



## South Pigeon Lake Wastewater Collection System Design Memorandum

Further to concerns that have been raised about the system design for the South Pigeon Lake Wastewater Collection System, a simple technical explanation for one design component (velocity) does not provide an adequate picture of the complexity of the design of this system. There are many design factors that go into an overall system design that must be considered as a whole, not as stand-alone components. Pipe velocity is indeed one of these components but the overall system must be designed to take into account the hydraulic challenges of high and low flow periods typical of a summer village community within an acceptable pressure regime, considering pump and holding tank sizes, site constraints, and overall costs.

Various sewer collection system options for the South Pigeon Lake Collection System have been evaluated numerous times over the years by engineering firms that specialize in municipal wastewater collection systems and the **low pressure sewer system** was determined to be the most practical, cost effective system each time and as such recommended for the South Pigeon Lake Collection System. In addition, the Alberta Government authorities were also involved in these evaluations and the current design is based on past experience and discussions with low pressure sewer installers, maintenance contractors, equipment suppliers, and utility owners.

Low pressure sewer systems are a proven technology that with proper maintenance and operation will be an effective solution. In terms of pipe velocity, given the nature of high and low use seasons for Summer Villages, there will be times when velocities are lower than optimum; however, the system has been designed accordingly to allow for line flushing and cleanout as required.