



Client

Port de Valleyfield

Vessel Type

Bulk carrier & general cargo of various tonnages

Location

Valleyfield, Canada

Expansion Project for the Port of Valleyfield

The engineering firm WSP was commissioned by the Port of Valleyfield for the expansion of its existing port infrastructures to increase its capacity to handle goods transiting through its facilities. In order to validate the feasibility of the project, WSP contracted the Maritime Simulation and Resource Center (MSRC) to carry out a series of berthing and departure manoeuvres using the projected infrastructures.

For the purposes of this study, the Port of Valleyfield submitted to the MSRC three (3) expansion scenarios to be tested in real time, taking into account foreseeable obstructions (other vessels berthed at adjacent wharves) and variations in modelled currents for each proposed option.

Five (5) vessels representative of those calling in the port and its dock (models developed by the MSRC) were selected for these simulations. The 3D current meters were developed by WSP's Coastal Engineering & Marine Structures department and were tested and approved beforehand by pilots of pilots from the Corporation des Pilotes du Fleuve et de la Voie Maritime du Saint-Laurent (CPFVM).

These currents were modeled taking into account flood discharges and water levels were also integrated into these databases. The manoeuvres were carried out without the assistance of tugs by CPFVM pilots. For the purposes of this study, 26 maneuvers were carried out and an extensive report was submitted to WSP and the port authorities.