

Day One - Track Two

Wednesday, March 22nd, 2017

1:30 p.m. – 2:00 p.m.

Removal of Suspended Sediments During a Pond Dewatering Using a PAM Treatment Train: A Case Study Approach

Presenter: Mark Simpson, Layfield Canada Ltd.

Biography



Mark Simpson is a Professional Engineer and Regional Vice President for Layfield Canada. He has been actively involved in the Environmental Containment and Construction Products and Service business for almost 20 years. Recently he has been active in new product development for Layfield Canada and the use of polymers in erosion and sediment control has been a significant part of his focus. Mark has presented a paper at TRIECA in the recent past on the use of GeoTube™ technology for stormwater management pond cleanout.

Abstract

A 27 million liter pond was required to be dewatered as part of the Highway 407 extension near Courtice, Ontario. A unique Polyacrylamide (polymer) treatment train was installed between the pond and the receiving watercourse in order to reduce the TSS to within required guidelines prior to discharge. A significant challenge was to maintain a high flow rate while effectively treating the silty water within a confined work space. The project was completed successfully because attention was paid to each phase in the treatment process (Dosing, Mixing, Reacting, Settling, and Filtration) prior to discharge. This case study details the tools used in each phase of the treatment process including the selection of the appropriate polymer, dosing, setup, and maintenance of the system in operation. The pond was dewatered while maintaining a steady flow rate over a period of 4 to 5 days. The TSS removal was from approximately 800 NTU to <25 NTUs.

Learning Objectives

1. How to effectively apply polyacrylamide (PAM) to achieve maximum TSS reduction;
2. Understanding the various stages of the treatment process;
3. How PAM removes suspended sediment from the water column; and
4. Exposure to a unique and effective set of tools to maximize the efficiency of polymer treatment