

## PROJECT TITLE

# Lube Tank Mechanical and Hydrodynamics Study

## COLLABORATIVE TEAM

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## PROJECT SCOPE

Curry Supply manufactures and uses large transportable tanks to store and supply industrial fluids.

The tanks required to hold the large amounts of fluids must be structurally sound and able to dampen potentially damaging actions of sloshing liquids.

For this project, General Engineers from SFU will evaluate different tank designs and perform engineering analyses to determine the best method based on strength, sensitivity to hydrodynamic action, and cost.

## STUDENT EXPERIENCE

- Develop a statement of work for Curry's approval
- Evaluated computer-aided design models of options
- Perform Stress analyses
- Complete Hydrodynamic analyses
- Research close and sophisticated coupling of hydrodynamic and structural analyses

## ANTICIPATED OUTCOMES

Identify and establish the relationship between hydrodynamic "sloshing" and large lube storage tanks' structural integrity and safety requirements.

# GENERAL ENGINEERING

SAINT FRANCIS UNIVERSITY IN THE CURRY INNOVATION CENTER