

Project Profile

On Site Wastewater Treatment

General Overview

K. Smart Associates Limited specializes in the design of on site wastewater treatment systems for a variety of applications. Developments in rural areas can be difficult due to the lack of municipal services such as water supply and sewage treatment. K. Smart Associates Limited has been involved in the design of on site wastewater treatment systems since 1985 with a wide variety of projects.

On site wastewater treatment systems that are designed for a flow of less than 10,000 L/day are regulated by the Ontario Building Code and require a building permit from the local municipality. Systems that are larger than 10,000 L/day are regulated by the Ontario Ministry of the Environment and require a Certificate of Approval. K. Smart Associates has designed systems ranging from 2,000 L/day to 250,000 L/day and has experience with both types of systems and the different approval processes.

On site wastewater treatment systems consist of three main components—collection, treatment and disposal. The design of each component will vary according to the site.



Septic and Treatment Tank Installation



Shallow Buried Trench Disposal System

K. Smart Associates Limited has completed projects for single family homes, nursing homes, restaurants, campgrounds, golf courses, highway service centres, churches, schools and resorts. The activities at each site are different, therefore each site will have different design requirements. Restaurants and highway service centres typically have a very high strength wastewater with high levels of grease resulting from cooking activities, while churches and schools do not have the kitchen wastewater but have high ammonia concentrations. Campgrounds and golf courses tend to be seasonal operations and the treatment systems must be capable of coming back into service after a dormant stage over the winter months. Each application requires a design that addresses the specific needs of the site.

With a wide range of treatment technologies available for use with on site systems, it is important that the most appropriate technology be selected for each site. K. Smart Associates is knowledgeable of the available technology and the capabilities and limitations associated with the various technologies.

On site wastewater is a constantly changing industry and K. Smart Associates staff are committed to continuing education through participation in conferences, seminars and product information sessions. This enables us to continue to provide innovative design solutions for on site wastewater treatment.