

April 19, 1917.

Mr. Owen McKay, M. Can. Soc. C. E., of Walkerville, who was engineer for these pavements, after describing the earlier pavements laid, states he laid more than  $4\frac{1}{2}$  miles in 1914 in Sandwich East under the Wayne County specifications. One-course: mix, 1:1½ clean, washed gravel;  $1\frac{1}{2}$  miles 16 ft. wide and 3 miles 15 ft.; depth, 6 ins. at side, 8 ins. at centre; base filed; expansion steel joints 25 ft. apart. Only 500 lin. ft. to-day found with cracks and so fine as to be scarcely noticeable. No reinforcement used.

In 1915 he laid two lines of pavement for the Canadian Steel Corporation each  $3\frac{1}{2}$  miles long with a 25-ft. strip between reserved for street railway. Mix, 1:2:4. No cracks have appeared excepting in a strip about  $\frac{3}{4}$  of a mile long where drainage imperfect. Mr. McKay concludes where width does not exceed 18 ft. with base flat, sides 6 ins. and centre 8 ins. and expansion joints not more than 30 ft. apart, wire reinforcement may be safely dispensed with providing the sand and gravel are washed and free from impurities and all stones over  $2\frac{1}{2}$  ins. in diameter, crushed and used in the above proportions.

**Wingham.**—Total number of square yards of one-course, 11,448, on main business street of town; length, 2,410 ft.; width, 40 ft.; thickness, 7 ins.; crown, 6 ins.; mix, 1:2:4. Reinforcement used throughout of No. 9 gauge steel wire, 6-in. x 12-in. mesh. Expansion joints 40 ft. apart; Baker armor plates; cost, \$1.35. This pavement laid in 1913. No cracks have developed. Repairs to a few high joints, holes and rough spots caused by frost. In all other respects the pavement has proved entirely satisfactory.

**Woodstock.**—Total number of square yards of two-course, 13,523 (these laid in 1916); base, 5 ins.; mix, 1:2½:4; top, 2 ins.; mix, 1:1½:2½; reinforced by No. 9, 4-in. x 10-in. wire fencing.

**Windsor.**—To end of 1915 total number of square yards, 346,843; in 1915 number of square yards laid, 18,986; cost per square yard prior to 1915, \$1.15; cost per square yard in 1915, \$1.35. First concrete pavement laid in 1907. About 45,000 square yards in 1916.

The concrete pavement laid in the 33 places given in this schedule amounts to 1,366,660 sq. yds., of which over 75 per cent. is one-course work. The quantity reported as laid in 1916 is 350,048 sq. yds.

### CANADIAN SOCIETY OF CIVIL ENGINEERS, REGINA BRANCH.

At the regular meeting of the Regina branch of the Canadian Society of Civil Engineers, held last Thursday evening, it was unanimously decided to support most heartily the proposal of the council of the parent body in Montreal to present a memorial to Premier Borden on his return to Canada from England, showing the number of large and important Canadian engineering works which have been handled by alien engineers.

Following this, a discussion arose on the proper treatment of W. S. Tye's paper, "Canada's Railway Problem and Its Solution," read before the parent body in Montreal. It was thought by those in attendance that the engineering profession throughout the Dominion does not express its opinion strongly enough on the difficulties of the railway problem facing Canada.

It was decided to call a special meeting of the Regina branch to read Mr. Tye's paper, and discuss this question thoroughly. It was also decided to invite representatives of the provincial government and other public bodies to take part in the discussion of this paper, and to make public the opinion of Saskatchewan engineers.

### HOW CANADIAN ENGINEERS ORGANIZE.\*

By Professor C. H. McLeod, Ma.E., F.R.S.C.

THE organization of Canadian engineers, from a strictly professional point of view, is comprised in the history and growth of the Canadian Society of Civil Engineers. There are in Canada, of course, a number of societies which are only in part professional, and which do not base their membership test on scientific or technical qualifications. Although these institutions are of importance, they cannot be considered as representative of the profession, and, in fact, Canada may be looked upon as exceptional, in that one corporation is exclusively representative of the engineering profession within its boundaries.

The Canadian Society of Civil Engineers was established by a charter of the Dominion of Canada in 1887 under an old English definition "as having for its objects and purposes to facilitate the acquirement and interchange of professional knowledge among its members, and more particularly to promote the acquisition of that species of knowledge which has special reference to the profession of civil engineering, and further, to encourage investigation in connection with all branches and departments of knowledge connected with the profession."

It will thus be seen that the Canadian Society in its formation was modelled on the lines of the British Institution of Civil Engineers. The majority of the charter members, of whom there were 19, were members of the Institution.

The life conditions, however, of the Canadian Society, representing so vast a territory, were soon found to be quite different from one having to concern itself with the profession in the British Isles, and some considerable additional provisions to the original conceptions regarding it were found to be necessary. Chief amongst these was emphasized the need for auxiliary societies, having headquarters in various centres of the country. In the early years of the Society provision was, therefore, made for the establishment of branch societies. The branches, of which there are now ten in existence, are representative of the Society, and occupy points of vantage at various centres, from the Atlantic to the Pacific Coast. They have, under our constitution, complete freedom of action, and are, in so far as their professional activities are concerned, independent local societies. An intimate corporate relationship, however, exists, and the establishment of a branch at any centre does not release the members of the branch from their obligations to the Society. The members of a branch are the corporate members of the Society residing within 25 miles of the branch headquarters, and such other members as desire to identify themselves therewith. It will be seen that the branch societies are thus sentinels for the central body, of which they are a corporate part. They interest themselves not only in general professional affairs and in the work of the Society as a whole, but also in local matters of engineering concern, and thus constitute a very important cementing material between the engineering profession as represented by the Society and the public at large.

The financial relations of the branch to the central Society—always a troublesome consideration—have been arranged on a system of rebates of the dues paid by each

\*Synopsis of a paper read before the Third Conference, Committee on Engineering Co-operation, at Chicago, March 29th, 1917.