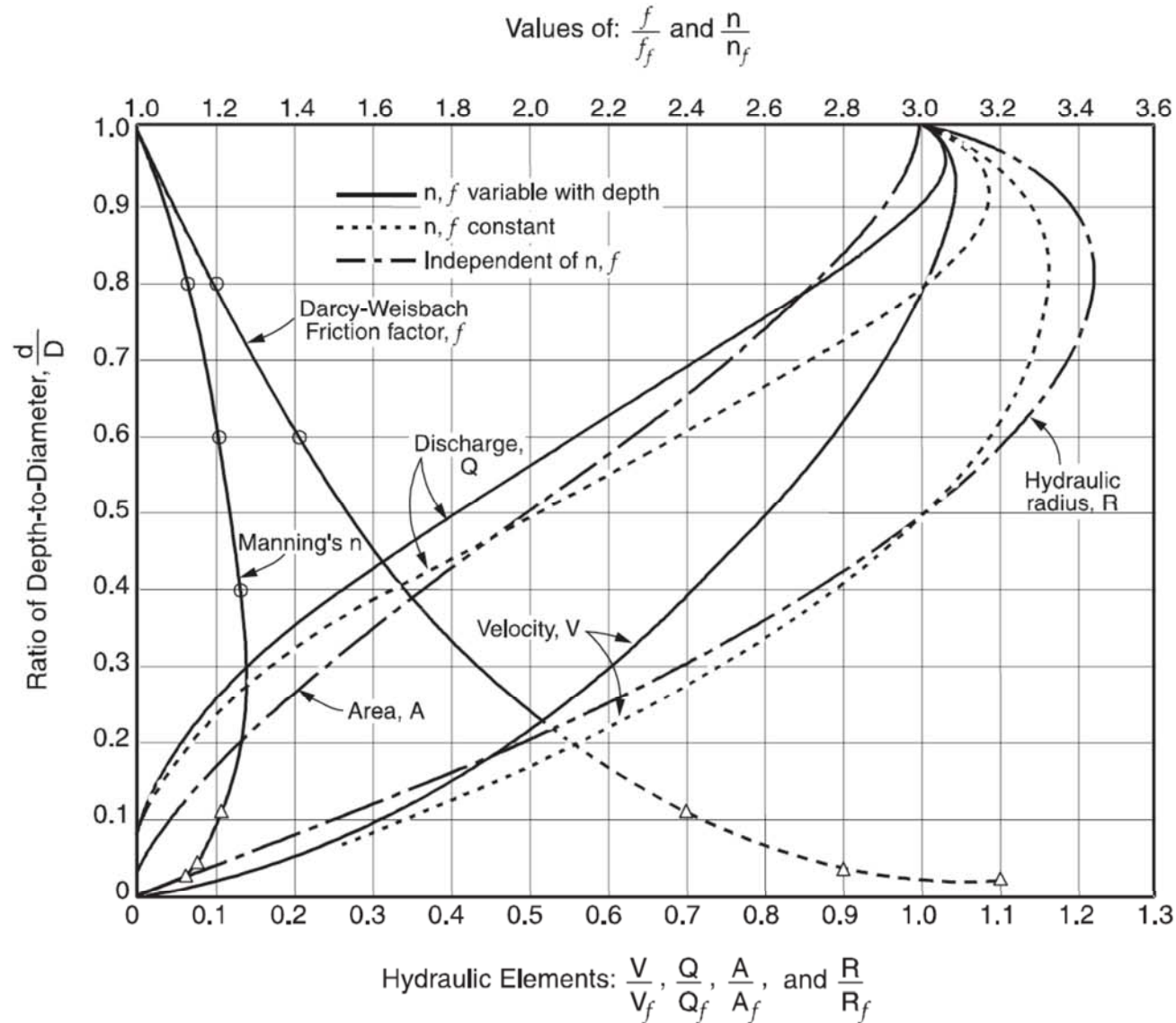


## Homework 5, Due October 13

1. Generate the  $Q/Q_{full}$ ,  $V/V_{full}$  vs.  $y/d$  curves known as the hydraulic elements graph for partially full flow in circular pipes. You can assume a pipe diameter,  $n$ , and slope. Use at least 25 pairs of points to define the curves. You can show the graph on the same page as the Excel table. Remember to show your name on your spreadsheet printout, and to provide sample calculations along one row.
2. Problem 4.1 with  $Q = 3200$  cfs.
3. Repeat 4.1 for a rectangular channel with  $b=40$  ft.
4. Problem 4.2 with 17 cfs.
5. Problem 4.11 with  $Q_{max} = 1.2$  m<sup>3</sup>/sec and  $Q_{min} = 0.3$  m<sup>3</sup>/sec.

## Hydraulic-Elements Graph for Circular Sewers



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