

Company Name: Pomerleau Inc

Project Name: Esquimalt Graving Dock Extension & Refurbishment

Project Value: \$41,540,919.64

Initially constructed from 1921-26, the Esquimalt Graving Dock (EGD) in Victoria, BC, is the largest non-military hard bottom dry dock on the west coast of the Americas, and is used for ship repair and maintenance. Its facilities can service 92% of the world's bulk carrier ships and 100% of the world's general cargo ships. EGD creates about \$945 million each year in gross output, and about \$400 million in GDP. Mandated by Public Works and Government Services Canada (PWGSC) for the construction of an eastward extension to the dock along with associated civil, structural, electrical and mechanical works, Pomerleau brought innovative solutions to the challenges on this project—one that is essential to the economic vitality of the region and to the shipping industry.

The 36-m extension involved rock blasting, rock excavation, rock anchors and the excavation of contaminated soil. Pomerleau also undertook the refurbishment of the walls and floors in Section 3 of the existing Graving Dock.

The greatest challenge on this project was the critical nature of the construction schedule. Shipping schedules are established years in advance, which meant there was no flexibility in the timeframe allotted for the completion of the project: the dock had to be ready to receive ships per client commitments. The solutions chosen to meet project challenges could not result in the addition of time to the schedule. While the project took 19 months to complete, the dock was made available to the client by March 2023. Along with the tight schedule, Pomerleau also faced a manpower challenge. At the peak of the project's months-long manpower curve, 85 workers were required on site—and finding them was no small feat in the Vancouver Island area. But because Pomerleau always made it a priority to hire local workers and subcontractors, this project had a positive impact on the Vancouver Island construction industry.

The main innovative solutions Pomerleau brought to bear in this complex project were two-fold. First, BIM was used to model the dock extension, which enabled the team to discover design conflicts, discuss them with the engineering firm and make adjustments to minimize any schedule impacts.

Second was a technical innovation that ensured the formwork was even stronger. This change in formwork type was associated with an acceleration plan proposed to the owner to ensure the overall project schedule was met after the schedule baseline was delayed due to various changes in subsurface conditions. These were discovered after contract award, and design adjustments were made in harmony with the engineering firm. The original formwork system was standard, while the new and stronger DOKA system

proposed in the acceleration plan consisted of 5-by-12-metre steel frames. This allowed the height of each wall section pour to be doubled.

While Pomerleau's positive experiences working with PWGSC in the past was a significant advantage, the company's knack for building strong stakeholder relationships meant collaborative solution-finding was possible in this pressure-filled situation—not only with the client but with suppliers and subcontractors as well.