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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF
PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY WEDNESDAY

This paper reaches every week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

VOL. 9.

OCTOBER 12, 1898

No. 37.

THE CANADIAN CONTRACT RECORD,

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As an Intermediate Edition of the "Canadian Architect and Builder."

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CONFEDERATION LIFE BUILDING, TORONTO.

Telephone 2162.

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Bell Telephone 2299.

Information solicited from any part of the Dominion regarding contracts open to tender.

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Steam Fire Engines—now rebuilding, two medium-sized fire steamers; our own make; for sale below half price, guaranteeing them in practical work, good as new, five years; snap to smaller towns needing good fire protection; long, easy terms. RONALD FIRE ENGINE WORKS, Brussels, Ont.

TENDERS WANTED

Tenders will be received until 5 p.m., WEDNESDAY, OCTOBER 12TH, for the erection of a School Building for the Parkdale Presbyterian Church.

C. J. GIBSON, Architect,
75 Yonge Street, Toronto.

TENDERS

Will be received until noon on SATURDAY, OCTOBER 15TH, for the erection of a

BRICK FACTORY BUILDING

on Queen Street East, Toronto. No tender necessarily accepted.

GORDON & HELLIWELL, Architects,
Confederation Life Building, Toronto.

STRATFORD SEWERS

Sealed tenders will be received at the City Engineer's office, Stratford, up to 6 o'clock p.m. on FRIDAY, THE 12TH DAY OF OCTOBER, for the construction of a DOUBLE TILE SEWER, 700 feet in length, under railway tracks on Downie Street, from Guelph Street to Milton Street.

Plans and specifications may be seen and forms of tender obtained at the office of the City Engineer, Stratford.

The lowest or any tender not necessarily accepted.

W. F. VANBUSKIRK, City Engineer.
JOHN HOGARTH, Chairman Sewer Committee.



Notice to Contractors

Tenders will be received, by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, up to noon on WEDNESDAY, THE 26TH OCTOBER, 1898, for the

FILLING OF THE OLD FILTERING BASIN ON THE ISLAND

Plans and specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, from whom all further information required may also be obtained.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for up to \$1,000, and 2½ per cent. on all sums over that amount, must accompany each and every tender, otherwise they will not be entertained.

Tenders must bear the bona fide signature of the contractor and his sureties, or they will be ruled out as informal.

Lowest or any tender not necessarily accepted.

JOHN SHAW, (Mayor),
Chairman Board of Control.

City Hall, Toronto, October 12th, 1898.

DATE OF PUBLICATION.

Architects, Engineers, Municipal Authorities and others are reminded that the CONTRACT RECORD is printed every Tuesday afternoon, and that advertisements should reach the office of publication not later than 2 o'clock p.m. on that day to ensure insertion in the issue of the current week. Advertisements are frequently received too late for insertion, to avoid which special attention is directed to this announcement.

CONTRACTS OPEN.

NANAIMO, B. C.—The council will purchase a large steam fire engine.

DURHAM, ONT.—Petitions have been received for more granolithic walks.

WELLINGTON, B. C.—A fire engine will be purchased by the municipality.

PRINCETON, ONT.—It has been decided by the farmers to erect a butter factory here.

NIAGARA FALLS, ONT.—Mr. Martin contemplates building a flour mill in this town.

ALVINSTON, ONT.—It is expected that two new business blocks will be built here next year.

PERTH, ONT.—The Finance Committee has been instructed to advertise for tenders for debentures.

SAWYERVILLE, QUE.—There seems to be good prospects of a new Methodist church being built.

OUTREMONT, QUE.—A by-law to raise \$15,000 for building new school was defeated last week.

VALLEYFIELD, QUE.—The Northrop Loom Co. are building a brick and stone structure, 260 x 60 feet.

CHATHAM, N. B.—Tenders are wanted by 15th inst. for wharf improvements. T. M. Gaynor, town clerk.

BRADFORD, ONT.—Tenders for the erection of a lock-up are invited. E. Garrett, Chairman of Committee.

SHERBROOKE, QUE.—There is a movement on foot to secure the erection by the government of a new court house.

GUELPH, ONT.—The Fire and Light Committee has recommended the erection of a new fire hall, at a cost of \$5,000.

SMITH'S FALLS, ONT.—Messrs. Frost & Wood purpose enlarging their works, and will ask for a bonus from the town.

ORILLIA, ONT.—Begg Bros. have leased the old Asylum building, and purpose converting it into a first-class summer resort.

TARA, ONT.—A bonus has been granted to Biette & Co., of Chesley, who purpose starting a woodworking factory here.

CAMPBELLFORD, ONT.—Proposals are wanted by John Graham, clerk, up to 22nd inst., for purchase of \$8,000 of 4½ per cent. debentures.

CARLETON PLACE, ONT.—Mr. Salter has commenced the excavation for a summer hotel at Lake Park, to be 50 x 36 feet, and 3 stories.

WATERLOO, ONT.—The Sewers Committee have recommended that the Council invite tenders for a sewer on Pepler and Young streets.

BLAIR, ONT.—Proposals for the purchase of \$9,000 of 4 per cent. debentures are asked by George A. Tilt, township clerk, up to 21st inst.

DANVILLE, QUE.—It is reported that the Minto Hotel Co. is about to erect a \$100,000 summer hotel, on the summit of Claremont hill, near here.

BRANDON, MAN.—Tenders will be received by Wm. Fenwick or David Loney up to 21st inst. for building bridge over Little Saskatchewan river.

LINDSAY, ONT.—The town commissioner has been instructed to submit an estimate of the cost of proposed sewer on Lindsay and Glenelg streets.

PROVIDENCE BAY, ONT.—A roller mill is proposed to be built here, and it has been recommended that a joint stock company be formed for the purpose.

GRAND FALLS, N.B.—Mr. Ellicott, a civil engineer, is making a final report on the feasibility of using the power of the falls for the manufacture of pulp and paper.

BRANTFORD, ONT.—The Cockshutt Plow Co. are arranging for the erection of a new building, 50 x 40 feet, pressed brick, with a mansard roof and tower at the angle.

PARRSHORO, N.S.—On the 5th inst. a by-law was passed authorizing the town council to offer a bonus of \$10,000 to secure the erection of a pulp mill, with a

capacity of 30 tons of dry sulphite pulp per day.

NELSON, B.C.—The judge has quashed the by-law which authorized the council to borrow money to purchase the electric light plant from a private company.

INGERSOLL, ONT.—Hunter Bros., of Kincardine, will probably remove here, locating in the Bell planing mill, which will be remodelled to meet their requirements.

MERRITTON, ONT.—The Presbyterians have unanimously resolved to proceed with the erection of a new church without delay. A. R. Thompson is chairman of committee.

LONGUEUIL, QUE.—L. A. Chausse deputy register, is having plans prepared by Vincent & Dufresne, architects, of Montreal, for a new building, on which tenders are being taken; cost \$2,500.

ST. CATHARINES, ONT.—Johnson Clench, county clerk, invites tenders up to Thursday, 13th inst., for heating Industrial Home with hot water. Plans at county clerk's office.

PARIS, ONT.—It is understood that the Penman Mfg. Co. are about to make extensive additions to their mills here. The old Maxwell works will be converted into a three-story building.

HAMILTON, ONT.—The Hamilton Radial Railway Company has decided to extend its line from Burlington to Port Nelson. Operations on the construction will be commenced immediately, it is said.

WOODSTOCK, ONT.—The congregation of Norwich ave. church are considering the erection of a new edifice.—It is believed that work will shortly be commenced on the new post-office to be built in this town.

FREDERICTON, N.B.—Edward Moore has purchased the Burnside property, and will erect a new cottage on the lot.—The chief engineer of the fire department has recommended the purchase of 500 feet of cotton fabric hose.

PORT ARTHUR, ONT.—It is rumored that the town has made arrangements with Mr. E. S. Jenison for the supply of electric power, and that a by-law authorizing the contract will be submitted to a vote of the ratepayers.

HULL, QUE.—The report of the Electric Light Committee was last week referred back by council for more detailed information as to the cost of installing a plant.—The question of undertaking a system of sewerage is still under consideration.

NEW WESTMINSTER, B. C.—W. T. Dalton, architect, has taken tenders on a building for the British Columbia Electric Railway Co., Ltd.—Wm. Blackmore, architect, has in hand two blocks of stores and offices on Columbia avenue and Front street.

HINTONBURG, ONT.—It is probable that the Ottawa Suburban Waterworks Company may lose its franchise for a waterworks system, owing to delay in commencing operations. E. J. Rainboth is interested.—P. Shea has commenced the erection of a store.

GAITHER, ONT.—Debentures to the amount of \$20,000 are offered for sale by the town. Tenders received by Adam Cranston up to 20th inst. The funds will be used for building a fire hall, repairing bridges, extending waterworks, and improving town hall and public schools.

GRAVENHURST, ONT.—Mts. R. O. Miller has purchased two lots on the east side of John street, and will build a residence on the property.—Chas. Robinson has purchased two lots on Muskoka road, opposite the Methodist church, and purposes erecting a building.

ST. THOMAS, ONT.—A by-law may again be submitted to the ratepayers to

raise a bonus of \$20,000 to aid in the proposed extension of the Lake Erie & Detroit River railroad from Ridgetown to this city.—J. A. Bell, city engineer, has taken tenders on the construction of an eight inch collar tile sewer on Curtis street.

CHATHAM, ONT.—Tenders are wanted by J. C. Fleming, county clerk, up to October 21st, for furniture for House of Refuge.—J. L. Wilson & Sons, architects, have completed plans for a new block for Henry Wilson, of Tilbury, to be 35 x 41 feet, with pressed brick front.

WOODSTOCK, N. B.—The time for receiving proposals for the erection of a gaol has been extended from Tuesday, October 4th, to Thursday, October 20th. Tenders or bids will be received for brick, iron or woodwork, separate or complete. Geo. W. White, Chairman of Committee.

KINGSTON, ONT.—Tenders have been invited by the Department of Public Works, Ottawa, for the erection in this city of a drill hall, stone and brick, cost about \$40,000.—The Dominion Cotton Mills Co. will ask for a further extension for twenty years, in return for which they agree to greatly extend their works.

VANCOUVER, B. C.—A New York syndicate is reported to have taken over the C.P.R. cement works, with the intention of enlarging them to a capacity of 65,000 barrels per day. The name of W. Fisher is mentioned in connection with the deal.—Tenders for putting in over \$10,000 worth of sewers have been taken, but no award has as yet been made.

STURGEON FALLS, ONT.—Extensive improvements are being made at the pulp mill here, which has recently passed into the hands of a British syndicate. The company expects to expend \$100,000 in buildings and plant, and has laid the foundation of the first of six pulp mills. Mr. Wm. J. Finlay, of Lawrence, Mass., is manager.

PETERBORO, ONT.—At the last council meeting the question of purchasing a road roller was considered. The tenders submitted were: Pitts Co. and Massey-Sawyer Co., \$2,950 for a 31,150 lb. roller; Harrisburg Co., \$3,000 for a 39,000 lb. roller. A motion to call for new tenders was defeated, and the council adjourned without taking any action.—On Tuesday next the ratepayers will vote on a by-law to grant a bonus to the Wm. Hamilton Mfg. Co., to assist them in extending their works.

LONDON, ONT.—Messrs. Moore & Henry, architects, want tenders by Tuesday, 18th inst., for the erection of an exchange in this city for the Bell Telephone Co., the building to be four stories, 32 x 72 feet, solid brick, with stone foundation, pressed buff brick front and cut stone trimmings.—The Caradoc township council last week conferred with Mr. E. M. Talbot, county engineer, regarding the erection of a bridge on Giles site, over the Thames river, between Delaware and Caradoc. No decision was reached, however.

WINNIPEG, MAN.—The Council is inviting tenders for the construction of macadam pavements.—Mr. Eric Sedvall, who is promoting the proposed Swedish match factory, states that over \$50,000 will be expended on the works. A bonus of \$15,000 is asked from the city.—It is understood that a western company have decided to erect a large flour mill in this city, work to commence next spring. No names have been mentioned in connection with the project.—C. J. Brown, city clerk, desires tenders by October 19th for constructing 18,000 square yards of asphalt pavement on Portage avenue.

BROCKVILLE, ONT.—G. T. Fulford is asking for tenders for the construction of a stone residence at Brockville, about 58 x 88 feet. It is expected that the house when completed will be one of the finest

in Canada. Tenders will be received up to the 22nd inst., and plans and specifications may be seen at Mr. Fulford's office, Brockville. The plans are by A. W. Fuller, architect, Albany, N.Y., from whom information may be had.—A deputation from this vicinity interviewed the Minister of Railways last week in regard to securing a subsidy for the Brockville and Westport Railway, which was once voted and allowed to lapse.

VICTORIA, B. C.—Mr. E. Mohun, C.E., has submitted to the Jubilee Hospital Board a plan for disposing of the sewage at the hospital. The scheme contemplates the sinking of a receptacle for all the sewage from the building, the roof water being taken off through the channels already existing. From this tank a pipe will be laid, to flood the corner of the property. The cost is estimated at \$2,000.—The fire wardens have presented a report to council in which they recommend that the sum of \$20,200 be expended for the following, to improve the fire protection: New engine, \$6,000; chemical engine, \$4,000; fire hall, \$4,000; hose, \$1,000; twenty hydrants, \$800; ten alarm boxes, \$1,000; repairing fire hall, \$1,000; wharf, \$1,000; furniture and gongs, \$500; other equipment, \$900.

ST. JOHN, N. B.—H. H. Mott, architect, has called for tenders for the new brick-cased mission hall in connection with the mission church of St. John the Baptist.—Debentures will be issued to the extent of \$3,700 for the purpose of improvements on lot at Lower Cove. Debentures will also be issued to the extent of \$13,000 as soon as necessary legislation is secured.—Tenders are invited by D. Pottinger, general manager Intercolonial Railway, Moncton, up to 26th inst., for the construction of a deep water wharf, and the dredging of docks in the harbor at this place. The present wharf is to be extended 70 feet, and a new wharf built 650 feet long and 150 feet wide. At a later date tenders will be asked for a freight shed, about 500 feet long. The plans for the elevator are expected to be ready in a few days, when tenders will be invited.—Excavations have been made for a tenement house for Dr. McAlpine, to be built on Princess street.

MONTREAL, QUE.—The Protestant School Commissioners are considering the question of providing increased school accommodation.—At the regular monthly meeting of the Chamber of Commerce, the question of rebuilding Bonsecours Market was favorably considered.—Proprietors of property on Craig street have asked that a pavement be constructed as far as Victoria Square.—The Laprairie Bay Ice Co., composed of Montreal citizens, will shortly commence the erection of ice houses at Laprairie.—Messrs. T. Pringle & Son have for some time been engaged on plans for the development of the water power of Shawenegan Falls, on the St. Maurice river, for the Shawenegan Water & Power Co. It is said that the company have awarded to Barry, Ross & McRae, of Niagara, the contract for the construction of the canal, power house, etc., to develop over 30,000 horse power.—W. E. Doran is calling for tenders for alterations to B. Tansey's house on Belmont street.—A. Dubreuil, architect, wants tenders for a flat for Dr. Lesage.

QUEBEC, QUE.—Owing to the amalgamation of the Montmorency Electric Power Co., the Quebec District Railway Co., and the Quebec, Montmorency & Charlevoix Railway Co., extensive improvements are now being made at Montmorency Falls. The conversion of the Quebec, Montmorency & Charlevoix Railway will be proceeded with next summer, as will also the construction of an electric railway to Montmorency Falls. Mr. Edward A. Evans has been appointed manager of the new company.—The St. Malo

municipal council has granted the Jacques Cartier Water Power Co. exemption from taxation on condition that they furnish the municipality with electric light free of charge.—The International Hydraulic Co., 40 Wall street, New York, are about to develop the water power of the Jacques Cartier river at Ste. Catherine. The hydraulic work has been placed in the hands of Messrs. Barry & Ross, and it is the intention to proceed with the work immediately. The manager is Mr. E. W. Cooke, of New York.—David Ouellet, architect, is preparing plans for a chapel for the church of St. Antoine. Same architect invites tenders up to 15th inst. for a church and presbytery for the parish of St. Hubert, county of Temiscouata.—F. M. Talbot, architect, has prepared plans for the rebuilding of the College of St. Romuald, which was destroyed by fire recently.

OTTAWA, ONT.—Permits for buildings were last week issued as follows: Wm. Lintels, brick veneered house, Somerset street, cost \$1,000; Daniel O'Connor, sr., Bank street, brick veneered house, on stone foundation, cost \$6,000; John Wright, three frame cottages, Third ave., cost \$1,800.—E. F. E. Roy, secretary Department of Public Works, invites tenders up to October 28th for the erection of a drill hall at Kingston. Plans at above department and at the office of Arthur Ellis, architect, Kingston. Tenders are also invited by same department up to 20th inst. for the construction of wharves at Upper Woods Harbor, East Ragged Island, Swim's Point and Upper Port Latour, in Shelburne county, Nova Scotia.—The Metropolitan Light Co., of which Mr. T. Lindsay is promoter, has applied for incorporation. This company were recently granted a franchise for light and power by the city.—The congregation of the church of St. Albans the Martyr are negotiating for the purchase of property for a new rectory.—The Board of Governors of St. Luke's Hospital find the accommodation insufficient, and will probably take steps at an early date to remedy the trouble.—The order of nuns known as the Servants of Jesus and Mary have commenced the erection of a new convent on the Aylmer road. The stone foundation is already built, and the remainder will be of wood.

TORONTO, ONT.—It is probable that the city will extend the Yonge street wharf, in order to accommodate a greater number of vessels.—The Board of Health has asked that the City Council take early action to provide a proper system of sewage for the city.—It is the intention of the Toronto Fence and Ornamental Iron Works Company to erect a new building at an early date, their present premises being too small.—The congregation of Christ church, Deer Park, have decided to build a vestry at the south end of the church building, to accommodate the surpliced choir.—The Metropolitan Railway Company propose to bridge across the Northern Railway at the point at which the latter crosses Yonge street, some little distance south of Aurora.—Building permits have been issued as follows: Gale Manufacturing Company, four-story factory on Mincing lane, cost \$8,000; trustees of St. Clement's church, rough-cast church on Brooklyn ave., cost \$2,000.—The city engineer has recommended the construction of the following pavements: Brick, Orford ave., from Clara street to a point 119 feet west, cost \$460; asphalt, Classic ave., from Spadina to Huron, cost \$3,440; macadam, Dovercourt road, from Dundas street to Churchill ave., cost \$1,860; macadam, Parliament street, Queen to Gerrard, cost \$7,810. The following concrete walks are recommended: Portion of Orford ave., Sherbourne (east side), from Wilton ave. to Gerrard street, with the exception of portions already concreted; Homewood ave., Adelaide street

east (north side), from Yonge to Freehold Company's building. The city engineer has again drawn attention to the dangerous condition of the Humber bridge, and advises that immediate steps be taken towards erecting a new bridge. In the estimates for this year the sum of \$13,000 was asked for, but this was struck out. The engineer's recommendation is that the committee request Council to authorize the city treasurer to provide this sum. He repeats his recommendation for the spending of \$65,000 to construct a new bridge over the Don at Queen street, and \$6,500 extra for the removal of the present Queen street bridge to Eastern ave. To locate a dumping ground in front of the Exhibition grounds, the city engineer reports the cost of the necessary cribbing work as \$19,000.—The question is being discussed of converting the Toronto Athletic Club building into a Technical School.—Ground has been broken for a new residence to be built at 56 Madison ave. Mr. A. L. Ogilvie is architect.—The City Council has decided to advertise separately for hydraulic elevators and for elevator enclosures for the new municipal buildings.

FIRES.

Recent fires included the following: Joseph Gosselm's residence and carpenter shop at Levis, Que.; loss \$25,000.—Factory of the Montreal Spring & Axle Works, owned by V. J. Coghlan and situated at corner Stadacona and Marlborough streets, Montreal; loss \$15,000, covered by insurance.—Creamery at Cowansville, Que., owned by William Robb, jr.; loss \$3,200, insurance \$2,000.—Stroud Hotel at Innisfil, Ont., loss \$1,500.—Residence at Kouchibouguac, N. B., owned by John Wright.

CONTRACTS AWARDED.

TWEED, ONT.—500 feet of fire hose: Canadian Rubber Co., Montreal, successful tenderers, at 85 per foot.

THOROLD, ONT.—The tender of the Royal Electric Company for addition to electric light plant has been recommended for acceptance.

PETROLEA, ONT. The tender of the J. E. Ellis Company, Toronto, has been accepted by the town for a tower clock, to cost about \$1,000.

LONDON, ONT.—The contract for the Normal school is reported to have been awarded to Clark Bros., of Toronto, at a price over \$50,000.

BETON, ONT.—The tender of the Goldie & McCulloch Co., of Galt, for boiler and engine for electric light plant, has been accepted.

PETERBORO, ONT.—Steel bridge over Deer river, on boundary between townships of Belmont and Marmora. Dominion Bridge Company, \$500.

ST. JOHN, N. B.—The Council has accepted the tender of J. A. Wheaton, for excavating for the water pipe between Spruce Lake and Carlton, at 44 cents per foot.

CORNWALL, ONT.—Removal of two spans and pier of the Ottawa and New York railway bridge. Collins' Bay Towing and Wrecking Co., contractors, price, \$25,000.

HEPORTH, ONT.—New furniture factory: H. Prast, of Hanover, contractor. Building will be 50 x 80 feet, three stories, with brick dry kiln 23 x 60 feet, and boiler and engine house 24 x 40 feet.

SARNIA, ONT.—Rebuilding Rossin House: Simpson & McDonald, mason work; Armstrong & Johnston, carpentering; John B. Watson, painting and glazing; Alex. Joss, plumbing; James Henry, plastering. M. Fawcett, architect. Lumber for G.T.R. roundhouse; F. McGibbon & Sons, contractors.

TORONTO, ONT.—Last week the tender of the city engineer was accepted for constructing an asphalt pavement on Queen street, from Bathurst to Niagara, at \$15,036. The Constructing & Paving Company have since offered to do the work, and the city engineer has recommended that it be given them.

STRATFORD, ONT.—Renovation of Trow block, corner Market and Albert streets. Stone and brick work, James Stamp; carpenter work and joinery, Ruston Bros.; painting and glazing, Wm. Casson; plastering, Louis Hassel; plumbing, A. Brandenberger. Plate glass and galvanized iron cornices will be used.

KINGSTON, ONT.—\$76,106.11 of debentures have been sold by the city as follows: Oddfellows' Relief Association, Kingston, \$41,106.11 twenty and twenty-three year bonds, bearing interest at 3½ per cent., premium \$1,400; G. A. Stinson & Co., Toronto, \$35,000 elevator instalment bonds, payable in twenty years, and bearing interest at 4 per cent., premium \$1,150.

MONTREAL, QUE.—C. St. Jean, architect, has awarded contracts as follows for a house for Mr. Strubb on Rachel street: Masonry, Binda Son; carpenter work, Lambert & Son; plumbing and roofing, D. Oumet; plastering, Decary & Son; painting, M. Pauzé.—W. E. Doran, architect, has let the contract for extension to store on Notre Dame and Common streets to A. Latour.

VERDUN, QUE.—Eleven tenders were received by the council for laying 2,750 ft. of 10 inch water main pipe, as follows: Perrault & Son, 50 cents per running foot; Rondeau & Major, 45c.; Jos. Champagne, 25½c.; M. Dineen, 24c.; Jas. Smith, 30c.; L. McDonald, 43c.; A. Lepage & Co., 34½c.; A. J. A. Chagnon, 36c.; G. Chavel, 41c.; Jas. Maher, 71c.; Henault & Co., 60c. The contract has been awarded to M. Dineen, at 24 cents per foot. McConnell & Marion, of Montreal, are engineers.

BRANTFORD, ONT.—Tenders for sections A, C and D were opened by the Council last week, alternate offers being received as follows: Doing the work this fall in concrete—Wm. Grant & Co., Toronto, \$31,559; McDonell & McDiarmid, Toronto, \$37,501. In masonry—Wm.

(Continued on page 4).

THE HAMILTON BRIDGE WORKS CO., LIMITED.

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Gibson, Beamsville, \$34,000, Wm. Grant & Co., Toronto, \$34,543. Doing work next year in concrete—Wm. Grant & Co., \$29,441; Schultz Bros., \$33,000; Elliott, Workman & Bogue, \$33,917.90, McDonell & McDiarmid, \$34,024; Elliott & Wingate, \$36,764. In masonry—Wm. Gibson, \$31,120; Wm. Grant & Co., \$32,000; Schultz Bros., \$36,000, Elliott, Workman & Bogue, \$36,437.90; Elliott & Wingate, \$39,888. The tender of Wm. Gibson, to carry out the work this fall, has been accepted.

WINNIPEG, MAN.—Tenders were received as follows from Kelly Bros. for pavements: Main street south, cedar brick, \$3,065; macadam, Broadway, Assiniboine avenue to Maryland, \$7,385.50; Pacific avenue, Princess street to Nena street, \$9,602.50; Elgin avenue, from end of present pavement to Nena street, \$8,600; Alexander avenue, from Ellen street to Nena street, \$6,196; Arthur street, from Notre Dame avenue to McDermott avenue, \$1,273.50; Portage avenue, from Hargrave street to Sherbrooke street, \$23,646. It has been decided to construct the pavements by day labor. For pipe sewers on Langside street these tenders were received: Pipe sewer on Langside street, from Broadway to Cornish, W. F. Lee, \$2,391.50 (accepted); Dobson & Jackson, \$2,959.

PRICE OF BELGIAN CEMENT.

MONTEAL, 4th October, 1898.

Editor of the CANADIAN CONTRACT RECORD:

SIR,—Your issue of the 28th ultimo contains an article on the cement market, in which you state that the price of English brands is \$2.25 to \$2.35, German \$2.35 to \$2.50, Belgian \$1.85 to \$2.05 ex wharf Montreal, thus leaving the uninitiated to suppose that Belgian cement is cheaper and consequently inferior to both English and German. This is entirely erroneous. There are two classes of Belgian cement, just as there are two classes of English and German, namely, the "Artificial Portland," which is a high grade cement, and the "Common Natural" cement, which is a low grade. Belgian artificial Portland cement is as high priced and of as high a quality as any cement in the world, and the two leading Belgian artificial brands, the "Josson" and the "Condor," bring the very highest price in all markets. They are selling to-day ex wharf Montreal at \$2.50 per barrel freely, and only very large dealers can obtain a shade under this price. It is true that Belgian natural cement sells at a lower figure, but so do the natural cements of Germany and England. Will you please have this matter corrected, as I notice frequently in the market reports of many

papers that they fall into the common error of supposing that because some Belgian cements are cheap and low grade that all are. I remain,

Very truly yours,

C. I. DE SOLA.

PILE RINGS AND METHOD OF PROTECTING PILE HEADS IN DRIVING.

A committee of the Association of Railway Superintendents of Bridges and Buildings appointed to consider this subject has reported as follows:

First. We find that the best way to protect the pile head is to use a 1 x 3-inch ring, made out of the best iron that can be obtained at the place where used. We recommend, where a railroad company have a steam hammer in its shops, that they make their pile rings out of hammered iron from old car axles. The cost of a 1 x 3—14-inch diameter ring is \$1.75, while the same size ring made out of best bar iron costs \$2.00. A pile ring made out of hammered iron will last to drive 75 oak piles and at least 300 cedar piles. The rings made out of best bar iron usually last to drive 50 oak piles and 200 cedar piles; in fact, one of your committee had 50 pile rings made out of old car axles four years ago, and since that time has driven 250 oak piles and 6,000 cedar piles without any renewal of pile rings. A pile driver should carry on the tool car 60 pile rings, 10 pile rings 15—30—14 inch., 10—13½ inch., and 10—13 inch. in diameter.

The 14-inch diameter are the ones most used, 14 inch being the width of caps used by most roads. It is not necessary to have the pile head larger in diameter than the cap is wide.

Second. In fitting the pile ring, the pile should be neatly sawed off square; the pile should be neatly chamfered down at least 5 inches from the end, so the ring will just catch on and let the pile hammer do the rest. This is a little hard on rings, but in this way you are sure to get a good fit of the ring and the pile head is best protected.

The face of the pile hammer should be concaved to the depth of 1½ inches in the centre, and run out to nothing two inches from outside of the hammer; this will drive the fibre of the wood down slightly over the edge of the ring and make a neat fit of the hammer, and if the piles are kept exactly under the hammer, there is very little danger in fracturing the pile. The best weight of a pile hammer is 3,300 pounds. The height of the blow should not exceed 12 feet in driving cedar piles, or 20 feet in driving oak piles. It will be found that short, quick blows will drive the pile as quick as long blows, and are

less liable to injure the pile. The pile should be neatly prepared before driving it; the knots should be neatly trimmed off; and the pile sharpened to a 4-inch square point for hard driving, the point to be made as near straight with the pile as possible. Piles should never be over-driven. When a pile does not go over 1 inch at a fall of 10 feet with a 3,300-pound hammer, the blow should be shortened to 6 feet, and the pile carefully driven until it stops going or don't go over ¼ inch at a blow. The driving of piles for railway traffic, and for all kinds of structures, requires a great amount of judgment to do good work. The use of the iron cap for driving piles in trestles that are in use is not very practicable, as you cannot drive the piles up so close to the stringer with them as you can without them. It is too much extra work to move the stringers so as to use the iron caps and follower, but for driving piles for foundations and dock work, or any place where there is no obstruction, we think Wm. T. Casgrain's patent cap and follower an excellent device. It is especially adapted in driving foundation piles, as that class of piles are generally short—not over 25 feet in length, and with the patent cap they will not need any toggles to keep them right, and they are good protection to pile heads, as the piles in foundation should be driven home

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until they stop and the hammer bounces on them. In driving piles through shell rock or soapstone or hard pan, where piles require shooing, the best way is to use old arch bar iron, welding four pieces together and drawing the end to a point and flaring the four pieces out to fit the four sides of the pile. Have some holes punched in the strap to fasten the points on the pile with boat spikes; this kind of a point will go through hard substances where the round cast-iron point will not work. These kinds of points have been used by some of your committee to drive through concrete around piers to great advantage, and any one having occasion to drive piles through hard substance too hard for piles, should not neglect to shoe them with points made out of old flat iron. A little practice will soon teach one how to make them.

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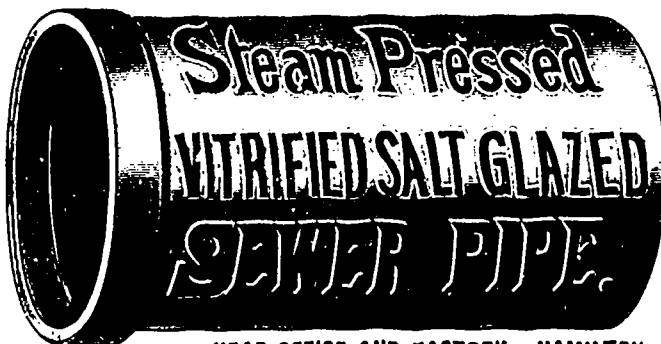
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MUNICIPAL DEPARTMENT

IMPROVED METHODS OF SEWAGE DISPOSAL.

By CHARLES G. HORETZKY, C.E.
(Continued)

In the Lawrence experiments above quoted, the sludge was removed by burning at a cost of \$5.43 for coke per million gallons treated, while in any chemical process 8 tons of semi-fluid, evil-smelling cake are produced at a heavy expense for filter presses, cloth and labor, and afterwards the problem of getting rid of this foul asset has to be faced, since it is utterly futile to think of selling this cake to farmers, and the further expense of carting it away must undoubtedly be taken into consideration. In England the cost of producing sludge cake may be taken, at the majority of works (according to Santo Crimp), at 2s. 6d. sterling per ton; and the same authority states that although it is sometimes sold for a trifle, or taken away by farmers, the latter are as often paid to remove it. In the vicinity of large cities it has been dug into the ground, or spread out to dry, but however handled or disposed of, it is an undoubted nuisance; hence, any method of sewage disposal whereby the sludge difficulty can be eliminated entirely must recommend itself to practical men. In estimating the cost of sludge removed (per million gallons of sewage treated) by coke strainers, as against sludge pressing into cake, we have roughly, taking the Lawrence prices of materials used:

By COKE STRAINERS.

Say 4½ tons of coke at \$1.25..... \$5.62

By SLUDGE PRESSING:

Pressing 8 tons sludge cake at 60c..... \$ 4.80
Carting away 8 tons lito..... ..
1000 lbs. crude alu. \$25 per ton... 12.50
1000 lbs. slaked lim. \$9..... 4.50

Required for precipitation of one million gallons of sewage.....\$21.80

Therefore, is there much to be said in favor of coke as a strainer, as compared with any "precipitation" process; while the cost of buildings, tanks, and other accessories required in the last named process will certainly counterbalance that of a furnace, drying ovens and chimney necessary for clogged coke combustion.

The Pennsylvania Sanitation Company of Philadelphia have taken advantage of the foregoing facts as regards the valuable properties of coke breeze and aerated sand and gravel filters, in their sewage disposal plant erected at Reading, Penn., which has been in very successful operation for the last year and a half.

The population of Reading is about 80,000, as I am informed, but so far only about 25,000 people contribute to the sewerage system.

The average daily flow of sewage treated by the Philadelphia Sanitation Co.'s works during August last was 1,586,463 gallons.

These works comprise of a very handsome pumping station situated at Sixth and Canal streets. This station includes two large receiving reservoirs in which the coke strainers are placed, two large pumps of 5,000,000 gallons capacity each, three 65 h.p. boilers, drying ovens and tall chimney stack, which ventilates the receiving chambers.

A force main 7,200 feet in length conducts the strained sewage along the banks of the Schuylkill River to the filter beds. These filter beds comprise an area of 25,000 square feet, or fifty-seven hundreds of an acre. One-half of this area is supported by an iron structure, and is at a level 8' 6" higher than the lower half. The upper beds are divided up into ten compartments, each 25 feet by 50 feet. Iron pipes resting upon beams and girders, supported by iron columns, carry the filtering materials, which consist of three different layers of broken stone and rather fine sand, the whole being two feet in depth. The surface of the filters is protected from wind, and the erosive action of the falling sewage by a slatted floor, removable for cleaning purposes.

There is usually one foot head of water on the upper filters while in operation. The open gridiron-like bottom affords access to the outside air, and is, in fact a modification of the "Forced Aeration" experiments of the Massachusetts State Board; further aeration is obtained by the 8' 6" rain-like drops of the effluent to the surface of the second filter, which is of coarser material, and about three feet in depth, and is aerated throughout by pipes and gutters. The effluent from the last filter emerges as a clean, bright fluid, quite sufficiently purified to enter any large stream or river, and certainly of a better quality than that of the Schuylkill, into which it finally empties.

These works have been extremely well designed, and appear to me to be an excellent practical illustration of the Massachusetts experiments with coke and forced aeration. The filtration area is rather circumscribed—a defect easily remedied. Too much credit cannot be accorded the designer and engineer, Mr. John Jerome Deery, of Philadelphia.

Bacterial and chemical analyses of the effluent from this plant have been made in Philadelphia, and these show high results, as the accompanying statement indicates. Usually about one-half only of the filtering area is in operation, the other half being rested, aerated and cleaned. The cleaning operation involves the daily removal of about two tons of the sand on the top of the filters, which

has become clogged by the organic matter still remaining in the coke strained effluent. This daily loss of sand costs about \$2.00 for the material alone.

Reverting to the preliminary operation undergone by the crude sewage in the receiving chambers at the terminus of the main sewer, there are two suspended layers of coke 12" thick through which the sewage must pass. The upper one holds back the coarse sludge, while the lower effects a partial filtration or straining of the sewage before it is taken hold of by the pumps. Every week the sewage is shunted from one receiving chamber to the other, and the clogged coke of the upper strainer is entirely removed, hoisted to the drying ovens, and finally consumed under the boilers as ordinary fuel. The weekly removal of clogged coke from the upper strainer is about 5 tons. In my opinion the clogged coke should be removed at more frequent intervals and the coke should be, not commercial coke such as I saw, but breeze, or ordinary coke broken up into very small fragments. I believe the specification of the Sanitation Company demanded "breeze," but since the plant has been turned over to the corporation of Reading, several changes for the worse seem to have been made. During last August the cost for steam coal was \$72 for 48 tons. In addition to this 16 tons of coke from the receiving chambers were burned. The total quantity of sewage pumped during that month was 49,180,368 gallons.

The cost of this plant has been given to me as under:

Pumping station complete, with one pump and two boilers.....	\$59,000
The pipe line.....	31,000
Site for disposal works.....	7,000
Right of way.....	1,700
Iron structure for filters complete, including viaduct over creek and all accessories.....	62,300
	<hr/> \$161,000

As one-half of the upper filtering area is said to be generally out of operation for cleaning purposes, it follows that the daily flow of sewage treated (1,586,463 gallons) passes through the upper filter at the rate of about 2,286 gallons per square yard, or 11 million gallons per acre. Although this seems an enormously rapid rate, it must be borne in mind that the second filter below will pass the effluent from the first filter at only half the above rate, and that, with the large amount of aeration obtained, not only by falling through the 8' 6" air space, but through the last filter, very good results can certainly be looked for. As a matter of fact, a very fair sample of effluent was collected by me on the 4th instant. As regards cost of labor, it is safe to say that four men and a foreman could very well attend to the filters, although at present three foremen and eight men are employed by the corporation of Reading.

(Concluded in next issue)

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Shipping cull boards, stocks	15 00	16 00	16 00	
Hemlock scantling and joist up to 16 ft.....	10 00	12 00	10 00	
Hemlock scantling and joist up to 18 ft.....	11 00	12 00	12 00	13 00
Hemlock scantling and joist up to 20 ft.....	12 00	13 00	13 00	14 00
Cedar for paving, per cord.....	5 00	5 00		
Cedar for kerbing, 4 x 14, per M.....	14 00	14 00	14 00	
Scantling and joist, up to 16 ft	14 00	14 00	14 00	
" " 18 ft	15 00	16 00	16 00	
" " 20 ft	16 00	16 00	16 00	
Scantling and joist, up to 22 ft	17 00	17 00	17 00	
" " 24 ft	19 00	19 00	19 00	
" " 26 ft	20 00	21 00	21 00	
" " 28 ft	22 00	23 00	23 00	
" " 30 ft	24 00	25 00	25 00	
" " 32 ft	27 00	27 00	27 00	
" " 34 ft	29 50	29 50	29 50	
" " 36 ft	31 00	31 00	31 00	
" " 38 ft	33 00	33 00	33 00	
" " 44 ft	34 00	36 00		
Cutting up planks, 1 1/2 and thicker, dry.....	25 00	28 00	25 00	30 00

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1 1/2 in. flooring, dressed, F. M.	34 00	36 00	28 00	31 00
1 1/2 inch flooring, rough, B. M.	18 00	22 00	18 00	22 00
1 1/2 " " dressed, F. M.	25 00	28 00	27 00	30 00
1 1/2 " " undressed, B. M.	18 00	19 00	18 00	19 00
1 " " dressed.....	18 00	20 00	18 00	22 00
1 " " undressed.....	12 00	15 00	12 00	15 00
Beaded sheeting, dressed.....	20 00	35 00	22 00	35 00
Clapboarding, dressed.....	14 00	8 00	8 00	12 00
XXX sawn shingles, per M				
16 in.....	2 40	2 35		3 00
XX sawn shingles.....	1 60	1 50		
Sawn lath, No. 1.....	1 75	2 00	2 50	2 60
Cedar.....		2 90		2 90
Red oak.....	30 00	40 00	30 00	40 00
White.....	37 00	45 00	35 00	55 00
Basswood, No. 1 and 2.....	28 00	30 00	18 00	20 00
Cherry, No. 1 and 2.....	70 00	90 00	70 00	80 00
White ash, No. 1 and 2.....	24 00	35 00	30 00	35 00
Black Ash, No. 1 and 2.....	20 00	30 00	18 00	30 00
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(Continued Page 8.)

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Builders' Supplies.

Rice Lewis & Son... IV
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Boiler Coverings.

Mica Boiler Covering Co. IV

Building Stone Dealers.

Amherst Red Stone Quarry Co. XIII

Brodie, James... XIII
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Cleveland Stone Co. XIII
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Builders' Hardware.

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Crested Stains.

Cabot, Samuel... IV
Vokes Hardware Co. XII

Church and School Furniture.

Can. Office & School Furniture Co. XII
Globe Furniture Co. XII

Cements.

Bremner, Alex. I
Currie & Co., W&FP... XVI

Cements.

Owen Sound Portland Cement Co. IV
The Ratsbun Co. IV

Contractors' Plant and Machinery.

Rice Lewis & Son... IV

Drain Pipe.

Bremner, Alex. I
Currie & Co., W&FP... XVI

Drain Pipe.

Hamilton and Toronto Sewer Pipe Co. XVI

Elevators.

Fensom, John... I
Leitch & Turnbull... I

Electrical Apparatus.

Barrie & Co., Alex. III

Engravers.

Can. Photo-Eng. Bureau... II

Fire Brick and Clay.

Bremner, Alex. I
Currie & Co., W&FP... XVI

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Springer, O. T. XV

Galvanized Iron Workers.

Ormsby & Co., A. B. I

Grilles and Rattlings.

Dennis Wire & Iron Co. VIII

Malleable Iron Co. XIII
Toronto Fence & Ornamental Iron Works. VII

Grants.

Brunet, Jos. XIII
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Heating.

Boston Blower Co. XI
Clare Bros & Co. VI

Heating.

Gurney Foundry Co. V
Gurney, Tilden Co. V

Heating.

McClary Mfg. Co. III
Ormsby & Co., A. B. I

Heating.

Pease Furnace Co., J. F. XII
Robb Engineering Co. XI

Heating.

Toronto Radiator Mfg. Co. VII
The James Smart Mfg. Co. XII

Heating.

Wallberg, E. A. III

Interior Decoration.

Elliott, W. H. VIII

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like For ornamental work, Granite paving blocks, Granite curbings.

SLATE.

Toronto. Montreal.

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Roofing (per square), White lead, Zinc, Red lead, Venetian, Vermillion, Indian, Yellow ochre, Yellow chrome, Green chrome, Paris, Black lamp, Blue, ultramarine, Oil, linseed, raw, by bbl., Imp. gal., Oil, linseed, b'd, by bbl., Imp. gal., Oil, linseed, refined, Imp. gal., Patt., Whiting, dry, per 100 lbs., Paris white, Eng., dry, Litharge, Eng., Sienna, barm., Umber, Turpentine.

PAINTS. (In oil, per lb.)

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like White lead, Zinc, Red lead, Venetian, Vermillion, Indian, Yellow ochre, Yellow chrome, Green chrome, Paris, Black lamp, Blue, ultramarine, Oil, linseed, raw, by bbl., Imp. gal., Oil, linseed, b'd, by bbl., Imp. gal., Oil, linseed, refined, Imp. gal., Patt., Whiting, dry, per 100 lbs., Paris white, Eng., dry, Litharge, Eng., Sienna, barm., Umber, Turpentine.

CEMENT, LIME, etc.

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Portland Cements, German, London, Newcastle, Josson Brand Portland, North's "Condor", English, artificial, per bbl., Belgian, natural, per bbl., Canadian, artificial, Parian, Superfine, Hydraulic Cements, Thorold, per bbl., Queenston, Napanee.

Reversible Windows.

Duval & Co., E. IV

Roofers.

Campbell & Gilday... XV
Duthie & Sons, G. XV

Roofers.

Forbes, D. XV
Nicholson & Co., D. XV

Roofers.

Ormsby & Co., A. B. I
Rennie & Son, Robt. XV

Roofers.

Reggin, John... XV
Stewart & Co., W. T. XV

Roofers.

Williams & Co., H. XV

Roofing Materials.

Ormsby & Co., A. B. I
Metallic Roofing Co. IX

Sanitary Appliances.

Garth & Co. VIII
Toronto Steel Clad Bath & Metal Co. X

Sanitary Appliances.

The James Robertson Co. XIV

Sanitary Appliances.

The James Morrison Brass Mfg. Co. XVI

Stained and Decorative Glass.

Horwood & Sons, H. I
Hobbs Glass Works. II

Stained and Decorative Glass.

Lyon, N. T. I
Leonard, B. I

Stained and Decorative Glass.

Mackey Stained Glass Co. I
McKenzie's Stained Glass Works. I

Stained and Decorative Glass.

Reardon's Art Glass Works. I
The Robt McCusland Stained Glass Co. I

Stained and Decorative Glass.

Wood & Co. I

Shingles and Siding.

Metallic Roofing Co. IX
Metal Shingle & Siding Co. VIII

Shingles and Siding.

Ormsby & Co., A. B. I

Shingles and Siding.

Toronto Foundry Co. II

Storm Doors.

Hillock & Co., John. II

Ventilators.

Boston Blower Co. XI
Wallberg, E. A. III

Wall Plaster.

Albert Mfg. Co. XV
A'abastine Co. XIV

Parquet Floors.

Elliott, W. H. VIII

Plate Glass.

Hobbs Glass Works. II
Lyon, N. T. I

Plate Glass.

The Consolidated Plate Glass Co. II

Pressed Brick.

Taylor Bros. IV

Plumbers.

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Reflectors.

Frink, I. P. XIV

Toronto. Montreal.

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Hull, Ontario, Keene's Coarse "Whites", Fire Bricks, Newcastle, per M, Scotch, Lime, Per Barrel, Grey, Plaster, Calcined, N. B., Hair, Plasterers', per bag.

HARDWARE.

The following are the quotations to builders for nails at Toronto and Montreal:
Cut nails, 50d & 60d, per keg 2 20 1 85
Steel " " " " 2 35 1 95

CUT NAILS, FENCE AND CUT SPIKES.

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like 40d, hot cut, per 100 lbs, 10 to 12d, hot cut, 8d, 9d, 6d, 7d, 4d to 5d, 3d, Cut spikes, 10 cents per keg advance, Steel Nails, 1cc, per keg extra.

Iron Pipe:

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Iron pipe, 1/2 inch, per foot, 3/4 inch, 1 inch, 1 1/2 inch, 2 inch, Toronto, 70 per cent. discount, Montreal, 70 per cent. discount.

Lead Pipe:

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Lead pipe, per lb., Waste pipe, per lb.

Galvanized Iron:

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Adam's—Mar's Best and Queen's Head, 16 to 24 gauge, per lb., 26 gauge, Gordon Crown—16 to 24 gauge, per lb., 26 gauge, Note.—Cheaper grades about 1/2 c. per lb. less.

Structural Iron:

Table with 4 columns: Description, Toronto Price, Montreal Price, and another Montreal Price. Includes items like Steel Beams, per 100 lbs., channels, angles, tees, plates, Sheared steel bridge plate.