# Engineering Problems...into Solutions

## Case Study: Carlton Towers Value Engineering Analysis

### Carlton Towers Energy Cost Problem

Carlton Towers is a forty-six year old high rise tower operating with many of its original building components. The building has large capacity inefficient steam boilers and heat exchangers to produce hot water which is used for both space heating and domestic hot water.

In addition, some of the equipment, including circuit breakers, in the building have proven to be extremely faulty and dangerous.

An evaluation of the building's systems was long overdue.

### Kipcon Engineered Solution

Kipcon provided Carlton Towers with a full reserve study and value engineering analysis to determine the most cost effective way to fund the association's needed repairs and replacements.

Kipcon evaluated the useful life of the building's mechanical and electrical equipment and analyzed their energy usage. By calculating a 30-year cost projection of various upgrade scenarios (including initial replacement costs and ongoing energy and maintenance expenses), Kipcon was able to establish the most cost effective plan of action that addressed all of Carlton Tower's energy cost concerns.

### Another Satisfied Community

Instead of replacing the steam boilers one for one, Kipcon suggested purchasing hot water boilers and redesigned the heating system to include condensing boilers which are 98% efficient. By separating the domestic hot water boilers, the space heating system is used only when necessary.

To further decrease utility costs, Kipcon also made recommendations concerning heat exchangers, chillers, the roof exhaust fans and lighting fixtures.

**With Kipcon's Value Engineering recommendations, Carlton Towers is projected to save $2.5 million over thirty years.**