

Some of the members are in favor of engaging Mr. Chipman, C. E., of Toronto, to make a report, but after discussing the matter at their last meeting, no definite action was taken.

PEMBROKE, ONT.—The Contingent Committee of the Public School Board have recommended that furnaces be placed in the centre public school building.—Mr. J. W. Munro, will erect a handsome brick block. The corner will be fitted up for the Bank of Ottawa.

ST. JOHN, N. B.—D. Pottinger, General Manager Government Railways, will receive tenders at his office in Moncton until Wednesday, the 31st inst., for the construction of the railway extension along the water front from the Intercolonial deep water terminus to Corporation Pier. Plans may be seen at the Station Master's office, this city, and at the office of the Chief Engineer, Moncton.

KINGSTON, ONT.—Mr. William O. Wockoff of Brooklyn, N. Y. has purchased a large portion of Carleton Island. He intends building a cottage that will cost in the neighborhood of \$25,000, and has already begun the construction of a boat house which, when completed, will have cost about \$6,000.

GUELPH, ONT.—A meeting of members of the A. O. U. W. was held recently to consider the advisability of building a block in which would be centered the A. O. U. W. hall, an opera house of the most modern design, and stores. A provisional committee of five influential men was elected to further the scheme, and report at as early a date as possible.

STRATFORD, ONT.—David G. Baxter, architect, is preparing plans for alterations and additions to a frame house on Nile street for Mr. Chas. Stock, having hot air heating, grates, extensive plumbing, leaded glass, hardwood floors, etc., cost \$3,000. He is also asking for tenders until the 27th inst. for the erection of a house for Thos. Trow, cost \$6,500.

LONDON, ONT.—On the recommendation of the City Engineer new water mains will be laid on Oak and Pine streets, at a cost of \$1,700.—Mr. Geo. Craddock, architect, will receive tenders until noon of Saturday next for the erection of a brick house on Wellington street.—The City Engineer invites tenders until to-day (Thursday) at 5 o'clock for the construction of a tile sewer on Queen's avenue.

WOODSTOCK, ONT.—Sheriff Brady is about to build a handsome residence on the north side of Ingersoll ave., between Vansittart ave. and Delatre street.—Plans have been prepared for a residence for Mr. F. J. Ure, on Graham street.—At a special meeting of the General Hospital Committee a sub-committee was appointed to select a site. The subscriptions to the building fund now amount to \$8,500. A strong effort will be made to erect buildings this year.—Debentures have been issued to the amount of \$7,600 to cover the cost of erecting the Chapel street school house.

LISTOWEL, ONT.—The Bank of Hamilton will make extensive alterations to the building recently purchased from Mr. Bowmap. The old front will be replaced with a handsome bank front, rock faced stone work, plate glass windows, etc. The interior will be remodelled and refitted throughout, with large vault, office fittings, metallic ceiling, hot water, plumbing, grates, mantels, etc. W. E. Binning, architect, is preparing the plans and will have charge of the work, contracts will be awarded about 1st June.—Mr. Binning has also prepared plans for a 1 1/2 story brick residence to be erected on Inkerman street for Mr. Mathew Sharping, to cost \$1,000, also improvements to school in Wallace, cost \$513.—Work has been commenced on a two story brick cottage on Dudd street for Mr. D. Bowyer, costing \$2,000, and a cottage for Mr. Andrew Foerch on Inkerman street to cost \$1,400. They will be heated with furnaces, and have plumbing, gas fitting, etc.—A large foundry will be erected here this summer.

WINNIPEG, MAN.—At a meeting held last week of the board of directors of Wesley College, the executive committee was instructed to procure plans for the proposed building, and to proceed with its erection as soon as an additional \$10,000 had been paid in. The executive committee have appointed the following members to take further action in the matter: Dr. Sparling, Messrs. Atkin, Ashdown, McBride, Laird, Somerset, G. H. Campbell, Whittle and Nixon.—The plans for a branch of the transfer railway to be built up the gully between Market and Bannatyne streets, have been placed in the hands of the N. P. officials. It is the intention of the promoters to build mercantile warehouses along the line.—It is reported that Davis & Rankin, manufacturers of creamery machinery in Chicago, will erect a factory in Manitoba during the present summer.—Notice of incorporation of the "Academy of Music company" has been published. The stock of the company is placed at \$50,000. The directors are: Edward L. Drewry, proprietor Redwood brewery; Duncan McArthur, banker; Thos. W. Taylor, mayor; Chas. A. Barber, architect, and Elias George Conklin, real estate and financial agent. The directors state they intend to go on at once with the erection of the new building.

OTTAWA, ONT.—Mr. Conway C. Wyatt, of Duluth, was in the city recently in connection with the construction of a canal from Lake St. Clair to Lake Erie. During the last session of Parliament Col. Tisdale asked the Government to undertake the construction of the canal as a public work, but his suggestion did not meet with

approval. It is understood that Mr. Wyatt is considering the carrying out of the work as a private enterprise, and no public aid will be asked.—G. M. Bayly, architect, is asking for tenders for the removing of houses and sheds at No. 499 Albert street. S. Bingham, chairman Board of Works, will receive tenders until the 31st inst. for sewer excavation.—Mr. Dale Harris, engineer of the Pontiac & Pacific Junction railway and the Gatineau Valley railway, has stated that the building of a bridge across the Ottawa river from Hull to Nepean Point is a settled fact. The scheme has been under consideration for some time and it will be ratified by the shareholders of the Pontiac railway company at their annual meeting to be held in Montreal this week. A purely railway bridge will cost \$500,000, while a railway and bridge combined would cost \$250,000 more.—It is learned that the directors of the C. P. R. will shortly take into consideration the question of the construction of the Vaudreuil & Ottawa branch, from Point Fortune to Caledonia Springs and thence to Ottawa.—N. Champagne, Chairman Waterworks Committee, invites tenders until Thursday, June 1st, for the excavations required for main pipe extensions.

HAMILTON, ONT.—James Balfour, architect, is inviting tenders until Tuesday, 23rd inst., for alterations to Joseph Hoodless & Son's warehouse on King street.—W. A. Edwards, architect, will receive tenders until Saturday next for the erection of a brick residence on Hugison street.—It is probable that tenders will be asked for the extension of the west end sewer, the work being too extensive to be executed by the day labor system.—Building permits have been granted as follows: John Young, brick store and dwelling, corner of Picton and Catherine streets, cost \$1,000; T. E. Leather, brick residence on Queen street, cost \$2,800; A. Horning, two story brick dwellings on George street, between Hess and Caroline streets, cost \$4,000.

MONTREAL, QUE.—The Road Department has given notice that it is proposed to construct a sewer on Panteleon street, from Sherbrooke street northward about 170 yards.—Mr. Hudson has applied to the council of St. Henri for a bonus to aid in erecting a rolling mill.—Tenders will be awarded in a day or two for the construction of sewers on a number of streets.—The following list of streets to be paved in 1893 has been submitted to the Road Committee: Ontario, from St. Lawrence to Bleury streets, asphalt, \$31,700; Berri, from Dubord to St. Catherine, granite and asphalt, \$34,069.50; Dubord, from Campeau to St. Denis, asphalt, \$25,500; Viger place from Craig to Dubord, asphalt, \$9,500; St. Denis, from Ontario to Ernest, granite and asphalt, \$35,500; St. Lawrence, from Ontario to Sherbrooke, granite and asphalt, \$72,866; Notre Dame, from Monarque to Lacroix, grading and sidewalks \$20,000; St. Catherine, from Harbor to Cuvillier, granite and asphalt, \$76,500; St. Catherine, from St. Mathew to western city limits asphalt, \$50,550; Union avenue, from Dorchester to Sherbrooke, granite and asphalt, \$34,500; Centre, from Shearer to Roper, asphalt, \$39,665; St. Etienne, from Mill to Wellington, granite, \$33,050; Colborne and Common, from Wellington to Black's bridge, granite, \$9,600. Permanent sidewalks have been approved as follows: Viger place, Vire to Dubord, asphalt, \$766; Viger square, St. Hubert and Campeau, from Craig to Dubord, asphalt, \$3,265; Ontario St. Urban to Bleury, both sides, firmite or asphalt, \$8,744; Berri, Dubord to St. Catherine, both sides firmite or asphalt, \$10,890; Dubord, Campeau to St. Denis, north side, asphalt, \$4,130; Bleury, Craig to Sherbrooke, both sides asphalt, \$25,400; Amherst, St. Catherine to Chermier, both sides firmite, \$10,620; McFord and Murray streets, asphalt, \$16,640; St. Denis, Sherbrooke to Chermier and Roy, asphalt, \$8,010; St. Catherine and Mansfield, southwest corner, Bank of Montreal, granolithic, \$600; Mountain, Dorchester to Sherbrooke, both sides asphalt, \$12,500; Windsor, St. James to Osborne, both sides asphalt, \$5,250; St. Lambert, at property of Mutual Fire Insurance company, asphalt, \$8,750; William at Clendinning's foundry, renewals, flagstone, \$1,227.50.—The Board of Trade is urging the necessity of widening St. Nicholas street immediately.—The annual meeting of the shareholders of the Canadian Pacific railway was held in this city last week, at which the following expenditure of capital was authorized: Permanent bridges and improvements on the company's railway, \$1,900,000, for grain elevators and additional terminal facilities, \$750,000; additional rolling stock \$1,250,000; for the construction and extension of the Souris branch from the international boundary to Pasqua, 162 miles, of the Temiscamingue railway, 50 miles; of the Revelstoke branch line, 28 miles, and of a section of the Eganville branch line, \$3,700,000. The annual report recommends the building of an additional grain elevator of fifteen million bushels capacity at Fort William during the present year and another of 800,000 bushels at Winnipeg, also additions to the company's wharves at Vancouver.—The Inundation Committee of the City Council have approved of plans for the proposed Brock street tunnel, and tenders will be called for in a few days. The plans show a tunnel 30 feet wide, 15 feet in height, 666 feet long, faced in cut stone. The estimated cost is \$263,000.

TORONTO, ONT.—The City Engineer has recommended the construction of the following cedar block pavements: west side of Stanley Park

from King to Defoe, cost \$1,130. Huron street from Phoebe street to Grange avenue, cost \$1,855; Castle avenue from Spadina road to Walmer road, cost \$1,300. Asphalt pavements are recommended on Winchester street from Parliament to Sumach, cost \$22,400, Mincing (Munn's) lane, cost \$1,600; lane in rear of Canada Permanent building, cost \$1,135. A tile sewer is recommended on North Crawford street from Bloor street to Garrison Creek, cost \$3,820, and a similar sewer on Summerhill ave, cost \$1,550.—At the quarterly meeting of St. Andrew's Society held last week, Major J. A. Cosby read a communication suggesting that the society should take steps towards the erection of a large hall and offices for the accommodation of all the Scottish societies of the city. A committee was appointed to consider the advisability of making such a move.—An appropriation of \$10,000 is asked for widening the pavements on the following streets: Gerrard street from Broadview ave. to Howland avenue, Howard Park avenue from Dundas street to Roncevalles avenue, Parliament street from Gerrard street to Queen street, and probably the pavement on Dundas street.—At a meeting of the Senate of the University of Toronto held on Saturday last, Dr. Sheraton moved that a committee consisting of the president, Prof. Pike, Chancellor Burwash, Dr. Cameron, the mover and seconder, wait upon the Minister of Education and press upon him the necessity for the construction of the chemical laboratory and to learn the reasons for delay in letting the contract for the building.—Building permits have been granted as follows: Dr. A. Orr Hastings, det. 2 story and attic bk. dwelling, n. w. corner Sherbourne and Selby sts., cost \$8,000; Western Canada Loan Co., alterations, s. e. corner Adelaide and Victoria sts., cost \$12,000; Wm. Brown, 64 Macdonald ave., 2 story and attic bk. dwelling, 55 Macdonald ave cost \$2,700; A. K. Creelman, 13 Queen's Park, alterations to dwelling, cost \$3,000; Mrs. J. Haywood, det. 2 story and attic bk. dwelling, Dunbar Road, Rosedale, cost \$3,000.

FIRES.

A warehouse at Hull, Que., belonging to the Humber Engineering Company, was burned on Thursday last.—The Royal Waterproof Company, on LeMoine street, Montreal, was damaged by fire recently to the extent of \$6,000.—A large lobster factory with all its contents was destroyed by fire on Saturday last at Port Mouton, N. S. It was owned by Michael Neville.—James Milne & Son's grocery store at Stirling, O. T., was gutted by fire last week. The loss on stock and building is heavy, but is said to be covered by insurance.—The village of Apohqui, N. B., was visited by a disastrous fire recently, in all 13 buildings being destroyed. G. B. Jones lost a store, two warehouses and a barn, Stephen Jones, dwelling, shop and barn, and M. Fenwick store, warehouse, two barns and two dwellings. The total loss is about \$25,000.—Kupley Bros. carriage factory in St. John, N. B., together with engine and machinery, were destroyed by fire last night.—The Methodist parsonage at Billings Bridge, Ont., occupied by Rev. Mr. Elliott, was totally destroyed by fire a few days ago. The loss is about \$2,000.—Mr. P. Keefer's sash and blind factory at Iroquois Ont., was completely destroyed by fire on Tuesday of last week. The electric plant was situated in the building, and was also destroyed. Loss from \$0,000 to \$10,000, mostly covered by insurance.—The following places were destroyed by fire at Carberry, Man., last week: Windsor, tailor, stock, H. Anderson, stock, Dr. Shaw, building; Wm. Boyd, drugs; R. Logan & Co. office; E. R. T. Smith photographer; I. H. Curran office; A. J. Dickie, bookseller; C. W. Malton, hardware; R. F. Lyons, William Munro, furniture, stock, G. Barrett, office; John Stinson, office; W. G. Perrin, barber, Forester's hall, George Gernie, restaurant. Total loss, \$35,000.

CONTRACTS AWARDED.

PORTAGE LA PRAIRIE, MAN.—Messrs. Head & Bossons have secured the contract for erecting a fire hall, at the price of \$7,875.

NIAGARA FALLS, ONT.—Messrs. Newman Bros., of St. Catharines, have been awarded the contract to build the new high school. The cost price is \$17,500.

WOODBIDGE, ONT.—The contract for the erection of the public school building has been awarded to Mr. Mason, of Brantford. The tender is in the neighborhood of \$7,000.

LONDON, ONT.—Contracts for the erection of St. George's Church rectory, London West, to cost \$2,300, have been awarded, as follows:—Brickwork, Flory & Co.; carpentering, W. S. Greenway; plastering, R. Gash; painting, Geo. Burdick; furnace fittings, H. J. Boyd; plumbing, J. Greenway.

MONTREAL, QUE.—The Police Committee received the following tenders for the erection of the Hochelaga Station: masonry—O. Martineau, \$5,000; Oumet & Labelle, \$6,128; Chapleau & Lemay, \$6,100; Woodwork etc.—Lambert & Sons, \$7,170; Labrecque & Mercure, \$7,207; J. B. Gratton, \$7,345; C. H. Laurier, \$7,500; Quintal & Morin, \$7,250. The tenders for the whole work were:—Oumet & Labelle, \$13,396; J. B. Gratton, \$13,445; Cole & Benard, \$12,275; A. Benoit & Co., \$7,195; Arsene Latour, \$7,150. The Committee have accepted the tender of A. Benoit & Co.

TORONTO, ONT.—Messrs. Burns & McCormack are the successful tenderers for draining the exhibition grounds, the amount of tender being \$2231.—Tenders for pavements have been awarded by the City Council as follows: A. C. Guelick, Detroit, C. Ilton street, Yonge to Parliament street, \$20,344; York street, Front to Queen street, \$9,788; Parliament street, Winchester to Carlton st., \$2,227; Construction & Paving Co.—Winchester street, Sumach to Parliament, \$8,000; Dundas street, Queen to Arthur, \$10,499; Queen street, Yonge to River, \$35,430; Richmond street, Victoria to Bay, \$10,841; Clark & Connolly—Jameson ave., vitrified brick, \$2,077; cedar block \$1,440; Trinidad Asphalt Co.—College street, Yonge to McCaul, \$16,130; Earl street, \$3,999; Warren, Schaff Co., Parliament street, Queen to Gerrard, \$15,492; Clark & Connolly, College street, Dufferin to Jameson avenue, cedar block, \$6,339; vitrified block, \$8,700.—The following tenders for supplies to the Water Works Department have been accepted: Brass work, James Morrison & Company, iron and steel, Rice Lewis & Son, general stores, F. W. Lunt, pig lead, Adam Hope & Co., cast iron pipe, St. Lawrence Foundry, Rubber goods, the Gutta Percha and Rubber Company, of Toronto; stop valves, John Perkins, pipe laying, Smith & Wilson.

MUNICIPAL DEPARTMENT.

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

YORK V. TOWNSHIP OF OSGOODE.—Judgment in the Court of Queens Bench in action tried at Ottawa. An action for declaration that an engineer's award as to the construction of a drain is not binding, and for an injunction restraining the defendants from going on with the work, and for damages. Falconbridge, J., follows the considered judgment of Galt, C. J., on a motion to continue an interim injunction, and holds that the rights of the parties were concluded by the finding of the county judge on appeal from the engineer's award or certificate. Action dismissed with costs. Weir v. Matheson, 11 Cr., at p. 390, and McGee v. Kane, 14 O. R., 226, referred to on the question of a trial judge holding a point of law to be disposed of by the decision upon an interlocutory motion.

HOW TO DESIGN A SEWERAGE SYSTEM.

Let us now examine into its various parts and see how we can adapt our design to the different conditions as they occur in practice. The first and simplest way of laying out a system of sewerage is the perpendicular system. It is a direct discharge into the river or stream along the valley lines. Where it becomes necessary to discharge the sewerage below the town, the intercepting system is used by which the different sewers leading to the river are intercepted by another parallel to the river, which conducts the sewerage to its point of discharge below the town. Another system is called the zone system. It is used in London and other European cities. Its advantages are that it gets the run-way away with as uniform a velocity as possible, and without conducting it through the city, and it admits of abundant flushing. A system applicable to flat level cities such as Berlin, New Orleans or Chicago, is called the radial system. It is at present in use in Berlin, where over a tract of 8 square miles there is a difference of elevation of only 15 feet. The sewerage is collected at central pumping stations and pumped out to irrigation farms of 18,000 acres, where it is purified. Local conditions, the lay out of streets, etc., determined a few other systems than those mentioned. It should always be observed in designing sewers that the velocities should be equalized in order that deposits may be prevented. A sewer descending with a steep grade and then abruptly going on a level is very bad practice, inasmuch as deposits are certain to form in the level portion of the sewer near its junction with the steeper part. It is therefore better to take a longer route to avoid this abruptness.

Sir Robert Rawlinson's principle is a most important one in the construction of sewers. It is in effect that we should at all times be able to inspect and clean any of the sewers at any place. This makes it necessary to lay the sewers perfectly straight between points of access or manholes. By lowering a lamp into one of them and a mirror placed at an angle of 45 degrees into the other the entire surface of the inside of the intervening sewer can be inspected.

Another principle called the Lindley principle, is to have no dead ends in the system. A dead end is the highest point of the sewer into which all the foul gases necessarily rise and accumulate. These can only be cleaned by means of flush tanks at the dead ends. This is the system employed in Frankfurt-on-the-Main, where the reservoirs used hold half a million gallons.

With reference to economy we should observe,