

CONTRACTS OPEN.

PEMBRROKE, ONT.—A new general hospital is to be erected.

ASHBURNHAM, ONT.—The establishment of a high school is being discussed.

REGINA, N. W. T.—New schools are to be erected here, at a cost of \$5,000.

HASTINGS, ONT.—A new bridge will be built across the river Trent, at the Narrows.

HALIFAX, N. S.—The City Council will advertise for a loan of \$30,000 to be expended on paving the streets.

EGANVILLE, ONT.—Mr. Jas. Morris, C. L., is preparing plans for a new bridge across the Bonnehere river.

OWEN SOUND, ONT.—Mr. J. C. Forster, architect, is preparing plans for a new school at Heathcote, to cost \$2,500.

NIAGARA FALLS SOUTH ONT.—The Council will shortly advertise for tenders for the construction of a system of water-works.

HARROW, ONT. Tenders will be received until August 6th for the building of a Presbyterian church in this village. Plans at W. H. Hood's.

ST. THOMAS, ONT.—Negotiations are in progress for the purchase of the street railway. Should the transfer be made the tracks will be extended and the cars run by electricity.

PENETANGUISHENE, ONT.—The Fire and Water Committee have decided to ask the Council to submit a by-law to the ratepayers to raise the sum of \$25,000 for extending the water works system.

GATINEAU, ONT.—The Townships of East and West Templeton have agreed to grant the sum of \$5,000 each, towards the erection of a new bridge over the Gatineau river leading into Hull.

BRANTFORD, ONT.—The expert appointed by the Council to report on the tenders received for electric street lighting, has recommended that the city purchase an electric light plant and operate the same.

VANCOUVER, B. C.—Mr. G. W. Towle, architect, of New Westminster, has completed plans for the new edifice for the congregation of the First Presbyterian church, and tenders will be called for at an early date.

HAMILTON, ONT.—William Stewart, architect, is calling for tenders for the erection of a four-story wholesale iron warehouse to be erected on the south-east corner of Hughson and King William streets, for Messrs. Wood, Vallance & Co.

GANANOQUE, ONT.—The Rathbun Company, of Deseronto, have made a proposition to the Council that they will build an iron bridge across the Gananoque river on the condition the Government grant them the \$14,000 already promised for the purpose, the town paying for approaches and filling in.

KINGSTON, ONT.—The Freemasons are discussing the erection of a fine temple on Princess street.—The Government will be asked for the 'Lete du Pont' barracks as a site for the proposed grain elevator. The cost of the building is estimated at \$200,000, a bonus of \$50,000 being asked from the city.

LONDON, ONT.—It is proposed to erect a new edifice to replace St. Mary's church on Hill street.—The City Engineer will receive tenders until Monday next for the construction of tile drains on Stanley street, Thornton avenue and Oxford street, also for a cedar block pavement on Adelaide street, between King and Dundas street.

WINNIPEG, MAN.—Mr. H. G. Carter, architect of Minneapolis, is preparing plans for the new opera house to be erected by the Ross-McKenzie syndicate. The building will be of brick and will cost about \$40,000. Tenders will be called for immediately on completion of the plans, in order that the building may be completed this fall.—A new block will be erected next spring on the corner of Portage avenue and Main streets.

OTTAWA, ONT.—E. F. E. Roy, Secretary Department of Public Works, will receive tenders until Friday, the 12th August, for the erection of Land and Registration Offices at Prince Albert, N. W. T.—It is stated that tenders will be asked, during the present month, for the remaining sec-

tions of the Soulange canal.—Tenders will be received at the Department of Public Works, until Friday 12th August, for the erection of a post office at St. Henri, Que. Plans at above Department and at office of A. Raza, architect, Montreal.—The C. P. R. are considering the construction of a line of railway from Coblen to Parry Sound. Chief Engineer Ramsay is at present taking surveys.—The Trustees of the Scandinavian church have selected a site on Ann street on which to erect the proposed new edifice. Rev. A. H. Hvistendahl, pastor.

OWEN SOUND, ONT.—The Secretary of the Department of Public Works at Ottawa will receive tenders until Saturday, the 6th August, for dredging the harbor at this place.

MONTREAL, QUE.—The City Surveyor will receive tenders until Wednesday, the 3rd of August, for the construction of sewers on the following streets. St. Alexander street, from Craig street to Languechene street. Beaudry street, from St. Catherine street to Robin street; Barre street, from Eleanor street westward; St. Catherine street, from eastern city limits to Nicolet street, Duluth avenue, from St. Urbain street to Esplanade avenue; St. Elizabeth street, from St. Catherine street to Mignonne street; King street, from Common street to William street; Ontario street, from eastern city limits to Nicolet street; Ontario street, from Gale street to Harbor street.—The City Council has given notice that sewers will be constructed on Cherrier street from end of existing sewer, westward, and on St. Catherine street, from Marlborough street westward.—The Council are looking for suitable sites on which to erect the proposed incinerators.—The congregation of Erskine church have decided to expend the sum of \$2,000 on improvements.

TORONTO, ONT.—Mr. W. F. Oliver will shortly erect a large pressed brick residence on Enderly Road, East Toronto.—Mr. Disern will also erect a residence on Enderly Road.—A company has applied for incorporation for the purpose of building railway rolling stock. The capital of the company is \$500,000. The promoters of the enterprise are: Wm. Wainwright, G. T. R., Montreal; Samuel Insull, Chicago Edison Company; Isaac Anderson, Standard Oil Company, Toronto; M. D. Barr, Edison Company, Toronto.—Mr. J. O. Orr, chairman parks and gardens committee, will receive tenders until Thursday, the 4th day of August, for the earth work and carpenter work required to be done at the new rifle range on Lake Shore Road.—Mr. George Verral, chairman markets and license committee, will receive tenders until Monday, August 8th, for the construction of a subway under the Grand Trunk and Canadian Pacific railways at the south side of the old cattle market.—H. G. Paull, architect, 106 Wellington Place, is preparing plans for ten stores to be erected on Queen street west. Tenders will be called for at an early date.—The following building permits have been granted: Ed. Davey, cor. Berryman rd. and Berryman st., two story bk. dwelling, n. side 48 Bernard ave., nr Bedford rd. cost \$1,200; Toronto Electric Light Co., bk boiler house and wooden dynamo house, covered with iron, and bk. office, foot of Scott st., cost \$20,000; Trustees Church of Messiah, rectory, cor Avenue rd. and Dupont st., cost \$6,000; Jas Robertson & Co., s.w. cor. Dorset and King sts., add. to factory, cost \$1400; Trustees Bethany Chapel, chapel bldg. n.e. cor. University and Christopher sts., Chas. Steinel, alterations and additions to No. 2 Ontario st., cost \$3,000; also, packing house, rear of 266-270 King st. E., cost \$8,000.—Mr. I. A. Fowler, architect, has prepared plans for a residence to be erected on Sherbourne street.

FIRES.

The Convent de Notre Dame, at Williamstown, Ont., was destroyed by fire last week. The loss is said to be very heavy, the building only being insured for \$1,500. The erect on of a new building will be commenced at once.—The shoddy mills of Messrs. Harting & Co., at Simcoe, Ont., were burned on Monday last, loss \$2,000, insurance \$2,000.—On the 22nd inst., fire destroyed Mr. Mann's private dwelling, store and outbuilding at Stutsville, Ont. also the dwelling of Mr. Curdy, loss over \$10,000, insurance \$7,500.—Mr. S. L. Purdy's saw and shingle mill at Carleton, Ont.,

was burned on Tuesday last, loss \$2,000.—The residence of Mr. Fred Abraham, at Sarnia, Ont., was destroyed by fire on the 26th inst.

CONTRACTS AWARDED.

OTTAWA, ONT.—Mr. W. W. Wylie is building an electric street car for the Winnipeg electric street railway.

SRLKIRK, MAN.—The contract for the erection of the new fish hatchery has been awarded to Messrs. Thomson & Co., of Winnipeg.

BELLEVILLE, ONT.—The G. & A. Brown Manufacturing Company, have been awarded the contract for building steel bridges at Elmira and Thornbury, Ont.

HAMILTON, ONT.—Messrs. Pennington & Baker of this city, have been awarded the contract for furnishing the new opera house at Lindsay, and a Presbyterian church at Prescott.

BROCKVILLE, ONT.—Mr. Chas. E. Simpson has been awarded the contract for the erection of the new Durham block on the corner of King and Broad streets, the contract price being \$10,625.

ST. JOHN, N. B.—Contracts have been awarded for the erection of the power house on Union street for the electric street railway. Messrs. B. Mooney & Sons have secured the mason work, and Mr. W. L. Price, the carpenter work.

BRANTFORD, ONT.—Messrs. Patterson & Corbin, of St. Catharines, have secured the contract to furnish the city with electric street cars.—It is understood that Messrs. Elliott & Plun, of this city, are the lowest tenderers for the construction of the electric street railway.

WOODSTOCK, ONT.—Two tenders have been received for furnishings for the new Court House, viz., Office Specialty Co., Toronto, \$8,135, and the Canadian Office and School Furniture Co., Preston, \$7,470. The latter tender has been accepted by the committee.

MONTREAL, QUE.—The road committee have awarded the contract for St. Hubert street sewer to Mr. Robert Parker, at \$9,337. Mr. Laporte secured the contract for a sewer on Mount Royal avenue, between Cote St. Louis and Montreal.—Messrs. Bourgin & Cadieux have been awarded the contract for the repairs to No. 3 fire station, at the price of \$3,650.

TORONTO, ONT.—The following tenders were accepted at a meeting of the road committee held on Tuesday last. Cedar block pavement with granite toothings on track allowance, Queen street from Davies avenue easterly to the railway crossing, D. L. Van Vlack, \$8,490. Spadina avenue Queen street to Bloor street, same kind of pavement, Toronto Construction and Paving Company, \$26,659; sewer on Roseberry avenue, Smith & Wilson, \$490.

For preserving wire ropes, carried under water or under the earth's surface, a mixture of 35 parts of slaked lime and and from 50 to 60 parts of tar is recommended. The compound is boiled and applied to the article hot. For dry-lying cables a thick mixture of graphite boiled in tallow, and one of crude linseed oil and vegetable tar have both been tried with success.

WHITE CEMENT.—White cement of the same character as Portland cement is made by grinding together three parts of chalk and one of kaolin, burning at a red heat and grinding again. The cement made by this process hitherto has shown a tensile strength only about one half as great as that of good Portland cement, but it has the hydraulic quality and other characteristics of Portland cement, and it is to be hoped that the manufacture may be so improved as to increase the tensile strength to the point required for making artificial stone. If a white cement can be found for a matrix it will be easy to obtain aggregates of light color by utilizing white sand, marble dust, white talc, and so on, suitable for making a concrete which could be used in place of marble.

MUNICIPAL DEPARTMENT.

PAVED AND DIRT ROADS COMBINED.

During the summer of 1891, the project of constructing a permanent road between the city of Bloomington and the town of Normal, Illinois, was agitated with considerable vigor and enthusiasm. The distance to be built was about 1½ miles. The soil is the ordinary dark loam, which becomes so muddy when it is wet and so hard and smooth when it is dry. No hard road material is near by. Plans of various kinds of roads were proposed and discussed. To make a complete paved road like the city streets, with stone or plank curbing, was too costly, and besides for a general mixed travel it was generally conceded that a dirt road, when dry and smooth, was preferable to any other that could be constructed. The result of canvassing the matter fully was the adoption of a roadway combining the excellence of both, which could be built at an expense not considered expensive. The plan was proposed by Dr. Z. Waters, of Bloomington, and would have been carried out had not financial difficulties arisen which prevented the execution of the plan at that time.

The road consists of a paved center roadway made of good paving brick. In the place of curbing for the purpose of holding the brick in position, the outer edges of the roadway are arched or curved downward so as to be supported by the firm earth. Just inside of the ends of the brick on each side of the center are laid tile drains about 18 inches deep, and parallel with the road center, for the purpose of keeping the roadbed dry, and especially for keeping the earth firm at the outer edge of the pavement. The pavement is 18 feet wide, but the outside foot on each side is taken up in making the curve, leaving an available brick roadway of 16 feet. The earth is drawn over the outer curve or arch, so that a well prepared earth is left on each side, which it is expected will be generally used during the summer and fall, when earth roads are good everywhere, but when too wet for use the hard road will be used, leaving the dirt road to dry without being ruined by travel when it is not suitable for use.

The following is a description of the manner in which the road is to be built. The bed is to be prepared by excavating sufficient earth for the pavement, so that the surface of the pavement and dirt roads at the sides will be left at the desired grade when the work is finished. The sub-grade for the pavement should be eleven inches lower than the top of the pavement when finished. Tile drains on either side should be laid about eighteen inches deep, just inside the outer border of the brick, and the trenches filled with porous material like coal cinders, though we do not think this is at all essential. After the road-bed is prepared and made the proper shape, it is to be rolled well with a heavy roller, after which a covering of coal cinders, two inches thick, shall be spread evenly, and well rolled. Upon this a covering of sand must be placed to form a bed upon which to place the foundation brick. Upon this prepared bed a course of brick is to be laid flat ways, the long way of the brick in the direction of the road. A covering of sand should be placed on this course of brick and brushed into the crevices, and sufficient left on the top to form a bed for the surface brick. Good paving brick should now be laid on edge with the long dimension of the brick cross ways of the road. The curved part of the pavement at the outer edge, however, should be laid with the long dimensions of the brick, parallel with the line of the road, so that the curve may be well made, and also for the purpose of properly resisting the impact of loads as they are drawn on and off the pavement. The work is finished by placing a coat of sand upon the surface, and sweeping it into the crevices and rolling with a heavy roller. The earth is well drawn over the outer edges of the brick, and the outer surface ditches cleaned and graded to carry off the