



EDMONTON SECTION

Canadian Society for Civil Engineering

CSCE DINNER MEETING NOTICE

Thursday, October 15, 2015

University of Alberta Faculty Club, 11435 Saskatchewan Drive

“Planning, Design, and Construction of the St. Albert Pump Station Upgrade”

Barry Raynard, *M.Eng., P.Eng.*

Manager, Municipal and Water
Resources Engineering

Stephen McCauley, *P.Eng.*

Senior Water Resources Engineer

ISL Engineering and Land Services

Abstract

The St. Albert Pump Station is located in Red Willow Park, in St. Albert's Kingswood neighbourhood. It is one of the largest municipal wastewater pump stations in Western Canada, servicing a community of over 100,000 people. The station can pump at a rate of over 1400 L/s with two 730 hp duty pumps and is designed to accommodate two additional duty pumps, increasing the ultimate capacity to 2400 L/s.





The original design brief was to upgrade two existing pump stations that operated in parallel. However, the existing configurations were found to restrict the potential upgrade capacity and a third station would have been required to meet the capacity needs. Ultimately it was found to be most cost effective to construct a new facility as opposed to upgrading.

The design and construction of the new station was particularly challenging due to the space constraints and poor ground conditions. To overcome these, the design utilized a circular substructure, which allowed for vertical construction, minimising the excavation footprint.

Construction began in late 2010 with the 20 m diameter, 17 m deep substructure constructed as a dropped caisson. The caisson took around 8 months to complete and the entire substructure was in place by the end of 2011. The pump station was commissioning in the spring of 2013.

Speaker Bio



Barry Raynard is a senior engineer with over 30 years of experience in municipal engineering and water resources. He is the Manager of Municipal and Water Resources Engineering for ISL's Edmonton office.

Much of Barry's career has focused on the planning, design and implementation of major wastewater infrastructure, including the Alberta Capital Region Wastewater Commission's transmission system and the City of Edmonton's Sanitary Servicing Strategy. His expertise includes the hydraulic analysis of wet weather flows in wastewater systems, and developing cost effective servicing concepts for the staged implementation of major trunk systems, pump stations and forcemains.



Stephen McCauley is a senior engineer with ISL and has over 15 years of experience in municipal engineering, primarily focusing on the design and construction of major water, wastewater and stormwater infrastructure.

Stephen was the lead design engineer for the St. Albert Pump Station upgrade, responsible for upgrade assessment during preliminary design, through detailed design, tender, construction administration and commissioning.



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DINNER MEETING DETAILS

Date: Thursday, October 15, 2015

Location: University of Alberta Faculty Club, 11435 Saskatchewan Drive

Cocktails Registration – 5:30pm
Dinner – 6:30pm
Presentation – 7:30pm
Closing Remarks – 8:30pm

CSCE Student Members - \$12.00
Student Non-members - \$17.00
CSCE Members - \$25.00
Non-members - \$35.00

Please assist us in forecasting attendance by registering at least two days in advance via website at www.csceedmonton.ca. An additional \$5 drop-in fee will be applied to individuals not pre-registered.

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