



ITT

Water & Wastewater
Case story | Dewatering

ITT W&WW assist William Head Treatment Plant in BC setup temporary aeration system with the help of submersible Jet Aerator and Flygt pumps.

To control and manage the growing inflow, William Head Treatment Plant, located south-west of Victoria, BC, decided to increase their capacity and extend their facility. This project consisted of construction and related work.

The project was awarded to Rocky Point Metalcraft Ltd, located in Victoria, BC and the expansion of the facility required shutting down the existing aeration system. Kamal Singh, (AScT.), Dewatering Specialist at ITT Water & Wastewater had already been working on this project with WorleyParsons, an engineering, procurement and construction management service company. The consulting engineers advised that the size of the temporary lagoon is approximately 470 cubic meters and has a depth of 8 – 10 feet. The temporary lagoon is lined with a thick liner to prevent any spills. The consulting engineer wanted to operate the aerator for 16 hours a day and the remaining time it would let the pond settle and decant.

The current MLSS was 1000 mg/l and they wanted a standard oxygen transfer rate of 83 kg oxygen/day.

They also wanted a small transfer pump to move sewage and some related piping. Over the discussion, it was also mentioned that they have existing 208 volts / 3 phase power supply available on site.

Mr Singh proposed to use a submersible jet aerator (JA117) combined with a Flygt 3153 / 20 HP submersible motor and a medium head impeller. The Jet Aerator delivered 10 kg O₂ / hr which was optimum as per WorleyParsons. The Jet Aerator was 600 volts / 3 phase. To use on-site power, a 208 volts / 3 phase to 600 volts / 3 phase 25 KVA step up transformer was used. The Jet Aerator was mounted on a concrete base to give it a stable foundation. A rubber pad was added at the bottom of the concrete base so that the Jet Aerator foundation would not rip the liner with its starting torque.

To transfer 4000 cubic meter per day, Mr Singh proposed a Flygt 3127 / 10 HP / 208 volts / 3 phase pump on a flotation module. The flotation module is used so that the pump does not pick up sediments from the bottom of the lagoon. Also, a combination valve (vacuum breaker & air release)



The temporary lagoon where the Flygt Jet Aerator, the N 3153 submersible pump and the flotation module were installed.

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and a 6" gate valve was proposed to manage the flow and run the pump at it's best efficiency point.

The system was recommended and rapidly accepted by both the contractor Rocky Point and WorleyParsons consulting engineers. ITT mechanics began putting together the Jet Aerator, stainless steel piping, pumps, flotation module, piping, and combination valve.

Once installed, the Jet Aerator and pumps operated flawlessly and at finest levels as forecasted. Within 2 months, Rocky Point Metalcraft was able to finish the upgrade of the William Head Treatment Plant and was highly thankful to ITT Water and Wastewater.

Kamal Singh, ITT Water & Wastewater,
Dewatering Specialist, Vancouver at (604) 941-6664



The combination valve (vacuum breaker & air release) and a 6" gate valve to manage the flow.

ITT Water & Wastewater - Dewatering service

Created to meet the increasing demands for a full fledged solution driven company, the Dewatering service mandate is to engineer, manage and supply major temporary site dewatering and sewage bypass projects in the municipal, construction, industrial and mining sectors. On-site project supervision, technical expertise and equipment maintenance services are also offered.

Built on ITT's 50 years of Canadian water handling experience, the Dewatering service specializes in effective and environmentally secure water and wastewater transfer applications such as Sewage Bypass, Excavation Dewatering, Flood Drainage, Surface Irrigation and Mining Dewatering.

ITT W&WW also offers a full service rentals program. A complete line of submersible pumps, engine driven suction pumps, generators, piping and complementary accessories are available for either long or short-term rental. With 14 coast to coast service locations, ITT W&WW is the only nationwide company to offer complete turn-key water handling solutions, expertise and products.

