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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL

PUBLIC WORKS • TENDERS •
ADVANCE INFORMATION •
AND MUNICIPAL PROGRESS

EVERY THURSDAY

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. 8.

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No. 1.

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TENDERS FOR BRICK AND TILE SEWERS

Tenders will be received at the undersigned office up to 5 o'clock on

Thursday, the 18th February,

for the construction of 2,100 feet of 18 inch Tile Sewer on the Wharncliffe Highway, and for 1,330 feet of Brick Sewer on King, Ridout and other streets.

The lowest or any tender not necessarily accepted.

A. O. GRAYDON, City Engineer,

ALDERMAN E. PARNELL,
Chairman Board of Works.

CONTRACTS OPEN.

FOXBORO, ONT.—A new school house will be built here.

SELKIRK, MAN.—The Dominion government is being urged to construct docks here.

LEAMINGTON, ONT.—C. Crasper will erect a residence in the spring, to cost \$2,000.

FONTHILL, ONT.—Geo. McLellan is preparing to erect a dwelling in the spring.

DUNDAS, ONT.—The ratepayers desire to secure the installation of an electric light plant.

NAVAN, ONT.—The Anglican congregation are preparing for building a stone church.

KNOWLTON, QUE.—The electric light company propose putting in a new plant in the spring.

WATERLOO, ONT.—Sewerage construction is receiving considerable attention at the present time.

QUEBEC, QUE.—An addition will be made to the school of the Reverend Sisters of Charity.

MONCTON, N. B.—Tenders will be received shortly for supplying steel rails for the Intercolonial railway.

SEAFORTH, ONT.—Wm. Elliott, clerk, will receive tenders until the 1st of March for lumber required by the corporation.

GALT, ONT.—Steps are being taken to have a new exhibition building erected for the South Waterloo Agricultural Society.

PETAWAWA, ONT.—A new bridge across the Petawawa river is proposed. The Ontario government will be asked to assist.

PALESTINE, ONT.—A company has been formed to erect a cheese factory here. Mr. T. Greenway has been elected president.

COWANSVILLE, QUE.—The village council at a special meeting passed a by-law providing for constructing a system of waterworks.

BERLIN, ONT.—It is stated that the sewage farm is not regarded as satisfactory, and a new system is being advocated by some of the ratepayers.

ROSSLAND, B. C.—A Montreal syndicate is said to have purchased the water and light plant and franchise and propose putting in a complete electrical system.

SHERBROOKE, QUE.—A question now under consideration by the town is whether the corporation should purchase the present waterworks or construct a new system.

CHATHAM, ONT.—The promoters of the proposed Chatham City and Suburban Electric Railway will apply to Council for an extension of their franchise to include electric lighting.

STONEWALL, MAN.—It is possible that the C. P. R. may extend their line north

next summer. Nothing definite has been arranged as yet, but indications at present point in that direction.

WELLAND, ONT.—An agitation is again on foot to build a water power flume from the aqueduct in the new Welland canal into the river. The government will be asked for consent to tap the canal.

THREE RIVERS, QUE.—An effort is being made to induce the Ottawa, Arnprior and Parry Sound Railway Company to make Three Rivers the eastern terminus of the road, and to establish shops here.

SEBRINGVILLE, ONT.—Mr. D. J. Baxter, architect, of Stratford, is preparing plans for a residence for Dr. J. J. Paul, to cost about \$3,000. The building will be of red brick and will be heated with hot air.

RENFREW, ONT.—The estimated cost of waterworks and sewerage systems is placed at \$95,000. Mr. A. Potter, C. E., has been appointed to prepare plans for both gravitation and pumping systems.

HULL, QUE.—The plans for the new school, which have just been accepted, show a building 80 x 52 feet, with twelve class rooms. The Separate School Board will ask permission to borrow \$25,000 to consolidate the debt.

LONDON, ONT.—C. W. Smith will build a one and a half story brick veneer dwelling on Lyle street, to cost \$1,200.—The Board of Trade will petition the Dominion government to enlarge the harbor. The cost will be about \$20,000.

NIAGARA FALLS SOUTH, ONT.—Ald. George Hanan and Mr. Edward Davis, of Niagara Falls, Ont., have secured control of the Niagara Falls, Clifton and Drummond street railway, and will probably convert the road into an electrical system in the spring.

OWEN SOUND, ONT.—The by-law to grant a bonus of \$40,000 to the C. P. R. in consideration of the extensive improvements proposed by that company has been read a first and second time in Council.—A by law to provide \$6,000 for extending the waterworks system will be voted on by the ratepayers in March.

CORNWALL, ONT.—By-laws have been passed by the municipal council for the issue of \$1,049 worth of debentures for the construction of sewers on Third, Fourth and Fifth streets. James W. Crawford, secretary-treasurer, will receive tenders until the 10th inst. for erecting a school house on lot No. 8, 3rd concession, Township of Cornwall.

FREDERICTON, N. B.—Ald. Macpherson will probably build at the corner of King and Westmoreland streets. The City Council have given notice that application will be made at the next session of the legislature for authority to issue \$15,000 worth of debentures for the purpose of purchasing a road plant, installing

a fire alarm system and opening up new streets.

KAMLOOPS, B. C. Hewitt Bostock, M. P., will erect a business block on Main street this coming spring.

PETERBORO, ONT.—Considerable sewerage work will be constructed this year. It is probable that Mr. Samuel Belcher will be appointed engineer.

KINGSTON, ONT.—Mr. Edwin Mooers, on behalf of a Duluth firm, has accepted the city's offer of a bonus of \$25,000 for ten years, and will erect an elevator with a capacity of 500,000 bushels.—At the council meeting Ald. Carson moved that in the opinion of the board there should be no further extension of time granted to the promoters of the Kingston & Smiths Falls Railway Company.

HAMILTON, ONT.—New tenders will be invited for the supply of lumber for the corporation.—A Toronto syndicate, in which Mr. E. B. Osler is said to be interested, is endeavoring to secure control of the electric railways in the vicinity of Hamilton, with a view to establishing a regular system throughout.—The City Engineer has presented a report on street pavements. Vitrified brick or tar pavements are recommended on the following streets: John, Hughson, York, Bay, Main, Cannon, Wellington, Market, MacNab, Stuart and Barton, over their most heavily travelled parts, and those portions of King and James streets now block paved.

RAT PORTAGE, ONT.—A. Gibson, of Winnipeg, will erect a brick block here.—Messrs. La Fleur and J. Fraser, government engineers, have made surveys of the Rainy river with a view to making improvements. The sum of \$15,000 has been appropriated for the purpose.—Messrs. Peters & Head, architects, are preparing plans for a large three story block on the west side of Main street, for Messrs. Robinson & Brydon. The building will be of solid stone and will be occupied by the Imperial Bank, a large dry goods store and offices.—Local architects are said to have work in hand amounting in value to nearly \$500,000.

WINNIPEG, MAN.—The City Engineer has recommended that an appropriation of \$20,000 be made by the council for the purchase of stone crushing machines.—For alterations to the Osborne street bridge, including steel approaches, the sum of \$9,500 is asked. The committee on works has decided to advertise the following macadam pavements: Donald street, Assiniboine avenue to Portage avenue, \$11,363; Nena street, Notre Dame avenue to Logan avenue, \$10,726; Dunsmuir street, River avenue to Mayfair avenue, \$1,120; Mayfair avenue, Dunsmuir avenue to Main street, \$5,336; Dufferin avenue, Main street to Salter street, \$10,217; Selkirk avenue, Main street to Salter street, \$8,447; Salter street, Dufferin avenue to Selkirk avenue, \$3,948.—The Mayor has under consideration a scheme for the disposal of garbage.—The Dominion government are taking active steps to improve St. Andrews rapids, and are having surveys made with the object of determining the nature of the soil. The contract for the work has not yet been let.

VICTORIA, B. C.—The question of the most suitable street pavement is now being considered by the council.—Some years ago a Board of Dyking Commissioners was appointed to construct a dyking system to reclaim 100,000 acres of rich lands of Matsqui prairie, for which the sum of \$50,000 was borrowed. To complete the work an additional \$50,000 is required, and the government has been asked to guarantee the principal and interest, and to take the lands as security.—It is estimated that 1,000 miles of railway will be built in British Columbia this year. The Great Northern will enter the Kootenay country by a branch line from

Bonner's Ferry to Nelson; an application is out for a charter for a road from Lethbridge to the Fraser river, and the Canadian Pacific will build a number of branch lines.—Alexander Begg proposes securing the construction of a railway from Sickeen to Teslin Lake. His idea is to build a railway from the point at which navigation ceases almost north to Teslin lake, a distance of a little over 100 miles, where the head waters of the Yukon are reached, and navigation for Fort Cudahy and other points on the Yukon is available.

MONTREAL, QUE.—The government have been asked to erect a new morgue for the city.—The Baptist congregation of Point St. Charles propose erecting a new church at the corner of Wellington and Liverpool streets. Building operations will be commenced early in the spring.—The sum of \$4,000 has already been subscribed towards the erection of the proposed church at Westmount for the congregation of St. Matthias church. The plans have not yet been prepared.—Henry Morgan & Co. have acquired property to the rear of their present establishment on Aylmer street and propose erecting an extensive addition thereto. The structure will be built of Northumberland sandstone. Plans will be invited at once.—At the last meeting of the Council of St. Henri, a motion was passed to petition the government to build a bridge across the canal at St. Elizabeth street.—Wright & Son, architects, are preparing plans for the following: Three story house for James King, to be erected on St. Catherine street, Westmount; for one house, three stories, for R. Neville, on Clarke avenue, Westmount; one house to be built on Centre street, Point St. Charles, for J. Glenn. Tenders for the above work will be invited in a few days.—Gen. W. Stevens, M. L. A., has purchased the building belonging to the Joseph estate, next to the Baron block on St. James street, and will make alterations thereto.

OTTAWA, ONT.—The by-law providing for the erection of a high school at Metcalfe was given its final reading at the last session of the county council.—Grants to assist in building bridges were made to Fitzroy, Gloucester and Nepean townships.—Tenders are asked by J. H. Balderson, of the Department of Railways and Canals, until Satu day, the 20th inst., for supplying 83,200 barrels of Portland cement.—Mr. C. A. Biggar, C. E., has completed the plans for the proposed drainage of the bogs in Stormont county. It is proposed to have the drains, which will be mostly dug by dredging, completed by next October. They will be twenty-five miles long and will empty into the Nation river.—The directors of the Central Canada Fair purpose enlarging the fair grounds and reconstructing the main building during the coming summer.—John Labatt, who recently purchased the property on the corner of Cooper and Kent streets, intends erecting a three story building, 72 x 112 feet, to be used for bottling purposes.—John Moodie, of Bell's Corners, will ask assistance from the county of Carleton towards the construction of an electric railway from Richmond to Bell's Corners, with spur lines wherever desirable.—E. F. E. Roy, secretary Department of Public Works, will receive tenders until the 19th inst. for the construction of the following works: Wharf at St. Valentin, St. Johns county, Quebec, plans at the post-office; wharf at Lotbiniere, Que., plans at post office, extension to wharf at Cap l'Aigle, Que., plans on application to Mr. Alfred Dechene, and at the above department.—The Council have decided to engage Mr. Rudolph Hering, C. E., of New York, to prepare plans for a main drainage system.—The Chaudiere Foundry have made application to be permitted to submit plans for double acting pumps for the

waterworks.—Mr. Joseph R. Roy, C. E., of Montreal, has left for British Columbia, where he will take the position of engineer-in-chief of the Government engineers entrusted with the survey of the Fraser river, the object of which is to furnish data for use in the construction of works intended to prevent the Fraser river floods. The report will be ready for presentation at the next session of parliament.

TORONTO, ONT.—A sufficiently signed petition has been received by the City Clerk against the construction of a cedar block pavement on Carlton street, between Parliament and Sumach streets.—The property owners on Jameson avenue are moving to have the road asphalted.—The City Engineer, in his report presented to the Board of Works on Monday last, recommends the construction of the following works: A twelve-foot cement concrete sidewalk, with concrete curb, on the south side of Adelaide street, from Yonge to Bay streets; 21-foot brick pavement on Huntley street; 24-foot brick pavement on Melbourne avenue; 24-foot asphalt pavement on Baldwin street; 30-foot cedar block pavement on Arthur street, from Dundas street to the bridge; 24-foot cedar block pavement on Sumach street, from Gerrard to Amelia; 24-foot cedar block pavement on Fenning street, from Queen to Humbert; brick pavement on Melbourne avenue, from Dufferin to Cowan avenue, 24 feet wide, cost \$8,090; asphalt pavement on Baldwin, McCaul to Beverly, 24 feet wide.—The plans of the bridge which it is proposed to erect over the Don, on the line of Queen street, at a cost of \$60,000, have been prepared by the City Engineer. This includes the cost of temporary pile structure for the accommodation of traffic while the bridge is under construction.—The approximate cost of constructing the necessary tracks, from King street along Sumach, Sackville and Cherry streets, to enable the trolley cars to reach the new dump for ashes, etc., via Cherry street bridge, is \$4,000.—The City Engineer has requested authority to advertise for tenders for repairs to the asphalt pavements throughout the city, also for materials required for constructing the John street bridge.—The accommodation at the Parkdale Presbyterian church has become inadequate, and a committee was appointed at a meeting held last week to report on the question of enlarging the edifice.—The York County Council have decided to raise \$26,000 by the issue of debentures.—The new Baptist church to be erected on Tecumseh street, by the kindness of Mr. and Mrs. William Davies, of Jarvis street, will cost between \$12,000 and \$15,000.—The Toronto Technical School Board have decided to have plans prepared for the new building which the City Council is asked to provide. The cost will be about \$75,000.—It has been suggested that a 12-inch main be laid along Albert street, from Yonge to Terauley, and down Terauley to Queen, to provide ample water service for the new city buildings. Other necessary extensions are a new 24-inch main on Front street and 12-inch mains on Yonge to King and on Church to Queen streets.

FIRES.

The public school building at Delhi, Ont., was totally destroyed by fire last week. Loss about \$5,000; insurance, \$3,000.—The residence of F. X. Lamare, at St. Valeride Bellechasse, Que., was burned last week.—Frank Madden's residence on Niagara street, St. Catharines, Ont., was destroyed by fire on the 1st inst. Loss, \$5,000.—The village of Delta, Ont., suffered loss by fire last week to the extent of \$35,000. The Brick block, where the fire started, was entirely destroyed.—The steam saw mill at St

Jacques, Que., owned by William Lord, was totally destroyed by fire on January 29th. Loss, \$3,000; no insurance.—At Ottawa, Ont., on the 28th ultimo, fire destroyed A. G. Pittaway's photograph studio, and the business establishments of C. A. Douglas, Beament & Johnson and Mrs. Short. The loss amounts to \$12,000. The buildings were owned by Geo. Hay.—R. T. McGirr's hotel and stables at Feversham, Ont., were burned on January 27th.—Three stores and dwellings and a hotel at Gatineau Point, Ont., were burned last week. The losses on buildings are: Louis Laurin, \$5,000, A. Villeneuve, \$6,000, Wm. Smith, \$3,000, Mrs. Egan, hotel, \$700.

CONTRACTS AWARDED.

VANCOUVER, B. C.—The contract for the erection of the Phoenix cannery at Steveston has been awarded to Messrs. Ironsides & Rennie, of this city.

TRURO, N. S. James Reid, of this town, has the contract for the new building for the Merchant's Bank. Rhodes, Curry & Co. will supply the counter.

ST. CATHARINES, ONT.—Cooke & Son have been awarded the contract for the supply of timber for the Welland canal. The iron work goes to James Cunningham.

PETERBORO', ONT.—The Central Bridge & Engineering Company, of this town, have been awarded the contract to erect a swing bridge over the Trent Valley canal at Nassau.

LONDON, ONT.—The contract for valves required for the new conduits at Springbank has been awarded to the London Machine Tool Company. Bowman & Co. will supply the tile.

MELITA, MAN.—A committee of Arthur council received tenders as follows for the construction of two pile bridges, one on the North Antler and the other on the South Antler. The tenderers were A. E. Blakeway, \$1,300, R. Dickson, Brandon, \$1,250; S. Nesbitt, \$1,228 (accepted.)

HAMILTON, ONT.—Tenders for the supply of furniture for the Collegiate Institute and Normal School have been received from the following firms: Globe Furniture Company, Toronto Furniture Company, Pennington & Baker, Alex. Thompson, J. Hoodless & Son and Malcolm & Souter. The award will be made in a few days.

AYLMER, QUE.—The contract for the masonry and carpenter work for the Hull Electric Company's new hotel at Aylmer has been awarded to Messrs. Viau & Lachance; the heating and plumbing to McKinley & Northwood; the painting and glass to John Shepherd; the plastering to A. Bowman, and the steel joists to Ernest Arnoldi.

NEW WESTMINSTER, B. C.—Mr David Bam, of this city, has been awarded the contract for the erection of a new cannery for the Cleave Canning & Cold Storage Co.—McLean Bros., of Vancouver, have been awarded the contract for completing the work in connection with the Maple Ridge dyking scheme. Besides completing the unfinished portion of the dyke and other improvements, a new intercepting ditch is to be constructed from McKenny's place to the Lillooet river. The total amount of the contract is in the neighborhood of \$25,000.

ST. JOHN, N. B.—Tenders for timber for harbor improvements have been accepted by the Common Council as follows: For birch timber, Simmons & Burpee, 1,000 tons of 22 foot lengths, at \$5.75 per ton; Simmons & Burpee, 100 tons mixed lengths, at \$5.75 per ton; James Stevenson, 400 tons of 12 and 22 foot lengths at \$6 per ton. F. E. Sayre and Jarvis Wilson will furnish 1,150 tons each of birch, maple or beech, according to their respective tenders, at \$6.12½ and

\$6.15 per ton respectively. Hemlock timber, 2,000 tons at \$4 per ton, F. E. Sayre. Red pine timber, F. E. Sayre, \$4 per ton. White pine timber, P. & K. B. Smith, 20 tons at \$7.50 per ton. Spruce spars, 900 pieces, P. & R. B. Smith, at 37 cents each.

OTTAWA, ONT.—The contract for the erection of the C. Ross Co. building has been awarded to Messrs. Poulin & Fitzpatrick, of this city. The contract includes masonry, cut stone, brick work, carpentry, plastering, painting, heating and plumbing. The steel girders, columns, etc., are to be supplied by the Dominion Bridge Co.—The directors of the Protestant hospital have accepted tenders as follows for the new wing to the building: Masonry, A. Garvock, \$15,475; carpentering, A. Sparks, \$8,924; plumbing and heating, McKinley & Northwood, \$5,847; painting, John Shepherd, \$1,815; electric lighting, Garrioch & Godard, \$325; boilers, Bannerman & Findlater, \$846; steel bars, A. Fleck, \$820; roof and concrete floors, J. R. Douglas & Co., \$1,357; plastering, Campbell & Sutherland, \$2,698; tile brick work, Ottawa Granite Company, \$1,100.

MONTREAL, QUE.—W. McLea Walbank, architect, has awarded the following contracts for reparations and additions of a house on Mountain street for Dr. Armstrong. Carpenter and joiner's work, Robert Neville; painting, L. Z. Mathere; plastering, F. Decary; electric wires, J. H. Scott; roofing, F. Power; heating, J. W. Hughes.—The Fire Committee received tenders as follows for supplying hose Canadian Rubber Co., Maple Leaf brand, double jacket, 85 cents per foot net; J. A. Ogilvie, 80c., Rob Roy, single lined, 80c.; Gutta Percha and Rubber Manufacturing Company, of Toronto, double jacket, guaranteed to stand five years, 97c.; W. A. Fleming, Keystone brand, 94c.; L. E. Morin, Anchor brand, No. 1, \$1.21; No. 2, \$1; Salamander, double jacket, 99½c.; Salamander, cot ton, 90½c.; John Martin, Son & Co., American double jacket, Revere brand, complete with couplings, and guaranteed for six years, 94c. The Canadian Rubber Co. was given the contract for 3,000 feet. John Martin, Son & Co. for the same quantity, and W. A. Fleming for 500 feet.

TORONTO CHAPTER OF ARCHITECTS.

A meeting of the above recently organized chapter will be held in the School of Practical Science next Monday evening at 8 o'clock. Papers will be read by Messrs. D. B. Dick, W. R. Gregg and A. T. Wickson.

A SMART ENGINEERING FEAT.

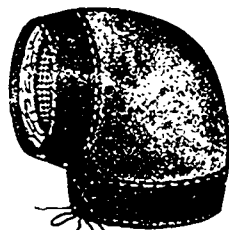
An interesting piece of rapid structural engineering work was accomplished on the Great Eastern Railway system during the early hours recently. The railway bridge over the river Ouse, on the London & Norwich main line, near Ely, was completely removed, and a new wrought iron bridge of one span, of some 300 tons of dead weight and 130 feet long, erected in its place; the night was extremely dark, and the work was rendered

somewhat difficult by the prevailing high wind and heavy gusts of rain. About 1.30 a.m. operations were begun by removing the rails and upper cross timbers. Half an hour later the first of the iron girders, which number twenty in all and weighed about six tons each, was lifted up by powerful steam cranes and shunted on to tracks. The work was completed by 7.30 a.m. Preparations were now made for placing the new bridge, which had been previously erected on staging alongside the old bridge, into position. This was effected by slowly hauling the entire structure by means of powerful winches fixed on both river banks. The bridge itself rested on trolleys running on rails laid along the abutments. The next business was to relieve the trolleys of their 300 tons of dead weight and to lower the bridge by powerful hydraulic jacks on to its permanent supports. This was done, rails were laid, the permanent way was made good and the main line connections completely restored, with a delay to only one train of the ordinary Sunday service.—London Times.

STRENGTH OF COLUMNS.

If the fibres in any material body were exactly rectilinear, so that a rod being placed on one end in a vertical position, no one of the particles were opposite to the intervals between any two in a transverse section below it, it might be conceived that no force compressing the rod in the direction of its length would produce any other effect than that of diminishing its length. But as we find that all bodies when so compressed may be bent and finally broken, such a disposition of the particle is destitute of probability. In fact when a pillar is compressed by a great weight above it, either the fibres already curved have their curvature increased so that the whole pillar bends, or the particles in some of the transverse sections are forced outwards by lateral pressures arising from those above and below their intervals being thrust between them, and then the pillar swells on its whole periphery. The consequence in either case is that the cohesion of the longitudinal fibres is impaired or destroyed and the pillar is at length broken or crushed. The strength of a pillar when so compressed must evidently depend upon the number of particles in a transverse section that is, upon the area of such section but since besides the displacement of those particles from the longitudinal pressure their lateral cohesion must be overcome before they can be thrust outwards, it is evident that the strength is not proportional to the area simply, but to some function of that area. No law on which any dependence can be placed has yet been discovered for the strength of a pillar in such circumstances. Euler, for analytical consideration, concluded that it varies as the square of the area, but engineers have supposed that the square root of the third power of the area more correctly represents the law of the strength.

Messrs. Sievewright & Loxton have started in business at Petrolia, Ont., as plumbers, steam fitters, etc.



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A NEW HYDRAULIC DREDGE.

The Times-Herald of Chicago publishes a description of a new hydraulic dredging machine that has been used in the excavation of the Chicago drainage canal. This machine will go through a sand bar at a speed of from five to ten feet a minute, cutting its way through a solid bank and leaving behind it a channel forty feet wide and twenty feet deep. In front of the machine are six intake pipes, turned downward. Surrounding each of these is a cylinder fitted with knives, which is kept in revolution all the time, so that the knives cut and chew up the sand and mix it with the water. This process goes on all around the intake pipes, and in these pipes the suction of great steam driven centrifugal pumps is pulling away at the loosened mass of sand and water. One of these dredges can be worked at an expense of \$10,000 per month. No place in the world could such a machine work to better advantage than in the neighborhood of Toronto Island. Working 10 hours a day the machine would make a channel 40 feet wide and 20 feet deep for a distance of from 3,000 to 6,000 feet.

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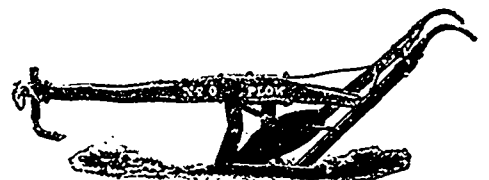
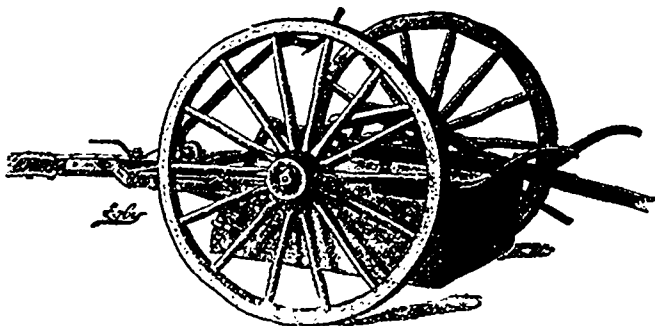
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MUNICIPAL DEPARTMENT

DESERONTO WATERWORKS.

A system of waterworks for the town of Deseronto, Ont., is nearing completion, estimated to cost \$36,330.44. Mr. M. J. Butler, C.E., has presented a report to council on the progress of the work, a portion of which will be found below :

When the estimates were submitted along with the Special Committee's report, it will be seen that the system proposed was for fire protection purposes only and the following lengths and sizes of pipe were proposed, viz. 8,360 feet of 6 inch pipe, 2,955 feet of 10 inch pipe, the number of hydrants promised being 28, at a cost of \$14,755.66. The pump then proposed and the foundation and building in which it was to be housed was estimated at \$2,500. The standpipe proposed would have cost about \$6,000. When the figures were brought together for the various works, including the old works purchased from the Rathbun Company, the estimate of cost complete was \$35,000.

I now follow with what has actually been constructed, viz : 9,412 feet of 6 inch pipe, 3,071 feet of 10 inch pipe at a cost, including 31 hydrants, gate valves, check valves, etc., all complete of \$12,839.35. We supply filtered pure water, guaranteed to give pure water at the rate of 500,000 gallons per day. The cost of the filter in place was \$3,000. The underwriters paid a visit to Deseronto in September, and to satisfy them the power house was built as nearly a perfectly fireproof building as I knew how to build. The partition walls are of solid brick and terra cotta, the joists and roof girders of steel, and the roof covering of terra cotta blocks plastered first with cement and over the cement a fireproof gravel roof of tar, sand and gravel. The pump purchased is a compound, duplex, direct acting condensing underwriters' pump of the following dimensions, viz. High pressure steam cylinder 12 inches diameter, low pressure cylinder 20 inches diameter, water plungers 10 inches diameter, stroke 15 inches, cylinders are lagged with mica covering, one independent condenser and one independent boiler feed pump. This pump draws the water through a short 12 inch suction pipe from the suction crib in front of the power house, and as the plant and building together now stand have cost the town the sum of \$3,246.62. The standpipe contracted for, and which was to have been completed before Dec 1st is to cost, when erected on foundation, \$3,600. The foundation and housing will add about \$700 to the cost. The capacity of the tank is 70,000 gallons, all of which is at an elevation of 100 feet above the bay, the top of the tank being 195 feet above the bay. When all the various

figures appertaining to the work are brought together, the result is that the waterworks when finished will have cost \$36,330.44. The sum includes the water tower complete, but does not include the the service pipe connection, etc. On account of service pipe connection, for material, etc., there has been expended \$753.96, for labor \$224.00, for Main street sewer, which has been assumed by the waterworks, though not properly appertaining to them, \$77.95. From the above sums there should be deducted for labor and material supplied by the waterworks to private persons in putting in service, accounts for which have been left with the treasurer, \$145.26, fittings and material on hand at present time now stored at the pump house, \$238.69, leaving the net cost of the 35 services now in \$672.56. As the long 1½ inch pipe on Brant street is laid with a connection opposite each house, it will in the end be a very profitable line. The line on Dundas street is also in shape to supply all the places in front of which it runs, so with the 1½ inch main on Main street, connection tees with plugs being left opposite all the buildings in front of which it passes. All material has been very carefully bought and advantage taken of every way to save a cent on it, the result being that such an addition as the filter has been constructed with a net addition to the estimate of only \$1,330.44, not to speak of the additional length to the mains and the three extra hydrants. Lists showing the location of all the hydrants and also of the names of the parties now connected to the supply pipe have been given to the Mayor. The plan which accompanies this report shows location of all mains, hydrants, valves, etc.

In conclusion I beg to draw your attention to the desirability of frequently opening and testing the hydrants and of providing a portable hot water boiler for the purpose of thawing any that may happen to freeze. The mains have been thoroughly tested under a pressure of 130 lbs. to the square inch, and not a leak exists in the town so far as I have been able to determine.

COUNTY WARDENS.

Elections for wardens took place in several of the counties of Ontario on the 27th ultimo, with the following result.

Brant—Mr. Joseph McIntyre.

Bruce—Mr. James Shouldice of Elderslie.

Carleton—Mr. A. P. McDonald of Rideau division.

Dundas, Stormont and Glengarry—Mr. John H. Meikle, of Morrisburg.

Dufferin—Mr. R. Rickey.

Durham—Mr. J. G. Preston, Reeve of Manvers, division No 3, Durham.

Essex—Mr. N. A. Coste, of Malden Township.

Frontenac—Mr. J. M. Taggart, of the Township of Bedford.

Grey—Mr. James Allen.

Hastings—Mr. John L. Dench, of Sidney.

Haldimand—Mr. J. H. Salter, of Hagersville.

Huron—Mr. John Cox, of Goderich Township.

Haliburton—Dr. Giles, of Haliburton, Reeve of Dysart Township.

Kent—Mr. J. Gosnell, of Orford.

Lambton—Mr. Albert Duncan, of Petrolia.

Lennox—Mr. Bowen E. Aylesworth, of Bath.

Leeds and Grenville—Mr. James B. Saunders, of Athens.

Lanark—Mr. A. Carswell, of Pakenham.

Lincoln—Mr. John Jackson.

Middlesex—Mr. Dougald Leitch, of Cavado.

Norfolk—Mr. Wm. Kelly, of Houghton.

Oxford—Mr. Louis Kaufman, of East Zorra.

Ontario—Mr. Charles King, of Whitby. Prince Edward—Mr. Parker R. Young, of Picton.

Perth—Mr. Nelson Monteith, of Downie.

Peel—Mr. John Graydon, of Streetsville.

Renfrew—Dr. Chanonhouse, of Eganville.

Victoria—Dr. Wood, of Kirkfield.

Waterloo—A. H. Erb, of Elmira.

Welland—Mr. E. Morris, of Morris, Stone & Wellington.

Wentworth—Dr. J. O. McGregor, of Waterdown.

Wellington—Mr. John McNab, of West Luther.

COST OF PAVEMENTS IN TORONTO.

Mr. E. H. Keating, City Engineer of Toronto, has submitted a report to the City Council showing the cost of the various classes of pavements on the basis of five, ten, fifteen and twenty-five years. Following are the figures :

Heavy asphalt, consisting of six inches of concrete and 2½ of asphalt, total cost per foot front, \$4.46, annual cost on basis of payment in five years, \$1 per foot front ; 10 years, 55 cents ; 15 years, 40 cents ; 25 years, 28½ cents.

Light asphalt, 4 inch concrete and 2 inch asphalt, stone curbs, total cost, \$3.90 per foot front ; cost per foot for 5 years, 87½ cents ; 10 years, 48 cents ; 15 years, 35 cents ; 25 years, 25 cents per foot front.

Brick on concrete, with stone curbs, total cost, \$3.05 per foot front ; annual cost per foot front, for 5 years, 68½ cents ; 10 years, 37½ cents ; 15 years, 27½ cents ; 25 years, 19½ cents.

Brick on gravel with stone curbs, total cost per foot front, \$2.55 ; annual cost per foot front, for 5 years, 27 cents ; 10 years, 31½ cents ; 15 years, 23 cents ; 25 years, 16½ cents.

Cedar block on concrete, stone curbs, total cost per foot front, \$2.77 ; annual cost for 5 years, 62 cents ; 10 years, 34 cents ; 15 years, 25 cents ; 25 years, 17½ cents.

Cedar blocks on gravel, wooden curbs, total cost, \$1.19 ; cost per year for 5 years, 27 cents ; 10 years, 14½ cents ; 15 years, 10¾ cents ; 25 years, 7¾ cents.

Cedar relaid on present foundation, total cost, 90 cents ; cost per year for five years, 20 cents ; 10 years, 11 cents ; 15 years, 8 cents ; 25 years, 5¾ cents.

Macadam, stone curbs, total cost per foot front, \$2.47 ; cost per foot front for 5 years, 55½ cents ; 10 years, 30½ cents ; 15 years, 22 cents ; 25 years, 16 cents.

Macadam, with wood curbs, total cost, \$1.90 ; cost per year for five years, 42½ cents ; 10 years, 23½ cents ; 15 years, 17 cents ; 25 years, 12 cents.

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Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: In another column reference will be found to the reduction which has been made by the Canadian nail manufacturers in the price of wire nails. The difference will amount to about 10 per cent. of the cost. As a result, probably, of the reduction, there has been an improvement in the demand. In cut nails business is quiet. In general the metal trade shows little activity. A fair trade is reported in window glass, and prices are held firmly. Cement, firebricks and paints and oils have not changed.

MONTREAL. The spring business has not yet commenced to move, and consequently builders' supplies are quiet. A change has been made in prices for pure white lead. The cement market is featureless, and stocks ample to meet all requirements until the fresh arrivals in the spring. There is some inquiry on import account for tin and Canada plate, and a few scattering orders have been placed for glass, paints and oils, cut and wire nails, etc.

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