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CONSULTING ENGINEERS

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Project Overview

ASHCROFT TERMINAL
A MEMBER OF THE PSA GROUP

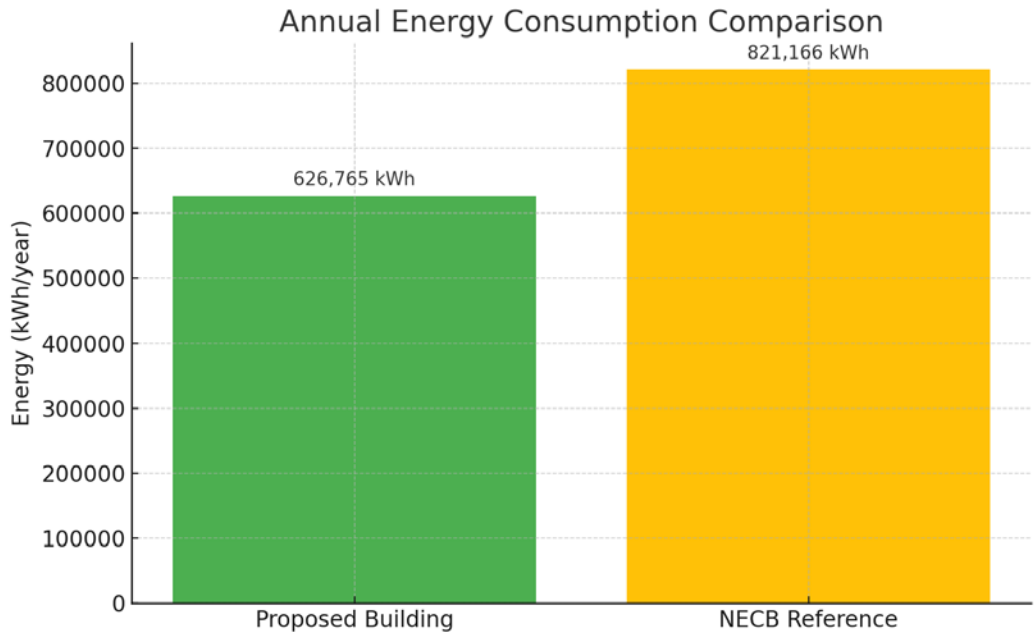
Ashcroft Terminal Ltd., a strategic inland port in British Columbia and part of PSA International, expanded its operations with a modern cross-dock facility designed for high-volume transloading and 24/7 operation.

D.B.K. Engineering Ltd. provided full MEP and energy compliance services, incorporating a ground source geothermal system, high-efficiency ventilation, and smart electrical infrastructure.

The project was completed on May 24, 2024.

Sustainability and Energy Goals

- Comply with NECB 2017 - Part 8
- Achieve a significant reduction in energy use intensity (EUI)
- Employ low-carbon geothermal heating and cooling
- Design for EV and battery readiness



Mechanical & Geothermal System

- Ground-source water-to-air heat pumps (COP 3.6-6.4)
- Two backup hot water boilers feeding unit heaters
- ERVs for ventilation, stratification fans in the warehouse

- Zoned geothermal comfort for office and staff
- Electric DHW systems

Electrical Systems & Infrastructure
- EV-ready stalls (10%)
- 3,200 SF battery/AGV charging zone
- LED lighting, CCTV-ready poles
- Smart metering and efficient panel layout

Energy Model Outcomes (NECB 2017)
- Energy Use Intensity: 15 kWh/ft²/year
- Annual Energy: 626,765 kWh (24% below reference model)
- Ground temp: 15.9°C; Thermal conductivity: 1.38 W/m·K
- Fully compliant with NECB 2017
- Enhanced envelope and control measures

Challenges & Solutions
- Climate extremes: resolved with deep geothermal boreholes
- Electrification: supported by efficient equipment and metering
- Industrial envelope compliance: high R-values and infiltration control

Results & Benefits
- 24% energy savings
- Electrification readiness
- Low-carbon design aligned with PSA mandates
- Smart, scalable MEP infrastructure