

MG 475 - George Johnson papers

MSS 32

Dates: 1837 - 1911

Extent: .24 m of textual records

Arrangement:

- I. Memos for the Minister of Agriculture
- II. Administrative Expenditures, Finances, and Taxes
- III. Statistical Data on the average prices of goods on the Canadian Markets, 1876 91.
- IV. Statistical Data on the imports and exports of Canada, 1854-1903.
- V. Reports on Trade and Protection.
- VI. Statistical material and correspondence on the coal and iron industries of Canada.
- VII. Reports on the Wood Pulp Industry of Canada.
- VIII. Statistical Material and Correspondence on Shipping and Transportation.
- IX. Statistical Data on Farming Output.
- X. Reports on Canadian Railway lines and the Commercial Depression of 1892 94.
- XI. Census of British Columbia.
- XII. Census of Eastern Townships and Correspondence
- XIII. Indian population in the Yukon District, N.W .T.
- XIV. Reports on the Relation between Canada and the United States.
- XV. Statistical Reports on the French-Canadians.
- XVI. Miscellaneous Collection of Statistical Reports and Correspondence.

Custodial History note: Acquired as a part of the Morton Manuscript collection, a collection of papers relating to the history of Canada acquired to be a part of the Special Collections. Given an archival number when the U of S Special Collections and Archives merged.

Restrictions: There are no restrictions on access.

Original finding aid by Glen Makahonuk, May 1978. Edited for formatting by Amy Putnam, 2018.

- I. Memos for the Minister of Agriculture.
 - 1. Special memo for the Minister of Agriculture from G. Johnson, Dec. 22, 1893 regarding estimates of the cost of compiling agricultural, commercial and criminal statistics .(3 typed pages).
 - 2. Memo for the Minister of Agriculture from G. Johnson, Statistician, Dec. 22, 1893 pertains to the collection and compilation of labour statistics under an Act which Parliament passed to provide for the collection and publishing of Labour Statistics, in 1890, Chapter 15. The memo also provides information on the Labour Party's and organized labour's views of this Act. (13 typed pages).
 - 3. Memo for the Minister of Agriculture from G. Johnson, Dec. 16, 1892 regarding the consolidation of all statistics on crime, trade, agriculture, labour, external commerce, interprovincial trade, census, banking and railway under one Government body or agency.
 - 4. Memo for the Minister of Agriculture from G. Johnson, June 16, 1893 regarding the need for accurate and reliable Agricultural and Labour Statistics. Also the Acts which give the Minister of Agriculture the Authority to compile all statistics.
 - 4a. re The consolidation of the branches of statistics into the following divisions:
 - a) The Commercial Division
 - b) The Trade Division
 - c) The Transportation Division
 - d) The Agricultural Division
 - e) The Labour Statistics Division
 - f) The Mining Manufacturing Division
 - g) The Vital Statistics Division
 - h) The Criminal Division
 - j) The General Manufacture's Division
 - k) The Census Division
 - 5. Memo for the Minister of Agriculture "B" from G. Johnson, June 21, 1892 regarding How the Agricultural returns can be got.
 - 6. Report on Statistics Act by G. Johnson. This report contains copies of the Statistics Acts; an extract from Hansard pertaining to a study and discussion of an Act to provide for the collection and publishing of Labour Statistics (Sept 27, 1890); and Appendix A: Schedule for Census of: Manufactures, Capital Invested, Stock or Raw Materials used, Goods Manufactured or Work done, Working-time, Salaries, Wages paid in general,

relation of wages to cost of production, wages paid in detail, motive power, size and value of establishment.

- II. Administrative Expenditures, Finances, and Taxes.
 - 1. The Superannuation powers granted to the Government by the Civil Service Superannuation Act of 1870. The report is a comparison of the expenditures made by the Liberals and Conservatives while they were in power in their respective periods between 1870 and 1890. (2 copies of the 3 page report).
 - 2. The Cost of Collecting Taxes under the respective administrations of the Conservatives and Liberals between 1870 and 1890.
 - 3. Evidence before the Board of Valuation concerning the subject of taxation. n.d. (6 typed pages)
 - 4. A fifteen years record of the Conservative Government with regard to the consolidated fund. 1880 1995 (1 page). A five years record of the reform Government (Liberals) with regard to the consolidated fund (1 page)
 - 5. Extracts from Hansard 1876, re debates on the appointment of a select committee "to enquire into the causes of the present financial depression". (4 typed pages)
 - 6. A comparison of the increase of the Public Debt added by the Conservative Administration and the Liberal Administration in their respective periods between 1867 and 1895. (2 typed pages)
 - 7. Information for the Electors. A report on public expenditure pertaining to the classes of expenditure, the changes on debt, the subsidies to provinces, and the collection of revenue during the period 1873 to 1895. (11 typed pages).
- III. Statistical Data on the average prices of goods on the Canadian Markets, 1876 1991.
 - 1. The yearly average prices of flour, grain, and provisions on the Canadian Markets (Montreal) 1876 1886 inclusive. (1 page).
 - 2. The monthly and yearly average prices of flour, grain and provisions on the Canadian Markets (Montreal) for the period from·May 1, 1876 to Dec .31, 1886. (12 pages)
 - 3.-13. The files numbered 3 to 13 inclusive contain the average prices of all types of goods, hardwares, drugs, chemicals, foodstuffs, provisions, wines, liquors, clothing, footwear, fuels, building materials etc. in Montreal for the years 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1891.

- IV. Statistical Data on the imports and exports of Canada, 1854 1903.
 - 1. The development of exports of cheese from Canada, 1869 1903 (1 page).
 - 2. Statistical information (Quantity and Price) on the exports of Ginseng from United States, 1892 1 904. (1 page)
 - 3. A certified copy of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor General in Council, on the 2nd November 1894. Re Drawbacks on Imported Goods used in Canadian Manufactured Articles, and Exported.
 - 4. Two tables giving the statistical information (i.e. quantity, value, and duty) of the meat imports of Canada for home consumption for the years 1887, 1888, 1889, 1893, 1894, and 1895.
 - 5. Statement showing the value of articles imported from the United States into the provinces of Ontario, Quebec, Nova Scotia, New Brunswick and Prince Edward Island under the Reciprocity Treaty of 1854, for the years 1855 to 1866 inclusive. Statement showing the value of articles (enumerated in the Reciprocity Treaty of 1854) Exported to the United States from the provinces of Ontario, Quebec, Nova Scotia, New Brunswick and Prince Edward Island after the abrogation of the Treaty from 1867 to 1876 inclusive.

Statement showing the value of articles (enumerated in the Reciprocity Treaty of 1854) Imported from the United States into the Province5 of Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island after the abrogation of the Treaty - from 1867 to 1876 inclusive.

- 6. Five sheets of tables enumerating the articles imported from Great Britain and United States into the provinces of Canada and showing those which are dutiable or free, for the years 1894 to 1905 inclusive.
- 7. A table providing statistical data on the exports of live stock produce of Canada for the years 1877, 1878, 1894 and 1895. A table providing statistical data (i.e. number, value, duty) on the imports of live stock into Canada for home consumption, for the years 1891 - 1895 inclusive.

V. Reports on Trade and Protection

1. "Preferential Trade" re the agitation for preferential trade. This means that members of the British Empire are to give each other tariff and other advantages which they are not to give to other nations. This issue was discussed in the Canadian House of Commons in April 1892, at the second Congress of the Chambers of Commerce of the Empire (London) in June 1892, and at the Ottawa Conference.

- 2. "The Liberal Leaders on Protection" n .d. This report contains the statements, comments and quotations of the following Liberal members in regard to the National Policy:
 - Hon. Wilfred Laurier, Leader of the Opposition, at the Liberal Convention in Ottawa in 1893. Sir Richard Cartwright, former Finance Minister of the Mackenzie administration; Hon. D. Mills, a member of the Liberal Ministry Mr. L. H. Davies, M.P., the Liberal leader for the Maritime Provinces; Mr. W. Paterson, M.P. for Brant, once a protectionist Mr. Charlton, M.P. a former protectionist Mr. McMullen, M.P. Mr. A. H. Gillmor, M.P. M.W. C. Edwards, M.P. Hon. J.W. Longley.
- 3. "Liberal Protection Speeches" This is an extraction from the official report of the debate for a special committee to enquire into the causes of the depression of 1876. Messrs Patterson, Workman, Norris, Young, Charlton and Devlin were involved in the debate in the House of Commons, Feb. 1876. (9 typed pages)
- VI. Statistical Material and Correspondence on the Coal and Iron Industries of Canada.
 - Correspondence between George Johnson, Statistician for the Department of Agriculture, and George H. Drummond of the Canada Iron Furnace Co., April 10, 12, 13, 1897 pertaining to the prices of the various grades of pig iron.
 - 2. Statement of claims for Bounty on Pi g Iron manufactured in the Dominion since 1st July 1883 until 30th June 1895. With accompanying letter dated Oct. 23rd, 1895.
 - Statistical data on the production of pig iron in various countries. Canada, production
 of pig iron, duty and bounties importation of pig iron.
 consumption of pig iron and percentage home made notes, employment in iron
 industry, Canadian and Ontario bounties
 - -Prices of pig iron in Montreal, Canadian, British & U.S., 1875 1896.
 - -Comparative prices of Canadian and U.S. iron, 1888 1896
 - -Prices of pig iron in Philadelphia, 1870 1895.
 - -Prices of pig iron and puddled iron Great Britain, 1875-1896.

Annual production of Pig Iron and duties. United Kingdom, 1740-1895

United States, 1810-1895

German Zollverein, 1834 - 1894

France, 1819-1894.

Austria-Hungary, 1865-1893.

Russia, 1865 - 1894.

Annual production of Pig Iron and duties. Belgium, 1845-1894.

Sweden, 1748-1893.

Spain, 1876-1893.

Italy, 1881-1893.

A tabl e of the Worl d 1 s Producti on of Pig Iron, 1865 - 1894.

A table of the Percentages by Countries of the World's Production of Pig Iron, 1854 - 1894.

- 4. A Report on the Canadian Iron Industry and Its Advantages. The report includes a discussion on iron duties, the manufacturers of articles from iron, and the customs draw backs on exports of agricultural implements. (8 typed pages)
- 5. Tables showing the number of tons of pig iron produced and the rate of bounties and duties in the following countries:

United States, 1867 - 1894. Great Britain, 1740 - 1894. Germany, 1869 - 1894. Belgium, 1867 - 1894. France, 1867 - 1894.

- 6. Correspondence between George Johnson and George H Drummond, June 23, 1900 June 1, 1903, pertaining to the quantity and price of pig iron in Canada, the duty on pig iron imports, the articles that can be made from pig iron, the rate of consumption of iron and steel in Canada, the number of men employed in the iron industry, and information on capital requirements for carrying on smelting furnaces in Canada.
- 7. Report on the coal and iron industries of Canada. The report contains the following items:
 - -The Consumption of Coal: an evidence of Canada's progress, 1879-1894.
 - -The Coal and Iron industries of Canada.
 - -New Iron Industries.
 - -Iron Duties in the United States and Canada.
 - -A table showing the production of Coal in Nova Scotia and British Columbia, 1874 -1894.
 - -The total production of iron ore in Canada, 1891 1895.
 - -A table showing the production of Coal, Iron Ore, Pig Iron, and steel in Great Britain, United States, Germany, France and Belgium.
 - -A table showing the market for iron in Canada.
 - -Quotations and comments of Liberal members arguing that the Liberal Party is opposed to the Protection of Iron, Coal and other industries in Canada.
- VII. Reports on the Wood Pulp Industry of Canada.
 - 1. A report on "Pulp Wood and Wood Pulp in Canada" by George Johnson. This report gives a brief history of the discovery and manufacture of paper, the products that can be made from Wood pulp, the production of wood pulp in Canada, and statistical tables on the number of pulp mills, capital invested, employees, output, and the horse power provided by various power stations on various rivers. (28 typed pages)

- 2. "The Wood Pulp Industry". This report contains a great deal of statistical information on the Canadian Pulp factories (i.e. the number of factories, capital invested, number employed, wages, raw material, and product), the Canadian Eports of pulp wood (1890 1896), the consumption of pulp wood, the imports of wood pulp by the United Kingdom (1887 1896), the countries from which the United Kingdom imported wood pulp (1894 96), the imports of wood pulp by the United States (1890 96), the Exports of Colonial and Foreign wood pulp by the United Kingdom (1894 96), British imports of printing and writing paper from the United States and Canada (1885 1895), the British Imports of Paper "Unenumerated" from United States and Canada (1885 1896). British imports of Mill Board, Straw Board, and Paste Board from United States and Canada (1885 96), and the exports of paper from the United States (1884 96) (2 copies of this report : One is handwritten, the other is typewritten)
- 3. "Wood Pulp" by George Johnson. This short report explains the importance and the value of the wood pulp industry to Canada. There is some statistical information on the number of pulp factories, the capital invested, the number of employees, and the value of the output for the years 1881 and 1891 •
- 4. "The Pulp Industry in Relation to our Forests" (9 typed pages)

 This report supplies statistical data on the consumption rate of spruce in Canada, the extreme limit for consumption of pulp, the extent of Canadian spruce forests, the dangers to the spruce forests, the value of the forests destroyed, waste under the pretext of colonization, and the advantages of the Pulp industry.
- VIII. Statistical Material and Correspondence on Shipping and Transportation of Freight
 - 1. Correspondence
 - R. Reford to Hon. S.A . Fisher Feb. 13, 1905 [?] re: information on the total yield, total acreage under cultivation, and the average yield per acre of wheat, corn, oats, rye, barley and buckwheat .
 - G. Johnson (?) to K. Doherty Mar. 15, 1905 re: a statement showing the production of grain cereals for a series of years, by provinces.
 - K. Doherty to G. Johnson Mar. 1, 1905 re information needed by the Minister of Agriculture for a reply to R. Reford's letter of Feb. 13, 1905. Memorandum for J. Bain, Assistant Commissioner from F. G. Bennet March 4, 1905 re: A Statement of grain shipped from Canadian Ports and American Ports during the season of navigation 1903 and 1904.
 - 2. Report on Lake Commerce, 1905. A three page report on the amount of freight shipped through the canals at Sault Ste Marie for the month of July 1905 as compared to previous Julys for the years 1904, 1903, and 1902.
 - 3. Statements showing the amounts of tolls collected and the quantity of freight passing through the following canal systems:

- -Welland Canal, 1860 1887.
- -St. Lawrence Canals, 1860 1887.
- -Chambly Canal, 1860 1887.
- -Ottawa Canals, 1860 1887.
- -Rideau Canal, 1860 1887.
- -Welland and St. Lawrence Canals from Lake Erie to Montreal, 1864 1888.
- -Westward from Montreal through the whole length of the St. Lawrence and Well and canal s to Lake Erie, 1881 1887.
- 4a. A memorandum respecting wreckage and towage on Canadian Inland Waters by George Johnson. This report is concerned with the laws, regulations and Orders in Council of Canada concerned with regulating all foreign vessels trading on the coast and entering the harbours of Canada from sea or inland waters.
- 4b. An Act to permit American vessel s to aid vessels wrecked or disabled in Canadian waters, 1888. Privy Council Canada. Despatches, Memorials, Orders-In-Council of Record in The Privy Council, Relating to the Question of Wreck and Salvage, from 1877 to 1888. (collected)

IX. Statistical Data on Farming Output

- 1. "What Duties are paid by Farmers" A one page report discussing some of the items that farmers do not have to pay duty on because of the nature of the tariffs.
- 2. A Statistical Sheet Showing: Comparison between Ontario and the nine states named with respect to the Average Yearly Value to the farmer, per acre of wheat, barley, oats, corn, rye, buckwheat, potatoes, and hay, 1882 1887.

Comparison between Ontario and the States named with respect to the annual yield per acre of wheat, barley, oats, rye buckwheat, potatoes, and hay, average 6 years, 1882 – 1887.

- X. Reports on Canadian Railway lines and property and the Commerical Depression of 1892 94.
 - 1. Brief reports on the operation of railway lines and property.
 - -St. Charles Branch constructed to give a direct access from the Intercolonial to Levis, opposite Quebec
 - -Temisconata Rail way important link in the chain of railway communication between the St. Lawrence and the Atlantic ports.
 - -Wellington and G.T.R. Bridges, Lachine Canal fraudulent expenditures involved in the building of these canals.
 - -Section B, Contract 42, C.P.R. a Royal Commission was appointed in 1880 to examine the conduct of the C.P.R. in formulating Contract 42.

- -Harris Property, St. John, N.B. this property was required for the purposes of the railway at a cost of \$200,000.
- -The Tay Canal a 8 mile long canal between the town of Perth and the Rideau.
- -The Galops Channel the Government involved in the costly construction of a channel through rapids.
- -Sheiks Island Dams the building of two dams at a cost of under \$600,000.
- Consular Sealing of Cars: A brief submitted to the Secretary of the Treasury of the United States by A. C. Raymond, Counsellor-at-I aw, Detroit, Michigan, Sept. 1890.
 Newspaper clippings from the Toronto Globe and the Philadelphia Ledger (Nov. 1890) pertaining to the Consular Seal case at Washington and the status of Canadian railway freight in transit.
- 3. Statistical data on the operation of the Canadian railways during the commercial depression of 1892 94. The statistical data pertains to miles in operation, passengers, freight tons, gross earnings and net earning for the years 1890 95.

XI. Census of British Columbia

1. Census reports of Whites and Non-Whites in British Columbia by districts:

Summary of District No. 1 Cariboo

Summary of District No. 2 New Westminster

Summary of District No. 3 Vancouver

Summary of District No. 4 Victoria

Summary of District No. 5 Yale

- A reply to the report of the committee of the British Columbia Government and to the remarks of Hon. Davie in his communication to Sir John Thompson, Sept.25, 1893. This reply is concerned with the Census of British Columbia and the status of the Indians in the Yukon valley.
- XII. Census of Eastern Townships and Correspondence of 1851, 1861, 1871, 1881, and 1891.
 - 1. Population of the Eastern Townships according to the censuses
 - 2. Eastern Townships changes in population for the years 1851, 1891, and 1901. (2 holograph copies and two typed copies)
 - 3. A report of G. Johnson's researches of the changes in population in Eastern Townships (9 pages in holograph).
 - 4. The result of George Johnson's researches on the Eastern Townships. (1 holograph page).

- 5. A comparison of the French with the total population of the Eastern Townships, for the years 1871, 1881, and 1891.
- 6. Notes on the Eastern Townships.
- 7. A newspaper clipping entitled "Losing Ground: English Speaking Population in Quebec".
- 8. Moses. Hart to George Johnson, April 31, 1898. This letter pertains to Johnson's request for information about the origin of the names of the following places: Cowansville, Sweetsburg, Seigniory, St. Armand, Notre Dame des Auges de Stairbridge, Saint Ignace de Stairbridge, Parish of St. Thomas, Parish of St. George, and Lacolle.
- 9. Rev. Ernest M. Taylor to George Johnson Aug. 7, 1905. This letter pertains to the origin and the meaning of the word "Missisquoi"
- XIII. Indian Population in the Yukon District, N.W.T.
 - 1. G.(?) M. Dawson to George Johnson Sept. 14, 1893. This letter plus the enclosed material pertains to an estimate of the Indian population in the Yukon District, N.W.T. (i.e. North of Lat. 60 and west of the Rocky Mountain watershed.)
- XIV. Reports on the Relations between Canada and the United States
 - 1. The relations of Canada with the United States from 1794 to 1890. This report gives an analysis of the economic and trade relations between Canada and the United States during the 19th century. Reference is made to the economic conditions of the Canadian farmers and manufacturers, the conflict between these two groups, and the farmers talk about annexation with the United States. (48 typescript pages)
 - Report on the Relations of Canada with The United States
 (1887) by George Johnson. An official Government publication on the economic and trade relations between Canada and the United States, covering the period from 1774 to 1894. (182 typed pages)

Box 2

XV. Statistical Reports on the French-Canadians

- 1. "French Original" A three page report on the number and percentage of French Canadians in Central and Eastern Canada in 1871 and in 1901.
- 2. "The French Canadian Statistically Considered" A report pertaining to the historical right for French-Canadians to be in Canada, and an analysis of their economic, social, and intellectual conditions. (2 typescript copies)

- XVI. Miscellaneous Collection of Statistical Reports and Correspondence
 - 1. Correspondence and Memorandum pertaining to the area and the population of each province, and the financial aid granted by the Federal Government to each province
 - 2. Agricultural Statistics:
 - -Occupiers of Lands, 1901
 - -Land Areas in Acres, 1901
 - -Grains and Seeds, 1901
 - -Hay and Roots, etc., 1901
 - -Fruits, 1901
 - -Animal Products and Pure-bred Stock, 1901
 - -Agricultural values, 1901
 - 3. Digest of the Statistics of Canada 1895 by George Johnson
 This digest reports on the following items: the early colonization of Canada, the
 geography of Canada, the structure and operation of the Canadian political system, the
 population, the religions, of the people, the natural resources, agricultural products,
 industrial products, the imports and exports of Canada, the currency and banking
 system, the operation of government institutions such as the post office, the
 transportation system, and a number of other items. (69 holograph pages)
 - 4. "Gleanings From Canada's Census" This report contains a brief account of the history of Census taking and statistical data on the birth places of the people, the languages spoken, the ages of the people, the body rearing provinces, marrying and married, families, the housing of the people, religious denominations, urban and rural distribution, education, the defectives, criminals, protecting efforts, and birthrate. (39 typed pages)
 - 5. Expenditure on Railways, Canals, Telegraph lines, etc. from 1874 to 1879. (1 sheet in holograph and 2 typed copies)
 - 6. A statement showing the number of places in which the "Canada Temperance Act" has been voted on since 1878, and the research of the voting in each case. (6 pages in holograph)
 - 7. A report on the distribution of the 125 newspapers and periodicals among the provinces according to political, religions, and labour affiliations. (18 typed pages)
 - 8a. A report on Germany's and Canada's progress made in the development of a fuel supply from lignite and peat. The report also includes a financial analysis of this project. (6 typed pages).

- b. Sandford Fleming to Sir Richard Cartwright, Minister Trade & Commerce June 18, 1903. This letter pertains to the transportation problems associated with the railways of Western Canada.
- 9a. "Bounties to Fisherman" An extract from Hansard 1882 (page 1512) concerning a resolution to provide an annual grant of \$150,000 for bounties to fisherman. (1 page).
 - b. "Notes on Bounties" statistical data on the amounts paid on the following bounties by the Federal Government: Fisheries, Pig Iron, Silver, Lead Smelting, Refined Lead, Steamship Subsidies, Rail way Subsidies
- 10. "Mr. Dalton McCarthy's Position" Extracts and quotations from Dal ton McCarthy's speeches and comments on the Conservative's policies. McCarthy was against the Conservative Government and wanted to see a change in government. (4 typed pages).
- 11. "County Boundaries" A revolution passed at the Liberal Convention held at Ottawa in 1893 stating that county boundaries should be preserved. (3 typed pages).
- 12. "Short Catechism on the Manitoba School Question" (2 typescript copies, one of them with penciled connections).
- 13. "Condition of the Country as shown in speeches from the Throne" Extracts from the speeches of the Lieutenant Governors on opening the Provincial Legislatures show the condition of the Dominion, its industries, and its people during the period 1893 96. (12 typed pages).
- 14. "Dominion and Provincial Franchise". A report on the jurisdictional powers of the Dominion and Provincial Governments to legislate their respective election laws in regard to the franchise. (6 typed pages).
- 15. Notes in elucidation of copyright correspondence referred to the Department of Justice. (13 typed pages).
- 16. George Johnson (?) to John C. Medd. Jan. 31, 1900. This letter pertains to the teaching of agricultural classes in primary and secondary school s and in agricultural colleges.
- 17. Memoranda on Canadian Sea Fisheries, Modes of Fishing, Bait, etc., With Statistical and Other Tables Having Reference to the Fisheries by Harlow (?) Foster, 1887 88. An official Government publication.
- 18. George Johnson (?) to George F. O'Halloran, Deputy Minister Agriculture, Dec . 14, 1903. This letter pertains to Canada's ability to produce enough wheat to meet the demands

of Europe, and to the prices the farmers are receiving for their product. (2 copies of this letter: one is handwritten the other is typewritten).

19. Maps of Glasgow Main Drainage.

- a. Glasgow Main Drainage: Map of the Estuary of the River Clyde showing the suggested route of the sludge vessels and the position where it is proposed to discharge sludge.
- b. Glasgow Main Drainage: Map of the Estuary of the River Thames showing route of the sludge vessel s and the position where sledge is discharged.
- c. Glasgow Main Drainage: Plan showing the suggested arrangement of precipitation tanks at Dalmuir and the berthage accommodation for sludge vessels.