

CASE STUDY

Project Title	CASTOR LAKE
Year	2016
Country	Canada
Distributor	DBO Expert
Project	Installation of a System O)) at a lakeside community
Treatment Capacity	17,280 L/day
Soil Analysis	Permeable
System Surface Area	277.1 m²
Particularities of the Site	The entire community is attached to the same septic system.

Treatment results available upon request.



Préparation du terrain

BACKGROUND

This project is to install a wastewater treatment system for an eight-house lakeside community in the Abitibi region of Quebec. The system needed to handle a high volume of wastewater and guarantee that there wouldn't be seepage of poorly treated wastewater into the nearby lake.



PRIMARY TREATMENT

The System O)) is preceded by a primary treatment. Each residence in the community has their own septic tank with an effective volume of 3.8 m³ where raw wastewater is accumulated. Inside the septic tanks, the wastewater separates into layers as the fats float to the top and the solids sink to the bottom.

DISTRIBUTION

The wastewater leaving the septic tanks flow by gravity into a main collection tank. The effluent then flows into a pumping station where it is pumped into the System O)). The proper functioning of the System O)) depends on a uniform distribution of wastewater between the Advanced Enviro))Septic pipe rows. This is achieved with our Low Pressure Repartition System. This pressurized system ensures that all of the rows of pipes are evenly supplied with wastewater with less than a 2% difference between the rows.



Le sable filtrant est un composant important d'une installation System O))



L'échantillonneur permet d'analyser simplement la performance épuratoire du système de traitement.



ADVANCED SECONDARY TREATMENT

This System O[®] uses three cells consisting of a total of 144 Advanced Enviro[®]Septic pipes. The cells are made up of 12 rows of four Advanced Enviro[®]Septic pipes. The wastewater is pumped to the entrance of each row of Advanced Enviro[®]Septic pipes and then flows along the length of the rows where it is treated by bacteria living in the AES pipes and in the filter sand during the infiltration process.



ECONOMIC ADVANTAGES

By installing one System O[®] instead of multiple smaller conventional systems, the client saved money in the long term. A System O[®] costs roughly the same as a conventional system, but has a lifespan of over 30 years. Conventional installations can start to fail after 15 years even if they are treated well. The System O[®] doesn't require maintenance and there isn't any filter media to replace or parts that can break.



ENVIRONMENTAL ADVANTAGES

The treated water leaving System O[®] on average has:

- 10.5x less CBOD₅,
- 7.3x less TSS and
- 49.6x less fecal coliform

than a conventional installation. The treatment process of a conventional installation occurs in the soil, while System O[®] treats the wastewater within the system, protecting the native soil as well as the nearby watercourse. If each of the eight homes had their own conventional septic system, there is a good chance that one of them would seep poorly treated wastewater into the lake.



144 conduites au total, divisée en trois cellules



Vue d'ensemble pendant l'installation.



Les piézomètres permettent de mesurer l'hauteur de l'eau à l'intérieur de chaque conduite et s'assurer de la distribution uniforme de l'eau usée.

