CASE STUDY

# Ainsworth saves Menno Hospital over $20,000 in gas and electricity every year, reduces unscheduled maintenance

9 **Abbotsford, BC**

**Vertical:**
**Health Care**

[2] **Site size:**
**72,988 ft²**

Menno Hospital Place was built in 1960 and 1993. It is a 72,988 sq. ft. 2 story level care facility that houses 151 seniors in residential care with 24/7 nursing support. Menno Place is BC's first campus of care and now one of the largest offering a full range of housing and long-term care options. Over 700 seniors live on the 11 acre campus - from independent living to residential care.

## OBJECTIVES

The existing HVAC system had three air main air handlers running 24/7 serving the entire hospital which ran at a constant speed volume and had heating valve and damper cycling issues causing overshooting on cooling or heating stages, the direction expansion cooling/heating compressors were also cycling which was leading to failures and early replacement. The original HVAC controls utilized these existing sequences so energy use for gas and electricity was higher than other buildings of similar size. Ainsworth's objective was to lower that that usage and to reduce the unscheduled maintenance caused by constant compressor trip outs and failures.

## SOLUTIONS

Ainsworth evaluated the HVAC operations and consulted operations staff on equipment utilization and peak time usages then performed some ECM measures. The boilers were retrofitted with dual stage controls giving them a better turn down ratio during low or medium loads, all three air handling units were fitted with CO2 sensors and smart VFD controls on both supply and return fans, preheating valve control and main heating valve sequences were optimized to minimize cycling issues, and gas and power meters were added to track building performance and consumption.

## THE RESULTS

### GAS, ELECTRICITY, AND COST SAVINGS

Menno Hospital saved approximately 825GJ of gas and 68,000 kwH (average) elctricity the first 5 months for comparison with the implemented ECM changes. This translates to an annual projected savings of $12,870 for gas and $16,320 for electricity

### REDUCED UNPLANNED MAINTENANCE

There was no longer unscheduled maintenance service required, maintenance cost were reduced.

ainworth.com | info@ainsworth.com