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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 Obligations and leading Contractors in all lines throughout Canada.

VOL. II.

AUGUST 8, 1900

No. 27.

THE CANADIAN CONTRACT RECORD,
PUBLISHED EVERY WEDNESDAY
As an Intermediate Edition of the "Canadian Architect and Builder."

Subscription price of "Canadian Architect and Builder" (including "Canadian Contract Record"), \$2 per annum, payable in advance
G. H. MORTIMER PUBLISHING COMPANY
of Toronto, Limited,
Publishers.

CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.
Branch Office:
Imperial Building, Montreal.
Telephone Main 2199.

Advertising Rates on application.

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

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publishers of any irregularity in delivery of paper.

TOWN OF LINDSAY

Tenders, marked "Tender for Sewers," will be received up to 12 o'clock, noon, on WEDNESDAY, 15TH INSTANT, for the construction of nine inch Tile Sewers and six inch cellar drains on the following streets:

About 1409 lineal feet on William and Elgin Streets.

About 1150 lineal feet on Melbourne and St. Laurence Streets.

Plans and specifications may be seen and forms of tender obtained at the office of the Town Clerk, Lindsay, or from the Town Engineer, W. T. Ashbridge, C.E., Temple Building, Toronto.

A deposit in the form of a marked cheque, for five per cent. of the amount of tender, must be enclosed, and will be returned when a contract has been signed.

The lowest or any tender not necessarily accepted.
ALEX. JACKSON,
Chairman Board of Works.

TENDERS WANTED

FOR

SEWER PIPES

Tenders will be received by the undersigned up to 12 o'clock, noon, on WEDNESDAY, THE 22ND DAY OF AUGUST, 1900, for the following Sewer Pipes:

4,750 lineal feet of 15 inch Pipe.
4,578 " " " 8 " "
4,500 " " " 4 " "
150 Y Junctions, 15 in. x 4 in.
120 Y Junctions, 8 in. x 4 in.

SPECIFICATION.

The pipes are to be of vitrified, salt-glazed clay, of the best quality, uniform in size and texture, thoroughly burned and glazed; they shall be free from cracks and flaws, and otherwise perfectly sound. The thickness of the pipes shall be one-twelfth of the inside diameter, and they must not vary more than one-half inch from a circle of the stated diameter of the pipe.

C. McMILLAN,
City Clerk.

City Clerk's Office,
Calgary, Alta., August 1st, 1900.

Notice to Contractors

Sealed tenders will be received by the undersigned until 4 o'clock MONDAY, AUGUST 20TH, for the construction of the

CAMPBELL DRAIN

in the Township of Hibbert. Plans and specifications may be seen at the office of the Clerk. A deposit for the sum of 3 per cent. on the value of the work tendered for must accompany each and every tender, otherwise they will not be entertained.

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

Lowest or any tender not necessarily accepted.

JAMES JORDAN,
Clerk Township of Hibbert,
Dublin P.O., Ont

Clerk's Office, Dublin, July 18th, 1900.

TOWN OF ST. MARYS

TENDERS FOR

STEAM PLANT AND POWER HOUSE

Sealed tenders will be received by the Town Clerk, St. Marys, Ont., until

Wednesday, August 29th, 6 p. m.

for the furnishing and erecting of:

One 150 h.p. Tandem Compound Engine.
One 50 h.p. Single Cylinder Engine, Shafting, Clutches, Pulleys, Etc.
Two Independent Jet Condensers.
Two 75 h.p. Tubular Boilers.
Boiler Feed Pump, Piping, Accessories, Etc.
Stone Power House, 65 feet by 36 feet.

Plans and specifications may be seen at the Town Clerk's office, St. Marys, or at the office of the Consulting Engineer, Toronto.

The lowest or any tender not necessarily accepted.

L. HARSTONE, Town Clerk,
St. Marys, Ont
RODERICK J PARKE,
Consulting Engineer,
409-410 Temple Building, Toronto, Ont.

City of Brantford

NOTICE TO CONTRACTORS

Sealed tenders, addressed to R. Waddington, Esq., Chairman of the Board of Works, in care of the City Clerk, Brantford, Ont., will be received till 12 o'clock, noon, on

Thursday, August 16th, 1900,

for the construction of:

Sec. (a) About 45,000 square feet of Concrete Sidewalks.
Sec. (b)—About 51,000 square feet of Plank Sidewalks.

Separate tenders required for sections (a) and (b). Specifications may be seen, and form of tender obtained at the City Engineer's office, Brantford.

A marked cheque, payable to the order of the City Treasurer, to the amount of 5 per cent. of the contract price, estimated on the above quantities, must accompany each tender.

The lowest or any tender not necessarily accepted.

T. HARRY JONES, M.C. Soc. C.E.,
City Engineer.
City Engineer's office, Brantford, August 6th, 1900.

FOR SALE

GRAVEL PIT near Toronto. THE MANUFACTURERS AGENCIES AND SUPPLY CO., Limited, 36 East King Street, Toronto.

TENDERS

Tenders will be received up to NOON THE 22ND AUGUST, for the supply of 40 tons of Portland Cement. Lowest or any tender not necessarily accepted.

C. McMILLAN,
City Clerk.

Calgary, Alberta, August 3rd, 1900.

TENDERS FOR

CEMENT SIDEWALKS

Sealed tenders, addressed to the undersigned, and marked "Tender," will be received until 3 p.m. of MONDAY, THE 13TH DAY OF AUGUST, 1900, for the construction of about 50,000 feet of Cement Sidewalks. Specifications furnished on application.

The lowest or any tender not necessarily accepted.

W. J. MAHER,
Chairman Street Committee.

Cobourg, August 2nd, 1900.

STONE PAVEMENTS

Sealed proposals will be received, by registered letter, addressed to the undersigned, up to 12 o'clock, noon, of MONDAY, THE 13TH OF AUGUST, 1900, for the furnishing of all materials, and the construction of all artificial stone pavements in the City of Hull during the present season.

Specifications and forms of tenders can be obtained from the City Engineer.

Sealed proposals will likewise be received at the same time and date for vitrified clay drain pipes and connections; car lots, f.o.b. Hull.

The right to reject any or all proposals is reserved.

R. W. FARLEY,
City Engineer.

Hull, 1st August, 1900.

TENDERS

Sealed tenders will be received, by registered mail, addressed to the Chairman of the Waterworks and Sewer Committee of Sturgeon Falls, Ontario, up to NOON, AUGUST 9TH, 1900,

1. For the Construction of a System of Waterworks.
2. For the Construction of a System of Sewers.

Plans and specifications may be seen and forms of tender procured at the office of the engineer, Vaughan M. Roberts, Esquire, St. Catharines and Sturgeon Falls, Ont. A marked cheque equal to 2% of the amount of bid must accompany all bulk tenders for Waterworks. Tenders for portions of the work and for the Sewer system must be accompanied by a marked cheque for \$250.00.

The lowest or any tender not necessarily accepted.

JOHN McNEIL,
Chairman Waterworks and Sewer Committee.
H. E. McKEE,
Town Clerk.

CEMENT-CONCRETE SIDEWALKS TENDERS WANTED

Sealed tenders, addressed to the Reeve of the Village of Lucknow, will be received up to 8 p. m.

Wednesday, August 15th, 1900,

for the construction of some 36,500 square feet of cement concrete sidewalks in said village.

Specifications may be seen at the office of James Bryan, Village Engineer, Lucknow, or at the office of the Village Clerk, Lucknow.

A marked cheque for five per cent of the amount of contract, payable to the order of the Village Treasurer, must accompany each tender, the same to be forfeited if the party decline the contract or fail in the performance thereof, and will be returned in case of non-acceptance of tender.

The lowest or any tender not necessarily accepted

W J TAYLOR, HUGH MORRISON,
Reeve. Village Clerk.

Lucknow, July 18, 1900.



NOTICE TO IRON BRIDGE BUILDERS

SEALED TENDERS, addressed to the undersigned, and endorsed "Tender for Iron Work of Bridges over the Slide Channels, Ottawa," will be received at this office until **THURSDAY, AUGUST 15th NEXT**, for the reconstruction of the Iron Work of the bridges across the Chaudiere slide channels of the Ottawa river, in the City of Ottawa, which were destroyed by fire in April last, a cording to plans and a specification which can be seen at the office of the Superintending Engineer of the Ottawa River Works, over the post office in the City of Ottawa, and at the Department of Public Works, Ottawa, after Wednesday, August 7 next.

Tenders will not be considered unless made in the manner called for by the specification and signed with the actual signature of the tenderer.

An accepted chartered bank cheque, payable to the order of the Minister of Public Works, and equal to 10 per cent of the bulk amount of the tender, must accompany each tender. The cheque will be forfeited if the party decline to contract or fail to complete the work contracted for. It will be returned in case of non-acceptance of tender.

The Department does not bind itself to accept the lowest or any tender.

By order,
JOS R ROY,
Acting Secretary.

Department of Public Works,
Ottawa, July 30, 1900.

Newspapers inserting this advertisement without authority from the Department will not be paid for it.



TRENT CANAL SIMCOE-BALSAM LAKE DIVISION

NOTICE TO CONTRACTORS.

Sealed tenders, addressed to the undersigned, and endorsed "Tender for Trent Canal," will be received at this office until noon **FRIDAY, 24th AUGUST, 1900**, for the construction of about thirteen miles of Canal between Kirkfield and Lake Simcoe, which will be divided into two sections.

Plans, specifications of the work and forms of contract can be seen at the office of the Chief Engineer of the Department of Railways and Canals, at Ottawa, or at the Superintending Engineer's Office, Peterboro, where forms of tender can be obtained on and after Tuesday, 24th July, 1900.

In the case of firms there must be attached the actual signatures of the full name, the nature of the occupation and place of residence of each member of the same, and, further, an accepted bank cheque for the sum of \$15,000 must accompany the tender for each section, these accepted cheques must be endorsed over to the Minister of Railways and Canals, and will be forfeited if the parties tendering decline entering into contract for work at the rates and terms stated in the offer submitted. The accepted cheques thus sent in will be returned to the respective parties whose tenders are not accepted.

The lowest or any tender not necessarily accepted.

By order,
L. K. JONES,
Secretary.

Department of Railways and Canals,
Ottawa, July 16th, 1900.

Newspapers inserting this advertisement without authority from the Department will not be paid for it.

CONTRACTS OPEN.

ROSSEAU, ONT.—Dr. Foote intends building a residence.

SOURIS, P.E.I.—It is the intention of the Board of Fire Wardens to purchase a fire engine.

BRIGHTON, ONT.—An electric railway will probably be built between this place and Havelock.

SANDON, B. C.—Plans for a new school to be built here have been prepared by J. W. Balmain.

OWEN SOUND, ONT.—A syndicate has been formed for the purpose of boring for natural gas in this vicinity.

THOROLD, ONT.—American capitalists have been looking over the available sites here for a pulp mill.

WOODBRIDGE, ONT.—J. W. Franks wants tenders by August 13th for brick work of a store and house.

KINGSVILLE, ONT.—Tenders have been taken on addition to public school, from plans by J. A. Maycock.

BERLIN, ONT.—Mr. Knechtel, architect, has prepared plans for a residence to be built by Alderman Rumpel.

SARNIA, ONT.—Petitions have been presented to the council for granolithic walks on Alfred and Russell streets.

ST. ANDREWS, N. B.—The government is making a survey of the harbor here with a view to making improvements.

ST. CATHARINES, ONT.—The council have voted in favor of raising \$5,000 for improvements to the Collegiate Institute.

DUNDAS, ONT.—Crafton & Co. will erect a new factory on King street and may build an addition to their warehouse.

RENFREW, ONT.—Hon. Peter White will probably put down about 1,000 feet of granolithic sidewalk in front of his property in this town.

ALMONTE, ONT.—Operations will be commenced about September 1st on the proposed creamery. W. J. McNally is the promoter.

VANCOUVER, B.C.—Plans have been prepared for alterations to the Harvey Haddon building and for an additional story to the Arcade.

BROCKVILLE, ONT.—The by-law to provide \$100,000 for the purchase of the electric lighting plant was carried by the ratepayers last week.

SYDNEY, C. B.—The Cape Breton Tramway and Electric Co., capital \$500,000, has been organized to build electric railways in this vicinity.

HALIBURTON, ONT.—A meeting of the vestry of the English church was held last week to take steps regarding the building of a parsonage.

CAMPBELLTON, N. B.—The council will likely engage Willis Chipman, C. E., of Toronto, to prepare plans for a sewerage system for the town.

FREDERICTON, N.B.—The council is still considering the advisability of constructing a sewerage system. An expert will be engaged to report.

SHERBROOKE, QUE.—Cox & Amos, architects, of Montreal, are preparing the plans of the proposed opera house to be built here by Mr. Clement.

PARRY SOUND, ONT.—The by-law granting a bonus of \$20,000 to the James Bay Railway Co. was carried by the ratepayers on Monday last.

WATERLOO, ONT.—The Whitewear Company will erect a building, corner Yonge and King streets, to be 100 by 40 feet, three stories, cost \$7,000.

PEMBROKE, ONT.—The council has given notice of its intention to construct sewers on several streets.—C. Chapman proposes remodelling his premises, corner of Alexander and Pembroke streets.

KINTORE, ONT.—The municipalities of North Oxford and East Nissouri will probably issue debentures for \$5,500 for purpose of building a new school.

COBourg, ONT.—W. J. Maher, chairman Street Committee, will receive tenders up to August 13th for construction of 50,000 feet of cement sidewalks.

GRAVENHURST, ONT.—It is the intention of the National Sanitarium Association shortly to erect another building for the free treatment of consumptives.

REVELSTOKE, B. C.—A company has been formed, capital \$15,000, to erect a building, corner First street and Connaught avenue, to be used as a hotel.

HINTONBURG, ONT.—Work on the proposed water works extension will be commenced in September. In the meantime debentures will be offered for sale.

WOODSTOCK, N. B.—Tenders have just been taken by J. C. Hartley, secretary of the municipality of Carleton, for construction of two steel cages in county jail.

GUELPH, ONT.—Tenders closed yesterday for the erection of a brick factory building for the Robertson-Taylor Manufacturing Company. L. C. Wideman, architect.

LEVIS, QUE.—The Intercolonial railway authorities invite bids up to 11th inst. for construction of a wharf at this place.—American capitalists may establish cement works here.

MONCTON, N. B.—Tenders for submarine rock blasting and dredging at Halifax, N. S., are invited by the authorities of the Intercolonial Railway up to August 25th.

NIAGARA FALLS SOUTH, ONT.—B. H. Robinson has purchased the Rysdale property on Ferry street, and will rebuild the house. He may also build a store on a portion of the lot.

TORONTO JUNCTION, ONT.—A. B. Rice is interested in the new company which proposes to purchase the present lighting plant and install an arc system at a cost of \$4,800.

BROCKVILLE, ONT.—Plans are being prepared for a mammoth stairway to lead from the water to Hopewell Hill, the residence of W. C. Browning; estimated cost, \$6,000.

SMITH'S FALLS, ONT.—At last meeting of School Board plans were submitted for addition to Central school, but a resolution to call for tenders was defeated, and no further action was taken.

ST. THOMAS, ONT.—The new drill shed to be built here will be constructed of red brick, stone foundation, two stories and basement, fitted with bathrooms, etc.; estimated cost, \$12,000.

ST. LAURENT, QUE.—Plans by J. A. O. Laforest have been accepted by the council for a water works system. A by-law to raise \$75,000 for the purpose will be submitted to the ratepayers.

PRESTON, ONT.—In connection with the construction of an electric railway between Galt and this place, a bridge will be built over the Speed river. John Paterson, of Hamilton, is interested.

CHATHAM, N. B.—Bids are invited up to 20th inst. for purchase of \$500 of debentures. Address G. Stothart.—John Moravec states that he will shortly commence the erection of a pulp mill in this vicinity.

ARNPRIOR, ONT.—Robert Surtees, C. E., of Ottawa, has been engaged to prepare plans for waterworks and sewerage systems for this town. Surveys are now being made and as soon as possible tenders for the work will be invited.

ROSSLAND, B. C.—Bids for the purchase of \$35,000 of debentures are invited by the corporation up to September 4th. Particulars from Wm. McQueen, city clerk.—The Board of Trade has asked

the provincial government to erect a new school building here.

WILLIAMS, ONT.—A by-law may be submitted to the ratepayers to provide for the purchase of a steam road roller.—The town authorities are in communication with the Dominion Government authorities regarding the building of a bridge at this place.

QUEBEC, QUE.—A meeting of citizens was held last week to consider the question of building a theatre and conservatory of music. Plans for a suitable building have been prepared by Berlinquet & Lemay, architects, and in all probability the work will be proceeded with. T. Le-Vasseur was appointed secretary.

VICTORIA, B.C.—J. H. Todd purposes erecting a two story brick building, 120 x 90 feet, on the corner of Government and Fisgard streets.—T.R. Hooper, architect, has prepared plans for a block, 75 x 100 feet, three stories and basement, to be built on the corner of Douglas and Pandora streets, of white pressed brick, cut stone and terra cotta.

LONDON, ONT.—The city engineer wants tenders by 5 p. m. of 9th inst. for construction of tar macadam pavement on Queens avenue, from Adelaide to Maitland streets.—The engineers at the Jubilee hospital have reported that the boiler capacity is inadequate.—An asphalt pavement will likely be constructed on Dundas street, between Wellington and Waterloo streets.

CALGARY, N. W. T.—P. Burns & Co. will erect a two story stone front office building on Atlantic avenue. Mr. Burns will build a new residence, plans for which will be prepared by F. M. Rattenbury, architect, of Vancouver.—The corporation will offer debentures for sale.—A by-law will be submitted to the ratepayers to provide \$2,000 for the purchase of a road roller and stone crusher.

CORNWALL, ONT.—T. H. Wiggins, C. E., is just completing a survey for the proposed Castor drainage scheme. The drain will pass through Mountain, Winchester and Russell townships, and will cost \$60,000, a considerable portion of this being for rock cutting. The length of the drain will be about 17 miles. Government assistance towards the work will be asked.

KINGSTON, ONT.—The financial arrangements have been completed for the erection of a smelter here.—The author of Queen's University purpose making a more extended use of electricity, and for this purpose will erect a central heating and power station within the University grounds. A considerable number of dynamos and motors and other electrical appliances will be required.

HULL, QUE.—G. V. Ardouin has commenced the erection of a \$3,000 block on Langevin street.—Fifteen tenders have been received for rebuilding the courthouse and jail.—The George Matthews Co. will build a large addition to their factory.—The Pontiac Railway Co. have secured further right of way for their proposed road, and it is expected that the work of extending the line will be proceeded with at once.

SAULT STE MARIE, ONT.—F. H. Clergue, on behalf of the Algoma Central Railway Co., has acquired the charter and privileges of the Hudson Bay and Sault Ste. Marie Railway Co., which has been given the right to construct a road from Missanibie to Moose's factory, on Hudson Bay, and which carries with it a subsidy of \$500,000.—Work on the road will be commenced as soon as the main line to Missanibie is completed.

ST. JOHN, N. B.—The city will construct asphalt pavements to cost \$3,000.—The school trustees will erect a new building on the lot between St. George and St. John streets, to be frame, two stories,

consisting of four rooms.—The corporation will lay a new ten inch pipe on Union road, to cost \$2,700.—Plans are on view at office of H. H. Mott, architect, of proposed Baptist church on Haymarket square. Tenders close August 10th.

ST. MARY'S, ONT.—Roderick J. Parke, consulting engineer, of Toronto, has been engaged by the municipal council to prepare plans and specifications for the reorganization and combination of the present municipal arc lighting plant and the incandescent lighting plant recently acquired by the corporation from the Reesor Company. A new power station will be erected, and a completely new engine and boiler plant purchased and installed. Work will be commenced as soon as possible.

HAMILTON, ONT.—The Cataract Power Co. has made a proposition to the council involving the construction of an electric railway to Galt and Guelph.—The city is this week taking tenders for repairing asphalt pavement on King and James streets.—Tenders are wanted by the city up to 4 p. m. 10-day, for construction of pipe sewers.—John Mercer has secured permits for brick dwelling on Ferguson avenue south and three pair of brick dwellings, corner Barton street and Gibson avenue, cost \$9,000.

OTTAWA, ONT.—The Department of Public Works is about to purchase plant required for dredging to be done in British Columbia.—The Dominion Government have been making soundings for a pier to be built at Kettle Point, 420 feet in length, cost \$2,000.—J. R. Booth and other manufacturers in the Chaudiere district will likely purchase a new fire engine of 900 gallons capacity.—It has been stated that the new central depot will not be commenced for sometime to come.—A. Ewart, architect, has completed plans for new hospital to be built on Porter's Island. Building will be brick, three stories and basement, cost \$38,000.—Building permits have been granted as follows: Lyman Shaver, double brick veneered dwelling, Rochester street, cost \$2,000; F. X. Trepanier, frame building, Rochester street, cost \$800; W. H. McAuliffe, brick office and dwelling, Duke street, cost \$2,000; P. Bessant, frame shop and dwelling, Preston street, cost \$800.

TORONTO, ONT.—A. F. Wickson, architect, will prepare plans for alterations to the Athletic Club building on College street to meet the purposes of a Technical School; estimated cost, exclusive of seating, \$10,000.—The United Electric Co. have made application to the Property Committee for a lease of the lot at the north-east corner of Bay and Lake streets, on which they propose to erect a factory building to cost \$15,000.—The value of building permits issued for the first six months of this year was \$1,144,669, as against \$1,097,315 for the corresponding period of last year.—The School Board will likely call for new tenders for a school on Bathurst street, two stories, with eleven rooms and unfinished at one end, and for a one story building of seven rooms.—The Anti-Consumption League have decided to at once secure options on several sites within ten miles of the city for the purposes of a sanatorium for consumptives, and plans for the necessary buildings will be prepared at once.—The city has decided to erect three fire stations on the island and to locate hydrants every 400 yards.—Building permits have been granted as follows: William Scott, two story brick house on Collins avenue, near Huxley street, cost \$4,000; Mormon Society, one story church on Camden street, cost \$2,500; W. J. France, two story dwelling, 425 Leslie street, cost \$850.—It is said that Meaney & Co., lumber merchants, contemplate the erection of a large box factory in the province of Quebec.

WINNIPEG, MAN.—Robt. Strang will erect a three story brick block adjoining the Confederation Life property on Main street.—The city will carry out the following works: Asphalt pavement on Elgin avenue, cost \$5,260; Bell avenue, cost \$3,500; Cumberland avenue, cost \$8,900; Bell street, cost 3,353; sewer on Nena street, cost \$4,850; granolithic walk on Broadway, cost \$10,430; artificial stone sidewalk on Portage avenue, cost \$2,536; asphalt pavement on Carlton street, cost \$3,810.—A Dominion Government engineer will make a re-survey of the Red river from Emerson north, with the object of furnishing an estimate of the cost of removing obstructions so as to render the river navigable.—Tenders for the erection of the Deaf and Dumb Institute will be called for at an early date.—Geo. Browne, architect, has taken tenders for a stone and brick business block, corner Main street and Graham avenue.—Chief Engineer Garden has commenced a survey for a line of railway from Stirling towards Cardston.—Geo. Browne, architect, invites tenders up to 10th inst., for plumbing and steam heating of new Y. M. C. A. building.—The school Board is this week taking tenders on an office building for the Board.—S. Hooper, architect, is just completing plans for the new Deaf and Dumb Institute.—James Chisholm, architect, invites tenders up to 11th inst. for erection of brick Presbyterian church at Edmonton, N. W. T.—The Fire, Water and Light Committee has provided the sum of \$1,000 to purchase two hose carriages.

MONTREAL, QUE.—The Catholic School Board will call for new tenders for the additional work required on Ste. Eusebe school.—Taylor & Gordon, architects, are inviting tenders for the materials in the building on Craig street recently occupied by the Canada Paper Co.—Sir Wm. C. McDonald has made a proposition to the Mount Royal Cemetery Company to erect a crematory.—A syndicate has secured an option on the property bounded by Dorchester, Stanley, Osborne and Windsor streets, the intention being to erect a large hotel on the site.—The city clerk invites tenders up to noon of Friday, 10th inst., for additional improvements to the city hall building. Plans by Maurice Perrault, architect.—A. F. Dunlop, architect, has prepared plans for a manufacturing building to be built by J. Auld on the block bounded by Chenneville, St. George and Vitre streets. Building will be five stories, the first of Montreal limestone, and the upper ones of brick.—Plans have been prepared by Howard Calton Stone, architect, for a business block to be built by Hon. George Washington Stevens on the south side of St. Catharine street, between Mountain and Drummond, to be 120 x 90 feet, three stories and basement, of New Brunswick sandstone. The block will be divided into four stores, the basement to be finished for showrooms.—Building permits have been issued as follows: Hamelin & Gagaver, four houses, two story, on Du-fresne street, cost \$2,500 each; Sun Life Insurance Co., building on Hospital, John and St. Alexis streets, cost \$10,000; Mrs. W. H. Weir, two dwellings, three story,

CENTRAL LOAN AND SAVINGS COMPANY

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W. BAILLIE, Secretary.

E. R. WOOD, Managing Director

cost \$20,000; Mr. Belanger, three story dwelling, 85 Desury street, cost \$1,200; Estate of John McDougal, three story dwelling on Basin street, cost \$6,000; Jas. Hootaleau, two story dwelling 1050 St. Catharine street, cost \$4,000; E. F. Beaudry, building on St. Catharine street, cost \$2,000 (J. B. Resther & Sons, architects); J. B. Rochon, 236 Craig street, two story building, cost \$650.

FIRES.

Pulp mills of the National Paper Co. at Indian Lorrette, Que., totally destroyed; loss \$15,000.—Woodworking factory of John McDonald at St. John, N. B., loss \$15,000, insurance \$3,000.—Tanning works of Bowman & Zinkan at Southampton, Ont., loss \$140,000, insurance \$85,000. Rebuilding will likely be commenced at once.—Building at Mocton, N. B., owned by Dr. Cruise.—Public school at Bleahem, Ont., totally destroyed, loss \$15,000.—Bernier & West's dry goods store, corner University and St. Catharines streets, Montreal, damaged to extent of \$100,000. Building owned by G. W. Stephens.

CONTRACTS AWARDED.

ST. CUNEGONGE, QUE.—New church: Viau & Lachance, of Hull, contractors.

KIRKTON, ONT.—Brick house for W. A. Kirk: W. Howard, of Exeter, contractor.

QUEBEC, QUE.—The contract for asphalt pavements has been awarded to Frs. Parant.

PORT ARTHUR, ONT.—G. A. Stimson & Co., of Toronto, purchased the \$5,000 town debentures.

PARRY SOUND, ONT.—Office building for Parry Sound Star: J. R. Eaton, of Orillia, contractor.

WINNIPEG, MAN.—Sewer on Wardlow avenue; Dobson & Jackson, successful tenderers, at \$3,480.56.

HULL, QUE.—St. Thomas de Aquinas school on Brewery street: Boileau Bros., of Montreal, successful tenderers, at \$7-350.

GUELPH, ONT.—The Royal Artificial Stone Paving Co. have secured contracts for granolithic walks at Palmerston and Durham.

ANDERDON, ONT.—\$6,000 township debentures: O'Hara & Co., Toronto, purchasers, at premium at \$45 and accrued interest.

MELROSE, N. B.—Catholic church: H. & H. Copp, of Sackville, successful tenderers. Building will be 66x42 feet, cost \$6,000.

KINCARDINE, ONT.—The tender of Hunter Bros. has been accepted for construction of two iron bridges in township of Huron.

HAMILTON, ONT.—Rogers & Taylor, of Montreal, have secured contract for double tracking the Grand Trunk Railway from this city to Niagara Falls.

SMITH'S FALLS, ONT.—The following tenders were received for granolithic sidewalks: Frank Dolan, Brockville, 18½c. per square foot (accepted); Chas. T. Hookway, 19½c. per square foot.

ST. MARYS, ONT.—Only one tender was received for construction of granolithic walk, that of John Keen, at 4 cents

per square foot on Thomas street, and 5½ cents for the south ward work, which was accepted.

MONTREAL, QUE.—Fire station in Hochelaga ward: O. Martineau, masonry; Chapleau & Lebeuf, carpentry and joinery; Rochon Freres, brickwork; J. H. Lambert, painting and glazing; G. B. Londe, electric work; J. A. Giroux, heating, plumbing and roofing; F. Decary, plastering.

ST. JOHN, N. B.—Improvements to court house: Heating and plumbing, G. & E. Blake, \$1,785; galvanized roof, J. E. Wilson, \$432.—For supplying water pipe tenders were received as follows. R. D. Wood Co., Philadelphia, \$22.30 per ton exclusive of duty: Londonderry Iron Co., \$32 per ton f. o. b. St. John; United States Cast Iron Co., \$21.45 per ton f. o. b. St. John, exclusive of duty, (accepted).

OTTAWA, ONT.—Building for the Ottawa Furnace & Foundry Co: Stonework, Cowan & Doran; carpenter work, J. & C. Low. Building will be 222x75 feet, two stories, brick, cost \$6,000. About \$15,000 will be expended in fitting up the factory.—The council have accepted the offer of Wm. Mackey for \$100,000 debentures, at \$99,000.

VANCOUVER, B. C.—The McClary Manufacturing Company, of London, have secured the contract of installing furnaces in addition to Fairview school, this city. The Rutley Warming & Ventilating Co., of Toronto, secured the

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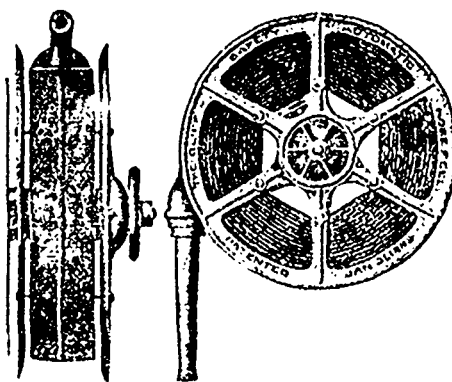
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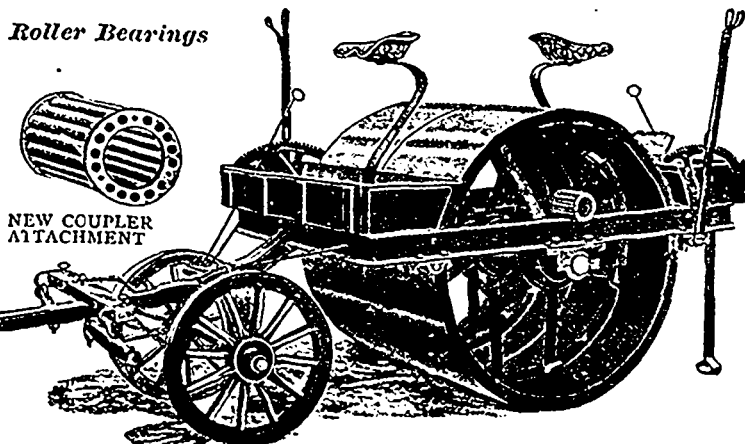


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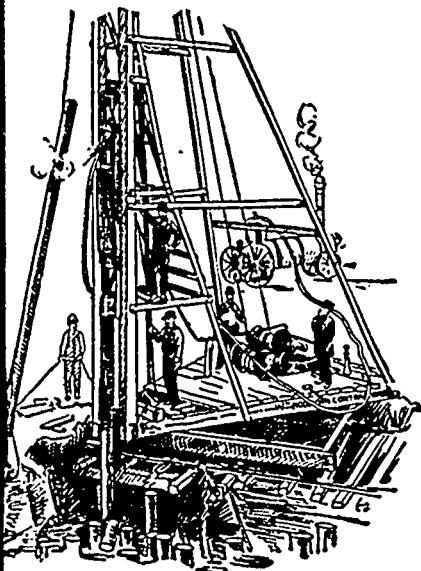
contract for those in the Lord Roberts and General Seymour schools.

TORONTO, ONT.—The Board of Control last week awarded contracts as follows: Square block pavement at approach to York street bridge, W. F. Grant & Co., \$2,255; asphalt pavement on King street, Spadina to Bathurst, Constructing and Paving Company, \$22,260; asphalt pavement on Markham street, College to No. 759 south, Warren Scharf & Co., \$5,983; macadam road on Shuter street, Yonge to Sherbourne, Dominion Paving and Constructing Company, \$7,122; brick road, West Lodge avenue, Queen to No. 240 north, W. F. Grant & Co., \$1,484; cedar block pavement, Dundas street, Ossington avenue to Lansdowne, W. F. Grant & Co., \$10,502.

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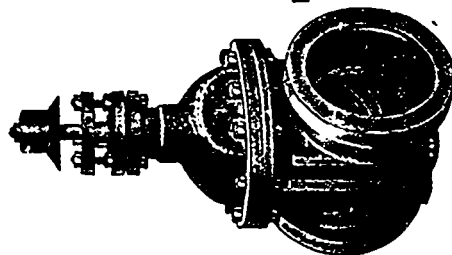


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CRACKS IN STREET ASPHALT.

By DANIEL B. LUTIN,
Instructor in Civil Engineering, Purdue University.

During the summer of 1899, sheet asphalt pavements to the extent of 35,000 sq. yards were laid in the city of Lafayette, Indiana. Analyses of the surface layer showed quite uniformly from 10 to 11 per cent. of bitumen soluble in carbon bisulphide. The pavements were laid under a 10-year guarantee, and it was generally supposed that a rather soft pavement would be laid, in order to prevent drying out and cracking during the 10-year period. Nevertheless during the severe cold of December 30 and 31st, 1899, when the temperature fell to 4° below zero, the pavement cracked at numerous points.

These cracks may not be a serious injury to the pavement; under the action of traffic, the edges break down, forming a slight depression. The crack appears to close and the difference in the surface is hardly noticeable.

The cracks usually extended across the street from one gutter to the other; two or three of them, out of a total of 17, were found to be located at points where joints had been made in the asphalt surface on account of interruptions in the work of laying. The cracks were rarely wider than 1-16 in. at the time of lowest temperature.

But that it should be repaired at the earliest opportunity in order to prevent disintegration from water will be admitted when the action of water upon sheet asphalt is shown by an experiment, the details of which are given below.

On the same day that the cracks in the sheet asphalt were located, all the other pavements in the city were carefully examined, but with the exception of two very slight markings in the asphalt block pavement, no other cracks could be found. The two fine cracks in the latter pavement closed up with increase of temperature, with no detriment to the pavement. A pronounced opening was found, however, at the junction of each of the other pavements with sheet asphalt; such junctions occurred between sheet asphalt and asphalt block, brick, and cedar block. No cracks were to be found at junctions of cedar block with brick, of brick with asphalt block, or of brick on concrete with brick on brick. The sheet asphalt is laid on 6 in. of portland cement concrete, the asphalt block on 4 in. of concrete, and part of the brick is on concrete, and part on brick foundation.

Hair cracks were numerous also between the sheet asphalt and the brick gutters.

It would seem, therefore, as though the cracks were a defect belonging peculiarly to sheet asphalt, and information from other cities confirms this impression. It has frequently been attributed to the concrete base. It is true that the expansion and contraction of concrete may be sufficient to produce such an effect. The coefficient of expansion of concrete is known to be approximately 0.000,005,5; for a range of temperature of 75° F. this would mean a contraction or expansion of $\frac{1}{2}$ in. in 100 ft.

The tensile strength of the concrete would resist this action. But taking the average value of the coefficient of elasticity of the concrete as 3,000,000 lb. per square inch, a contraction of $\frac{1}{2}$ in. in 100 ft. would produce a tension of 1,200 lb. per square inch in the concrete; 100 lb. per square inch is a fair allowance for the safe tensile strength in portland cement concrete. It must be remembered, however, that the assumption of 3,000,000 as the coefficient of elasticity makes no allowance for an initial set or permanent distortion which concrete takes under the action of a force, and which is variable, depending upon the thoroughness of mixing of the concrete. The contraction of the concrete base is also resisted by friction on the ground beneath.

A theoretical investigation, therefore, while it would seem to charge the damage to the concrete, cannot be considered at all conclusive. The coefficients of expansion and elasticity of sheet asphalt are unknown, and the same is true of asphalt block; for brick, with a coefficient of expansion of about 0.000,002,7 the contraction in 100 ft. for a fall of temperature of 75° would be $\frac{1}{4}$ in., which could doubtless be taken up by the joints without showing cracks. It would seem that if the concrete contracted, the brick would move with it to a lesser extent perhaps, but accumulating the contraction to form a noticeable crack.

And one thing is certain, that, whatever the great expansion and contraction of concrete might lead one to expect, it is nevertheless the combination of sheet asphalt with a concrete base that produces a pavement especially liable to severe cracking. Expansion joints in such a pavement are worse than useless, because they are only another form of the defect which they are intended to remedy.

(Concluded next week.)

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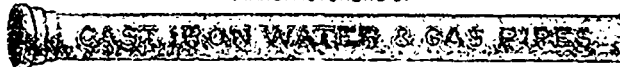
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