....		2,281 94	35 00	197 65	2,369 75	2,184 03	1,131 92	8,395 02
" immigration building.....		57 05			436 05	534 30	382 18	2,262 03
" inland revenue building.....		726 62	112 50	23 00	1,901 70	226 41	1,311 29	4,424 46
" ordnance stores.....		306 10		305 20	462 50	112 22	220 55	1,406 57
" post offices, etc.....	15,941 53	9,498 90	3,416 56	2,386 62	4,614 17	10,525 06	3,139 25	3,421 02
" annex (old) Herald building.....			325 00					50,002 56
" postal station "A," etc.....		352 53	8,046 00	122 80	356 63	105 46	232 80	9,495 22
" "B," etc.....		619 89	59 32	23 67	461 18	560 09	174 60	83,974 93
" "C," etc.....		257 55		706 89	403 21	528 15	388 00	2,283 80
" "D," etc.....	1,177 01	3 55		197 20	304 32	523 62	710 02	2,975 72
" "E," etc.....		158 18		758 40	339 73	158 87	118 40	1,533 58
" "F," etc.....		250 14		552 35	172 06	275 99	81 34	1,153 38
" "G," etc.....				46 65	485 84	151 06	129 87	1,063 26
" "H," etc.....	8 32							8 32
" "I," etc.....	1,990 32	125 45	139 00	163 65	1,458 76	492 71	1,098 49	7,578 01
" "L," etc.....	243 00	295 55		71 80	312 02	225 90	172 26	1,320 53
" "M," etc.....		4 60	300 00	22 20	119 00	48 72	16 00	1,510 53
" "N," etc.....		3 85	1,690 00	32 25	98 04	197 08	40 80	2,062 02
" "O," etc.....		240 20		541 68	174 82	132 39	137 50	1,236 59
" "S," etc.....		64 64		9 65	183 11	81 33	36 92	1,375 65
" Hochelaga.....		300 40		246 88	206 07	109 04	93 12	955 51

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
PUBLIC BUILDINGS—Continued.																			
Quebec—Continued.																			
Montreal postal station Ste. Cuneoconde					1,750 00				217 88			149 45		66 94				1,750 00	
" St. Henri	719 98		15 88		213 00		32 85											1,202 98	
" Windsor station mail room			213 50		280 00									5 82				426 50	
" Mount Royal postal station			73 25															359 07	
" Prud'homme block (Pub. Works D., etc.)					888 35													888 35	
" Shaughnessy building (Marine, etc.)			107 33		12,014 00						61 52		267 68					12,450 53	
" supervising engineer's office (D.P.W.)					590 36						1 88		12 50					604 74	
" 41-45 Union street, valuation of property	300 00						117,581 91		38 00		1,633 48							200 00	
" Generally	4,981 13		41 58				405 33		540 00		220 02							119,253 39	
Murray Bay post office, etc.			168 65				529 81		242 98		121 22		70 80					6,208 06	
Nicolet post office, etc.			13 03		1 00		300 00		178 50		13 20							1,133 46	
Noninque immigration building			83 60		20 00		199 82		142 50		6 35							1,505 73	
Peribonka immigration building			8 80				177 90		72 25		65 79		15 00					452 37	
Pierreville post office	374 25		127 65				144 55		145 00		299 07		55 90					771 97	
Plessisville post office					360 00		330 00				8 40							698 40	
Quebec archives office					125 00				779 25		83 53							125 00	
" Candiac post office			1,081 10		34 00		570 00		1,665 63		913 20		800 00					2,547 88	
" etadel (Cox Gen's quarters)			379 48		92 00		3,541 43											7,916 74	
" custom house, etc.																			
" engineer's office, D.P.W. (Merger building)					1,005 00		3,000 38		1,078 75		312 44		450 00					1,005 00	
" examining warehouse			570 73															6,087 30	
" immigration buildings (Louise em-bankment)									276 48		1,046 19							10,407 84	
" imm. detention hospital (medical superintendent's res.)	7,802 70		258 72															600 00	
" imm. detention hospital (Savard park)					600 00													3,448 06	

This sum indicates the total wages of caretakers, firemen, elevator-men and cleaners for all buildings in Montreal. Owing to system of organization of these staffs it has not been practicable to assign proper share to each building.

REPORT OF THE CHIEF ACCOUNTANT

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" immigration office (103 St. Jean)	15 60	337 50				357 12	750 00	710 22
" marine agency (King's wharf)	56 95	27 09		384 37				1,134 37
" marine school (116 Mountain hill)	287 89					64 01	50 00	84 04
" observatory	8 00	70 00						401 90
" pilotage quarters (R. & O. bldg.)	1,522 75	210 50		2,683 04		1,220 89	810 00	78 00
" post office, case (main)		240 00						82,576 44
" postal station "B"		3,000 00				90 23		240 00
" seeds office		300 00						3,090 23
" St. Roch post office	1,279 20						400 00	300 00
" St. Sauveur post office	77 56			555 52		358 64		3,231 24
" war tax office, 76 St. Peter st.	148 15	200 00		417 61		211 23	193 75	1,166 15
" weights and measures office						4 20		352 35
" Generally				4,409 67		150 24		159 36
Richmond post office, etc.	145 40			501 70		169 00		4,574 67
Rigaud post office, etc.	38 60			300 00		318 25	25 00	1,319 16
Rimouski post office, etc.	59 65			328 15		161 24	11 00	858 99
Roberval immigration building	197 82	25 00		181 59		101 64	150 00	685 88
" post office, etc.	120 82			183 26		16 00	58 33	917 91
Rock Island post office, etc.	190 83			514 19		400 33	25 00	1,253 47
Shawinigan Falls post office	167 01			448 76		208 36	28 50	1,132 51
Shawville post office	12 75			403 56		131 80	19 58	1,195 70
Sherbrooke engineer's office (D.P.W.)		1,450 25		248 30		157 09		7,822 56
" post office, etc.	866 91	16 75		829 74		455 65	60 41	1,450 25
" " inspector's office	8 95	996 00				26 73		2,890 90
Sorel post office, etc.	532 95			619 57		465 72	256 00	1,081 68
Stamhope immigration office	25 00							2,607 97
Stc. Agathe des Monts post office	3,942 32							25 00
Stc. Anne de Bellevue post office				456 56		329 68	11 00	5,163 36
Stc. Anne de la Pointe-à-exp. farm		270 83				25 20	28 00	324 03
Stc. Eugénie post office		300 00				30 22		2,456 62
St. Felix de Valois post office		65 25						330 22
St. Gabriel de Brandon post office	441 15			483 48		188 80	75 00	1,213 43
St. George de Beauce post office	41 24	200 00						200 00
St. Hyacinthe inland rev. building	445 40			389 88		17 30	100 00	767 25
St. Jean custom house	285 80			646 44		271 40	150 00	1,755 46
" post office, etc.	93 50			372 62		29 30	60 00	881 50
St. Jean de Matha post office		22 91		318 23		158 80	50 00	857 81
St. Jerome post office, etc.	681 67			425 71		91 97	56 82	22 91
St. Joseph de Beauce post office	720 76	112 57		511 96		119 74	26 52	1,561 03
St. Lambert post office								1,674 89
St. Romuald d'Eschamin post office	84 90			162 90				1,541 88
Stc. Rose post office		162 00						84 90
Stc. Therese post office, etc.	292 90			511 76		209 65	62 50	1,610 26
St. Titc post office		50 00						50 00
Terrebonne post office, etc.	55 85			330 63		118 18	17 00	684 86
Theford Mines post office, etc.	78 93			179 95		243 55	15 00	820 00
Trois Rivieres paymaster's office		220 00						212 81
" post office inspector's office	34 52	420 00		107 50		8 12		570 14
" " post office, etc. (new)								4,102 54

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
PUBLIC BUILDINGS.																			
<i>Ontario.</i>																			
Acton post office, etc.			164	34				473	36	310	65	119	01					1,067	36
Alexandria post office, etc.			341	70				510	67	278	63	222	70	7	50			1,361	50
Almonte post office, etc.			256	63				478	16	358	76	177	17	75	00			1,345	75
Amherstburg post office, etc.			62	49				425	80	225	00	101	24	33	00			849	53
Arnprior post office, etc.		1,024	94					437	62	222	79	127	43	32	41			1,898	74
Athens post office, etc.			73	55				85	80	321	70	120	85					1,868	65
Aurora post office, etc.			291	17				466	48	225	98	33	36	22	00			1,038	99
Aylmer post office, etc.			191	86				600	79	366	30	236	82	37	84			1,433	61
Barrie post office, etc.			256	77				498	49	435	73	378	94	50	00			1,619	93
Belleville post office, etc.			275	55				740	87	1,064	52	616	27	83	25			2,780	46
Blenheim post office, etc.					200	00												200	00
Bowmanville post office, etc.			106	76				488	25	189	65	204	51	28	85			1,018	02
Braconridge post office, etc.			65	66				475	92	351	63	108	50	10	59			1,012	30
Brampton post office, etc.			937	48				482	76	281	50	95	31	20	27			1,817	32
Bradford drill hall, (old)			250	00														250	00
Bridleburg post office, etc. (new)		2,999	79					5,929	37	1,223	53	383	73	86	76			11,235	46
Bridleburg immigration office, etc.			29	81														29	81
Brighton post office, etc.			60	61				401	01	205	50	157	63	20	00			844	75
Brockville post office, etc.			243	65				831	76	501	00	625	03	170	00			2,938	87
Brosses post office, etc.			32	00														32	00
Burford post office, etc.								436	68	376	25	51	80					3,486	86
Cardinal post office, etc.		2,622	13															3,760	29
Cartleton Place post office, etc.		3,651	96			108	33											1,025	13
Castroville post office, etc.			132	30				417	71	194	50	249	20	31	52			1,368	00
Chatham post office, etc.			116	21				317	10	67	31	70	06					1,368	00
Chesley post office, etc.		169	34					699	27	902	32	109	06	17	14			3,486	86
Clinton post office, etc.			30	60				454	91	186	75	219	99	25	00			968	49
Colab post office, etc.			380	49				224	49	206	49	142	48	14	54			2,002	83
Colborne immigration building			2	83						21	35	6	00					2,112	35
Collingwood post office, etc.			95	67				650	03	265	67	346	33	50	76			1,432	98
Cornwall post office, etc.			1,754	52				1,580	13	902	30	1,399	85	28	42			6,069	44
Dresden post office, etc.			144	45				535	53	355	31	200	00	75	00			4,455	02
Dresdeno post office, etc.			162	00				579	12	324	00	326	30	39	00			1,412	87
Dresden post office			62	00				426	31	272	78	175	56	39	36			976	01

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.			
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.		
PUBLIC BUILDINGS—Continued.																				
<i>Ontario—Continued.</i>																				
Matheson post office.....	222	99																	222	99
Merrickville post office.....			218	05			200	00	571	33	475	35	84	48	23	45			1,373	56
Midland post office, etc.....			63	80					63	80	38	24							120	02
Mildmay post office, etc.....			131	00					421	15	174	58	148	06	24	00			898	79
Milton post office.....	2,035	93	78	90					646	47	201	00	99	08					3,001	38
Mitwerton post office, etc.....			296	32					485	88	251	60	75	23	96	00			1,175	03
Mitchell post office.....	101	45	135	41					365	13	298	50	173	76	12	00			1,086	25
Mount Forest post office.....	7,335	29	84	40					513	01	352	90	311	14	72	41			7,335	29
" " " " " "			22	25					791	64	175	00	81	12	11	22			1,081	23
" " " " " "													2	38					2	38
Newmarket post office, etc.....			198	93					630	41	460	75	140	83	54	98			1,415	90
Niagara Falls custom house (Bridge No. 2).			326	30			12	00	782	65	619	46	287	47	63	00			2,080	88
North Bay post office, etc.....			57	75					443	01	250	90	153	31	95	00			929	97
Norwich post office, etc.....			11	50					605	85	138	91	94	59	20	00			870	85
Orangeville post office, etc.....			155	85					498	56	699	79	282	27	22	10	15		1,673	72
Orrilla post office, etc.....			687	55					564	41	314	73	209	49	30	16			1,806	34
Oshawa post office, etc.....			92	25					545	65	556	31	181	80	72	44			1,448	45
Owen Sound post office, etc.....	14,215	21	212	80					474	76	285	85	96	34	45	60			14,255	21
Palmerton post office, etc.....			70						195	42	255	10	73	86	4	46			1,115	35
Paris post office.....	36	00	292	44					423	63	434	83	349	27	40	00			1,575	57
Parkhill post office, etc.....	73	55																	73	55
Pembroke post office, etc.....			131	53					431	19	299	70	91	81	50	00			1,004	23
Peterboro custom house.....			310	03					739	26	430	62	235	80	75	00			1,790	71
" " " " " " new public building (Custom and Inland Rev.).....	102	33	61	30			50	00	431	50	299	67	179	35	47	76			1,984	93
" " " " " " weights and measures office.....			80	65					398	33	293	77	128	02	33	75			934	50
Petrolia post office, etc.....	11,800	22	1	10					4,300	75	1,799	87	210	53	109	69	636	36	19,225	35
Pictou post office, etc.....			167	52					563	21	533	00	300	96	5	50			1,666	62
Port Arthur examining warehouse, etc.....			93	43					403	03	129	00	112	75	20	00			758	26
" " " " " " immigration building.....																			6	60
" " " " " " post office, etc.....																			1,066	62
Port Colborne post office.....																			758	26

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
PUBLIC BUILDINGS—Continued.																		
Ontario—Concluded.																		
Toronto post office garage, Richmond st., generally.....			663	62			904	32	816	29	235	00	34	92	209	00	2,863	15
Trenton post office, etc.....			155	84			8,444	84	313	74	290	24	73	75			8,444	84
Uxbridge post office, etc.....			209	55			385	28	321	68	174	15					1,340	88
Walkerton post office, etc.....			211	90			385	43	373	06	212	50	31	00			1,090	66
Walkerville post office, etc.....		2,949	46				758	52	377	74	155	74	43	75			1,113	89
Wallaceburg post office, etc.....			158	07													4,427	90
Waterloo post office, etc.....			470	46			434	24	479	94	148	42	39	00			1,572	06
Welland post office, etc.....			102	08			472	76	352	41	78	50	30	00			1,035	75
Whitby post office, etc.....			161	15			447	60	248	95	99	60	38	00			985	31
Windsor post office.....		10	50								4	43					1,237	93
Windsor dist. engineer's office.....							1,233	50									30	00
Windsor immigration building.....			30	00													30	00
Wingham post office.....			373	38			1,401	81	417	90	492	77	118	58			3,174	24
Woodstock post office, etc.....			345	59			213	86	309	31	367	53	29	56			1,265	85
Woodstock post office, etc.....		2,064	41				734	86	388	60	159	02	39	20			3,453	50
Minor offices throughout the province.....			284	33													284	33
Totals, Ontario, excluding Ottawa.....	503,680	60	37,675	46	22,555	99	136,742	10	61,483	68	33,695	79	7,340	56	2,844	71	805,998	89
Manitoba.																		
Brandon examining warehouse.....			592	35	1,132	26			24	84	116	40					1,749	45
“ experimental farm.....	9,178	32							508	37	36	95	23	25			9,803	00
“ immigration building.....			55	90					311	77	924	68	88	61			426	87
“ post office, etc.....			171	39			976	80	1,050	20	924	68	88	61			3,211	88
Carman post office, etc.....			709	54			490	53	296	69	175	52	12	35			1,684	63
Dauphin post office, etc.....			227	82			524	75	579	08	345	60	49	88			1,727	13
Dolbeau immigration building.....			6	10	300	00											306	10
Emerson post office, etc.....			229	64			525	33	492	66	85	53					1,333	16
Le Pas Domain land office.....			365	65													365	65
“ post office.....					600	00			78	00							678	00
Medina post office.....			132	73	163	00			780	36	356	20					1,63	00
Minnedosa post office, etc.....	216	11					816	47	197	70							2,301	77
Morden experimental farm.....																	197	70

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" post office, etc.	269 68	700 80	503 79	211 17	32 76	1,685 44
Nee-pawa post office, etc.	93 83	741 50	400 13	82 50	151 40	1,410 72
Portage la Prairie armoury, etc.	12 16	464 20	615 25	162 85	23 75	1,405 86
" examining warehouse.	102 73	632 96	587 90	605 29	37 50	4,555 75
" post office.	330 00	647 45	478 44	80 75	25 31	1,966 38
Reston post office.	32 75	180 00	480 09	143 29	18 37	112 00
Robin forestry office.	77 13	639 65	105 97	46 70	150 35	330 00
Selkirk post office.	55 89	402 02	182 00	40 26	180 00	1,264 70
Stoal Lake post office.	232 78	230 00	230 00	230 00	1,424 51	180 00
Souris post office, etc.	468 26	250 00	60 35	649 65	866 58	1,800 00
St. Boniface post office.	320 00	621 48	27 49	82 97	4,927 97	1,455 75
St. James drill hall.	7 00	4,845 00	7,676 00	2,363 01	153 00	1,966 38
Stonewall post office.	4 55	1,652 25	6,772 45	4,090 65	299 04	1,120 00
Swan River immigration office.	985 20	37 52	1,925 00	5,945 78	1,222 61	1,966 38
Souris post office.	2,903 12	191 25	13,221 92	8,130 83	840 42	1,966 38
Virdeu immigration building.	2,796 35	3,740 82	2,389 00	846 24	90 12	1,966 38
Winnipeg Boyd building (Archives, Railway Commission, etc.)	436 48	6 17	5 52	77 00	20 13	1,966 38
" Chamber of Commerce building (Int. Dept., etc.)	1,716 26	1,600 00	314 35	51 16	2 58	1,966 38
" engineer's office (old post office).	4,813 26	2,416 00	2,416 00	4 97	2,434 90	1,966 38
" grain warehouse.	2,796 35	5,715 00	5,715 00	35 95	621 22	1,966 38
" immigration buildings.	436 48	40 00	40 00	273 75	5,750 95	1,966 38
" immigration building (new).	1,716 26	18 90	18 90	4 97	41 44	1,966 38
" North, drill hall.	4,813 26	110 00	506 25	110 00	142,931 06	1,966 38
" post office, etc.	2,796 35	1 44	40 00	9,029 21	553 64	1,966 38
" postal station "A"	1,716 26	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
" "B"	436 48	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
" "C"	1,716 26	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
" "D"	436 48	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
" Union station mail room and immigration office.	18 90	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
" war tax office (Union Bank building) generally.	110 00	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
Minor offices throughout the province.	1 44	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
Totals, Manitoba.	8,389 43	21,314 45	23,135 68	47,047 31	3,237 85	1,966 38
<i>Saskatchewan.</i>						
Battleford immigration building.	1,336 30	552 65	822 67	511 59	36 93	58 00
" post office, etc.	25 45	531 97	107 98	161 42	17 95	3,290 14
Big River forestry office.	100 44	155 00	273 75	37 25	90 00	90 00
Biggar immigration building.	161 60	155 00	273 75	37 25	25 45	1,009 76
Estevan post office, etc.	161 60	155 00	273 75	37 25	10 50	627 60
Gravelbourg immigration building.	161 60	155 00	273 75	37 25	10 50	627 60
" post office, etc.	161 60	155 00	273 75	37 25	10 50	627 60

AMOUNTS EXPENDED BY THE DEPARTMENT OF PUBLIC WORKS OF CANADA DURING THE FISCAL YEAR ENDED MARCH 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of and Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
PUBLIC BUILDINGS—Continued.																			
<i>Saskatchewan—Concluded.</i>																			
Hudson Bay Junction forestry office.					141	20												141	20
Humbolt post office, etc.			613	35			667	95	761	30	275	17		41	97			2,359	74
Indian Head experimental farm	4,396	25			208	00			587	50	292	69		309	30			5,585	74
" fisheries office			62	75					992	42	1	25		122	05			1,178	47
" forest nursery station.			200	40					163	00	18	03						734	43
" forestry office.			4	50		1	00		182	50	28	35						108	50
Kerrobert immigration building.			6	95				567	66	516	10	426	11					1,641	50
Lloydminster immigration building.			131	63			90	00										90	00
Maple Creek forestry office.					1,230	00			154	98	19	75		28	80			1,433	53
" land office, etc.			123	26					387	01	194	65		32	80			953	68
" post office, etc.			776	57			215	96	1,026	45	245	68		48	00			2,772	92
Melfort post office, etc.			45	40		200	00		1,023	47	49	59		15	60			412	76
Moosejaw immigration building.							175	00	3,419	05	1,199	47		230	30		401	30	
" post office, etc.	2,655	68			2	00			16	95	21	37						12,465	98
North Battleford immigration building.			109	13														149	45
" immigration and lands office.					50	00					4	60		1	50			56	10
" post office, etc.			722	39			602	05	929	00	332	01		261	30			3,261	38
North Portal immigration building.					1	00			82	20								83	20
Prince Albert engineer's office (D.P.W.).					1,100	00		11	25		11	00						1,122	25
" forestry office.					125	00												125	00
" immigration building.									179	06	15	19		8	20			202	45
" post office, etc.					100	00		2,040	25	1,465	40	783	64		109	20		6,957	00
Regina, accommodation for Asst. Rec. Gen'l's office.			22,064	77					557	10	58	98		26	80			22,064	77
" examining warehouse.			40	16			574	25			29	18		32	40			1,257	29
" immigration building.			67	10		360	00				6	88						128	68
" inland revenue office.									2,174	49	1,229	49						306	88
" post office, etc.			3,729	48		40	77	2,824	68									10,659	18
" public buildings, local improvements, taxes.																		335	07
" weights and measures office.	4,618	26			143	50	1,200	00			14	00						4,618	26
Rosheron experimental farm.			2,736	56					345	75								1,357	50
Saskatoon, Canada building (Int. Rev., etc.).					311	50	1,411	95			37	44						3,082	31
																		1,760	89

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custom house.....	11 45	26 75	4,200 00			27 85		4,254 60	
drill hall.....		140 37	1,140 67			12 41		11 45	
examining warehouse.....		73 05			784 19			1,283 45	
forest nursery station.....		152 69	2,400 00		249 55	46 69	7 94	794 19	
immigration building.....								377 23	
land office.....	7 74							2,552 69	
post office, etc. (new).....	4,387 42	1,187 94			1,705 43	524 69	140 03	7 74	
“ “ (old).....								9,450 84	
weights and measures office.....			720 00		313 80	74 75		720 00	
Scott experimental farm.....	978 13							1,366 68	
Sutherland forest nursery station.....	4,299 91		1,200 00			10 80		4,299 91	
Swift Current land office.....		10 15	1,250 00			419 42		1,210 80	
“ “ post office.....		3 00						1,689 57	
Tisdale immigration building.....			2 00		30 00			33 00	
Unity immigration building.....		5 00	1 00		12 00			14 00	
Wadena immigration building.....		338 53			750 13	59 40		205 50	
Weyburn post office, etc.....		5 78	1 00		159 15	158 72		2,105 83	
Wilkie immigration building.....		197 06			921 85	1 50		167 43	
Yorkton post office, etc.....		3 75			650 02	691 47	59 90	2,520 30	
Minor offices throughout the province.....								3 75	
Totals, Saskatchewan.....	53,066 55	7,562 74	17,967 59	15,761 14	20,492 51	8,205 46	2,014 89	125,807 25	
<i>Alberta.</i>									
Athabaska immigration building.....		7 00	1 00		109 66			117 66	
“ “ mail room (Rovillon Freres).....			35 00					35 00	
Bassano post office, etc.....	5,591 72	38 02		386 70	568 50	197 22	44 76	6,826 92	
Calgary Ass't. Rec. Gen'l's office.....	886 01	112 40						998 41	
“ “ Blow building (Irrigation).....	1,530 46	298 35	10,693 77	736 35		238 97		13,497 80	
“ “ Burns building (Gen'l. Survey).....		89 00	600 00			1 08		450 00	
“ “ Cadogan building (Hullin River).....			600 00					690 08	
“ “ Canadian Life building (V.O.D. and I.R.).....		20 75	7,668 00			48 04		7,736 79	
“ “ Costello building (weights and measures).....			360 00					360 00	
“ “ drill hall.....	7,346 78							7,346 78	
“ “ examining warehouse.....	319 12	469 70		3,599 67	1,603 71	266 80	152 49	7,546 57	
“ “ forestry and irrigation branch bldg. immigration building.....	1,327 70	95 02	20 00		103 57	15 36	22 43	1,327 70	
“ “ Leeson-Linahan building (Int. D.).....			740 00			3 20		256 58	
“ “ post office (new).....	3,864 30							743 30	
“ “ (temporary).....	2,033 70	462 50	7,500 00	34 95	605 88	1,842 75	90 64	3,864 30	
“ “ Herald Building (Railway Com.).....			1,260 00			10 24		12,570 42	
“ “ Merchant's Bank building (Reerut-ing office).....								1,270 24	
“ “ seeds office.....	24 00							24 00	
“ “ Thomas building (Int. D.).....	46 95	46 95	1,398 02		147 22	95 87		1,688 06	
“ “ Yorkton building (Int. D.).....	36 41	3 30	3,725 40		46 00	20 02		3,781 83	
Castor immigration building.....								3,50 10	
Edmonton examining warehouse.....	155 91		3,061 82					3,217 73	

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Name of Work.	Construction and Improvements.		Repairs and Furniture.		Rents.		Salaries of Supplies for Caretakers.		Heating.		Lighting.		Water.		Power.		Total.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Public Buildings—Continued.																		
Alberta—Concluded.																		
Edmonton immigration building.....			842	55			3	00	341	59	118	46	265	59			1,571	19
" land office.....			216	11			6,600	00			312	85					7,381	48
" national service offices.....							175	00				6	00				181	00
" new drill hall.....																	160	99
" post office, etc.....			1,617	48			192	10	1,064	87	1,501	82	195	10	324	77	11,471	20
" weights and measures office.....			184	35													184	35
Edmonton South (Strathcona) immigration building.....			67	42														
" post office, etc.....			1,562	09					535	05	3	05	10	70			3,453	17
Edson immigration building.....			600	00					146	53	227	72	48	46			746	53
Entwistle immigration building.....			145	75			3	00	98	53							237	28
Grande Prairie immigration building.....			5	00			780	00			128	31					913	31
" land office.....							240	00									208	00
Grouard immigration building.....							300	00			300	00					600	00
" land office.....							480	00									480	00
High River land office.....			64	48					215	48							526	61
Lacombe experimental farm.....			1,158	77					585	30	274	99					2,019	06
Lethbridge experimental farm.....			695	50					561	04	72	14					1,328	68
" immigration building.....							63	25	229	65							437	30
" land office and custom house.....							122	18	450	00	44	40	100	00			1,137	03
" post office, etc.....			2,447	43			106	39	4,586	32	947	69	206	30	322	65	9,152	09
Macleod custom house.....									108	85	39	21	22	51			190	57
Medicine Hat examining warehouse.....							5	00									5	00
" immigration building.....							300	00	36	00	7	00					343	00
" post office, etc.....							976	64	1,625	97	850	91	124	30			3,759	83
Peace River Crossing land office.....							35	93									845	93
" post office.....							235	00									371	03
Pinecher Creek forestry office.....							375	48									375	48
Red Deer land office.....							3	40	740	72	49	90	39	00			1,099	04
Rocky Mountain forestry office.....							136	03									465	48
Vermilion immigration building.....							2	00	1	40	122	63					132	77
Viking immigration building.....							6	74									157	88
Wainwright immigration building.....							1	00									59	27
Wetaskiwin post office.....							279	41	508	80	38	27	225	55	61	54	1,490	30
Minor offices throughout the province.....							65	75	239	45							325	20
Totals, Alberta.....	28,915	57	7,577	87	48,400	59	20,623	79	10,601	03	7,011	12	1,439	82	1,791	50	126,361	29

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Agassiz experimental farm.....	3,487 41				717 38.				4,204 99
Alberni (old) post office.....			80 00						80 00
Ashcroft mail room (Inland Express B).....		252 13	300 00		42 00				694 13
" " post office.....	11,407 51	57 70		160 70	144 50	99 50			11,467 51
Atlin post office, etc.....	60 55	47 80	30 00	616 45	63 00	19 71	15 00		188 26
Chilliwack post office, etc.....				296 02	241 78	162 74	36 00		1,104 77
Comox post office, etc.....					135 73	33 60			465 37
Courtenay post office, etc.....	19 20								19 20
Cranbrook post office, etc.....		270 36		966 80	486 80	408 69	61 37		2,283 92
Cumberland post office, etc.....		62 25		667 32	102 00	246 14	60 00		1,137 69
Darcy Island quarantine station.....		870 00							870 00
Duncan post office, etc.....		120 00		937 30	329 36	337 52	29 25		1,775 03
Fernie post office, etc.....		36 12		914 03	355 25	229 04	49 05		1,583 49
Grand Forks post office, etc.....		30 65		741 00	492 29	296 74	60 00		1,651 28
Greenwood post office, etc.....		34 10		747 31	569 03	295 77	82 00		1,728 21
Invermere experimental farm.....	508 72				11 90				520 62
Kamloops Acadia block (Int. Dept.).....		705 05	2,949 85						3,654 90
" " post office.....		444 30		746 70	470 55	460 98	24 00		2,146 53
Ladysmith post office.....		35 45		610 55	116 00	114 29	24 00		900 29
Mission City post office.....	4 00								4 00
Nanaimo post office, etc.....		460 92		1,537 14	416 50	722 81	36 00		3,173 37
Nelson engineer's office (D.P.W.).....		410 80	621 20						2,619 30
" " post office, etc.....	20 40		108 00	714 02	505 16	809 32	72 00		2,040 40
New Hazelton post office.....		36 40		641 40	144 06	37 96	40 48		900 30
New Westminster Indian and fisheries bldg. post office, etc.....	4,400 60	986 69	181 00	2,775 45	889 13	757 72	73 10	356 00	10,419 69
North Vancouver post office.....		95 20		977 78	182 50	171 36	10 80		1,437 64
Pacific Highway immigration office.....					44 25	102 42			146 67
Port Alberni post office, etc.....		12 10		703 35	390 25	204 30	14 40		1,324 40
Powell River post office.....	203 72								203 72
Prince Rupert examining warehouse.....			1,750 00						1,750 00
" " immigration building.....		117 00	5 00		214 58		12 60		349 18
Prince Rupert post office, etc. (Federal block).....		765 55	6,890 00	132 73		931 50	30 60		8,750 38
" " quarantine station.....	19 20	145 00							164 20
Revelstoke Canadian Bank of Commerce building (Int. Dept.).....			1,200 00						1,200 00
" " post office.....	141 15	36 00							177 15
Rosland post office, etc.....		287 94		649 15	402 08	406 17	101 67		1,846 99
Salmon Arm post office.....		3 00	114 00						117 00
Sidney experimental farm.....	2,551 76				150 00	89 05			2,790 81
Union Bay post office.....		404 06		252 70	121 00	145 94			923 70
Vancouver Chinese detention building.....			100 00						100 00
" " dredging office D.P.W. (Birks building).....		43 00	1,407 00						1,450 00
" " Empire building (Mar. and Fish. Dept.).....		18 99	520 00						558 10
" " examining warehouse.....		1,441 21	5 35	8,503 19	1,323 94	285 20	82 05		12,272 94
									627 00

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Name of Work.	Construction and Improvements	Repairs.	Staff and Maintenance.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
PUBLIC BUILDINGS. <i>Yukon Territory.</i>				
Heating, lighting, water, etc., for all public buildings in Yukon Territory.....			49,467 62	49,467 62
Total, Yukon Territory.....			49,467 62	49,467 62
<i>Generally.</i>				
Advertising coal tenders—Dominion buildings.....			2,881 44	2,881 44
Post office fittings and supplies—stock taken at Toronto for distribution throughout the provinces.....	6,101 38		6,101 38	6,101 38
Flags for Dominion public buildings.....			5,097 34	5,097 34
Printing, stationery, instruments, travelling, etc.....			20,368 11	20,368 11
Salaries of resident clerks of works, etc.....			50,964 61	50,964 61
Totals—Generally.....	6,101 38		79,311 50	85,412 88

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Nova Scotia.</i>					
Advocate wharf, improvements.....		11 09			11 09
Amherst harbour.....	6,442 78				6,442 78
Anderson's Cove, removal of gravel.....		299 65			299 65
Arichat wharf.....			16 18		16 18
Arisaig wharf extension.....		123 54			123 54
Baker's Point (East Jeddore) wharf.....			64 67		64 67
Barachois—Training pier.....		1,649 97			1,649 97
Barrington Head, wharf.....			824 10		824 10
Bass River wharf.....			798 87		798 87
Battery Point North, breakwater.....			399 88		399 88
Bear Cove (Halifax Co.), boat skid.....		86 40			86 40
Belliveau's Cove, North breakwater.....			500 00		500 00
Black Point, breakwater.....			249 00		249 00
Black Rock, Ferry landing.....		239 90			239 90
Blanche breakwater.....			203 68		203 68
Boularderie Centre wharf.....			179 67		179 67
Bridgeport, see Lingan Beach.					
Broad Cove Marsh, wharf.....			1,015 25		1,015 25
Burlington wharf.....			73 31		73 31
Caldwell's Cove, breakwater.....		499 96			499 96
Canso wharf extension.....		447 32			447 32
Caribou Island, raising causeway, etc.....		2,397 33			2,397 33
Catalone Gut (Cape Breton), etc. work.....		339 32			339 32
Centreville (Digby Co.), old breakwater.....			499 94		499 94
Centreville (Shelburne), wharf.....			249 95		249 95
Chebogue beach protection.....			149 66		149 66
Chegoggin, breakwater.....			99 57		99 57
Clements Port.....	1,600 00				1,600 00
Comeau's Cove breakwater.....			263 30		263 30
Cottage Cove, breakwater.....		1,498 94			1,498 94
Cow Bay (Port Morien), breakwater.....			2,199 85		2,199 85
Devil's Island breakwater.....			518 48		518 48
Digby.....	\$15,121 32				
Less, work done for private firms.....	750 00				
	14,371 32				14,371 32
Digby, pier renewals.....			783 52		783 52
Digby (Racquet).....	7,011 90				7,011 90
East Chezzetcook (Red Island), breakwater.....			1,201 06		1,201 06
East Jordan, wharf.....			4 50		4 50
Eastern Points (Co. Lunenburg).....	324 68				324 68
East River (Pictou Co.), impts.....	6,361 40	150,291 86			150,653 26
Eatonville breakwater.....			799 95		799 95
Ecum Secum (Halifax Co.) wharf.....		149 52			149 52
Eel Brook, channel piers.....		1,442 16			1,442 16
Englishtown (Victoria Co.), wharf.....		2 00			2 00
Finlay Point, breakwater.....			599 69		599 69
Fox Island breakwater approach.....			1,011 12		1,011 12
French River, extension of breakwater pier.....		50 15			50 15
Fruids Point wharf.....			3 50		3 50
Gabarus Hr., beach protection.....		259 87			259 87
“ breakwater.....			121 21		121 21
Georgeville wharf.....			111 12		111 12
Glace Bay, protection works.....			389 00		389 00
Gold River (Lunenburg Co.).....	897 94				897 94
Grand Etang wharf.....			25 16		25 16
Hall's Harbour, breakwater.....			1,323 05		1,323 05
Hampton, breakwater extension.....		934 67	1,248 67		2,183 34
Herring Cove, wharf.....			952 23		952 23
Inverness, harbour impts.....		351 00			351 00
Irish Cove, wharf.....		757 70			757 70

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Nova Scotia—Continued.</i>					
Jamesville, breakwater.....		1,029 68			1,029 68
Jeddore, Oyster Pond, wharf.....			73 89		73 89
Johnson's Harbour, wharf.....			200 00		200 00
Kelly's Cove, breakwater.....			631 24		631 24
" old wharf.....			294 93		294 93
Kraut Point, wharf.....		447 13			447 13
L'Ardoise, beach protection.....		200 08			200 08
" breakwater.....			499 52		499 52
Lingan Beach (Bridgeport, Cape Breton) protection works.....		781 03			781 03
Little Anse (Richmond), breakwater.....			488 75		488 75
Little Bass river improvements.....		10 00			10 00
Little Bras d'Or, wharf.....			650 75		650 75
Little Harbour (Pictou Co.), wharf.....		213 40			213 40
" (Sheburne), b'kwater.....			700 10		700 10
Liverpool.....	24,649 30				24,649 30
Livingstone's Cove, wharf.....			217 30		217 30
Long Cove (Queen's Co.), breakwater.....			299 40		299 40
Low Point (Gabarous), removal of boulders.....		120 00			120 00
Lunenburg, harbour.....	51,764 03				51,764 03
" back harbour.....	1,386 28				1,386 28
Mabou Harbour, jetties.....			350 75		350 75
Main-a-Dieu, breakwater.....			246 54		246 54
Malagawatch.....	621 59				621 59
Malignant Cove, breakwater.....		121 40			121 40
Marble Mountain, wharf.....			451 06		451 06
Margaree Harbour,.....	200 00				200 00
" " breakwater.....		665 63			665 63
" " wharf.....		486 21			486 21
" Island, breakwater.....			258 13		258 13
Margaretville, breakwater.....			699 68		699 68
McKay's Point (Judique), breakwater.....			192 75		192 75
Meat Cove, boat harbour.....		656 36			656 36
Meteghan, breakwater.....		999 99			999 99
Meteghan River, breakwater.....			199 97		199 97
Middle River (Lower), closing channel.....		194 04			194 04
" (Lower), shear dams.....			500 50		500 50
" (Upper), shear dams.....			499 90		499 90
Mill Cove, breakwater extension.....		471 09			471 09
Morden, breakwater.....			775 41		775 41
Mosher's Bay, breakwater.....		3,697 61			3,697 61
Mulgrave, purchase of site for wharf.....		200 00			200 00
Murphy's Pond (Port Hood), Boat harbour.....		16 25			16 25
Necum Teuch, wharf.....			1,314 71		1,314 71
Neil's Harbour, breakwater.....			599 12		599 12
New Campbellton, wharf.....			200 62		200 62
Newelton, wharf.....			186 95		186 95
North River (St. Ann's), wharf.....			299 57		299 57
North Sydney, ballast wharf.....			27 50		27 50
North West Cove (See Tancook Isl'd.).					
Nyanza, wharf.....			99 91		99 91
Oakland (Lunenburg Co.).....	2,688 39				2,688 39
Parker's Cove, breakwater.....	990 73		1,099 99		2,090 72
Path End (Victoria Co.), boat landing.....			200 13		200 13
Phinney's Cove, breakwater.....			75 95		75 95
Pictou Harbour, channel.....	35,323 52				35,323 52
" Island, wharf.....			700 00		700 00
Pleasant Bay, wharf.....			158 28		158 28
Port Clyde, wharf.....		54 30			54 30

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Nova Scotia—Continued.</i>					
Porter's Lake, boat channel to Three Fathom harbour.....		560 35			560 35
Port George (Annapolis Co.), breakwaters.....			1,358 40		1,358 40
Port Hastings, wharf.....			35 41		35 41
Port Hood, wharf.....		450 02			450 02
Port Lorne, breakwater.....			630 74		630 74
Port Maitland, breakwater.....			2,944 00		2,944 00
Port Wade, pier.....		1,524 24			1,524 24
Portuguese Cove, breakwater.....			1,160 37		1,160 37
Poulamond, approach to wharf.....			509 83		509 83
River Hebert, wharf.....			390 20		390 20
River John, wharf.....			990 00		990 00
Rose Bay (Lunenburg Co.), breakwater.....		50 41			50 41
Salmon River (Digby Co.), breakwater.....			500 60		500 60
Sandy Cove, breakwater.....			523 34		523 34
Saulnierville, breakwater.....		1,442 03			1,442 03
Seaforth, breakwater.....		1,684 90			1,684 90
Seal Island (Shelburne), breakwater.....			565 01		565 01
Seaside (Inverness), wharf.....			203 61		203 61
Selma (Hants Co.), wharf.....			897 68		897 68
Shad Bay, wharf extension.....		83 70			83 70
Short Beach, breakwater.....			63 60		63 60
Skinner's Cove, channel piers.....			2,929 41		2,929 41
South Cove (Victoria), wharf approach.....			50 55		50 55
South Gut, St. Ann's (Victoria Co.), wharf.....			302 87		302 87
South Side (Donald's Head), breakwater.....			778 14		778 14
South Wallace, wharf.....			1,795 43		1,795 43
Spry Bay, wharf.....		271 38			271 38
Sory Bay (Josie's), wharf.....			190 42		190 42
Stoney Island, wharf.....			350 63		350 63
St. Joseph (Inverness Co.), breakwater.....			150 00		150 00
St. Peter's Narrows.....	101 50				101 50
Summerside, wharf.....		225 14			225 14
Swim's Point, wharf.....			84 25		84 25
Sydney Harbour, South Bar (cribwork).....			762 64		762 64
Tancook Island, breakwater at North-west Cove.....		4,918 87			4,918 87
Terence Bay, wharf.....		450 48			450 48
Three Fathom Harbour, beach protection works, etc.....			600 04		600 04
The Wharves (Lunenburg Co.), breakwater.....			76 40		76 40
Trout Cove (see Centreville).....					
Turner's Island, wharf.....			599 84		599 84
Upper Washabuck, wharf.....			247 61		247 61
Upper Woods Hr. wharf, causeway.....		2,540 20			2,540 20
Washabuck Centre, wharf.....			59 96		59 96
Wedge Point (Yarmouth Co.), breakwater.....			808 72		808 72
West Arichat, breakwater.....		355 35			355 35
West Chezzetcook, breakwater.....			599 96		599 96
West Dublin.....	654 43				654 43
Western Head (Queens), breakwater.....			309 45		309 45
West Pubnico, breakwater.....			595 62		595 62
White Point, breakwater.....		294 51			294 51
Whitewaters, wharf.....			495 27		495 27
Whycomagh, wharf.....		1,471 64			1,471 64
Windsor harbour, boat landing.....		178 43			178 43
Wolfville, wharf approach.....		105 14			105 14

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Nova Scotia—Concluded.</i>					
Yarmouth harbour.....	24,902 81				
Less work done for private firms.....	477 00				
	24,425 81	72 00	4,408 18		28,833 99
Young's Cove, breakwater approach.....		72 00			72 00
Generally.....	3,691 98			3,810 66	7,502 64
Totals, Nova Scotia.....	183,507 58	188,875 34	57,040 62	3,810 66	433,234 20
<i>Prince Edward Island.</i>					
Bay Fortune, breakwater extension.....		35 11			35 11
Belfast, wharf approach.....			943 07		943 07
Brae, breakwater.....			302 25		302 25
Brudenell, wharf reconstruction.....		175 64			175 64
Chapel pier, approach.....			1,080 76		1,080 76
Charlottetown, Asylum wharf.....	5,177 20				5,177 20
" Connelly's wharf.....	2,869 65				2,869 65
" harbour warehouse.....			49 79		49 79
" railway wharf.....	3,609 24				3,609 24
China Point, wharf (shed).....		268 88			268 88
Cove Head, Shear dam.....			748 96		748 96
Cranberry, pier.....			746 53		746 53
Georgetown.....	1,409 28				1,409 28
Graham's Pond, Murray Hr. North, breakwaters.....			991 10		991 10
Grand River North, pier.....	2,375 39		2,297 30		4,672 69
Hickey's wharf.....			669 00		669 00
Hurd's Point, wharf.....			17 25		17 25
Lennox Island, wharf.....			75 12		75 12
Little Sands, wharf.....			271 65		271 65
Malpeque.....	9,030 66				9,030 66
McAulay's, shore.....	2,672 42				2,672 42
McConnel's, wharf.....	1,489 06				1,489 06
Murray Harbour, south wharf (slip).....		18 18			18 18
Naufrage Hr., breakwaters.....			198 25		198 25
New London, beach protection.....			948 57		948 57
North Lake, boat harbour.....		10 10			10 10
Panmure Island, wharf.....	6,877 99				6,877 99
Point Prim Island, wharf.....			24 65		24 65
Poplar Point (Prince Co.).....	1,559 96				1,559 96
Port Hill, Cooper's Shore, wharf.....			74 90		74 90
Pownal, wharf.....	1,775 04		1,003 90		2,778 94
Rocky Point, wharf.....	10 50				10 50
Rustico, breakwater.....	1,718 62				1,718 62
Souris Harbour, breakwater extension.....		12 00			12 00
St. Mary's Bay, wharf.....	2,020 85				2,020 85
St. Peter's Bay (Head), wharf.....			18 60		18 60
Sturgeon, wharf.....	2,233 58				2,233 58
Summerside, breakwater.....			41 62		41 62
Tignish, breakwater.....		20 00			20 00
Generally.....	1,842 79			1,591 36	3,434 15
Totals, Prince Edward Island.....	46,672 23	539 91	10,503 27	1,591 36	59,306 77

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>New Brunswick.</i>					
Albert, berth for vessels.....		203 17			203 17
Anderson's Hollow, wharf.....			12 50		12 50
Baie du Vin, wharf.....			113 04		113 04
Barker's wharf (Riv. St. John).....			40 94		40 94
Bass River, wharf.....		106 02			106 02
Bathurst, harbour.....	\$106,846.90				
Less, work done for private firms.....	1,132.00				
	105,714 90				105,714 90
Bayswater ferry landing (Riv. St. John).....		1,757 55			1,757 55
Black's Harbour (Charlotte Co.), wharf.....			482 53		482 53
Black River (Kent Co.).....	2,561 02				2,561 02
Brundage Point.....	760 84				760 84
Buetouche Beach, breakwater.....			67 25		67 25
Buetouche.....	\$22,818.81				
Less, work done for private firms.....	2,202.67				
	20,616 14				20,616 14
Burnt Church, wharf.....			46 28		46 28
Campbellton, deep water wharf.....			2,036 48		2,036 48
Cape Bald, breakwater pier.....			10 50		10 50
Chockfish, breakwater.....			229 50		229 50
Church River.....	2,285 02				2,285 02
Cocagne.....	1,745 80				1,745 80
Cole's Point wharf (Charlotte Co.).....			6 00		6 00
Dorchester, wharf.....		2,851 36			2,851 36
Durham wharf (Restigouche Co.).....		20 00			20 00
Dykeman's Shoal (Spoon Island).....	100 00				100 00
Earle's wharf (Riv. St. John).....		264 07			264 07
Edgett's Landing, wharf.....			297 98		297 98
Fairhaven (Deer Island), wharf.....			5 00		5 00
Gagetown, wharf.....		180 84			180 84
Gautreau Village, wharf (Riv. St. John).....			495 09		495 09
Grand Anse, breakwater.....	710 12	1,097 93			1,808 05
Grand Lake (Queens Co.).....	2,794 79				2,794 79
Hampstead (Queens Co.).....	75 00				75 00
Hatfield's Point, wharf (Riv. St. John).....			35 44		35 44
Hopewell Cape, wharf.....			95 55		95 55
Iroquois River (Victoria Co.).....		24 75			24 75
Kenebecasis Island, ferry landing (Riv. St. John).....		1,815 55			1,815 55
Lameque, wharf.....			301 75		301 75
Leonardville, wharf.....			98 16		98 16
Loggieville, wharf.....			99 78		99 78
Long Point (King's Co.), wharf.....			54 61		54 61
McGowan's wharf (Riv. St. John).....			275 28		275 28
Main River (Kent Co.).....	210 72				210 72
Martin's Head, breastworks.....		1,981 30			1,981 30
Maugerville, wharf (Riv. St. John).....			373 32		373 32
Mill's Point, wharf.....			9 50		9 50
Neguac, wharf.....			1,714 95		1,714 95
Nelson, Maloney's wharf.....	4,971 02				4,971 02
North Head, breakwater wharf.....			1,477 38		1,477 38
Oak Point, wharf.....			32 85		32 85
Oromocto, wharf.....			50 50		50 50
Palmer's wharf.....	514 85				514 85
Petit Rocher, breakwater, etc.....			219 55		219 55
Point Sapin.....	815 96				815 96
Portage River, channel impts.....		217 45			217 45
Quaco (St. Martin's), Eastern breakwater.....		15 65	198 93		214 58
Quaco (St. Martin's), Exchequer Court award re site for wharf.....		3,796 14			3,796 14
Renforth wharf (Riv. St. John).....		70 00			70 00

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Totals.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>New Brunswick—Concluded.</i>					
Richardson, wharf.....			2,228 90		2,228 90
Richibucto Beach, extension of breakwaters.....		772 89			772 89
Richibucto Cape, breakwater.....		1,998 36			1,998 36
River Kouchibouguac.....	533 67				533 67
River St. Charles.....	889 68				889 68
River St. Croix.....	20,982 25				20,982 25
River St. John, removal of snags.....		1,973 00			1,973 00
River St. Louis.....	434 84				434 84
St. Andrews wharf.....			305 18		305 18
St. John Harbour Improvements:—					
Channel.....	9,142 69				9,142 69
Courtenay Bay.....	150,000 00	599,692 43			749,692 43
Negro Point, breakwater extension.....		730 00			730 00
Partridge Island, quarantine station, deep-water wharf.....		1,240 08			1,240 08
West, retaining wall and reclamation.....		78,661 36			78,661 36
" Piers, sheds, etc.....		156,860 05	4,002 72		160,862 77
" Deepening slips and berths.....	23,500 00				23,500 00
St. Nicholas River (South Branch), re site.....		63 50			63 50
Sackville, wharf.....			402 10		402 10
Scotchtown, wharf.....			67 91		67 91
Shediac Bay.....	628 37				628 37
Shippegan Gully, breakwater.....		3,945 64			3,945 64
Stonehaven, breakwater.....			677 82		677 82
Tabucintac, beach and blacklands.....	799 95				799 95
Thomas Creek, breakwater (St. John Co.).....		91 06			91 06
Upper Jemseg (Riv. St. John).....			14 13		14 13
Welshpool (Campobello), wharf.....		10 91			10 91
Wilson's Beach (Campobello), wharf.....			341 92		341 92
Generally.....	3,685 58			4,073 79	7,759 37
Totals, New Brunswick.....	354,473 21	860,441 06	16,921 32	4,073 79	1,235,909 38
<i>Quebec.</i>					
Amherst Wharf, Magdalen Islands.....		1,569 09			1,569 09
" Point Shea, Madgalen Islands, landing pier.....			225 64		225 64
Angers, wharf.....		59 19			59 19
Anse à Beaufile, breakwater.....			1,402 91		1,402 91
Anse à Fougère, removing boulders.....		50 00			50 00
Anse à la Grosse Roche, wharf.....			28 90		28 90
Anse à L'Eau (Tadoussac), wharf.....			1,631 43		1,631 43
Anse aux Gascons, wharf.....			450 07		450 07
Anse aux Griffons, removal of boulders.....		225 25			225 25
Anse St. Jean, wharf extension.....		2,979 38			2,979 38
Ayer's Cliff (Stanstead Co.), wharf.....			11 80		11 80
Aylmer (Lake Deschenes), wharf.....			125 58		125 58
Baie des Ha Ha.....	922 19				922 19
Baie St. Paul (Cap aux Corbeaux), wharf.....		6,444 44			6,444 44
Barachois de Malbaie, training pier.....			1,346 58		1,346 58
Beleoil, protection work.....		1,503 00		206 18	1,709 18
Berthierville, wharf.....			664 47		664 47
Bic Harbour, wharf at Pointe à Cote.....		1,004 95			1,004 95
Bic, wharf.....			985 13		985 13
Brewer's Creek (Labelle), landing float.....			34 50		34 50
Bryant's Landing, wharf.....			25 00		25 00
Buckingham (Labelle), landing float.....			47 40		47 40
Cacouna, wharf.....				5 00	5 00
Cannes de Roches, wharf.....			155 70		155 70

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Quebec—Continued.</i>					
Cap à l'Aigle, wharf (shed).....			5 00		5 00
Cap Chat, pier.....			2,990 36		2,990 36
Cap de la Madeleine, wharf.....			2,732 75		2,732 75
Cap St. Ignace, wharf.....			322 21		322 21
Cape Cove, pier.....			1,250 41		1,250 41
Carleton, protection works.....		515 43			515 43
Champlain, wharf.....			25 00		25 00
Chandler, wharf.....		486 86			486 86
Charlemagne.....	4,636 11				4,636 11
Chateauguay Basin, wharf.....			304 86		304 86
Chicoutimi, channel.....	27,771 68				27,771 68
Chicoutimi, wharf.....	2,139 48	3,144 96	730 00	8 08	6,022 52
Chicoutimi Basin, wharf.....		1,126 95			1,126 95
Chlorydormes, removal of boulders.....		74 86			74 86
Como, McNaughton's wharf.....		5 00			5 00
Contrecoeur, wharf.....			65 72	14 00	79 72
Cross Point, wharf.....			300 48		300 48
Descente des Femmes, wharf.....			56 00		56 00
Desjardins, wharf.....			241 56		241 56
Dodd's Landing (Labelle), float.....			36 30		36 30
Duck Creek (Saguenay), spur dyke.....		306 03			306 03
East Templeton, wharf.....			417 15		417 15
Escoumains, wharf.....			201 05		201 05
Fabre, wharf.....			22 65		22 65
Fasset, ice-breaker (Ottawa River).....			95 27		95 27
Father Point, wharf.....		2,558 48			2,558 48
Fraserville (see Riv. du Loup-en-bas).....					
Gaspe, wharf.....		1,969 13	139 80		2,108 93
Georgeville, wharf.....			28 50		28 50
Glen Almond (Labelle), landing float.....			27 50		27 50
Graham, wharf.....			40 00		40 00
Grande Baie (Chicoutimi), wharf.....			50 20		50 20
Grands Mechins, wharf enlargement.....		2,369 91			2,369 91
Grande Riviere de Gaspé, wharf.....			337 94		337 94
Grindstone (Magdalen Islands), break-water.....		998 70			998 70
Gronelines, wharf.....			42 73		42 73
Grosse Isle (Magdalen Islands), break-water.....		470 53			470 53
Grosse Isle, Eastern wharf.....					
(quarantine stn.).....			1,132 94		1,132 94
" Western wharf.....			1,132 95		1,132 95
" A. Lemay's claim.....		3,009 42			3,009 42
" Quarantine station.....				2,487 64	2,487 64
Havre aux Maisons (Magdalen Islands), repairs to pier.....			165 86		165 86
High Falls (Labelle Co.), landing float at foot.....			5 15		5 15
Honfleur (Chicoutimi Co.), wharf.....		509 26			509 26
Hospital Bay (Magdalen Islands), break-water.....		1,252 90			1,252 90
Hudson, wharf.....			985 38		985 38
Hull, wharf.....				182 50	182 50
Iberville, wharf.....			835 78		835 78
Ile aux Coudres, wharf.....			104 10		104 10
Ile Perrot, basin.....	1,921 03				1,921 03
" North, wharf.....			999 86		999 86
" South, wharf.....			1,499 19		1,499 19
" Ste. Jeanne, wharf.....	127 50				127 50
Ile Verte, wharf.....			4,499 47		4,499 47
Jersey Cove (Co. Gaspé), removal of boulders.....		40 00			40 00
Kamouraska, wharf.....		177 38			177 38
Lachine.....	166 98				166 98

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Quebec—Continued.</i>					
Riviere aux Vases (Chicoutimi Co.), wharf.....			498 00		498 00
“ Batiscan.....	9,687 01				9,687 01
“ Bonaventure, training pier.....		426 42			426 42
Riviere Chicot (L'Assomption Co.).....	1,759 24				1,759 24
Riviere du Lievre, lock.....				3,082 45	3,082 45
Riv. du Loup (Eraserville), wharf impts.....		472 92			472 92
Riv. du Loup (Louiseville), wharf.....	3,037 35				3,037 35
Riv. du Moulin (Saguenay), bank protection.....		1,981 32			1,981 32
Riv. Gatineau, bank protection.....			362 90		362 90
Riv. Noire (St. Zenon), bank protection.....		634 68			634 68
Riv. Ouelle, wharf.....		4,789 39			4,789 39
Riv. St. Maurice, middle channel.....	5,210 25				5,210 25
Riv. St. Maurice, western channel.....	4,341 02				4,341 02
Riv. Saguenay.....	1,841 09		1,500 00		1,500 00
Riv. Verte, dyke.....		200 05			200 05
Ruisseau à Loutre, removal of boulders.....		32 00			32 00
Ruisseau à Patates, removal of boulders.....		76 67			76 67
St. Alphonse de Bagotville.....	28,784 46				28,784 46
St. Andrews (Argenteuil), wharf.....			-346 45		346 45
St. Anicet, wharf.....			772 52		772 52
St. Anne de Beauport, wharf.....				301 50	301 50
St. Anne de Bellevue.....	16,860 42				16,860 42
St. Anne de la Pocatiere, wharf.....			1,495 26		1,495 26
St. Anne des Monts, landing pier, etc.....		35,003 75			35,003 75
St. Anne du Saguenay, wharf.....		10,029 50			10,029 50
St. Antoine Station (Pte Dansereau), wharf.....			282 25		282 25
St. Barthélemi (Berthier Co.), dyke.....		668 40			668 40
St. Charles Borromée (Chicoutimi Co.), wharf.....			149 64		149 64
St. Charles de Caplan, wharf.....			100 08		100 08
St. Eloi (Temiscouata), wharf (shed).....		296 79			296 79
St. Emélie (Leclercville), wharf.....			895 79		895 79
St. Famille (Ile d'Orleans), wharf.....			31 50		31 50
St. Felicien (Riv. Ashouapmouchouan), dykes.....		37 90			37 90
St. Felicité, wharf.....			609 14		609 14
St. Fidèle (Charlevoix), wharf.....			10 40		10 40
St. François (Ile d'Orleans, south side), wharf.....			35 00	21 00	56 00
St. François du Lac, wharf.....	6 00		64 50		70 50
St. Fulgence, wharf.....			2,053 21		2,053 21
St. Gédéon, removal of boulders.....		555 00			555 00
St. Geneviève de Batiscan, protection wall.....		615 33			615 33
St. Geneviève (Ile Bizard), approaches.....			583 78		583 78
St. George de Malbaie, breakwater.....				30 00	30 00
St. Godfroi, wharf.....			300 62		300 62
St. Gregoire de Montmorency, wharf.....		1,933 80			1,933 80
St. Ignace de Loyola, dykes.....			1,332 87		1,332 87
St. Irenée les Bains, wharf.....			64 51		64 51
St. Jean des Chaillons, wharf.....			40 27	26 25	66 52
St. Jean (Ile d'Orleans), wharf.....				6 00	6 00
St. John's, ice breaker.....		474 03		50 05	524 08
St. Joseph de Sorel, ferry approach.....		796 75			796 75
St. Laurent, (Ile d'Orleans), wharf.....			166 36	89 25	255 61
St. Mathias, wharf.....			1,951 34		1,951 34
St. Michel de Bellechasse, wharf.....			199 56		199 56
St. Omer, wharf.....			597 24		597 24
St. Ours, wharf.....			113 95		113 95
St. Paul, Ile aux Noix, wharf.....			707 85		707 85

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Quebec—Concluded.</i>					
St. Roch de Richelieu, wharf.....		1,059 82			1,059 82
St. Siméon, wharf.....			178 40	15 70	194 10
St. Valier, extension to wharf.....		199 69			199 69
Seven Islands wharf (freight shed.).....		310 44			310 44
Sorel, deep water wharf.....			541 43		541 43
Squateck (Lake Temiscouata), landing pier.....			399 81		399 81
Terrebonne wharf, approach.....		1,144 97			1,144 97
Three Rivers, wharf.....			10,517 07	100 00	10,617 07
Vaudreuil, wharf.....			48 88		48 88
Verchères, wharf.....			366 67	67 47	434 14
Verdun, Grand Trunk Boat Club.....	2,809 60				2,809 60
“ la Tortue.....	7,827 23				7,827 23
“ wharf.....			1,364 51		1,364 51
Ville Marie, wharf (Timiskaming).....			729 97		729 97
Woburn, wharf.....			53 70		53 70
Woodman's Beach, breakwater.....			206 50		206 50
Yamachiche, landing.....			40 00		40 00
Yamaska, lock and dam.....		4,093 32		1,588 33	5,681 65
Generally.....				36,139 58	36,139 58
Totals, Quebec.....	151,827 17	1,771,750 89	75,958 08	281,411 90	2,280,948 04
<i>Ontario.</i>					
Allandale, wharf.....			918 46		918 46
Arnprior, wharf.....				22 50	22 50
Barrie (Bayfield St.), wharf.....			24 00		24 00
Bayfield, north pier.....	1,700 00				1,700 00
Beaumaris, wharf.....			10 30		10 30
Belleville, wharf.....	4,832 10			128 40	4,960 50
Black River, dam.....				70 96	70 96
Bobcaygeon, floating wharf.....		573 40			573 40
Bracebridge, wharf.....			3,556 64		3,556 64
Brighton, wharf.....			496 62		496 62
Bruce Mines, wharf, etc.....		12,509 79			12,509 79
Burleigh Falls, wharf.....			234 57		234 57
Burlington.....	5,805 16				5,805 16
Burlington Beach, old Elsinore wharf.....		3,079 25			3,079 25
Burlington Channel and bridge.....				3,006 34	3,006 34
Burlington, revetment wall.....		12,970 30			12,970 30
Charlton (Nipissing), wharf.....			427 08		427 08
Cobourg, east pier.....			12,875 89		12,875 89
“ harbour.....	4,660 94				4,660 94
Collingwood, graving dock No. 1.....				15,000 00	15,000 00
“ No. 2.....				9,208 96	9,208 96
“ harbour improvements.....	7,282 63				7,282 63
Crow's Landing, wharf.....			235 69		235 69
Cumberland, wharf.....			98 37		98 37
Dyer's Bay, wharf.....			195 01		195 01
Fort William, harbour impts.....	453,551 07	54,385 00			507,936 07
Freddy Channel (Georgian Bay).....	1,858 20				1,858 20
French River, dam.....	2,578 01			2,829 83	5,407 84
“ waterways impts.....		45,083 95			45,083 95
Gananoque, wharf.....		78 00			78 00
Goderich, harbour improvements—					
Southwest breakwater.....		82,268 60			82,268 60
Removing check wall.....		2,582 75			2,582 75
Repairs to piers.....			1,930 03		1,930 03
River breakwater.....		2,561 55			2,561 55
Grand Bend, piers, etc.....			1,021 95		1,021 95
Griffith's Island, wharf.....			815 99		815 99

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Continued.</i>					
Hamilton, grading adjacent to south entrance pier.....		450 00			450 00
“ harbour improvements.....	10,931 32	7,845 22			18,776 54
Hawkesbury.....	7,898 50				7,898 50
Juniper Island (Stoney Lake), wharf.....			64 50		64 50
Kenora, wharf approach.....		679 07		150 00	829 07
Kensington, wharf and warehouse.....		360 40			360 40
Kincardine, breakwater.....			9 75		9 75
Kingston Harbour, improvements.....		119,901 24			119,901 24
Kingsville, piers.....			295 86		295 86
Leamington, wharf.....			1,596 48		1,596 48
Little Castor River, improvements.....		4,166 32			4,166 32
Little Detroit river.....	5,800 06				5,800 06
Meaford, removal of stone.....		62 95			62 95
“ revetment wall.....		6 80			6 80
McCracken's Landing (Peterborough) wharf.....		408 00			408 00
Midland, wharf.....			6 00		6 00
Minaki wharf, temporary walk.....		155 21			155 21
Montreal River (Latchford dam).....		344 08		2,678 73	3,022 81
Olipphant, wharf.....			800 00		800 00
Ottawa River, Victoria Island, channel.....	698 37				698 37
Owen Sound, harbour improvements.....	7,311 43				7,311 43
Parry Sound, wharf.....		1,500 00			1,500 00
Peelee Island, docks.....			694 06		694 06
Pembroke, wharf.....			599 41		599 41
Penetanguishene.....	11,674 59				11,674 59
Peterborough, George street wharf.....				72 01	72 01
Picnic Islands, impts. (Georgian Bay).....	3,129 88				3,129 88
Point Edward.....	1,025 75				1,025 75
Porcupine, wharf.....			340 35		340 35
Port Arthur, dry dock.....				35,641 50	35,641 50
“ harbour improvements.....	55,985 90	626 20			56,612 10
Port Bruce, piers.....			903 30		903 30
Port Burwell.....	26,561 09		8,119 11		34,680 20
Port Dover, harbour improvements.....		306 06			306 06
Port Hope, harbour improvements.....	7,384 09	1 97			7,386 06
Port Maitland.....	70,326 85				70,326 85
Port Rowan, pier.....			30 00		30 00
Port Stanley, reconstruction of piers.....		4,164 79			4,164 79
“ warehouse on wharf.....		301 25			301 25
Rainy River, maintenance of gauges.....				934 45	934 45
River Thames at mouth.....	11,075 58				11,075 58
River Thames, at Chatham.....	2,090 75	38 00			2,128 75
Robin's Landing, wharf.....				25 00	25 00
Rondeau Harbour, piers, etc.....			998 68		998 68
Rosseau wharf.....			1,000 00		1,000 00
St. John creek stop log dam.....				79 00	79 00
St. Joseph Island, wharf K line.....			200 00		200 00
St. Williams (Lake Erie), piers.....			311 66		311 66
Sand Point, wharf (Renfrew).....			108 73		108 73
Sandy Point (Peterboro), removal of wharf.....		83 50			83 50
Sault St. Marie, wharf.....	28 00		5,056 65		5,084 65
“ custom house on wharf.....		758 26			758 26
Severn River at Washago, dam.....		503 50		248 00	751 50
Silver Centre, wharf.....			64 13		64 13
Southampton, breakwater.....			497 20		497 20
“ piers.....			2,995 50		2,995 50
Stanley Island, wharf.....			808 83		808 83
Sturgeon Falls, wharf.....			270 89		270 89
Telegraph and Nigger islands.....	34,616 90				34,616 90
Thornbury, wharf.....			212 85		212 85
Tobermory glance booms.....				25 00	25 00

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Ontario—Concluded.</i>					
Toronto Harbour Improvements—					
Canadian Stewart contract.....		586,472 54			586,472 54
Diving scow re inspection of Canadian Stewart contract.....		8,775 00			8,775 00
Eastern pier.....			9 35		9 35
Fisherman's island (new building).....		1,226 88			1,226 88
New western entrance.....		5 44			5 44
Queen's wharf.....				100 00	100 00
Vail's Point, wharf.....			6 40		6 40
Waubushene.....	5,149 95				5,149 95
Wendover, wharf.....			927 40		927 40
Wheatley, wharf.....			786 00		786 00
Wiarion, wharf.....			207 19		207 19
Windsor, dock.....	591 58			1,200 00	1,791 58
Generally.....				14,911 16	14,911 16
Totals, Ontario.....	738,016 60	961,767 37	50,760 88	86,331 84	1,836,876 69
<i>Manitoba.</i>					
Assiniboine River (High Bluff), dykes.....			2,274 45		2,274 45
Big George island.....	5,129 06				5,129 06
Less work done for private firms.....	50 00				50 00
	5,079 06				5,079 06
Dauphin river.....	5,296 64				5,296 64
Gimli (Lake Winnipeg), shore protection.....		1,272 69			1,272 69
Hnausa (Lake Winnipeg).....			1,480 09		1,480 09
Hole River, dam.....	348 42	2,361 48			2,709 90
Le Pas, wharf.....		151 22			151 22
Lockport.....	4,102 79				4,102 79
Mossy River, channel.....	2,878 49				2,878 49
Red River, at mouth, dredging, etc.....	4,875 49		9,196 14		14,071 63
“ Crescent island.....	8,060 15				8,060 15
St. Andrews Rapids, lock and dam.....		2,471 44		17,050 46	19,521 90
Selkirk marine railway.....				4,365 55	4,365 55
“ middle ground.....	7,839 85				7,839 85
“ slough.....	7,439 10				7,439 10
Snake Island (Lake Winnipegosis).....	1,602 91				1,602 91
Winnipeg City, wharfs.....		607 73	154 97		762 70
Generally.....				2,791 57	2,791 57
Totals, Manitoba.....	47,522 90	6,864 56	13,105 65	24,207 58	91,700 69
<i>Saskatchewan and Alberta.</i>					
Saskatchewan river, improvements.....		590 17			590 17
Generally.....				3,044 71	3,044 71
Totals, Saskatchewan and Alberta.....		590 17		3,044 71	3,634 88
<i>British Columbia.</i>					
Arrow Head.....	2,815 21				2,815 21
Arrow Lake, Lower improvements.....		137 14			137 14
“ Upper improvements.....		165 42			165 42
Bindlay's Landing, float.....			310 00		310 00
Bishop's Bay, landing float.....		689 12			689 12
Birdwood Bay, float.....		65 00			65 00
Bold Point, float.....			117 67		117 67

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>British Columbia—Continued.</i>					
Burton protection work.....		8,722 46			8,722 46
Cadboro Bay, dolphins.....		350 00			350 00
Campbell river, wharf.....			247 10		247 10
Christiana Creek, fish screen.....		1,447 85			1,447 85
Church House, float.....			222 81		222 81
Clayoquot, wharf.....			19 40		19 40
Columbia river, improvements.....		532 75			532 75
Cornox, wharf.....			250 00		250 00
Cottonwood Point.....	2,918 40				2,918 40
Cowan's Cove, wharf.....			746 82		746 82
Cowichan river.....	323 41				323 41
Cracroft Island, float.....		1,975 80			1,975 80
Crofton, wharf.....			729 41		729 41
Digby Island Quarantine sta., wharf.....			13 20		13 20
Dignan's Bay, float.....			88 44		88 44
Esquimalt (Rod Hill wharf).....	267 61				267 61
" new dry dock.....		21,006 97			21,006 97
" old dry dock.....				20,477 70	20,477 70
Fanny Bay, float.....			126 81		126 81
Forest Glen.....	3,138 21				3,138 21
Fraser River, improvements:—					
Chilliwack, removal of snags.....		994 02			994 02
Eburne (bank protection).....		2,454 09			2,454 09
Nicomen slough (bank protection).....		443 32			443 32
Nicomen, McDonald's Bar.....	5,137 96				5,137 96
North Arm.....		139,718 96			139,718 96
" South Fork.....	18,459 30				18,459 30
" 1,400 ft. below Lulu island bridge.....	12,422 13				12,422 13
snagboat <i>Samson</i>				18,004 18	18,004 18
Steveston jetty.....		360,005 40			360,005 40
" sandheads.....	72,198 17				72,198 17
Westham Island, wing dams.....		6,619 12	196 45		6,815 57
Fulford, landing float.....			293 17		293 17
Gillies Bay (Shelter Point), float.....			398 28		398 28
Glen Valley, wharf.....			299 27		299 27
Gower Point, float.....			175 10		175 10
Grace Harbour, float.....			150 00		150 00
Graham's Landing.....	2,105 21				2,105 21
Granite Bay, float.....			140 87		140 87
Grantham's Landing, wharf.....			99 76		99 76
Heriot Bay, wharf.....		196 36			196 36
Holberg, wharf.....			14 00		14 00
Hope Point, float.....		921 22			921 22
Jedediah Island, float.....		742 06			742 06
Kelowna.....	1,697 68				1,697 68
" saw mill.....	332 13				332 13
Kincolith, wharf.....			498 55		498 55
Kitimat, landing float.....		2,499 11			2,499 11
Kootenay Lake, improvements.....		3,515 51			3,515 51
Kootenay Landing.....	9,509 99				9,509 99
Lilloet river.....	1,171 21				1,171 21
Little River (Cape Lazo), wharf.....		4,002 00			4,002 00
Lloyd's Point, float.....		994 56			994 56
Lund, wharf.....			100 00		100 00
Maples (Gabriola), wharf.....			180 00		180 00
Mary Island, wharf.....			90 48		90 48
Masset, wharf.....			13 40		13 40
Metchosin, wharf.....			700 76		700 76
Naas river.....	4,974 77				4,974 77
Nanaimo harbour, improvements.....	34,761 65		1,209 89		35,971 54
New Brighton, float.....		1,577 97			1,577 97
Nootka Island, wharf.....			535 89		535 89

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—Continued.

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>British Columbia—Concluded.</i>					
Okanagan Landing.....	532 05				532 05
Okanagan, river improvements.....	4,860 56	902 95			5,763 51
“ river control dam.....	413 44				413 44
Pender Harbour, float.....			168 31		168 31
Pentiction (Mill Pond).....	704 82				704 82
Pitt River, wharf.....			492 47		492 47
Port Clements (Queenston), wharf.....			8,498 21		8,498 21
Powell River, breakwater.....	3,131 74	2,500 00			5,631 74
Prince Rupert graving dock (inspection).....				2,700 00	2,700 00
Quatsino, wharf.....			255 75		255 75
Refuge Bay, wharf.....			4,611 41		4,611 41
Robert's Bay, float.....			303 25		303 25
Robert Creek, wharf.....		1,682 50			1,682 50
Roy, float.....			247 98		247 98
Royston (Roy's Beach), wharf.....	932 18		2,000 00		2,932 18
Saanichton, float.....			230 00		230 00
Saginaw Lake, removal of debris.....		298 47			298 47
Salmon Arm City, wharf.....			25 97		25 97
Sand Spit Point, wharf.....			20 40		20 40
Savary Island, wharf.....			497 12		497 12
Sea Otter Cove, float.....		550 00			550 00
Seaside Park, float.....			150 00		150 00
Shoal Bay, wharf.....			240 00		240 00
Shushartie Bay, wharf.....			155 00		155 00
Sidney Island, wharf.....			900 00		900 00
Sidney, wharf.....			2,100 00		2,100 00
Skeena river.....	11,870 61				11,870 61
Smith's Landing (Cortez island), float.....		1,590 20			1,590 20
“ (Howe sound), wharf.....			2,496 31		2,496 31
Sorrento, wharf.....			5 94		5 94
Squamish, retaining wall.....	20,335 46	4,443 42			24,778 88
Stapelby, landing float.....		724 78			724 78
Stag Bay, float.....		65 00			65 00
Stewart (Portland Canal), wharf.....			1,697 12		1,697 12
Stikine river improvements.....		4,697 13			4,697 13
Summerland.....	535 41				535 41
Surge Narrows, float.....		1,087 56			1,087 56
Tofino, wharf.....			1,396 60		1,396 60
Tucker Bay, wharf.....			1,224 68		1,224 68
Ucluet, wharf.....			5 00		5 00
Union Bay, wharf.....	6,605 02		800 00		7,405 02
Van Anda, wharf.....			91 15		91 15
Vancouver, False Creek.....	281,693 09				281,693 09
“ First Narrows.....	96,524 42				96,524 42
“ harbour improvements.....		63,015 26			63,015 26
Vargas Island, wharf.....			576 31		576 31
Victoria Harbour, improvements.....	161,789 61	999,990 51	750 00		1,162,530 12
Welcome Harbour, float.....		696 77			696 77
Whaletown, wharf.....			37 92		37 92
White Rock, wharf.....		821 30			821 30
William's Head, quarantine station.....	919 68	2,996 58			3,916 26
Winter harbour, float.....			250 01		250 01
Wolfen's Bay, float.....			246 40		246 40
Wyatt Bay, floats.....			142 60		142 60
Yellow Point, float.....		129 00			129 00
Generally.....				8,385 22	8,385 22
Totals, British Columbia.....	763,081 13	1,645,967 64	38,583 44	49,567 10	2,497,199 31

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Harbours and Rivers.	Dredging.	Construction and Improvements.	Repairs:	Staff and Maintenance	Total.	
	\$ cts.	\$ cts.	£ cts.	\$ cts.	\$ cts.	
<i>Yukon Territory.</i>						
Yukon River, impts. to navigation.....		3,394 82			3,394 82	
Totals, Yukon Territory.....		3,394 82			3,394 82	
<i>Generally.</i>						
General expenses of staff, etc.....				10,377 85	10,377 85	
Salaries of district engineers, assistants, etc.....				371,627 85	371,627 85	
Test borings for sundry projected works.....		9,458 52			9,458 52	
Totals, Harbours and Rivers generally.....		9,458 52		382,005 70	391,464 22	
			Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Dredging Plant.</i>						
Maritime Provinces.....			38,325 79			38,325 79
Ontario and Quebec.....		17,005 93	64,677 39			81,683 32
Saskatchewan and Alberta.....			5,003 31			5,003 31
British Columbia.....		300 00				300 00
Totals, Dredging Plant.....		17,305 93	108,006 49			125,312 42
<i>Slides and Booms.</i>						
River Richelieu at Beloeil.....			521 89			521 89
River Saguenay.....				8,249 16		8,249 16
River St. Maurice.....		13,250 86		38,710 33		51,961 19
Ottawa District:—						
Black River.....			3,610 00			3,610 00
Coulonge River.....			3,631 06			3,631 06
Dumoine river.....			197 85			197 85
Gatineau river.....			153 78	600 00		753 78
Madawaska river.....			5,454 62			5,454 62
Ottawa river.....			378 88	27,999 18		28,378 06
Petewawa river.....			4,270 21			4,270 21
Trent and Newcastle district.....			117 68	202 63		320 31
Collection of slide and boom dues.....				4,528 27		4,528 27
Totals, Slides and Booms.....		13,250 86	18,335 97	80,289 57		111,876 40

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

	Construc- tion and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
ROADS AND BRIDGES.				
<i>Maritime Provinces.</i>				
International bridge—St. Leonard, N.B. and Van- Buren, Maine.....		2,136 87		2,136 87
<i>Quebec and Ontario.</i>				
Bryson bridge.....		900 00		900 00
Chapeau bridge.....	848 53			848 53
Des Joachims bridge.....	1,995 00			1,995 00
Interprovincial bridge at Hawkesbury.....	50 00			50 00
Matapedia road.....	1,133 81			1,133 81
Pond Creek bridge (Wright Co.).....		599 52		599 52
Portage du Fort bridge.....		99 50		99 50
Sauvé bridge (River St. Louis).....	189 52			189 52
Ottawa City bridges and streets maintained by Gov- ernment:—				
Chaudiere bridge.....		4,162 50		4,162 50
Connaught Place and Wellington street.....			19,300 62	19,300 62
Lighting all above.....			1,491 82	1,491 82
York bridge (Grand river).....		186 66		186 66
<i>Manitoba, Saskatchewan, and Alberta.</i>				
Banff, old bridge (Alta.)....		4,471 81		4,471 81
Netley Cut bridge (Red river).....	699 35			699 35
Totals, Roads and Bridges.....	4,916 21	12,556 86	20,792 44	38,265 51

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Telegraph Lines.	Construc- tion.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Newfoundland.</i>				
Cape Ray (subsidi).....			250 00	250 00
<i>Maritime Provinces.</i>				
Bay of Fundy Lines.....			5,709 83	5,709 83
Cape Breton Lines.....			46,429 78	46,429 78
Escuminac Line.....			1,453 91	1,453 91
Prince Edward Island Cable and Mainland.....			15 50	15 50
<i>Quebec Mainland.</i>				
North Shore, East of Bersimis.....			28,329 12	28,329 12
“ West of Bersimis.....			20,821 33	20,821 33
Quebec County lines.....			1,943 60	1,943 60
Timiskaming lines.....			3,415 98	3,415 98
<i>Quebec Islands.</i>				
Anticosti system.....			8,333 90	8,333 90
Cable ship <i>Tyrian</i>			60,096 88	60,096 88
Grosse Isle-Isle aux Coudres & Is. of Orleans system.....			8,805 43	8,805 43
Magdalen Islands system.....			6,665 85	6,665 85
Maritime Provinces and Gulf generally.....			2,290 29	2,290 29
<i>Ontario.</i>				
Pelee Island cable.....			2,652 25	2,652 25
<i>Saskatchewan Lines.</i>	3,682 49		48,623 53	52,306 02
<i>Alberta Lines.</i>	12,604 51		67,782 80	80,387 31
<i>British Columbia and Yukon.</i>				
Ashcroft-Dawson system.....	18,855 83		212,666 15	231,524 98
British Columbia-Mainland system.....	46,490 94		56,035 86	102,526 80
British Columbia-Vancouver Is. system.....	19,514 15		91,509 47	111,023 62
Telegraph Service generally.....			357 28	357 28
Totals, Telegraph Lines.....	101,150 92		674,188 74	775,339 66

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Continued.*

Miscellaneous.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Surveys—				
Maritime Provinces.....			20,210 82	
Quebec.....			23,981 48	
Ontario.....			16,722 12	
Manitoba.....			1,655 53	
Saskatchewan and Alberta.....			2,947 52	
British Columbia.....			8,823 01	
Generally.....			1,625 95	75,966 43
Upper Ottawa Storage dams—				
Kippewa dam.....	60 00			
Latulippe township (survey).....	1,694 62			
Mattawa (survey).....	100 00			
Metering flow.....	28,287 79			
New Liskeard.....	40 10			
Quinze dam.....	17,274 52			
Timiskaming dam.....	\$ 33,850 98			
" Kirby & Stewart's claim 140,205 06				
Generally.....	174,056 04			255,257 73
" 33,744 66				
Accounts Branch—Salaries and travelling expenses of agents, clerks, etc. of outside service.....			20,168 98	20,168 98
Georgian Bay Ship Canal Royal Commission.....			17,794 82	17,794 82
Gratuities to widows or other representatives of 39 deceased employees, under Civil Service Amendment Act, Section 41.....			9,827 10	9,827 10
Legal services <i>re</i> cases before International Joint Commission.....			5,883 88	5,883 88
Monument to His late Majesty King Edward VII.....	1,350 00			1,350 00
Operation and maintenance of inspection boats.....			44,180 48	44,180 48
River gaugings and meterings.....			25,174 75	25,174 75
War Appropriation—Salaries in connection with military service.....			104,078 76	104,078 76
Totals, miscellaneous.....	256,607 73		303,075 20	559,682 93

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AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1917—*Concluded.*

RECAPITULATION.	Dredging.		Construction and Improvem'ts.		Repairs.		Staff and Maintenance.		Totals.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Totals, Public Buildings—										
Nova Scotia.....			14,001	96	8,450	83	72,364	61	94,817	40
Prince Edward Island.....			4,503	76	1,883	06	13,007	97	19,394	79
New Brunswick.....			96,466	19	8,096	52	65,925	73	170,488	44
Quebec.....			301,921	23	35,915	31	342,575	47	680,412	01
Ottawa buildings.....			1,955,385	66	360,673	36	838,653	72	3,154,712	74
Ontario (excluding Ottawa).....			503,680	60	37,675	46	264,642	83	805,998	89
Manitoba.....			21,314	45	8,380	43	113,236	18	142,931	06
Saskatchewan.....			53,066	55	7,562	74	65,177	96	125,807	25
Alberta.....			28,915	57	7,577	87	89,867	85	126,361	29
British Columbia.....			113,354	52	13,980	62	134,310	77	261,645	91
Yukon Territory.....							49,467	62	49,467	62
Public Buildings, generally.....			6,101	38			79,311	50	85,412	88
Totals, Harbours & Rivers—										
Nova Scotia.....	183,507	58	188,875	34	57,040	62	3,810	66	433,234	20
Prince Edward Island.....	46,672	23	539	91	10,503	27	1,591	36	59,306	77
New Brunswick.....	354,473	21	860,441	06	16,921	32	4,073	79	1,235,909	38
Quebec.....	151,827	17	1,771,750	89	75,958	08	281,411	90	2,280,948	04
Ontario.....	738,016	60	961,767	37	50,760	88	86,331	84	1,836,876	69
Manitoba.....	47,522	90	6,864	56	13,105	65	24,207	58	91,700	69
Saskatchewan and Alberta.....			590	17			3,044	71	3,634	88
British Columbia.....	763,081	13	1,645,967	64	38,583	44	49,567	10	2,497,199	31
Yukon Territory.....			3,394	82					3,394	82
Harbours and Rivers generally.....			9,458	52			382,005	70	391,464	22
Totals, Dredging plant.....			17,305	93	108,006	49			125,312	42
“ Slides and booms.....			13,250	86	18,335	97	80,289	57	111,876	40
“ Roads and bridges.....			4,916	21	12,556	86	20,792	44	38,265	51
“ Telegraph Lines.....			101,150	92			674,188	74	775,339	66
“ Miscellaneous.....			256,607	73			303,075	20	559,682	93
Grand totals of expenditure.....	2,285,100	82	8,941,593	80	891,968	78	4,042,932	80	16,161,596	20

MISCELLANEOUS REPORTS, CONTRACTS, Etc.

By J. A. CHASSE.

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917.

Works.		Names of Contractors.	Date of Contract.	Amount.
Nova Scotia.				
Public Buildings.				
Amherst.....	Public Building.....	W. A. Fillmore.....	.....	4 90
Annapolis.....	".....	Intercolonial Coal Mining Co.....	.....	5 95
Antigonish.....	".....	Edward Haley.....	.....	5 20
Arlton.....	".....	C. P. Ferris.....	.....	11 00
Baddeck.....	".....	A. G. McDonald.....	.....	5 30
Bridgewater.....	".....	Intercolonial Coal Mining Co.....	.....	5 60
Chesb.....	".....	A. N. Whitman & Son.....	.....	9 50
".....	".....	A. N. Whitman & Son.....	.....	6 50
Dartmouth.....	".....	Dartmouth C. & S. Company.....	.....	6 00
".....	".....	Dartmouth C. & S. Company.....	.....	6 00
Digby.....	Post Office (new).....	W. E. Van Blarcom.....	.....	6 50
Glace Bay.....	".....	Dominion Coal Co.....	.....	4 70
Guysborough.....	".....	Lewis Hart & Company.....	.....	6 00
Halifax.....	".....	S. Cunard & Company.....	.....	5 45
".....	".....	H. D. Mackenzie Company.....	.....	9 75
".....	New Custom House.....	H. D. Mackenzie Company.....	.....	10 00
".....	Immigration Building.....	H. D. Mackenzie Company.....	.....	9 75
Inverness.....	Examining Warehouse.....	H. D. Mackenzie Company.....	.....	4 50
".....	Post Office.....	Inverness Coal Company.....	.....	9 60
Kenville.....	Experimental Farm.....	C. L. Dodge.....	.....	9 75
".....	".....	Acadia Coal Company.....	.....	6 00
Liverpool.....	Public Building.....	Intercolonial Coal Mining Co.....	.....	5 75
Lancoburg.....	Post Office.....	A. H. Anderson.....	.....	9 45
".....	".....	A. H. Anderson.....	.....	9 45
New Glasgow.....	Post Office.....	Acadia Coal Company.....	.....	5 00
North Sydney.....	".....	H. G. Campbell.....	.....	4 00
Parrsboro.....	Immigration Office.....	H. G. Campbell.....	.....	4 00
Pictou.....	Post Office.....	H. G. Campbell.....	.....	5 35
".....	".....	W. J. Berry.....	.....	5 00
Shelburne.....	Custom House.....	Intercolonial Coal Mining Co.....	.....	5 00
Springhill.....	Post Office.....	Estate Joseph McGill.....	.....	12 90
Sydney.....	".....	G. W. McKnight.....	.....	4 50
Sydney Mines.....	".....	Dominion Coal Company.....	.....	4 10
".....	".....	H. G. Campbell.....	.....	4 00

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cts.
PUBLIC BUILDINGS—Continued.			
<i>Nova Scotia—Concluded.</i>			
Truro.....	Post Office..... Coal per ton—	Bit.....	5 40
Westville.....	" " " " " "	Bit.....	4 50
Windsor.....	" " " " " "	Bit.....	5 10
Wolfville.....	" " " " " "	Anth., egr.....	8 50
" " " " " "	" " " " " "	Bit.....	6 25
Yarmouth.....	" " " " " "	Anth., nut.....	8 30
" " " " " "	" " " " " "	Anth., furn.....	8 30
<i>Prince Edward Island.</i>			
Charlottetown.....	Dominion Building.....	Bit.....	5 95
" " " " " "	Old Bank Building.....	Anth., egr.....	10 85
" " " " " "	" " " " " "	Anth., stove.....	10 85
" " " " " "	" " " " " "	Bit.....	6 60
" " " " " "	Experimental Farm.....	Bit.....	6 60
" " " " " "	" " " " " "	Anth., egr.....	10 60
" " " " " "	" " " " " "	Anth., nut.....	10 60
" " " " " "	" " " " " "	Bit.....	6 50
Georgetown.....	Public Building..... Electric wiring and fittings.....	The Charlottetown Light & Power Co., Ltd. July 28, 1916.	2, 673 00
" " " " " "	Post Office..... Coal per ton—	Bit.....	7 25
" " " " " "	" " " " " "	Anth., furn.....	11 20
" " " " " "	" " " " " "	Anth., nut.....	11 25
Montague.....	" " " " " "	Anth., egr.....	11 25
" " " " " "	" " " " " "	Bit.....	6 25
Souris.....	" " " " " "	Anth., egr.....	11 25
" " " " " "	" " " " " "	Anth., nut.....	11 40
" " " " " "	" " " " " "	Bit.....	6 90
Summerside.....	" " " " " "	Anth., egr.....	9 95
" " " " " "	" " " " " "	Bit.....	5 70
Tignish.....	" " " " " "	Bit.....	6 60
" " " " " "	" " " " " "	Anth., egr.....	10 85
<i>New Brunswick.</i>			
Bathurst.....	Post Office..... Coal per ton—	Anth., egr.....	11 50
" " " " " "	" " " " " "	Bit.....	6 50
Campbellton.....	" " " " " "	Bit.....	6 00
Chatham.....	" " " " " "	Bit.....	6 00

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—Continued.			
Quebec.			
Actonville.....	Post Office.....	Coal per ton—Anth., egg.....	9 80
Arthabaska.....	Post Office.....	Anth., egg.....	9 25
Aylmer.....	Post Office.....	Aylmer Coal & S. Co.....	7 60
Berthierville.....	".....	J. E. Chartier.....	8 00
Buckingham.....	".....	The Traders Co.....	8 00
Cap Rouge.....	Experimental Farm.....	The Traders Co.....	8 25
".....	".....	O. Giguere & Son.....	8 75
".....	".....	E. P. Berube.....	6 99
Chicoutimi.....	".....	Canadian Import Co.....	6 00
Coaticook.....	Public Building.....	G. P. Marcotte.....	9 00
".....	".....	Cote, Boivin & Co.....	9 00
Coaticook.....	Post Office.....	Hall & Allard.....	8 00
Cookshire.....	".....	B. J. Smith & Son.....	8 40
Dundee.....	".....	E. J. Plunche & Co.....	8 50
.....	Custom House.....	Mrs. A. S. Matthews.....	7 90
.....	".....	J. O. Monplaisir.....	8 15
Drummondville.....	Post Office.....	J. A. Plunche.....	8 75
East Angus.....	".....	J. A. Plunche.....	8 50
Farnham.....	".....	Arthur Giroux.....	7 50
Fraserville.....	".....	La Compagnie de Charbon.....	9 00
Granby.....	".....	Boens & Girard.....	8 15
Hochelega.....	".....	Evans Bros.....	6 93
".....	".....	Evans Bros.....	6 93
Hull.....	".....	Hull Coal Co.....	7 25
Iberville.....	".....	J. Demagly.....	6 60
Joliette.....	".....	S. Bourgeois.....	9 00
".....	".....	S. Bourgeois.....	9 00
Jonqueres.....	".....	G. P. Marcotte.....	9 00
".....	".....	G. P. Marcotte.....	9 25
Knowlton.....	".....	V. E. Ralston.....	8 15
Lachine.....	".....	Martin Cie.....	8 00
".....	".....	Martin Cie.....	8 75
Laculute.....	Immigration Office.....	J. Creswell.....	8 50
Lacolle.....	".....	J. P. Martin.....	8 25
Laprairie.....	Post Office.....	Demers & McGee.....	7 75

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L'Assomption	"	"	Anth., nut.	Demers & McCree.	8 00
Lennoxville	"	"	Anth., furn.	Chas. Hio.	8 25
"	"	"	Anth., egg.	La Cie Coderre et Fils.	9 25
"	"	"	Anth., egg.	Glarke & Stewart.	7 75
Levis	"	Dairy Cattle Barn	Construction of.	J. A. Choquette & Company	9,474 00
Longueuil	"	Post Office	Electric wiring and fittings.	Labrecque & Carrette.	297 00
"	"	"	Coal per ton—	Thomas Millette.	7 30
"	"	"	Anth., nut.	Thomas Millette.	7 50
Louisville	"	"	Anth., egg.	L. A. Plante.	7 25
Magog	"	"	Anth., egg.	J. H. Pery & Son	7 50
Marioville	"	"	Anth., egg.	W. E. Poulin.	7 95
"	"	"	Anth., nut.	W. E. Poulin.	8 15
Matane	"	"	Anth., egg.	J. A. Boulay.	7 90
Megantic	"	"	Anth., egg.	A. H. Evans.	11 90
Montmagny	"	"	Anth., egg.	Canadian Import Company	9 45
Montreal	"	Custom House	Anth., furn.	Evans Bros.	7 86
"	"	Customs' Canal Office	Anth., stove.	Evans Bros.	6 68
"	"	Examining Warehouse	Bit	A. Baile.	6 93
"	"	New Examining Warehouse	Anth., furn.	Evans Bros.	4 45
"	"	P. O. Station "A"	Anth., egg.	Evans Bros.	6 68
"	"	"B"	Anth., egg.	Evans Bros.	6 93
"	"	"C"	Anth., egg.	Evans Bros.	6 93
"	"	"D"	Anth., egg.	Evans Bros.	6 93
"	"	"E"	Anth., egg.	Evans Bros.	6 93
"	"	"F"	Anth., egg.	Evans Bros.	6 93
"	"	"H"	Anth., furn.	Evans Bros.	6 93
"	"	"M"	Anth., egg.	Evans Bros.	6 68
"	"	"N"	Anth., egg.	Evans Bros.	6 93
"	"	"S"	Anth., furn.	Evans Bros.	6 93
"	"	Herald Building	Anth., egg.	Evans Bros.	6 68
"	"	Revenue Building	Anth., nut.	Evans Bros.	6 93
"	"	Forestry Branch	Anth., egg.	Evans Bros.	6 93
"	"	Detention Hospital	Anth., egg.	Evans Bros.	6 93
"	"	"	Anth., furn.	Evans Bros.	6 68
"	"	"	Anth., stove.	Evans Bros.	6 93
"	"	Central Post Office.	Alterations to Heating Plant.	Thomas O'Connell.	10,527 00
"	"	Postal Station "A"	Freight Elevator.	The Turnbull Elevator M'fg. Co. Ltd.	5,993 00
"	"	"	Shed and Passage.	E. T. Verbanise.	7,490 00
"	"	Examining Warehouse.	Alter. and additions to fittings.	Henry Morgan & Co., Ltd.	3,824 00
Murray Bay	"	Post Office.	Coal per ton—	Canadian Import Company	9 75
"	"	"	Anth., nut.	Canadian Import Company	9 95
Nicolet	"	"	Anth., egg.	Jacques Courteau.	9 50
Pierreville	"	"	Anth., stove.	Sloocner & Company.	9 50
"	"	Public Building.	Wiring and fittings.	The Solex Company Limited.	275 00
Plessisville	"	Post Office.	Coal per ton—	La Fondre/de Plessisville.	10 25
Quebec	"	Custom House	Anth., egg.	Canadian Import Company	7 34
"	"	Marine Agency	Anth., furn.	Labrecque & Carrette.	7 40
"	"	Examining Warehouse.	Anth., furn.	Canadian Import Company	7 34
"	"	Immigration Hospital.	Anth., egg.	Canadian Import Company	7 95
"	"	"	Anth., stove.	Canadian Import Company	7 95

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Thetford Mines.....	"	Anth., egg.	A. Blais.....	8 80
Three Rivers.....	"	Anth., egg.	L. Marchand & Son.....	7 50
"	Public Building.	Construction of	Jos. Bourque.....	87, 900 00
Valleyfield.....	Post Office.	Coal per ton—	A. Langevin.....	7 50
Victoriaville.....	"	"	J. E. C. Giroux.....	8 50
Westmount.....	"	"	Evans Bros.....	6 93
<i>Ontario.</i>				
Acton.....	Post Office.	Coal per ton—	J. C. Hill.....	7 35
"	"	"	J. C. Hill.....	7 60
Alexandria.....	"	Anth., egg	Morris Bros.....	7 75
Almonte.....	"	Anth., egg.	Taylor Bros.....	7 50
"	"	"	Taylor Bros.....	7 75
Amherstburg.....	"	Anth., furn.	Falls-Barron Co.....	7 50
Arnprior.....	"	Anth., egg.	J. S. Moir.....	8 25
"	"	Anth., egg.	R. S. Drysdale.....	8 65
Athens.....	"	Anth., furn.	E. J. Purcell.....	7 17
Aurora.....	"	Anth., nut.	B. F. Davis.....	7 25
"	"	"	A. Butcher.....	7 50
Aylmer.....	"	Anth., egg.	Frank Bros.....	7 50
Barrie.....	"	Anth., nut.	The Sargant Company.....	7 35
"	"	"	B. Parker.....	7 50
Bellefleur.....	"	Anth., stove	Downey Coal Company.....	7 95
Berlin.....	"	Anth., egg.	Geo. Braun.....	7 50
"	"	"	A. A. Piper.....	7 50
"	"	"	Kloppfer & Company.....	7 50
Bownayville.....	"	Anth., stove	E. W. Loscombe.....	7 75
"	"	"	E. W. Loscombe.....	7 75
Bracebridge.....	"	Anth., stove	Geo. W. Ecclestone.....	8 25
Brampton.....	"	Anth., stove	Brampton Coal Company.....	7 75
"	"	"	Brampton Coal Company.....	7 75
"	Public Building.	Electric wiring and fittings.	W. K. Young.....	837 95
Brantford.....	Post Office.	Coal per ton—	Gibson Coal Company.....	6 50
Bridleburg.....	"	Anth., egg	E. Benner & Sons.....	6 85
Brookville.....	"	Anth., egg	Brookville Lumber Company.....	8 00
"	"	Anth., stove.	Brookville Lumber Company.....	8 00
Burford.....	"	Anth., egg.	Burford C. & G. Company.....	7 50
Cardinal.....	"	Painting and decorating of.	Geo. Todd.....	239 80
"	"	Hot air heating apparatus for	C. A. Ranson.....	364 00
"	"	Fittings.	The J. T. School Company.....	928 00
"	"	Electric wiring and fittings.	C. A. Ranson.....	487 00
Carleton Place.....	Post Office.	Coal per ton—	Taylor Bros.....	7 78
Chatham.....	"	Anth., furn.	A. R. Crow.....	6 80
Chesley.....	"	Anth., egg.	Patchell Bros.....	7 15
Clinton.....	"	Anth., egg.	M. & M. Forbes.....	8 25
"	"	Anth., nut.	M. & M. Forbes.....	8 50
"	"	Anth., egg.	Geo. Plunkett.....	7 90
Cobourg.....	"	Anth., nut.	Thompson Macdonald Company.....	7 25
Collingwood.....	Post Office.	Anth., furn.	Toner & Gregory.....	7 60
"	"	"	Toner & Gregory.....	7 75

Feb. 22, 1917.

Oct. 24, 1916.

Jan. 2, 1917.
Jan. 2, 1917.
Jan. 9, 1917.
Mar. 1, 1917.

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$
			cts.
PUBLIC BUILDINGS—Continued.			
Ontario—Continued.			
Collingwood.....	Customs fittings.....	W. A. Tom.....	930 00
Cornwall.....	Coal per ton—Anth., egg.....	A. F. Mulhern & Co.....	7 20
"	Anth., nut.....	A. F. Mulhern & Co.....	7 20
Deseronto.....	Fittings.....	The Berlin Interior Hardwood Co., Ltd.....	1,687 00
Dresden.....	Coal per ton—Anth., furn.....	The Rathbun Company.....	7 20
"	"	G. Weeks.....	7 75
"	Anth., nut.....	Woodhouse & Company.....	8 00
Dundas.....	Anth., furn.....	John George.....	7 10
Eganville.....	Anth., egg.....	W. H. Schneider & Company.....	8 25
Elmira.....	Anth., nut.....	W. H. Schneider & Company.....	8 00
"	"	C. Fischer.....	8 00
Elora.....	Anth., egg.....	C. Fischer.....	7 25
Fergus.....	Anth., nut.....	Peter McGregor.....	7 85
Fort William.....	Anth., nut.....	Peter McGregor.....	8 10
"	Bit.....	Jos. Davidson.....	9 00
Galt.....	Anth., egg.....	Jos. Davidson.....	5 25
Gananoque.....	Anth., egg.....	W. A. Smith.....	7 25
"	Anth., nut.....	Jos. Taylor & Son.....	7 40
"	Anth., egg.....	Jos. Taylor & Son.....	7 40
"	Bit.....	Jos. Taylor & Son.....	7 40
Glencoe.....	Anth., furn.....	McAlpine Bros.....	4 75
"	Anth., nut.....	McAlpine Bros.....	6 65
Godolph.....	Anth., egg.....	H. J. A. MacEwan.....	7 91
"	Anth., stove.....	H. J. A. MacEwan.....	7 75
"	"	J. H. Gibson.....	8 00
Grimsby.....	Anth., nut.....	J. H. Gibson.....	0 75
"	"	Klopper Coal Company.....	7 90
Quehph.....	Anth., egg.....	Thos. Myles & Sons.....	6 40
Hamilton.....	Anth., egg.....	Thos. Myles & Sons.....	0 45
Hamilton.....	Weights and Measures.....	W. H. Eyd.....	7 75
Haver.....	Post Office.....	W. H. Eyd.....	5 00
Horiston.....	Anth., nut.....	John Howes.....	7 50
"	"	John Howes.....	7 00
Hawkesbury.....	Anth., egg.....	W. Wilson.....	8 00

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Ingersoll.....	"	"	Anth., egg	Scott & Daniels..	6 85
"	"	"	Anth., nut	Scott & Daniels..	8 10
Kemptville.....	"	"	Dit.....	Scott & Daniels..	7 60
"	"	"	Anth., stove	C. Patterson.....	8 00
"	"	"	Anth., nut	"	8 00
"	"	"	Anth., egg	"	10 00
Kenora.....	Electric wiring	"	"	Murphy Bros.....	900 00
"	Coal per ton—	"	Anth., furn.	W. J. McLaughlin	8 00
Kincardine.....	"	"	Anth., nut	J. W. Wilson.....	8 00
"	"	"	Anth., egg	S. Anglin & Company	8 00
"	"	"	Anth., nut	S. Anglin & Company	8 09
"	"	"	Anth., egg	S. Anglin & Company	8 00
"	"	"	Anth., nut	S. Anglin & Company	8 00
"	"	"	Anth., egg	S. Anglin & Company	8 00
"	"	"	Anth., nut	S. Anglin & Company	8 00
"	"	"	Anth., nut	"	8 00
Royal Military College.....	Building for Riding School—Construction of	"	"	Kingston Construction Company, Limited.....	29,000 00
Lakefield.....	Coal per ton—	"	Anth., egg	W. J. Charlton.....	7 70
"	"	"	Anth., nut	W. J. Charlton.....	7 95
Leamington.....	"	"	Anth., egg	D. Smith.....	7 50
"	"	"	Anth., nut	D. Smith.....	7 50
Lindsay.....	"	"	Anth., egg	Flavelles, Ltd	8 00
"	"	"	Anth., nut	Flavelles, Ltd	8 25
Listowel.....	"	"	Anth., egg	R. Oliver.....	7 00
"	"	"	Anth., nut	R. T. Kemp & Son.	7 15
London.....	"	"	Anth., egg	Chandler Bros.....	6 86
"	"	"	Anth., nut	Chandler Bros.....	6 86
Custom House.....	"	"	Anth., stove	R. Welsh.....	7 90
Post Office.....	"	"	Anth., egg	The Sargeant Co.	7 50
Markham.....	"	"	Anth., nut	The Sargeant Co.	7 75
Midland.....	"	"	Anth., nut	Alex. Kramer.....	7 75
Mildmay.....	"	"	Anth., egg	Blain & Hannant..	7 25
Milton.....	"	"	Anth., nut	Blain & Hannant..	7 50
Milverton.....	"	"	Anth., egg	J. G. Hamilton.....	7 50
Mitchell.....	"	"	Anth., furn.	R. J. Cook.....	7 15
"	"	"	Anth., nut	R. J. Cook.....	7 35
Mount Forest.....	Post Office	"	Anth., furn.	G. G. Brebber.....	7 50
"	"	"	Anth., nut	"	7 75
Napanee.....	"	"	Anth., stove	F. E. Vanluven.....	8 00
"	"	"	Anth., nut	"	8 25
"	Drill Hall.	"	Anth., nut	"	8 25
"	"	"	Waterproofing basement wall of	Geo. Lewis.....	1,350 00
"	"	"	Fencing property of	Geo. A. Cliff.....	790 00
Newmarket.....	Grading, paving, etc.	"	"	Geo. Lewis.....	4,650 00
Niagara Falls.....	Coal per ton—	"	Anth., furn.	Oliver Dike.....	7 00
"	"	"	Anth., egg	W. E. Thomas.....	6 35
North Bay.....	"	"	Anth., nut	"	6 60
Norwich.....	"	"	Anth., furn.	North Bay Fuel Company	7 60
"	"	"	Anth., furn.	C. Wilcox.....	6 55
"	"	"	Anth., stove	"	6 55
Ontario.....	Public Buildings generally.....	"	Supply of 200 Four cap drawer Cabinets.....	Office Specialty M'fg Company, Ltd.....	8,630 00
					Sept. 5, 1916.

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cis.
Public Buildings—Continued.			
Ontario—Continued.			
Ontario.....	Post Offices generally.....	Supply of Sorting cases.....	
Orangeville.....	Post Office.....	Coal per ton—Anth. egg.....	2,650 00
Orillia.....	".....	Anth. egg.....	6 70
".....	".....	Anth. nut.....	7 25
Oshawa.....	".....	Anth. stove.....	7 35
".....	".....	Anth. nut.....	7 40
Ottawa.....	Customs Examining Warehouse.....	Metallic fittings.....	41,915 00
".....	Customs Examining Warehouse.....	".....	
".....	Naval Service.....	".....	
".....	Secretary of State Dept.....	Metallic cases.....	27,990 00
".....	Public Buildings.....	Supply of Coal.....	1,502 00
".....	Interior Dept.—(Registration Branch).....	Metallic cases.....	275 00
".....	Customs Examining Warehouse.....	Alterations, etc., to fittings.....	85,757 50
".....	Finance Dept.....	Metallic filing cases.....	3,027 00
".....	Militia & Defence Dept.—(Central Registry).....	Filing Cases "C".....	642 00
".....	Railway Commission.....	Filing cases.....	885 00
".....	Finance Dept.....	Sixty (60) Metallic lockers.....	1,086 00
".....	Victoria Memorial Museum.....	Fire Screen in basement of.....	1,746 00
".....	Militia & Defence—(Central Registry).....	Metallic Fittings.....	1,700 00
".....	Parliament & Departmental Buildings.....	Supply of materials for rewiring.....	2,500 00
".....	Militia & Defence Dept.—(Auditing Office).....	Ten (10) filing cases.....	2,228 00
".....	Victoria Memorial Museum (National Art Gallery).....	Metallic cupboards.....	3,367 04
".....	Departments generally.....	Fifty (50) four cap filing cases.....	462 00
".....	Parliament Buildings.....	Supply of structural steel.....	495 00
".....	".....	Supply of 5,000,000 common brick National Brick Co. of Laprairie, Ltd.....	1,745 00
".....	".....	".....	Cost plus 20%
".....	".....	".....	plus 10%
".....	".....	".....	Sept. 2, 1916
".....	".....	".....	Sept. 11, 1916, 110-50 (per 1,000)

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"	Parliament Buildings.....	Supply of 5,000 barrels of Portland Cement.....	Alfred Rogers, Ltd.....	Sept. 11, 1916.	1 85 p. bri.
"	"	" of 3,500 tons of crushed stone.....	Howard Rock.....	Sept. 11, 1916.	1 60 p. ton.
"	"	Supply of 2,000 tons of Nepean sand stone.....	"	Sept. 11, 1916.	3 70 p. ton.
"	"	Supply of 5,000 barrels of Portland Cement.....	Canada Cement Co., Ltd.....	Sept. 13, 1916.	1 85 p. bri.
"	Departmental Buildings.....	Supply of Tungsten Lamps.....	The Canadian Tungsten Lamp Co., Ltd.....	Sept. 19, 1916.	4,752 50
"	Experimental Farm.....	Coal per ton—Anth., furn.....	Leclaire & Company.....	"	7 35
"	"	" Anth., egg.....	"	"	7 50
"	"	" Anth., nut.....	"	"	7 75
"	"	" Anth., stove.....	"	"	7 50
"	Militia & Defence Dept. (Wood Building).....	Metallic fittings.....	Office Specialty Manufacturing Co., Ltd.....	Sept. 29, 1916.	12,997 00
"	Parliament Buildings.....	Reconstruction of.....	P. Lyall & Sons Cons. Co., Ltd.....	Sept. 29, 1916.	87% up to \$4,000-000 & 7% for further mil-lion and no commission above \$5,000,-000.00
"	"	Supply of 4,000 tons of Nepean sand stone.....	Foran & Thibault.....	Sept. 29, 1916.	3 70 p. ton.
"	Experimental Farm (Flax Building).....	Construction of.....	F. H. Cathcart & E. Webster.....	Oct. 19, 1916.	9,895 00
"	Government Buildings.....	Supply of electric current for lighting power to all.....	The Ottawa Electric Company.....	Dec. 9, 1916	Sched. of rates.
"	Interior Department.....	Filing cases.....	The Steel Equipment Co., Ltd.....	Dec. 20, 1916	398 00
"	Militia & Defence branch).....	Steel sections.....	Office Specialty M'g Co., Ltd.....	Jan. 2, 1917	4,195 00
"	Interior Dept.—(School lands).....	Filing cases.....	The Steel Equipment Company, Ltd.....	Jan. 11, 1917.	1,475 00
"	Post Office Dept.....	Metallic vault fittings.....	Office Specialty M'g Co., Ltd.....	Jan. 11, 1917.	1,195 00
"	Parliament Buildings.....	Supply and erection of 1,800 tons of steel.....	The Dominion Bridge Co., Ltd.....	Jan. 29, 1917.	106 00 p. ton.
"	"	Supply of 1,000 tons of Nepean sand stone.....	Nepean Sand Stone Quarries, Ltd.....	Mar. 12, 1917.	
"	"	Supply of 1,000 tons of Nepean sand stone.....	Campbell McKee & Williams.....	Mar. 13, 1917.	
"	Interior Dept.—(Immigration Branch).....	Steel cases.....	The Steel Equipment Company, Ltd.....	Mar. 22, 1917.	415 00
"	Departmental Buildings.....	Supply of Tungsten Lamps.....	Garruch Godard & Company.....	Mar. 23, 1917.	3,639 90
Owen Sound	Palmerston.....	Coal per ton—Anth., egg.....	Davis-Smith-Malone Company.....	"	7 15
"	"	" Anth., egg.....	E. B. Varren.....	"	8 00
"	"	" Anth., nut.....	"	"	8 25
"	"	Fittings.....	The Berlin Interior Hardwood Co., Ltd.....	Nov. 23, 1916.	1,228 00
Paris.....	"	Coal per ton—Anth., furn.....	Paris C. & L. Company.....	"	7 25
"	"	Anth., nut.....	"	"	7 50
Parkhill.....	"	" Anth., stove.....	Wm. Leary.....	"	7 50
"	"	" Anth., nut.....	"	"	7 50
Pembroke.....	"	" Anth., egg.....	Dunlop & Company.....	"	8 25

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cts.
PUBLIC BUILDINGS—Continued.			
Ontario—Continued.			
Pembroke.....	Post Office.....	Anth., nut.....	8 50
".....	".....	Anth., egg.....	7 60
Peterborough.....	Custom House.....	Anth., stove.....	7 60
".....	Post Office.....	Anth., egg.....	7 75
Pictou.....	".....	Anth., nut.....	8 00
Port Arthur.....	Examining Warehouse.....	Anth., stove.....	9 00
".....	".....	Anth., nut.....	9 00
".....	".....	Bit.....	6 25
".....	".....	Anth., egg.....	9 00
".....	Post Office.....	Anth., nut.....	9 00
Port Colborne.....	".....	Anth., egg.....	7 00
Port Hope.....	".....	Anth., egg.....	7 90
".....	".....	Anth., egg.....	7 90
Port Perry.....	".....	Anth., nut.....	7 75
".....	".....	Anth., nut.....	8 00
Prescott.....	Custom House.....	Anth., egg.....	8 00
".....	Post Office.....	Anth., nut.....	8 00
".....	".....	Anth., stove.....	8 00
Preston.....	".....	Anth., nut.....	7 25
".....	".....	Anth., nut.....	7 50
Renfrew.....	".....	Anth., stove.....	8 25
".....	".....	Anth., nut.....	8 50
".....	".....	Anth., nut.....	8 50
Sandwich.....	Alterations & Additions to.....	Jos. Bourque.....	1,125 00
Sarnia.....	Coal per ton—	E. Breault.....	7 70
".....	".....	W. A. Brown.....	7 20
Sault Ste. Marie.....	".....	".....	7 20
".....	".....	Sault Ste. Marie C. & W. Co.....	8 25
".....	".....	".....	8 00
Seaforth.....	".....	E. L. Box.....	7 50
Shelburne.....	".....	R. A. Jelly.....	8 50
".....	".....	".....	8 50
Smiths Falls.....	".....	Anth., nut.....	7 65
".....	".....	Thos. Graham.....	7 65
".....	".....	H. A. Crate.....	7 90
".....	".....	Anth., nut.....	7 90
".....	".....	H. A. Crate.....	7 90
Steeleton.....	".....	Anth., egg.....	8 25
".....	".....	Lyons Fuel Company.....	8 25

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cts.
Public Buildings—Continued.			
<i>Ontario—Concluded.</i>			
Whitby.....	Coal per ton—Anth., nut.....	E. R. Blow.....	7 75
Wingham.....	Anth., furn.....	J. A. McLean.....	7 45
Woodstock.....	Anth., nut.....	B. Blair Company.....	7 70
	Anth., egg.....		7 45
<i>Manitoba.</i>			
Brandon.....	Experimental Farm.....	North American Collieries.....	12 00
"	"	"	8 85
"	Post Office.....	Barelay & O'Hara.....	11 80
"	"	North American Collieries.....	8 85
"	Immigration Building.....	Barelay & O'Hara.....	4 55
Carman.....	"	Western Coal Co.....	11 75
Dauphin.....	Post Office.....	"	10 70
Deloraine.....	Immigration Building.....	E. M. Chalmers.....	11 15
"	"	"	13 25
Emerson.....	Post Office.....	Western Coal Co.....	10 00
"	"	Estate Chas. Whitman.....	10 05
Le Pas.....	Immigration Building.....	Western Coal Co.....	9 00
Minnedosa.....	Post Office.....	Vogler.....	10 05
Morden.....	"	Western Coal Co.....	12 00
"	"	North American Collieries.....	10 60
Neepawa.....	"	Western Coal Co.....	9 45
"	"	"	11 10
Portage la Prairie.....	"	"	11 10
"	"	"	10 70
"	Armoury.....	North American Collieries.....	9 15
"	"	Western Coal Co.....	10 75
Selkirk.....	Post Office.....	North American Collieries.....	9 15
Souris.....	"	Thos. Reid.....	1 15
"	"	North American Collieries.....	8 85
Stonewall.....	"	T. H. Patrick.....	12 15
"	"	W. Seed.....	11 00
St. Boniface.....	"	North American Collieries.....	11 00

Viridon	"	"	Anth. egg	Western Coal Co.	11 80
"	"	"	Bit	North American Collieries	8 65
Winnipeg	Immigration Hall No. 1	"	Anth. egg	Standard Supply & Fuel Co.	11 25
"	"	"	Anth. egg	"	11 25
"	"	"	Anth. egg	J. G. Hargrave & Co.	11 25
"	Post Office (new)	"	Anth. egg	Western Coal Co.	11 25
"	"	"	Anth. egg	"	11 25
"	New Examining Warehouse	"	Bit	"	7 60
"	Postal Station "D"	"	Anth. egg	J. G. Hargrave & Co.	11 25
"	"	"	Anth. stove	"	11 25
<i>Alberta.</i>					
Athabaska Landing	Immigration Office	Coal per ton	Bit	Athabaska Feed Co.	4 50
"	"	"	Bit-Can.	"	4 00
Bassano	Public Building	"	Anth. nut	Atlas Lumber Company	9 50
"	"	"	Anth. nut	"	9 00
Calgary	Immigration shed	"	Anth. egg	F. W. Mapson & Co.	8 50
"	"	"	Bit-Can.	"	5 50
"	Examining Warehouse	"	Bit	"	5 10
Castor	Drill Hall	Construction of	Anth. stove	North American Collieries	282,001 45
Edmonton	Immigration Office	Coal per ton	Bit-Can.	A. G. Creelman & Co.	3 00
"	Immigration Building	"	Lignite	A. D. McCormack	2 95
"	Post Office	"	Lignite	Crown Coal Co.	2 95
Edson	Immigration Office	"	Bit	"	4 20
Entwistle	"	"	Anth. stove	North American Collieries	5 70
Grande Prairie	"	"	Bit	"	4 20
Lacombe	Experimental Farm	"	Anth. furn.	C. H. Dunlop	6 50
"	"	"	Bit	H. A. Day	7 25
"	"	"	Bit	"	4 50
"	"	"	Anth. egg	"	7 25
Lethbridge	Post Office	"	Bit-Can.	City Cartage Company	4 50
"	Public Building (new)	"	Bit	"	4 50
"	Experimental Farm	"	Galt	"	4 85
"	Custom House	"	Bit	North American Collieries	1,675 00
Red Deer	Public Building	Parcel Hoist	Bit-Can.	J. & W. Marnock	4 35
Strathcona	Immigration Building	Coal per ton	Bit-Can.	D. A. McGill	5 00
"	Post Office	"	Bit	North American Collieries	5 00
Vermillion	Immigration Office	"	Anth. stove	"	14 00
Viking	Post Office	"	Bit-Can.	Steve Jones	14 00
Wainwright	Immigration Office	"	Bit-Can.	North American Collieries	4 75
Wetaskiwin	Public Building	"	Bit	Geo. H. Bayless	6 05
"	"	"	Bit	"	5 00
<i>Saskatchewan.</i>					
Battleford	Post Office	Coal per ton	Anth. egg	North American Collieries	13 50
"	"	"	Bit	"	6 55
"	(North)	"	Anth. egg	North Battleford Manufacturing Co.	12 55
"	"	"	Bit	"	6 00
Biggar	Immigration Office	"	Bit	North American Collieries	6 55
Estevan	Post Office	"	Lignite	T. D. Munro	2 05

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cts.
PUBLIC BUILDINGS—Concluded.			
<i>Saskatchewan—Concluded.</i>			
Gravelbourg.....	Post Office.....	Coal per ton—Anth., stove.....	13 30
Humboldt.....	"	Bit.....	9 25
Indian Head.....	Experimental Farm.....	Anth., egg.....	12 60
"	"	Anth., nut.....	12 75
"	"	Anth., egg.....	11 50
"	"	Bit.....	8 50
"	Forest Nursery.....	Anth., furn.....	11 50
"	"	"	8 50
"	"	"	11 50
Karobert.....	Immigration Office.....	Anth., stove.....	8 15
Lloydminster.....	" Hall.....	Bit.....	5 25
"	"	Bit. Can.....	5 25
Maple Creek.....	Post Office.....	Anth., furn.....	13 00
"	"	Bit.....	7 00
Melfort.....	"	Anth., egg.....	13 30
Moose Jaw.....	"	Anth., egg.....	10 45
"	"	Anth., stove.....	10 45
"	Immigration Building.....	Bit. Can.....	7 95
North Portal.....	"	Bit.....	3 75
Regina.....	Post Office.....	Anth., egg.....	11 25
"	"	Bit. Can.....	7 65
"	"	North American Collieries.....	11 25
Rosthern.....	Dominion Lands.....	Whitmore Bros.....	14 45
"	Experimental Farm.....	Whitmore Bros.....	14 45
"	"	Manaroh Lumber Co.....	13 40
Saskatoon.....	"	Anth., nut.....	8 50
"	Post Office.....	McDiarmid & Co.....	12 25
"	Immigration Building.....	Armstrongs Ltd.....	13 25
Scott.....	"	Anth., stove.....	13 25
"	Experimental Farm.....	Anth., egg.....	13 50
Sutherland.....	Boarding House and forest nursery.....	Beaver Lumber Co.....	7 00
Unity.....	Immigration Building.....		
Yorkton.....	Post Office.....		
Wadena.....	Immigration Building.....		
		R. B. MacLeod & R. J. Armand.....	3,665 00
		Unity Lumber Co.....	6 50
		C. S. Hilgten & Co.....	12 30
		North American Collieries.....	7 95
		Prince Rupert L. C.....	8 25

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.
			\$ cts.
HARBOUR AND RIVERS—Continued.			
<i>Ontario.</i>			
Port William (Mission River).....			
Port William.....	The Thunder Bay Contracting Co. Ltd.....	July 13, 1916.	1 30
	"	Oct. 5, 1916.	approximate price
			\$46,188.40
Grand River.....	The Great Lakes Dredg'g Company Ltd.....	July 20, 1916.	0 12
Port Hope.....	The Randolph Macdonald Co. Ltd.....	May 29, 1916.	0 18
Port Maitland.....	Confederation Cons. Co. Ltd.....	June 10, 1916.	0 12
"	The Great Lakes Dredg'g Co. Ltd.....	Nov. 23, 1916.	0 12
Port Stanley.....	M. J. Hogan.....	Nov. 2, 1916.	Schedule of prices.
<i>British Columbia.</i>			
False Creek.....	The Pacific Dredging Co. Ltd.....	July 8, 1916.	0 25
Steveston (Fraser River).....	Marsh-Hutton Powers Co. Ltd.....	Aug. 15, 1916.	Schedule of prices.
Vancouver.....	Snyder Bros & Brethour Ltd.....	May 2, 1916.	44,994 00
VESSELS DREDGES AND PLANTS.			
Supply of brooms and brushes for departmental dredging plant for Ontario & Quebec for 1916-17.....	R. E. Boyd and Company.....	May 1, 1916.	Schedule of prices.
Supply of hardware for departmental dredging plant for Ontario & Quebec for 1916-1917.....	Builders Sales Ltd.....	" 1, 1916	"
Supply of hose for departmental dredging plant for Ontario & Quebec for 1916-1917.....	Dunlop Tire & Rubber Goods Co., Ltd.....	" 1, 1916	"
Supply of hose for departmental dredging plant for Ontario & Quebec for 1916-1917.....	Goodyear Tire & Rubber Goods Co of Canada, Ltd.....	" 1, 1916	"
Supply of hose for departmental dredging plant for Ontario & Quebec for 1916-1917.....	Canadian Consolidated Rubber Co., Ltd.....	" 1, 1916	"
Supply of packing for departmental dredging plant for Ontario & Quebec for 1916-1917.....	Canadian Fairbanks Morse Co., Ltd.....	" 1, 1916	"
Supply of Paints and Paint Oils for departmental dredging plant for Ontario & Quebec for 1916-1917.....	The Garlock Packing Co.....	" 1, 1916.	"
	The Ottawa Point Works Limited.....	" 1, 1916.	"

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—Continued.

Works.	Names of Contractors.	Date of Contract.	Amount.	
			\$	cts.
VESSELS, DREDGES AND PLANT—Concluded.				
Supply of coal for departmental dredging plant for Port Stanley, Ont., for 1916-1917, per ton.....	P. P. Weaver Coal Co., Ltd.....	May 1, 1916.	3 33	
Supply of coal for departmental dredging plant for Sturgeon Falls, Ont., for 1916-1917, per ton.....	".....	" 1, 1916.	5 68	
Supply of coal for departmental dredging plant for Bathurst, N.B., for 1916-1917, p. ton.....	F. P. Elkin.....	" 1, 1916.	5 90	
Supply of coal for departmental dredging plant for Chatham, N.B., for 1916-1917, p. ton.....	".....	" 1, 1916.	5 90	
Supply of coal for departmental dredging plant for Shippigan, N.B., for 1916-1917, per ton.....	".....	" 1, 1916.	6 40	
Supply of coal for departmental dredging plant for Campbellton, N.B., for 1916-1917, per ton.....	R. K. Shives.....	" 1, 1916.	5 50	
Supply of coal for departmental dredging plant for Canso, N.S., for 1916-1917, per ton.....	A. N. Whitman & Son, Ltd.....	" 1, 1916.	5 00	
Supply of coal for departmental dredging plant for Fort Lawrence, N.S., for 1916-1917, per ton.....	W. A. Fillmore.....	" 1, 1916.	4 15	
Supply of coal for departmental dredging plant for Liverpool, N.S., for 1916-1917, p. ton.....	Southern Salvage Co., Ltd.....	" 1, 1916.	6 00	
Supply of coal for departmental dredging plant for Mulgrave, N.S., for 1916-1917, p. ton.....	A. C. Aucoin.....	" 1, 1916.	4 70	
Supply of coal for departmental dredging plant for Pictou, N.S., for 1916-1917, p. ton.....	Gammoin & Weir.....	" 1, 1916.	4 80	
Supply of coal for departmental dredging plant for Charlottetown, P.E.I., for 1916-1917, per ton.....	Buntain Bell Co., Ltd.....	" 1, 1916.	3 00	
Supply of coal for departmental dredging plant for Selkirk, Man., for 1916-1917, p. ton.....	The Winnipeg Supply & Fuel Co., Ltd.....	" 1, 1916.	6 60	
Supply of coal for departmental dredging plant for Winnipegosis, Man., for 1916-1917, per ton.....	The Winnipeg Supply & Fuel Co., Ltd.....	" 1, 1916.	7 80	
Supply of Marine cylinder oil for departmental dredging plant for Ontario and Quebec, for 1916-1917, per gal.....	The British American Oil Co., Ltd.....	" 17, 1916.	0 38	
Supply of tallow for departmental dredging plant for Ontario and Quebec, for 1916-1917, per gal.....	The British American Oil Co., Ltd.....	" 17, 1916.	0 10½	
Supply of Marine engine oil for departmental dredging plant for Ontario and Quebec, for 1916-1917, per gal.....	The Imperial Oil Co., Ltd.....	" 17, 1916.	0 53½	
Supply of chain and cable grease for departmental dredging plant for Ontario and Quebec, for 1916-1917, per lb.....	".....	" 17, 1916.	0 02 ⁵⁰ / ₁₀₀	
Supply of coal oil for departmental dredging plant for Ontario and Quebec, for 1916-1917, per gal.....	McCool Bros. & Company.....	" 17, 1916.	0 15½	
Supply of Marine compression grease for departmental dredging plant for Ontario and Quebec, for 1916-1917, per lb.....	".....	" 17, 1916.	0 05	
Supply of Marine cylinder oil for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per gal.....	The British American Oil Co., Ltd.....	" 17, 1916.	0 36	
Supply of Coal oil for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per gal.....	".....	" 17, 1916.	0 18	

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Supply of compression grease for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per lb.....	"	"	17, 1916.	0 06
Supply of Marine engine oil for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per gal.....	The Imperial Oil Co., Ltd.	"	17, 1916.	0 54½
Supply of chain and cable grease for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per lb.....	"	"	17, 1916.	0 03
Supply of cable grease for departmental dredging plant for New Brunswick and Nova Scotia, for 1916-1917, per lb.....	Canadian Oils Companies, Ltd.	"	17, 1916.	0 08
Supply of marine cylinder oil for departmental dredging plant for Prince Edward Island, for 1916-1917, per gal.....	The British American Oil Co., Ltd.	"	17, 1916.	0 38
Supply of Marine engine oil for departmental dredging plant for Prince Edward Island, for 1916-1917, per gal.....	The Imperial Oil Co., Ltd.	"	17, 1916.	0 54½
Supply of chain and cable grease for departmental dredging plant for Prince Edward Island, for 1916-1917, per lb.....	"	"	17, 1916.	0 03
Supply of coal oil for departmental dredging plant for Prince Edward Island, for 1916-1917, per gal.....	McCool Bros. & Co.	"	17, 1916.	0 19½
Supply of compression grease for departmental dredging plant for Prince Edward Island, for 1916-1917, per lb.....	Canadian Oils Companies, Ltd.	"	17, 1916.	0 06½
Supply of Yellow for departmental dredging plant for Prince Edward Island, for 1916-1917, per lb.....	"	"	17, 1916.	0 08
Supply of Marine cylinder oil for departmental dredging plant for Manitoba, for 1916-1917, per gal.....	The British American Oil Co., Ltd.	"	17, 1916.	0 50
Supply of Marine engine oil for departmental dredging plant for Manitoba, for 1916-1917, per gal.....	The Imperial Oil Co., Ltd.	"	17, 1916.	0 56½
Supply of chain and cable grease for departmental dredging plant for Manitoba, for 1916-1917, per lb.....	"	"	17, 1916.	0 03½
Supply of coal oil for departmental dredging plant for Manitoba, for 1916-1917, per gal.....	Canadian Oils Companies, Ltd.	"	17, 1916.	0 20
Supply of compression grease for departmental dredging plant for Manitoba, for 1916-1917, per lb.....	"	"	17, 1916.	0 07
Supply of 200 tons of coal for departmental dredging plant for Chicoutimi, Que., for 1916-1917, per ton.....	Canadian Import Company.	June 5, 1916.		6 15
Supply of 1,500 tons of coal for departmental dredging plant for Montreal, Que., for 1916-1917, per ton.....	"	" 5, 1916.		3 79
Supply of 800 tons of coal for departmental dredging plant for Quebec, for 1916-1917, per ton.....	"	" 5, 1916.		4 79
Supply of 200 tons of coal for departmental dredging plant for Rimouski, Que., for 1916-1917, per ton.....	"	" 5, 1916.		6 05
Supply of 575 tons of coal for departmental dredging plant for Three Rivers, Que., for 1916-1917, per ton.....	"	" 5, 1916.		4 37
Supply of 125 tons of coal for departmental dredging plant for Verdun, Que., for 1916-1917, per ton.....	"	" 5, 1916.		5 55
Supply of 500 tons of coal for departmental dredging plant for Levis, Que., for 1916-1917, per ton.....	Pierre Robitaille.	Sept. 27, 1916.		6 60
Construction of boiler for Dredge "P.D.W. No. 120"	Campbell Steel & Iron Works, Ltd.	Jan. 27, 1917.		3,000 00
Docking, painting and overhaul of Dredge "King Edward"	B. C. Marine, Limited.	Feb. 15, 1917.		Unit prices.
Supply of timber for Dredge "P.W.D. No. 125"	Mason Gordon & Company	" 19, 1917.		7,024 93

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1916, to March 31, 1917—*Concluded.*

Works.	Names of Contractors.	Date of Contract.	Amount.
GOVERNMENT TELEGRAPH SERVICE.			
Freighting of supplies for Yukon Telegraph Line at Hazelton, B.C., per lb.	Geo. M. Beirnes.....	May 12, 1916.	0 17
Freighting of supplies for Yukon Telegraph Line at Telegraph Creek, B.C., per lb.	J. F. Callbreath.....	June 10, 1916.	0 11 ⁸⁰ / ₁₀₀
Supply and delivery of knots of Submarine Cable at Halifax, N.S.	Siemens Company of Canada, Ltd.....	July 5, 1916.	12, 165 00
Supply of 163, 500 lbs. of Telegraph wire for Government Telegraph Lines at Kamloops and Vancouver, B.C.	The Steel Co. of Canada, Ltd.....	" 31, 1916.	10, 273 50

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STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
1916.						\$ cts.
April 1.....	Webb & Bradburn.....	His Majesty.....	Sale of parts of lots Nos. 6 and 7, Fort William (McKellar Riv., Ont.)	McKellar Riv. Imprvts.....	3.46 acres.....	14,122 30
" 10.....	Geo. Chisholm.....	".....	Sale of land on west side of East River, Stonehouse Point, N.S.	Site for wharf (New Liskard)	0.6 acre.....	300 00
" 16.....	Timiskaming & Northern Railway Commission.....	".....	Transfer of part of lot No. 9, 1st Con, Tp. of Dymond, Ont.		20,625 feet	100 00
" 28.....	C. H. Healey & al.....	".....	Sale of land at Spray Bay, N.S.	Right of way to wharf.....	0.28 acre.....	50 00
" 29.....	T. K. Scovill.....	".....	Sale of land at Malignant Cove, N.S.	Site for wharf.....	.580 sq. ft.....	100 00
May 2.....	J. D. McEachern.....	".....	Release for all damages and claims in re flooding of lot No. 48, Tp. of Guigues, Que.	Timiskaming Reservoir Dam.....	0.9 acre.....	69 13
" 3.....	J. Beaudr.....	".....				
" 11.....	His Majesty.....	Town of Le Pas	Grant of part of Hudson Bay Reserve at Le Pas, Man.		0.02 acre.....	Free Grant.
" 17.....	".....	E. Sugarman.....	Sale of scrap metal from Parlt. B'd'gs., Ottawa, Ont.			7,000 00
" 25.....	J. B. Delay.....	His Majesty.....	Release for all damages and claims in re flooding of lot No. 61, Tp. of Guigues, Que.	Timiskaming Reservoir Dam.....		50 00
" 31.....	Emma Aylmer.....	".....	Sale of lot No. 517, Chase, B.C.	Site for Public B'd'g.....		1 00
" —.....	Arthur Lachapelle.....	".....	Release for all damages and claims in re rent of open site, etc., St. Francois du Lac, Q.			6 00
June 1.....	J. Manuel.....	".....	Sale of lots Nos. 25 and 26, Kent St., Ottawa, Ont., and Nos. 40, 41 and 42, Victoria St., and parts of lots No. 27 and 28 Wellington St., Ottawa, Ont.	Site for new Dept. B'd'g.....		77,000 00
" 1.....	J. Manuel.....	".....		".....		100,000 00
" 2.....	A. A. Fournier, Ltd.....	".....	Release in re lot No. 4, north side of Wellington St., lots Nos. 19 and 20 Victoria St., Ottawa, Ont.	".....		58,376 00
" 5.....	G. H. Gemmill.....	".....	Conveyance of lot No. 43 and part of lot No. 4, south side of Victoria St., and parts of lots Nos. 30 and 31 north side of Wellington St., Ottawa, Ont.	".....		65,000 00
" 6.....	F. B. McLaren et ux.....	".....	Sale of wharf property at Port Clyde, N.S.	Site for wharf.....		65,401 36
" 10.....	Joseph Houle.....	".....	Release for all claims and damages in re flooding of lots 1B and 2B, Range 3, Tp. of Duhamel, Que.	Timiskaming Reservoir Dam.....		41 50

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" 31. Aug. 3.	A. Slavin & C. Slavin, The Kent Lumber Co., Ltd.	" "	Sale of land at Sydenham, Ont.	Public Building Site.	1,000 00
" 7.	His Majesty	Corporation of the City of Ottawa.	Release for all damages caused by dredging at Gold River, N.S., Agreement re compensation for closing streets north side of Wellington St., Ottawa, Ont., and Corporation paying to Government annually.	New Depart. Buildings.	1 00 11,506 62
" 7.	Corporation of the City of Ottawa.	His Majesty	Quit claim deed re certain streets and portion of streets etc., Ottawa, Ont.	New Depart. Buildings.	406 24
" 11.	Corporation of the City of Hamilton.	"	Grant of part of lot No. 24, Hamilton, Ont.	Post Office.	1 00 1 00
" 11.	David Cadieux (father).	"	Release for all claims and damages caused by flooding part of lot No. 35, Tp. of Guigues, Que.	Timiskam. Reserv. Dam.	488 00
" 12.	David Cadieux (father and son.)	"	Release for all claims and damages caused by flooding part of lot No. 35, Tp. of Guigues, Que.	"	165 64
" 13.	Daniel Dempsey	"	Sale of part of north $\frac{1}{2}$ of lot No. 8, Con. 2, Tp. of Casey, Ont.	"	13-75 acres.
" 14.	Certificate of Title.	"	Sale of parts of lot No. 45, Esquimaux, B.C.	Timiskam. Reserv. Dam.	300 00
" 28.	Joseph St. Germain.	"	Release for all claims and damages re flooding of lot No. 38, Range 3, Tp. of Guigues, Que.	Kaministiquia and Mission River Improv.	3,075 73
" 29.	T. P. Kelly.	"	Sale of part of lot No. 10, con. D., Isld. No. 2, Port William, Ont.	Timiskam. Reserv. Dam.	49 00
Sept. 5.	A. M. Andrews.	"	Sale of part of lot No. 8, Con. 5, Tp. of Harris, Ont.	"	1 00
" 9.	A. Fliche.	"	Release for all claims and damages re lot No. 63, Tp. of Fabre, Que.	Government purposes.	37 50
" 15.	The Corporation of the City of Port Arthur.	His Majesty	Grant of parcel of land, being part of lot No. 5, P. Port Arthur, Ont.	Boat landing.	Free transfer.
Oct 6.	S. Christian & al.	"	Sale of land at Bear Cove, N.S.	Dry Dock.	1 acre.
" 7.	Naval Service.	Public Works Dept.	Transfer of land at Tuff's Cove, Halifax, N.S.	Site for wharf.	0-46 acre. 0-17 acre.
" 7.	Notice of Abandonment.	Corporation of His Majesty.	Abandonment of land at Albert, N.B.	Timiskam. Reserv. Dam.	150 00 430 82 267 08
" 11.	His Majesty.	Port Arthur	Grant of parcel of land at Port Arthur, Ont.	Approach to wharf.	Free transfer. 122 00
" 17.	C. E. McDonald et ux.	His Majesty	Sale of land at Weldford, N.B.	Telegraph Service.	Free transfer. 15 00
Nov. 2.	A. R. Armstrong.	"	Sale of lot No. 3 and $\frac{1}{2}$ of lot No. 4, New Liskeard, Ont.	Timiskam. Reserv. Dam.	150 00
" 6.	Prov. Govern. of Quebec.	His Majesty	Letters patent re water lot, Hudson, Que.	Wharf.	430 82
" 28.	J. W. J. Presson.	"	Sale of lot No. 190, Latchford, Ont.	Latchford, Dam.	0-7 acre.
Dec. 5.	A. Bouchard.	"	Exchange of land at St. Genevieve de Batiscan, Que.	Approach to wharf.	Free transfer.
" 5.	A. A. St. Arnaud.	"	Exchange of land at St. Genevieve de Batiscan, Que.	"	Free transfer.
" 14.	Interior Department.	Pub. Wks. Dept.	Transfer of tract of land northeast $\frac{1}{2}$ of sect. 30, Tp. 70, Calling River, B.C.	Telegraph Service.	Free transfer. 122 00
" 22.	His Majesty.	F. E. Clark.	Sale of launch on Lake Nipissing.	Telegraph Service.	Free transfer. 122 00

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.—Continued.

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
						\$ cts.
1916.						
Dec. 29.....	The King.....	Western Imperial Co., Ltd., <i>et al.</i>	Certificate of judgment in re Esquimaux Graving Dock.....			20,550 00
" 30.....	Treffle Jacob.....	His Majesty.....	Sale of land at St. Geneviève de Bartsseau, Que.....	Approach to wharf.....	820-1 sq. feet.....	180 00
1917.						
Jan. 15.....	His Majesty.....	Hamilton Harbour Commissioners, His Majesty.....	Grant of two parcels of land, Hamilton, Ont. Sale of part of south $\frac{1}{2}$ of lots Nos. 7 and 8, 3rd Con., Tp. of Casey, Ont.....	Harbour construction.....	9-25 acres.....	Free grant.
" 16.....	P. F. Bulger.....	His Majesty.....	Sale of part of north $\frac{1}{2}$ of lot No. 8, 6th Con., Tp. of Harris, Ont.....	"	82 acres.....	
" 18.....	W. Resenberger.....	"	Grant of parts of lots Nos. 141 and 142, Ste. Therese de Blainville, Que.....	Private enterprise.....		1 00
" 20.....	His Majesty.....	Jos. Hogue.....	Abandonment of land at Port Hastings, Ont. Sale of land being lot No. 32, Block 6, at Grande Prairie, Alta.....	Wharf site.....		
Feb. 2.....	Notice of Abandonment.....	His Majesty.....	Expropriated land at Albert, N.B.....	Government, Teleg. Office.....	11 acres.....	300 00
" 3.....	J. A. Giard.....	His Majesty.....	Sale of land at St. Roch (Richelieu) Que.....	"	5,325 sq. ft.....	300 00
" 15.....	J. Riether.....	His Majesty.....	Sale of land at St. Roch (Richelieu) Que.....	"	6,578 sq. ft.....	300 00
" 28.....	Certificate of Title.....	"	Sale of part of lot No. 2917, North Bulkeley, B.C.....	Telegraph Office.....	0-23 acre.....	
Mar. 3.....	"	"	Sale of part of river lot No. 4a, Le Pas, Man. Sale of Block "A", Sect. 1, Clayoquot, B.C.....	Wharf.....		650 00
" 8.....	"	"	Grant of tract of land at Lévis, Que.....	Telegraph Office.....	3,926 ft.....	1,000 00
" 9.....	His Majesty.....	Town of Lévis.....	Sale of machinery of old "Baker Laundry" Ottawa, Ont.....	Post Office extension.....	890-3 sq. ft.....	
" 10.....	"	Sachio Bros.....	Sale of tract of land at Quebec, Que.....	Government purposes.....	18-1 perches.....	1,000 00 with 5% interest.
" 15.....	Severe Amyot.....	His Majesty.....	Sale of lot No. 3, north side of Rear St., Ottawa, Ont.....	Site for wharf.....	0-19 acres.....	30 00
" 16.....	H. N. Bate Realty Corporation, Ltd.....	"	Sale of part of lot No. 2, Komptville, Ont.....	Site for Public Building.....		2,000 00
" 17.....	J. & W. Keswick.....	"				
" 22.....	W. H. Mundle <i>et al.</i>	"				

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The following items were received too late for insertion in last year annual report (1915-1916)

July 24	1898.	Notice of Expropriation.....	Expropriation of land and water lot at Bayfield, N.S.....	Wharf.....		
July 10	1895.	T. Marks <i>et ux</i>	His Majesty.....	Government purposes.....	0.23 acres.....	1 00
Dec. 13	1899.	T. Macbeth.....	".....	Drill Hall.....		4,950 00
May 16	1901.	Notice of Expropriation.....	Expropriated land at Englishstown, N.S.....	Wharf.....	½ acre.....	
Oct. 20	1906.	J. Arthur Lavigne.....	His Majesty.....	Wharf and approach.....	5,893 sq. ft.....	100 00
May 21	1913.	W. Ash & E. R. Rogers.....	His Majesty.....	Public Building.....		2,000 00
Aug. 15	1914.	Notice of Expropriation.....	Expropriated land at Dalhousie, N.B.....	".....	2,600 sq. ft.....	
Jan. 5	1915.	W. D. Morris <i>et ux</i>	His Majesty.....	Wharf.....	½ acre.....	600 00
Mar. 8		Elic-Joel Roehon.....	".....			
Aug. 3		T. Simard.....	".....	Timiskam. Reserv. Dam.....		125 00
Sept. 21		Louis Fleury.....	".....	".....		300 00
Oct. 11		John Campbell <i>et ux</i>	".....	East River Improvements.....	11.4 acres.....	1,200 00
Nov. 15		F. Taylor.....	".....	Telegraph Service.....	1 acre.....	500 00
Nov. 24		A. E. Milligan.....	".....	East River Improvements.....	1.8 acre.....	959 00
Dec. 29		Art. Jolicoeur.....	".....	Timiskam. Reserv. Dam.....		125 00
" 29		Jos. Lavigne.....	".....	".....		233 00
" 29		Palma Ranger.....	".....	".....		30 00
" 31		E. S. Carew.....	".....	East River Improvements.....	9-½ acres.....	2,952 36
" 31		T. W. Jatten <i>et ux</i>	".....	Hamilton Harbour.....		8,500 00
" 31		T. Marshall.....	".....	".....		1,500 00

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada from April 1, 1916, to March 31, 1917—*Concluded.*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
						\$ cts.
1916.						
Jan. 15.....	Adam Burwash.....	"	Sale of part of lot No. 89-1, Tp. Guigues, Que.	Bridge Over Quinze River	64,500 sq. ft.....	50 00
" 15.....	Jacques de St. Laon.....	"	Release for damages re lots Nos. 13 and 14, Ville Marie, Que.....	Timiskam. Reserv. Dam.		200 00
" 15.....	Alexis Bombardier.....	"	Release for damages re lots Nos. 592 and 593, Ville, Marie, Que.....	"		202 00
" 17.....	J. B. Lacasse.....	"	Release for damages re lot No. 64, Ville Marie, Que.....	"		70 00
Feb. 2.....	The Community General Hosp. etc., of the Sisters of Charity.....	"	Release for damages re lot No. 1, Subdivision of lot No. 24, Ville Marie, Que.....	"		591 00
" 17.....	J. B. Bruneau.....	"	Release for damages re lot No. 47, Tp. of Guigues, Que.....	"		63 12
" 17.....	Remi Filteau.....	"	Release for damages re lot No. 75, Ville Marie, Que.....	"		84 45
" 19.....	Donald McIntosh.....	"	Release for damages re east ½ lot No. 9, 5th Con., Tp. of Buckle, Ont.....	"		50 00
" 23.....	Henri Around.....	"	Release for damages re lot No. 63, Tp. of Guigues, Que.....	"		30 00
Mar. 4.....	Mrs. C. A. Dubé.....	"	Release for damages re lot No. 15, Ville Marie, Que.....	"		591 00
" 20.....	Geoffrey Scott.....	"	Sale of land in north division known as "Block K", Subdivision of Sect. 1, Salt Spring Island, Cowichan District, B.C.....	Wharf.....		1 00

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STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1916.						\$ cts.
Apr. 3	J. S. Bergeron	His Majesty	Lease of 2nd floor in Building St. John St., Quebec, P.Q.	Colonization Office	1 yr. from 1st May, 1916	450 p. ann.
" 5	Joseph Pelletier	"	Lease of two rooms in Building, Edmundston, N.B.	Immigration	1 yr. from 1st March, 1916	144 p. ann.
" 5	The Molsons Bank	"	Lease of 2 stories in Building, Nos. 64 & 66 George St., Ottawa, Ont.	Militia & Defence	1 yr. from 20th Feb., 1916	150 p. month.
" 5	His Majesty	Halifax Civic Improvement League	Permission to use piece of land at Halifax, N.S.	Garden plot	during pleasure.	
" 10	The Two (2) Maes, Ltd.	His Majesty	Lease of 3rd & 4th floors in Stephen's B'ld'g., Queen St., Ottawa, Ont.	Interior Dept.	6 mos. from occupation.	0.06 per foot monthly.
" 10	Russell Blackburn	"	Lease of two rooms in Building No. 209 Sparks St., Ottawa, Ont.	Public Works Dept.	1 yr. from 1st May, 1916	350 p. annum.
" 10	L. J. Robb	"	Lease of three rooms in rear of "Bank Hamilton Building," Salmon Arm, B.C.	Chief Fire Ranger	From 1st March '16 and as long as required.	12 p. month.
" 20	W. J. Boyd	"	Lease of part of 2nd floor in "Boyd B'ld'g", Winnipeg, Man.	Railway Commission	1 yr. from 1st June, 1916	1,270 p. ann.
" 26	The Imperial Canadian Trust Co.	"	Lease of suite No. 414 in Building, Saskatoon, Sask.	Railway-Mail Service	1 yr. from occupation.	249 p. annum.
" 28	J. O. Groux	"	Lease of room on lot No. 1 at Grouard, Alta.	Immigration	12 mos. from 1st June, 1916	25 p. month.
May 2	La Banque Nationale	"	Lease of sixth floor in Building, Rideau St., Ottawa, Ont.	Translators	3 yrs. from occupation.	2,116.20 p. ann.
" 5	W. Huevale & S. T. Estey Hooper	"	Lease of office No. 306, Medicine Hat, Alta.	Immigration	1 yr. from 1st June, 1916	28 p. month.
" 12	T. C. Rice	"	Lease of Building on Main Road at Weymouth, N.S.	Post Office	1 yr. from 1st June, 1916	200 p. annum.
" 15	Y.M.C.A.	"	Lease of 2nd floor in "Y.M.C.A." Building, North Sydney, N.S.	Engineers	1 yr. from 1st May, 1916	600 p. annum, renewable.
" 18	A. L. Foster	"	Lease of premises No. 126 Queen St., Ottawa, Ont.	Interior Department	6 mos. from 1st May, 1916	75 p. month.
" 19	La Cie d'Imprimerie et de Publite de Trois-Rivieres	"	Lease of room in Building No. 111 Bonaventure St., Three Rivers, Que.	Public Works Dept.	1 yr. from 1st May, 1916	240 p. annum.
June 2	Railways & Canals Dept.	Pub. Wks. Dept.	Lease of parcel of land being lot No. 1, Tignish, P.E.I.	Post Office	From 1st May, 1916	1 p. annum.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.—Continued.

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1916.						\$ etc.
June 2	O'Connor Bros.	His Majesty	Lease of 1,377 sq. ft. and vault in Building, Huntingdon, Que.	Post Office.	5 yrs. from 1st. April, 1916.	900 p. annum.
" 15	The Hamilton Bridge Works, Co., Ltd.	"	Lease of parcel of land at Hamilton, Ont.	Storage of materials.	During pleasure.	1 p. annum.
" 15	Bank of Toronto.	"	Lease of room No. 26 in Building at London, Ont.	Business profit war taxes.	1 yr. from June 16th, 1916.	16.66 p. month
" 20	The Canadian City Town Properties of Saskatoon.	"	Lease of 2,000 sq. ft. on ground floor of "York Building", Saskatoon, Sask.	Examining Warehouse.	1 yr. from 5th June, 1916.	\$40 p. annum.
" 22	The Bell Telephone Co. of Canada, Ltd.	"	Agreement re connection and use of Government & Company's line at Berthier en Haut, Ile au Castor, Ile du Pas, Ile St. Imace, Que.		During 3 yrs. from June 22, 1916.	20 p. annum.
" 26	Odilon Clieche.	"	Lease of part of building on Main St., St. Joseph de Beauce, Que.	Post Office.	5 yrs. from Oct. 5th, 1916.	350 p. annum.
July 3	A. J. Major.	"	Lease of Building No. 18 York St., Ottawa, Ont.	Distribution Branch, P.T. & Bureau.	5 yrs. from Oct. 6, 1915 p. ann.	
" 4	T. H. H. Fortier.	"	Lease of two rooms and ground floor in Building on 2nd St., Annapolis Royal, N.S.	Immigration.	1 yr. from 1st. 180 p. annum.	
" 5	Mrs. L. A. Osmont.	"	Lease of 2nd floor of building on Main St., Antigonish, Sask.	Forestry Branch.	1 yr. from 1st. 43 p. month.	
" 19	His Majesty	The Economy Sales Co.	Lease of building No. 69 Victoria St., Toronto Ont.	Railway Mail Service.	2 yrs. from 30th. 900 p. annum.	
" 27	The Imperial Canadian Trust Co.	His Majesty	Lease of suites Nos. 412 & 415, Saskatoon, Sask.		1 yr. from 1st. 631.20 p. ann.	
" 28	Sam. Nesbitt.	"	Lease of part of "Stanley Block", Brighton, Ont.	Post Office.	4 yrs from Oct. 100 p. annum.	
Aug. 1	Dem. Bridges Co., Ltd.	"	Lease of part of south 1/2 of lot 5, Eastview, Ont.	For storing materials.	During pleasure.	1 p. annum.
" 1	Robert Simpson Co., Ltd.	"	Lease of 1,600 sq. ft. on ground floor of Building at Regina, Sask.	Post Office.	From yr. to yr. 1st July, 1916.	1 per annum.
" 2	David Johnson.	"	Lease of two rooms in building corner King & Water Sts., St. Stephen, N.B.	Immigration.	3 yrs. from 13th. 150 p. annum.	
" 2	Alex. Mullin.	"	Lease of ground floor and basement of building at Toronto, Ont.	Postal Stn. "E"	1 yr. from 1st. Aug., 1916.	1.440 p. annum.
" 4	His Majesty	The Bell Telephone Co. of Canada, Ltd.	Permission to carry cable over Catarqui River between Kingston & Barricfield, Ont. and to lay and maintain submarine cables at Basecule Bridge.		During pleasure.	.56 p. annum.

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Aug. 7	Dennis Realty Corporation, Ltd.	His Majesty	Lease of part of 6th floor in "Dennis B'ld'g", Halifax, N.S.	Militia & Defence	From occupation to 1st Oct., 1918.
" 19	B. E. Rothwell	"	Lease of room in b'ld'g. at Swan River, Man. Halifax, N.S.	Immigration	12 mos. from 6th 15 p. month. Sept., 1916.
" 21	Eastern Trust Company	"	Lease of 216 sq. ft. in "McCurdy Building", Halifax, N.S.	Fisheries Inspector	1 yr. from 1st. 150 p. annum.
" 28	A. Belanger, Ltd.	"	Lease of building at Montmagny, Que.	Storing machines, etc.	2 yrs. from 1st. 50 p. annum.
" 30	Mrs. Clara Kercheffer	"	Lease of room in building at Brandon, Man.	Examining Warehouse	1 yr. from Oct. 1, 800 p. ann. renewable.
" 30	The Bank of Toronto	"	Lease of four rooms in building cor. King & Brock Sts., Kingston, Ont.	Engineers	6 mos. from 1st. 180 whole.
Sept. 2	His Majesty	The New Brunswick Telephone Co. of St. John, N.B.	Permission to attach Company's wires along International Bridge over River St. John Buren, U.S.A.	During pleasure.	1 compensation.
" 7	S. E. Levey	"	Lease of parcel of land at Cardinal, Ont.	Post Office	From 21st. Nov. 25 p. month. 1916, until bought by his Majesty.
" 7	W. G. McMyn	"	Lease of part of lot No. 498, Christian Creek, B.C.	Fish screen	1 yr. and there- after from yr.
" 8	Sydney Post Publishing Co., Ltd.	"	Lease of rooms Nos. 3 & 4a in "Post B'ld'g", Sydney, N.S.	Fisheries Inspector	1 yr. from 1st. 360 p. annum.
" 9	Imperial Realty Co., Ltd.	"	Lease of premises Nos. 12, 14, 26 & 28 Slatar St., and 64 & 66 Queen St., Ottawa, Ont.	Dom. Govt. Offices	2 yrs. from 1st. 88,711.84 p. an.
" 12	Union Bank of Canada	"	Lease of premises 801 & 803, Winnipeg, Man.	Inspector of war profits taxes	1 yr. from 1st. 675 p. annum.
" 18	Wilson Bros.	"	Lease of premises at Saskatoon, Sask.	Dom. Lands Office	1 yr. from 1st. 300 p. month.
" 19	The Merchants Bank of Canada	"	Lease of two upper floors and part of ground floor and basement in building cor. Sparks & O'Connor Sts., Ottawa, Ont.	Trade & Commerce	5 yrs. from 15th. 0.80 p. sq. ft. July, 1916.
" 21	Ottawa Terminals Railway Company.	"	Lease of 2nd, 3rd & 4th floors in Central Station, Ottawa, Ont.	Railway Commission	5 yrs. from 1st. 19,500 p. ann.
" 22	W. M. Birks, J. H. Birks & G. W. Birks.	"	Lease of five upper floors and part of basement in "Birks Building, Ottawa, Ont.	Government Offices	5 yrs. from 1st. 17,000 p. ann.
" 26	His Majesty	Can. Pac. Rail.	Lease of part of Beacon Bar Flats, St. John, N.B.	Public Works Dept.	From 29th Sept. 1 per annum, 1916 to 30th. June, 1917.
" 27	W. M. Birks, J. H. Birks & G. W. Birks.	His Majesty	Lease of rooms Nos. 614, 615, 616, 617 & 618 in "Birks Building", Vancouver, B.C.	Public Works Dept.	1 yr. from 1st. 900 p. annum. from year to Sched. of rates
" 28	His Majesty	The Bell Telephone Co. of Can., Ltd.	Agreement for interchange of business between Crane Island and Montmagny, Que., exchange.	Public Works Dept.	Dec., 1916.
" 30	W. M. Birks, J. H. Birks & G. W. Birks	His Majesty	Lease of room and vault on 1st floor of "Birks Building", Ottawa, Ont.	Royal. Can. Engrs.	1 yr. from Oct. 343.14 p. ann. cupation.
Oct. 6	Thomas Culbert	"	Lease of part of "Culbert Block", Merrickville, Ont.	Post Office	1 yr. from Oct. 300 p. annum. renewable.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.—Continued.

Date of Lease.	Lessor.	Lessee.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1916.						\$ cts.
Oct. 10	C. B. McAllister.	His Majesty	Lease of building at High Prairie, Alta.	Dom. Lands Office.	5 yrs. from occupation.	6c-720 p. annum.
" 11	H. D. Johnston	"	Lease of building at Edmonton, Alta.	Examining Warehouse.	3 yrs. from 14th. Aug., 1916.	4,200 p. annum
" 16	R. L. & R. Blackburn.	"	Lease room No. 414, Union Bank Building, Sparks St., Ottawa, Ont.	Government Office.	1 yr. from 9th. Nov., 1916.	371 p. annum.
" 18	Fraser McRobert's Co., Ltd.	"	Lease of two rooms in building at Fincher Creek, Alta.	Forestry Branch.	From 1st Sept., 1916.	30 p. month.
" 19	Rossin House Company.	"	Lease of premises No. 121 King St., West Toronto, Ont.	Postal Station "B"	2 yrs. from 8th. Aug., 1916.	1,800 p. ann.
" 19	Imp. Can. Trust Co.	"	Lease of suite No. 212 in building at Saskatoon, Sask.	Inland Revenue.	1 yr. from 1st. Nov., 1916.	480 p. annum.
" 19	J. H. Cameron & A. M. Johnstone.	"	Lease of two rooms in building at Saskatoon, Sask.	Imp. of Weights & Measure.	1 yr. from 11th. Nov., 1916.	60 p. month.
" 20	His Majesty.	Mauricie Dion.	Lease of 1,630 sq. ft. of lot No. 381 at Lewis, Que.	Priv. enterprise.	During pleasure.	2 p. month.
" 24	C. J. Swales.	His Majesty	Lease of premises at Hamilton, Ont.	Postal Station "B"	3 yrs. from 1st. Nov., 1916.	1,200 p. annum
" 31	His Majesty.	W. T. Dawley.	Lease of lot No. 1, Block 4, Nootka Dist., B.C.	Private enterprise.	During pleasure.	1 p. annum.
Nov. 8	The Canada Life Assurance Co.	His Majesty	Lease of rooms Nos. 42, 43, 44, 51 & 52 in Co's. bldg., Ottawa, Ont.	National Service Board.	From 8th. Nov. 1916 and from month to mo. From 31st. Mar. 1916 to 1st. Sept., 1916.	97.05 p. month
" 13	Dr. T. H. Blow.	"	Lease of offices on 1st & 2nd floors of "Blow Bldg.," Calgary, Alta.	Irrigation office.	From 1st. Nov. 1916 to 30th. April, 1917.	489.40 p. mont
" 14	W. H. Martin & Co.	His Majesty	Lease of basement in building, Wellington St., Ottawa, Ont.	Militia & Defence.	1 yr. from 4th. Dec., 1916.	900 p. annum.
" 16	Hood Bros.	"	Lease of office in building, Vancouver, B.C.	Inspector of Fisheries.	From 1st. Nov. 1916 to 30th. April, 1917.	22 p. month.
" 21	Sir Redmond P. Roblin.	"	Lease of premises No. 103 Osborne St., Winnipeg, Man.	Postal Station "C"	1 yr. from 1st. Feb., 1917.	1,500 p. ann.
" 21	C. Thompson.	"	Lease of ground floor of building, Saskatoon, Sask.	Customs Department.	1 yr. from 12th. Dec., 1916.	350 p. month.
" 24	T. Y. Newton.	"	Lease of 2nd floor of building on lot No. 6, Roblin, Minn.	Supervisor of Riding Mount Reserve.	1 yr. from 1st. Dec., 1916.	27.50 p. month

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" 25.	A. J. C. McDermott.....	Lease of building, Victoria, B.C.....	Examining Warehouse.....	3 yrs. from 1st, 300 p. month. Jan., 1917.
" 27.	Can. Bank of Commerce.....	Lease of three rooms in Bank Building, Revelstoke, B.C.....	Chief fire Ranger.....	1 yr. from 16th, 40 p. month. Dec., 1916.
" 27.	Edouard Desormeaux.....	Lease of addition to top flats, No. 109 Rivaleau St., Ottawa, Ont.....	Militia & Defence.....	From 1st, Dec., 66.66 p. month 1916 to 20th, Feb., 1917.
Dec. 5.	Bank of Hochelagn.....	Lease of ground floor in building No. 1128 Mount Royal Ave. East, Montreal, Que.....	Postal Station.....	From 1st, Nov., 70 p. month. 1916 and from Month to Mo.
" 6.	K. A. McLeod.....	Lease of premises at Edmonton, Alta.....	National Service.....	50 p. month. 1 yr. from 1st, 60 p. month.
" 13.	Can. Bank of Commerce.....	Lease of premises at Revelstoke, B.C.....	Interior Department.....	Feb., 1917.
" 19.	Dr. T. H. Blow.....	Lease of ground floor of "Blow Building", Calgary, Alta.....	Dominion Lands Office.....	From 1st, May, 5,077.90 p. ann 1916 to 1st,
" 19.	Dr. T. H. Blow.....	Lease of part of 1st & 2nd floors and parts of ground floor in "Blow Building, Calgary, Alta.....	Irrigation Office.....	Sept., 1919.
" 26.	J. O. Patterson.....	Lease of premises at Grande Prairie, Alta.....	Immigration.....	3 yrs. from 1st, 6,157.75 p. ann. Sept., 1916.
1917.				
Jan. 1.	Robt. Kerr.....	Lease of office in "Kerr Building at Le Pas, Man.....	Int. Dept.....	1 yr. from 1st, 65 p. month. Jan., 1917.
" 3.	J. L. Hopwood & W. J. Hopwood.....	Lease of three rooms in building at Peterboro, Ont.....	Weights & Measures.....	1 yr. from 1st, 200 p. annum. Jan., 1917.
" 9.	Foley Bros., Stew- art & Fau- quier. His Majesty.....	Permission to take away sand and gravel at MacNab's Island, N.S.....		During pleasure, 0.5 p. e. yd.
" 12.	The School District of Virden.....	Lease of building at Virden, Man.....	Immigration.....	1 yr. from 15th, 250 p. annum. March, 1917.
" 13.	La Banque Nationale.....	Lease of 5th floor in Bank Building, Ottawa, Ont.....	Nat. Serv.....	From 25th Dec., 175 p. month. 1916 to 25th, Mar., 1917.
" 15.	J. H. Lavallee.....	Lease of part of Building, St. Felix de Valois, Que.....	Post Office.....	1 yr. from 1st, 125 p. annum. Jan., 1917.
" 15.	The City of Moose Jaw.....	Lease of lots Nos. 28 & 29, Moose Jaw, Sask.....	Immigration.....	1 yr. from 15th, 100 p. annum. Apr., 1917.
" 19.	Russell Blackburn.....	Lease of four rooms in Building cor. Sparks & Bank Sts., Ottawa, Ont.....	Pub. Works Department.....	1 yr. from 1st, 350 p. annum. May, 1917.
" 25.	Canadian City & Town Properties of Saskatoon, Sask.....	Lease of ground floor of building at Saskatoon Sask.....	Examining Warehouse.....	1 yr. from 5th, 1,200 p. ann. June, 1917.
" 26.	Jos. Pelletier.....	Lease of two rooms in building at Edmonds- ton, N.B.....	Immigration.....	1 yr. from 1st, 144 p. annum. Mar., 1917.
" 26.	Quebec Buildings, Ltd.....	Lease of five rooms in "Quebec Bank Build- ing", Ottawa, Ont.....	Railway's & Canals.....	1 yr. from 1st, 1,200 p. ann. May, 1917.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada from April 1, 1916, to March 31, 1917.—*Concluded.*

Date of Lease.	Lessor.	Lessee.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1917.						\$ cts.
Jan. 29.....	Hope Realty Ltd.....	His Majesty.....	Lease of part of building, corner Sparks and Elgin Sts., Ottawa, Ont.	Chief Censor.....	1 yr. from occupation and from month to month.	750 p. annum.
" 29.....	J. E. Annable.....	"	Lease of four rooms in building, Nelson, B.C.	Dist. Engr. P. W. Dept.....	1 yr. from 13th, 50 p. month. Apr., 1917.	
" 29.....	His Majesty.....	St. Maurice River Boom & Driving Co., Ltd.	Lease of Government property from Grandes Piles to Three Rivers (St. Maurice), Que.	Private enterprise.....	3 yrs. from 1st. Feb., 1917.	1 p. annum.
" 31.....	E. R. McNeil & R. Stewart.	His Majesty.....	Lease of 1st. floor in building No. 202, Queen St., Ottawa, Ont.	Auditor General.....	From 1st. June, 1916 to 15th. July, 1917.	1,018.80 whole period.
Feb. 5.....	Catharine Mathewson.....	"	Lease of front room in building at Kingston, Ont.	Immigration.....	1 yr. from 1st. June, 1917.	180 p. annum.
" 5.....	Margaret White.....	"	Lease of three rooms, vault and vestibule in Building St. Louis St., Quebec, Que.	Archives.....	1 yr. from 30th, 33 p. month. Apr., 1917.	
" 5.....	A. McAllister.....	"	Lease of building at Brownsburg, Que.....	Post Office.....	From month to month from 1st. Jan., 1917.	100 p. annum.
" 9.....	J. S. Bergeron.....	His Majesty.....	Lease of 2nd floor of Building, St. John St., Quebec, Que.	Colonization.....	1 yr. from 1st. May, 1917.	500 p. annum.
" 9.....	J. S. Bergeron.....	"	Lease of part of building, St. John St., Quebec, Que.	Pub. Wks. Department.....	1 yr. from 1st. May, 1917.	325 p. annum.
" 19.....	W. J. Boyd.....	"	Lease of room No. 406 in "Boyd Building", Winnipeg, Man.	Archives.....	1 yr. from 31st. Mar., 1917.	45 p. month.
" 23.....	Corporation du Village de Ste Rose.	"	Lease of west $\frac{1}{2}$ of building, Ste Rose, Que.....	Post Office.....	5 yrs. from 1st. May, 1917.	200 p. annum.
" 26.....	Odile Lavoie.....	"	Lease of part of building, Maisonneuve, Que.	"	1 yr. from 1st. May, 1917.	600 p. annum.
" 27.....	Edward Desormeaux.....	"	Lease of two top flats in building No. 109, Rideau St., Ottawa, Ont.	Militia & Defence.....	1 yr. from 20th. Feb., 1917.	(renewable) 1,677 p. ann.
Mar. 1.....	E. D. McAvoy.....	"	Lease of premises at "Hudson Bay Act.", Sask.	Supervisor of Forest Reserve.	From month to month from 30th June, 1916.	12 p. month.
" 3.....	J. O. Giroux.....	"	Lease of room in building at Grouard, Alta.....	Immigration.....	1 yr. from 1st. June, 1917.	25 p. month.

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" 6	Estate of late Dr. J. Wal-ker.	"	Lease of premises at Halifax, N.S.	Custs. Express Warehouse	2 yrs. from 30th. Apr., 1917.	1,200 p. annum
" 7	A. L'Heureux & J. B. Loban.	"	Lease of premises at St. Tito, Que.	Post Office	5 yrs. from 1st. Jan., 1917.	300 p. annum.
" 8	The Ottawa Wine Vault Co., Ltd.	"	Lease of premises Nos. 35 & 37, George St., Ottawa, Ont.	Militia & Defence	3 yrs. from oc- cupation,	8,130 p. ann., (renewable.)
" 8	L. H. Gaudry	"	Lease of three offices in building, St. Peter St., Quebec, Que.	Busin. Prof. and War Tax	1 yr. from 1st. May, 1917.	300 p. annum.
" 9	Rideau Club.	"	Lease of part of ground floor in building, Wellington St., Ottawa, Ont.	Rural Mail Delivery	5 yrs. from 1st. May, 1917.	1,800 p. ann.
" 15	Mrs. H. B. Boulay.	"	Lease of premises at Sayabec Stn., Que.	Post Office	5 yrs. from 15th. Mar., 1917.	200 p. annum.
" 22	The Ashbury College, Ltd	"	Lease of building No. 140 Argyle Ave., Ottawa, Ont.	House of Commons Restaurant	1 yr. from 1st. Mar., 1917.	2,000 p. ann.
" 22	W. J. Boyd.	"	Lease of part of 2nd floor in "Boyd Building", Winnipeg, Man.	Railway Commission	1 yr. from 1st. June, 1917.	1,270 p. ann.
" 28	R. L. & R. Blackburn.	"	Lease of parts of 1st and 9th floors in "Bank Building", Ottawa, Ont.	Board of Pens. Commis.	From date of oc- cupation to 31st. Dec. 1919.	3,652.75 p. ann.
" 28	R. L. & R. Blackburn.	"	Lease of 6 floors in "Union Bank Building", Ottawa, Ont.	Government purposes	3 yrs. from 6th. Jan., 1917.	13,000 p. ann.
" 28	R. L. & R. Blackburn.	"	Lease of parts of 7th, 8th and 9th floors in "Union Bank Building", Ottawa, Ont.	Board of Pens. Commis.	3 yrs. from 1st. Jan., 1917.	11,555.20 p. an
" 30	R. L. Moisan.	"	Lease of premises at St. George East, Beauce, Que.	Post Office	5 yrs. from 1st. Sept., 1917.	300 p. annum.

The following item had been received too late for insertion in last year's annual report (1915-1916).

1881.						
July 13	His Majesty	Quebec Harbour Commissioner	Lease of land in Town of Levis, Que.		99 years from 1 p. annum.	1878.

THE NATIONAL GALLERY OF CANADA.

Owing to the closing of the premises of the National Gallery in February, 1916, as a result of the destruction of the Parliament buildings by fire and the taking over of the Victoria museum for the Houses of Parliament, the work of the National Gallery during the past year has necessarily been concentrated upon the increase and development of its policy of loan exhibitions, and of utilizing as far as possible the possessions of the National Gallery for the furtherance of artistic knowledge throughout the Dominion.

The grant of twenty-five thousand dollars (25,000) enabled a considerable number of Canadian, as well as a very few foreign works of art to be purchased.

The following regular annual loans of works of art were sent out during the year: Moosejaw, 21 pictures; Winnipeg, 24 pictures; Halifax, 27 pictures.

A special exhibition of six pictures was sent to the Edmonton art Exhibition, November, 1916.

An exhibition of twelve pictures was held at the summer agricultural and industrial fairs at Regina and Saskatoon, July, 1916.

A special exhibition of fifty modern paintings was lent to the art association of Montreal, January and February, 1917.

Special exhibitions were lent to the art museum of Toronto, consisting of sixty-five drawings, October and November, 1916, and fifty lithographs, February and March, 1917.

A number of coloured prints of the world's most famous pictures, known as Medici prints, belonging to the National Gallery, were lent to the Ottawa public schools and to the Carnegie library.

The National Gallery annual travelling scholarship of one thousand dollars (\$1,000) was judged for the third successive year by the Council of the Royal Canadian Academy of Arts, and was awarded, with the trustees' concurrence, to Mr. E. R. Glen, 718 Colborne street, London, Ont.

The trustees met formerly on five occasions, and the following works of art were acquired by gift or purchase:—

GIFTS.

An unusual and important gift to the National Gallery was that of an extensive and representative series of the works of the late Elizabeth Adela Stanhope Forbes, the wife of Stanhope Forbes, R.A., who was born Elizabeth Armstrong at Kingston, Ont. The trustees approached Mr. Forbes with a view of securing a better representation of the work of one of the most widely known of Canadian born artists. Mr. Forbes' response was most generous. An important oil painting "When Daffodils Begin to Peer" was purchased by the trustees and according to the wishes of Mr. Forbes and his son Alec., then a lieutenant in the Duke of Cornwall's Light Infantry, the purchase price of the picture was divided equally between the Canadian Red Cross Society and the Young Men's Christian Association war work in memory of Mrs. Forbes. In addition to this Mr. Forbes presented the National Gallery with five water colours, three charcoal drawings, and thirteen etchings, so that now Mrs. Forbes' work is thoroughly well represented in the National Gallery of her native country.

Barrett, W. P.	8 book plates.	Presented by Sir Edmund Walker.
Manly, C. M., A.R.C.A.	Lithograph "Pierette."	Presented by C. M. Manly.
Nichols, Juliette S.	Wood block "Fete Day."	Presented by Juliette S. Nichols.

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DIPLOMA PICTURE.

Aurèle de Foy Suzor-Côté, R.C.A. . . . "A Corner of my Village Arthabaska."

PURCHASES.

Oil Paintings—

Harris, Lawren S.	Snow II.
MacDonald, Manly	The Barn, Winter.
Thomson, Thomas	Spring Ice.
Johnstone, John Young	Bonsecours Market.
Woodcock, P. F., R.C.A.	An Ontario Farm.
Macdonald, J. E. H., A.R.C.A.	March Evening, Northland.
Cutts, W. M., A.R.C.A.	Britain's Domain.
Brownell, Franklin, R.C.A.	Golden Age.
Moir, Gerald	A July Day.
Fisher, Mark, A.R.A.	Sheep Shearing in a Barn.
Forbes, Elizabeth A. S., A.R.W.S.	When Daffodils Begin to Peer.
Bell-Smith, F. M., R.C.A.	St. Mary's le Strand.
Clapp, W. H., A.R.C.A.	The Three Bathers.
Franchère, J. C., A.R.C.A.	Sylphide.
Gagnon, C. A., A.R.C.A.	The Wayside Cross, Autumn.
Leduc, O.	Neige Dorée.
Lismer, Arthur	A Westerly Gale, Georgian Bay.
May, H. Mabel, A.R.C.A.	Boats on St. Lawrence.
Palmer, H. S., A.R.C.A.	On the Hillside.
Reid, Lorna F.	The Wind Flower.
Rosaire, Arthur D., A.R.C.A.	The Play Hour.
Russell, G. Horne, A.R.C.A.	Seal Cove, Grand Manan.
Edson, A. Allan, R.C.A.	Mounts Orford and Owl's Head from Lake Memphremagog.

Drawings, Prints—

Caron, Paul	Infant.
Léger, J. A.	Le Matin et le Soir de la Vie.
Raine, Herbert	Bonsecours Market, 1915.
" " " " " " " "	Old Courtyard, St. Vincent St., Montreal.
" " " " " " " "	The Fisher Folk at Kamouraska.
Cotton, J. W.	Drowsy Summertime.
Fawcette, George	St. Boniface Cathedral.
Jopling, F. W.	In a Toronto Shipbuilding Yard.
Neilson, H. Ivan	Timber Ship, Quebec.
" " " " " " " "	The Centre Span, Quebec Bridge.
" " " " " " " "	French Canadian Village.
" " " " " " " "	Les Eboulements from L'Islet.
" " " " " " " "	Quebec Harbour.
Phillips, W. J.	The Lake.
" " " " " " " "	The Red River at Selkirk.
" " " " " " " "	The Red River at Winnipeg.
Russell, Gyrth	The Rother at Rye.
" " " " " " " "	La Havre Globe Trotters.
Simpson, Chas. W.	An Oratory Notre Dame.
Sutherland, F. W.	Turkish Bazaar.
" " " " " " " "	Birds.
Brymner, Wm., P.R.C.A.	A Street in Paris.
Armington, Frank M.	Thames from Waterloo Bridge.
Carot, J. B. C.	Souvenir d'Italie.
Goya	Bull Fighting.
Shannon, Charles H.	Three Women's Heads.
" " " " " " " "	Nude Study.
" " " " " " " "	Stone Bath.
Rothenstein, William	Charles H. Shannon.
" " " " " " " "	Aubrey Beardsley.
" " " " " " " "	Max Beerbohm.
Sternner, Albert	The Blind.
" " " " " " " "	Seated Dancer.
" " " " " " " "	Amour Mort.
Zorn, Anders	The Hair Ribbon.
" " " " " " " "	The Swan.
" " " " " " " "	Gulli.
" " " " " " " "	Grover Cleveland.
" " " " " " " "	The Ford.
Grillon, René	Puento Real, Valencia.
" " " " " " " "	My Mother.
" " " " " " " "	Lake Nymphs.
Chavannes, Puvis De	Work.
John, Augustus	Nude on Pedestal
May, Phil	Convict.
Baer, Herbert M.	Yellow Macaw.

Drawing Prints—Continued.

Bartlett, Chas. W.	Agra.
Baumann, Gustave	Martins are back.
Colwell, Elizabeth	The Lake in Winter.
Dow, Arthur Wesley	The Gap.
Gardiner, Eliza D.	Picking Popples.
Gilmore, Ada	Rag Rugs.
Hopkins, Edna Boles	Fuschia.
Ivins, Florence Wyman	The Swan.
" " "	The Dream of the Rose.
Mars, Ethel	The Balcony.
McMillen, Mildred	The Merry-go-round.
Nichols, Juliette S.	Fete Day.
Nordfeldt, B. J. O.	The Harbour.
Patterson, Margaret	The Swan.
Ruzicka, Rudolph	Peck Slip.
" " "	New York.
" " "	Tatjana.
Brown, Arnesby, R.A.	Great Yarmouth.
" " "	The River Edge.
" " "	In the Marshes.
" " "	On the Hill.
" " "	Evening.
" " "	A Gleamy Day.
" " "	Uplands.
Gavarni	50 lithographs.
Patterson, Mrs.	The Archway, Winchelsea.
Hopfer, Hieronymous	The Emperor Charles V.
Durer	Christ on the Mount of Olives.
Van Ostade	The School.
Goltzius, Hendrick	Jesus Christ led before Pilate.
" " "	The Jews seizing Jesus.
" " "	The Scourging.
Virgil, Solis	The Seven Planets.
Burkmaier, Hans	Weiss Kunig.
Mellan, Claude	The Sudarium of Veronica.
Drevet	Louis XV.
Whistler, James McNeill	Hungerford Bridge.
Fantin-Latour	Lithograph.
Cole, Ernest	Heads of Children.
" " "	Studies of an Athlete.
Levitt, Joel J.	Head.
Coburn, F. W.	Winter.

Pastels—

De Belle, Charles	The Last Flowers.
Rothenstein	The Praying Jews.

Water Colours—

Jefferys, Chas. W., A.R.C.A.	Willow Creek, August.
Ward, Dudley	Fairy Sleep.
Kilpin, L. M.	A Good One.
Staples, Owen	Brink of the Horse Shoe Falls.
" " "	The Coming Shower.
" " "	Morning.
" " "	Tomato Gathering.
" " "	Nocturne.
Donly, Eva Brooke	Elba Beach, Bermuda.
" " "	Bluffs and Beach, Turkey Point.
Howard, A. H., R.C.A.	Garden Scene.
" " "	Scarlet Poppies.
" " "	Hedgerow, Flowers.
" " "	Landscape, River Foreground.
" " "	The Wish.
" " "	The Lesser Grief.
Brown, Arnesby, R.A.	A Grey Day.
Ford, Harriet	The Market Square, Segovia.

Sculpture—

Laliberté, A., A.R.C.A.	La Muse.
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