



FLUSHING VELOCITIES AND SANITARY SEWER DESIGN CHANGES

The City of Calgary, Water Services has completed two studies pertaining to Flushing Velocities and Sanitary Sewer Design Specifications (2008 and 2010), and also has met with UDI to discuss this issue. Based on the findings of the studies, the Sanitary Sewer Design requirements and alternative design practice for 2011 are as follows:

Manning's 'n':

- UDI and Water Services agreed that, commencing in 2011, Manning's 'n' will be 0.013 for Concrete and PVC pipes.
- The minimum pipe slopes currently published in the Design Guidelines for Subdivision Servicing for Concrete will now apply to both Concrete and PVC pipes.

Sanitary Sewer Design Requirements for 2011:

- Manning's 'n' = 0.013 for both concrete and PVC;
- Minimum pipe slopes will continue to be the basis for design; and
- The information required on the design drawings will remain the same.

As an alternative to the above, designers may choose to design sanitary sewers as follows:

- A pipe slope less than the published minimum pipe slopes can be used in situations where it can be demonstrated that a minimum flushing velocity of 0.60 m/s can be achieved under actual flow conditions.
- The design information must demonstrate that the design will meet the minimum flushing velocity of 0.60 m/s. The flushing velocity will be calculated for the peak flow rate under dry weather conditions (excluding inflow and infiltration allowances), as determined by the anticipated population density for the catchment discharging to the pipe.
- Calculations must be shown on the design drawings for pipes that are designed using these optional design practices.

Questions? Comments? Call 403-268-5833