

CANADIAN CONTRACT RECORD

A Weekly Journal of Advance Information and Public Works.

ITS PURPOSE: TO SUPPLY TO CONTRACTORS ADVANCE INFORMATION RESPECTING CONTRACTS OPEN TO TENDER, AND TO ARCHITECTS, ENGINEERS, MUNICIPAL AND OTHER CORPORATIONS, A DIRECT MEDIUM OF COMMUNICATION WITH CONTRACTORS.

ITS MERIT: ECONOMICAL AND EFFECTIVE SERVICE.

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No. 2

THE CANADIAN CONTRACT RECORD;

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Information from any part of the Dominion regarding contracts open to tender, sent exclusively to this journal for publication, and not elsewhere published, will be liberally paid for.

ADVERTISING RATES ON APPLICATION.

At its Convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for Tenders.

The following resolution was unanimously adopted at the First Annual Meeting of the Province of Quebec Association of Architects, held in Montreal, Oct. 10th and 11th, 1890: "Moved by M. Perrault, seconded by A. F. Dunlop, that we the Architects of the Province of Quebec now assembled in Convention being satisfied that the CANADIAN CONTRACT RECORD affords us a direct communication with the Contractors,—Resolved, that we pledge our support to it by using its columns when calling for Tenders."

The publisher of the "Canadian Contract Record" desires to ensure the regular and prompt delivery of this Journal to every subscriber, and requests that any cause of complaint in this particular be reported at once to the office of publication. Subscribers who may change their address should also give prompt notice of same, and in doing so, should give both old and new address.



NOTICE TO CONTRACTORS.

Steel Plate Rivetted Pipe

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up till 11 o'clock a. m. on TUESDAY, MARCH 3RD, 1891, for the delivery of 255 feet of Steel Plate Rivetted Pipe.

Plans can be seen and forms of tender can be obtained at the City Engineer's office on and after the 20th day of February, 1891.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 2 1/2 per cent. on the value of the work tendered for, must accompany each and every tender, otherwise it will not be entertained. All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications), or they will be ruled out as informal.

The Committee do not bind themselves to accept the lowest or any tender.

JOHN SHAW,
Chairman Committee on Works.

Committee Room, Toronto, February 17th, 1891.

TENDERS WANTED.

Chs. Chausse & E. Mesnard, Architects, and floor, Imperial Building, Montreal, will receive tenders during the week ending 28th instant, for building different classes of Stores in some places and Cottages in others.

TO CONTRACTORS.

The undersigned will receive tenders on THURSDAY, 5TH MARCH, for the several works required in the erection of Two Houses in Hutchison Street in this city.

JAMES NELSON, Architect,
British Empire Building,

Montreal, February 19th, 1891.

NOTICE.

Mr. Chs. Chausse, Architect, Imperial Building, Montreal, practising in that city for more than ten years past, has taken into partnership Mr. E. Mesnard, recently from Messrs. Perrault & Mesnard's offices. The new firm will conduct business under the name of Chs. Chausse & E. Mesnard. The young man, J. A. Chausse, who a few months ago opened an office on St. James Street, has no connection with above firm.

TENDERS WANTED

— FOR —

Electric Light Plant.

Sealed tenders, addressed to the undersigned by registered mail, will be received up to 6 o'clock p.m. on SATURDAY, THE 28TH DAY OF FEBRUARY, 1891, to equip and fit up a complete Electric Light Plant of one thousand light capacity of 60 candle power each.

The lowest or any tender not necessarily accepted.

Information will be given on application to Thos. Gillies, Esq., Chairman of Committee

All tenders to be marked, "Tender for Electric Light" and addressed to

ROBT. J. LEIGH, Town Clerk.

Box 313 West Toronto Junction, Ont.
West Toronto Junction, Feb. 10th, 1891.

SIZE OF HOUSE SEWERS.

The first consideration is evidently as to the amount of water, per unit of surface, for which provision must be made. Formerly the records kept of rain storms gave merely the total fall per hour, leaving it uncertain whether this was uniform or, as more generally the case, the greater part had fallen in a comparatively short time. However, the Meteorological Observatory has obtained for a number of years an automatic record of the rain-fall, showing for each storm the maximum rate and its duration, which evidently gives the data required for determining the size of the drains. These records show that, during the eight years from 1880 to 1887 inclusive, there were in all thirty storms with rates greater than one inch per hour.

| Number of Storms. | Rate. Inches per hour. | Duration in minutes. |
|-------------------|------------------------|----------------------|
| 2 | 1 to 2 | 20 to 60 |
| 7 | 2 to 3 | 10 to 30 |
| 4 | 3 to 4 | 8 to 15 |
| 3 | 4 to 5 | 15 |
| 3 | 5 to 6 | 5 |
| 2 | 6 to 7 | 3 to 10 |
| 1 | 7.5 | 2 |

Thus in the eight years covered by the records there have been three storms with a rainfall of the rate of more than six inches per hour, lasting from two to ten minutes. As a very few moments of such a storm would wet and cool a roof or paved surface sufficiently to check evaporation, nearly the whole amount of water must have reached the house. It is therefore considered wise to provide for a maximum fall of six inches per hour, as the damage inflicted by a single storm, when the drains were sufficient, would more than outweigh the additional cost of the larger pipe. At the same time the other and equally important fact should be kept in view that the drain should be made, as far as practicable, self-scouring under the ordinary conditions, and to accomplish this the diameter should be kept as small as may be consistent with safety.

The second consideration in determining the requisite size of the drain is the velocity of the water in the pipe. This should evidently be, not that derived from a theoretic equation, but such as can be attained in practice after making all due allowances for traps, short bends, etc. It is doubtful whether a velocity of six, or even five, feet per second could be obtained through a six-inch quarter bend, unless the pipe were discharging full and under pressure. A maximum velocity of four feet is assumed as safe.

Again, to prevent the drain running quite full, an available sectional area of .18 square feet is assumed for the six-inch pipe. This, with a four-foot velocity, would give a capacity of .72 cubic feet per second. With a six-inch rainfall per hour, one square foot of roof surface would receive about .000140 cubic feet of water per second. The six-inch drain should therefore carry the water from about 5,000 square feet of surface, if it have an effective grade of one-quarter inch per foot.

With a grade of one-half inch per foot, which is often practicable, and a fairly straight run of pipe, the velocity may be raised to six feet per second, and therefore the capacity and amount of surface drained increased to one-half. In this case the six-inch sewer would safely carry the storm water from 7,500 square feet of roof. The following table gives the size of pipes, with the corresponding area of roof drained when the effective fall is respectively one-quarter and one-half inch per foot.

| Diameter of Drain. | ROOF AREA DRAINED. | |
|--------------------|--------------------|--------------------|
| | 1/4-Inch Fall. | 1/2-Inch Fall. |
| 6 inches | 5,000 square feet. | 7,500 square feet. |
| 7 " | 6,900 " | 10,300 " |
| 8 " | 9,100 " | 13,600 " |
| 9 " | 11,600 " | 17,400 " |

For large areas it is always better to use two or more small sewers rather than a single large one, as under the ordinary conditions of sewerage flow the small pipes will be more thoroughly flushed. The effective grade of the house drain should also, for safety, be measured from above the hydraulic grade line of the public sewer, which in this city, during the heaviest storms, will be at least as high as the arch of the sewer.