Stormceptor® MAX

CASE STUDY

Stormceptor MAX helps safely link Alberta Oil-Sands

Project: Alberta Oil-Sands

Location: Bruderheim, Alberta

Owner: Canexus Corporation, North American Terminal Operations (NATO)

Engineer: Hatch Mott Engineering

Contractor: Sureway

Product: Stormceptor® MAX

Located in Bruderheim, Alberta, Canexus Corporation has been a mid-sized chemical manufacturer for more than 50 years. Canexus has transformed itself into a key terminal link between the Alberta oil-sands and the rest of the world. The NATO terminal plant expansion, strategically located at the confluence of two major rail lines, Canadian National Railway Company and Canadian Pacific Railway, provides a critical channel in moving caustic soda, hydrochloric acid, as well as third-party hydrocarbons from the oil-sands in and out of Alberta by rail.

The facility takes diluted bitumen and crude oil trucked to the facility and loads into railcars at a targeted overall capacity of 30,000 barrels of oil per day. The plant is over 450 ha (1,110 acres) with multiple trucks, railcars, pipelines and above ground storage filled with hydrocarbons and chemicals being continuously transferred between these systems. The site is surrounded by clay till, allowing minimal infiltration. This made the design of a wet pond with a customized Stormceptor MAX a viable treatment option to protect the North Saskatchewan River from any potential drips, leaks and spills washing off with the site's rainwater or snowmelt.

Considering the large volume of chemicals transported and transferred at this site daily, the potential for drips, leaks and accidental spills was of major concern to the City of Edmonton's drinking water supply. The targeted treatment rate was in the range of 400 to 500 L/s, and the custom designed Stormceptor MAX's hydrocarbon storage volume was 85,000 L (over 22,000 gallons). A treatment train approach was utilized, combining a large 30,000 m^3 detention pond with the 13m (42ft) total length Stormceptor MAX system.

"It's was recommended that the Stormceptor Max was a proper fit and the correct device for protecting the site due to the sensitive situation of loading and unloading of trucks to rail–trans loading of large quantities of oil," stated Sandy Melindy, a Hydrotechnical/Civil Engineer for Hatch-Mott Engineering.

Ongoing plant expansion activity includes connection of oil pipelines transporting hydrocarbons from various oil-sands fields to the train terminal loading area. This high-capacity, efficient rail loading system will help Alberta producers safely get their crude to any place in North America serviced by rail, including Eastern Canada and the United States, in an environmentally responsible manner.