

Nickel Lift Station and Forcemain from Copper Cliff to SWWTP



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Agenda

- Background
- Project Challenges
- Stakeholders Management
- Integrated approach in design/operation
- Use of new construction techniques
- Lift Station enhanced operation flexibility

Nickel Lift Station + Forcemain to SWWTP



Project Challenges

- Keep the CC WWS running (i.e no impact to residents and businesses)
- No adverse impact to environment
- Soil condition and topography
- Traffic
- Weather

Stakeholders Management

- MECP
- Vale
- CP Railway
- Business
- Residents

Integrated approach in design/operation

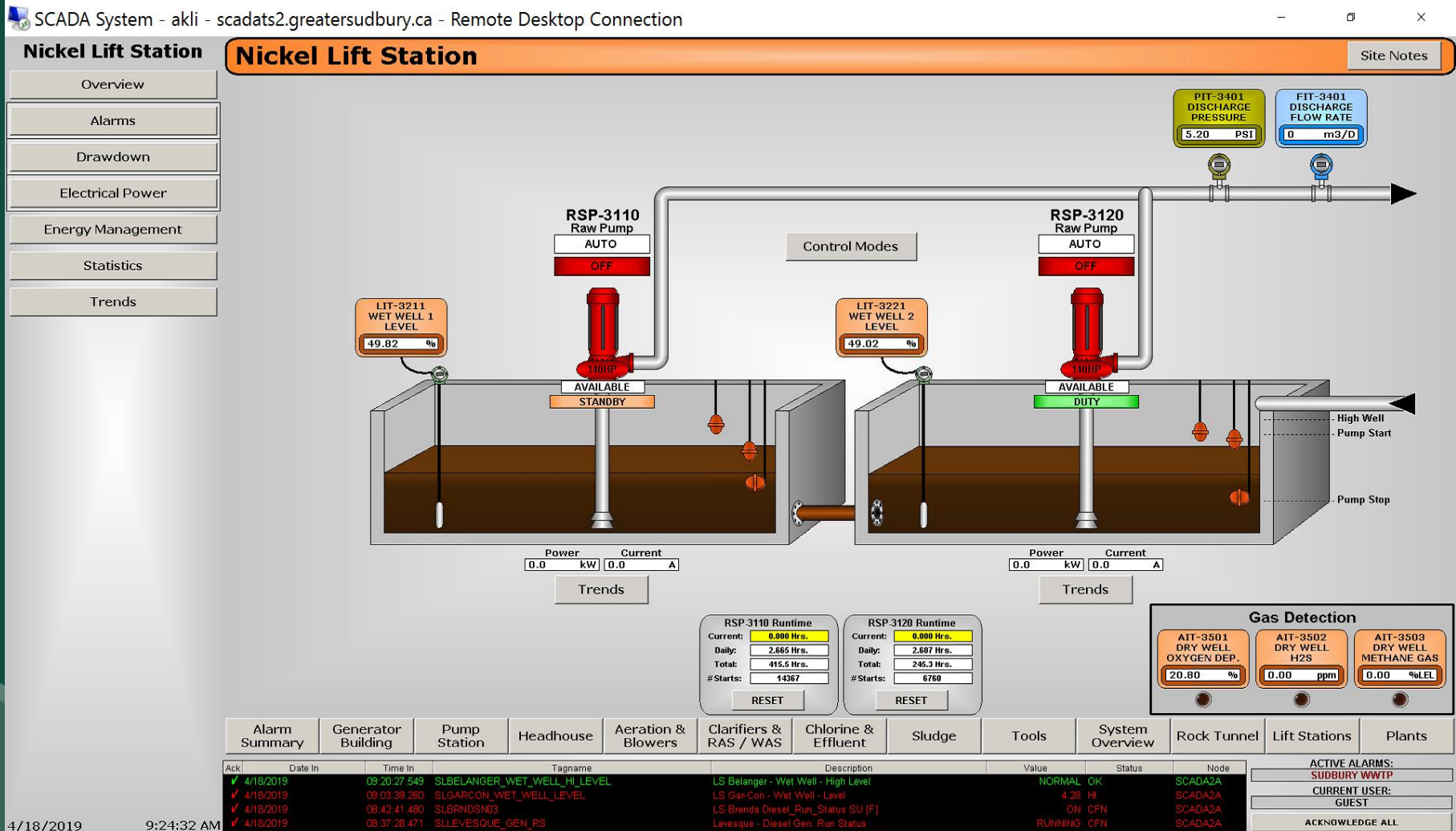
- Lift Station:
 - Pumping capacity/redundancy
 - Operation flexibility and efficiency
 - Control and monitoring
- Forcemain
 - Operation flexibility
- Watermain and road reconstruction

Construction Techniques

- Temporary pumping station
- Trenchless technologies:
 - Jack and boring when crossing the bridge, rail and high way.
 - Horizontal Directional Drilling through the creek and nickel street.
- Total forcemain length is 2.9 km
- Gravity sewer is around 300m



SCADA Control





INFRASTRUCTURE, PROJECTS, TECHNOLOGY

Trenchless tech helps deliver \$11-million Nickel Lift Station upgrade in Sudbury

Dan O'Reilly February 22, 2019



Construction on the rock hard Canadian Shield is never easy at the best of times and comes with even more complications when it involves diverting a community's sewage from one treatment plant to another, as was the case with the \$11-million Nickel Lift Station upgrade and forcemain project in the City of Greater Sudbury.

This recently completed two-component project involved the construction of a two-metre-deep 2.9-kilometre-long, (1.8-mile) 600-to 750-mm forcemain from the Nickel

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less technology is used by the city when there is a need to avoid any major
ance/impact to existing infrastructure, environment, business and residents.”

y, a lot of rock was encountered during the excavation and the main challenge
maintain uninterrupted service to the community, he points out.

particular project Greeley Ontario-based Marathon Drilling Co. Ltd. used a
ation of horizontal drilling and a jack and bore operation to cross under a CP rail
gional Road 55, a privately-owned rail bridge, Nickel Street, and a small water
g.

ct breakdown was a 140-metre-long (459-foot) stretch to jack and bore under
lge, rail line and highway and horizontal drilling below the creek and the street
tal distance of 430 metres (1,410 feet), says Ben-Anteur.



F GREATER SUDBURY—The \$11-
Nickel Lift Station upgrade and
ain project in Sudbury, Ont. was

Locally based Denis Gratton Construction Ltd.
was the general contractor overseeing the
construction of the forcemain which
commenced in December in 2017 and was
completed this January.

The second phase of the project was the
installation of new pumps and significant
upgrades to the pumping station by Belanger
Construction Ltd. That work started in early
2018 and is scheduled for completion this
month (February), says Ben-Anteur.

In a sense the origins of the project are a
combination of history and geography. For
many decades Copper Cliff was a separate
municipality and all its wastewater flows were
collected at the Nickel Lift station and pumped
to the privately owned Inco (now Vale Inco)
wastewater treatment plant.

“This private wastewater treatment plant is at



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