SEWER DISCHARGE DIAGRAMS.

N The Canadian Engineer of the 5th June, 1913, there appeared a sewer diagram drawn by Mr. J. M. M. Greig, A.M.I.C.E. We have just received from Mr. Greig the accompanying diagrams, which have been worked out by Mr. William Lockhart, A.M.I.C.E., on the Diagram No. 1 gives discharge and velocity for pipes from 6 inches diameter up to two feet nine inches diameter flowing full and it is used as follows:

Required: Velocity and discharge of a 2' o" diameter pipe at a gradient of one in twenty. Follow the slope line marked 2' o" diameter until it intersects the vertical line 20. The horizontal line from this point shows



same principle as the original one. The formula was:— Discharge in cu. ft. per sec. = $A.C.\sqrt{R}$. \sqrt{S} where A = sectional area.

- C = Kutter's coefficient for different values of \sqrt{R} and N. (Taken from "Wollheims Sewerage Note Book".)
- R = area of cross-section divided by wetted perimeter.

S = slope.

N = coefficient of friction.

50 cubic feet per second as the discharge and the curved line gives 16 as the velocity in feet per second.

The diagrams marked 12-inch pipe, etc., are to be used in exactly the same way as the others, but the slope lines bearing figures such as 7'', 8'', etc., if followed out will give discharge and velocity, for the particular pipe in question, flowing 7'' or 8'' deep, etc.

To construct one of these diagrams it was necessary to go through the following process: The spacing for the gradients 1 in 25, 1 in 100, 1 in 400, and so on, was