

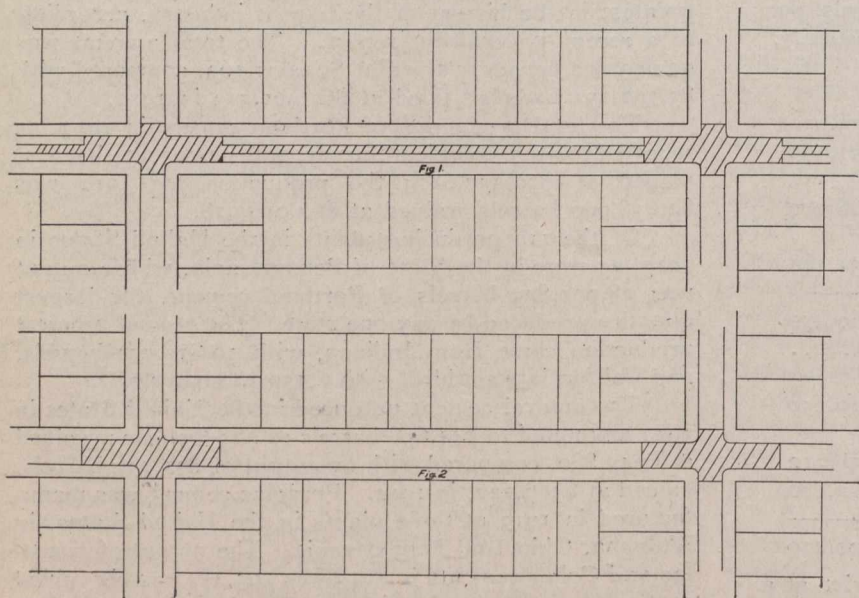
PAVEMENT AND ROADWAY WORK IN OTTAWA, ONTARIO.

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LOCAL Improvement pavements are either petitioned for, by property owners, or initiated under Sec. 9, Chap. 58 of the Municipal Act by the City Council on the advice of the city engineer. If the pavement is petitioned for, the act requires that there must be on the petition the signature of half the property owners representing two-thirds the assessed value of the property—if this is not complied with the petition will be of no use. Supposing, however, the city engineer decides that a pavement on this street is a necessity, then he may advise council to initiate the pavement under Sec. 9. Under these circumstances no petition against the work by the property owners will avail. The work must thereafter be proceeded with.

A Local Improvement report is then prepared by the roadway engineer. This report includes a sketch plan to a scale of 100 ft. = 1 in. showing the location of the work with the lots abutting on it. This L. I. report embraces also the report of the Board of Control and city engineer. The engineer's report contains a detailed statement of the estimated cost of the work.

The cost of the pavements up to July of last year was proportioned as follows: Property owners paid $\frac{1}{3}$ the cost of the work opposite their respective lots; the city at large paid the extra third and also all street intersections and the cost of the surface drainage. The city had to pay, also, half the cost of the work opposite any



Proportion of Cost Under Old (Fig. 1) and New (Fig. 2) By-laws.
Shading Denotes Part Payable by City.

flankage lots, if there were any on the street. It often happened that the city had to pay $\frac{3}{4}$ the cost of the pavement, so the Council decided to change the by-law and pass another, so that, under the new regulation, the property owners have to pay the cost of all work opposite their property, the city paying the street intersections and half the flankage lots as under the old by-law. Fig. 1 and Fig. 2 show the proportion of costs before and as now regulated. Although pessimists declared at the time the new by-law was passed that it would practically stop all

improvements to streets, this happily has not been the case. On the contrary, petitions are now being sent to the city hall in larger numbers than heretofore, and at the time of writing over 200,000 yds. of permanent pavements have been constructed by the council.

When the L.I. report is passed by the board of control and city council, detailed surveys are made and cross-sections taken, by the roadway department. The surveys are plotted to a scale of 40 ft. = 1 in. On the plan a profile of the centre of the road is shown, and also a section

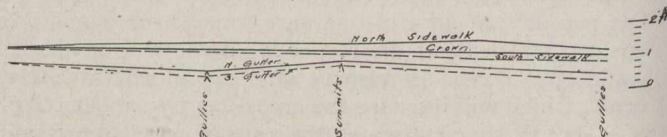


Fig. 3.—Part of Working Profile.

of the type of roadway to be constructed. These are the contract plans, and from them the quantities are calculated for the contractors to tender.

The working profile from which the grades are given is plotted to a horizontal scale of 25 ft. = 1 in. and a vertical scale of 2 ft. = 1 in. The sidewalks on this profile are shown by lines of different colors, and on it are placed the crown of the new roadway in red, and the gutter grades, showing the locations of the various catchbasins and summits. Fig. 3 shows a part of a working profile.

The surface drainage is all done by day labor, and 6 months must elapse after it is completed before the construction of the pavement starts, thus giving time for the loose excavation to become properly consolidated again.

At the beginning of the 1913 season the city engineer recommended that all lots not built upon should have sewer services constructed by the city and charged to the owners of the lots along with the first payment on the pavement. The council adopted his recommendation and all the pavements constructed last year had these services put in. In addition to this, all water and gas services are constructed into the building line of the street. This has saved the cutting and disfigurement of the pavements, in more than 50 instances. No more will the city officials have to complain that they are always "digging of it up and putting of it down."

A new system in calling for tenders is being tried this year. Instead of having bulk tenders for each street several streets have been let on the unit principle. A schedule has been added to the specifications upon which the approximate quantities of asphalt, gutter, curb and gutter, etc., etc., have been placed. The contractor fills in his price per sq. yd. or lin. ft., as the case may be, the total charge being placed on a blank form. When the work is finished it is measured by the engineer and charged at the schedule rates. This is the method in practice in Great Britain.

The type of catchbasin and cover used in Ottawa is shown in Fig. 4. It is constructed of concrete with a 6-inch outlet leading to the sewer. The cover is of cast iron and has a very neat appearance on the street.

Asphalt Pavements.—Fig. 5 shows a typical cross-section of an asphalt pavement as it is laid on the resi-