

# UNIVERSITY OF BRITISH COLUMBIA

## VANCOUVER, BC

**CLIENT: UBC PROPERTIES TRUST**



The University of British Columbia (UBC) is a post secondary academic institution unique in location and function. UBC is located on the Point Grey peninsula, bounded by escarpment, ocean, residences and parkland.

UBC has initiated a program to become more self reliant in funding its activities and infrastructure development. Part of that program includes the development of market housing in compliance with the Official Community Plan (OCP). The total estimated campus population is expected to increase from the existing 51,000 to 97,000 over the next 25 years.

Aplin & Martin Consultants Ltd were engaged by UBC Properties Trust to review and report on the

water, storm and sanitary infrastructure serving UBC. The existing water, storm and sanitary systems were reviewed relative to existing and future demands.

State of the art computer models were constructed and/or updated to facilitate and expedite the analysis of the UBC utilities. These models assist the engineer in the examination of the hydraulic response of a utility to specified inflows or system demands. The three software programs used to analyze storm, sanitary and water networks were XPSWMM, SANSYS and WATERCAD respectively. XPSWMM solves the full dynamic equation for gradually varied storm flow for surcharged and backwater conditions. SANSYS specifically analyzes sanitary sewer flows by allowing the user to input pipe properties, zoning classifications and population densities in a steady state condition. WATERCAD is a Haestad software package specializing in the analysis of pressurized water networks in either a steady state or extended period simulation. WATERCAD was also used to investigate available fire flows and can be used to assess water quality issues.