

# The Twin Towers

## A Gem in the Heart of Guildwood Village

By Linda Duttman

The Guild Inn was a historic hotel located in the Guildwood village neighbourhood. The Guildwood Terrace, located at 3231 and 3233 Eglinton Ave. East, is a twin tower residential condominium which was built in 1990.



Back in the fall of 2015, Ambient was asked by GPM Property Management to provide a quotation for the HVAC Comprehensive services at the site. After the contract tender process, we were awarded a five-year comprehensive coverage contract for both towers. Part of the company's comprehensive scope of work was to provide a building audit of all HVAC at the site. The audit would assist in identifying and determining any energy saving initiatives as well as

any equipment which had reached its life expectancy. This was done in June of 2016. As part of our audit process, we reviewed all site conditions, in addition to an analysis of all gas, hydro and water consumption bills for a one-year period.

### Energy Savings Uncovered

Both towers are virtually 'mirror images' as far as the HVAC was concerned. Ambient identified several excellent energy savings initiatives. The following plant conditions existed prior to the retrofit:

- There were two separate heating plants, one in Tower A, and one in Tower B. The heating boiler plants supply the sites with both heating for the in-suite fan coils, as well as the suite domestic hot water.
- The existing centrifugal chillers (one

per building) which had been modified several years ago to accept R123 (an HCFC refrigerant being phased out) were original to the site, and had reached their life expectancy as per ASHRAE. The chillers' reliability was a concern as they had original control panels which had become obsolete, and parts were increasingly difficult to source. The cooling towers were also original to the site.

- The four make up air units (two per site) supply fresh air, and provide cooling to the common area corridors. The make up air unit had indirect gas fired heating, along with a chilled water cooling coil. The units ran 24/7.

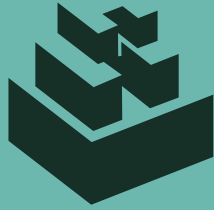
After the audit was complete, Ambient entered into several discussions with the board of directors. The board at this site was very proactive and involved during the entire process. GPM Prop-

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erty Management also played a strong role in assisting the board throughout the decision-making process.

Based on our initial audit, the board hired Cam Hind, of Hind Engineering, to implement the project via a tender process. Cam put together a comprehensive mechanical plant replacement study back in April of 2017 using some of the strategies and thought processes that Ambient had put forth in their audit. Ambient was awarded the above projects after the tender. All projects were completed in 2017/2018. Initially, the board chose to move ahead with all projects except for the chillers and towers. After discussion, they made the decision to move ahead with all projects to take advantage of obvious cost savings (i.e., crane, mobilization, etc.). In addition, immediate overall energy savings were recognized sooner than originally planned.

The following is a summary of what was completed:

- The heating boiler plants were converted to mid-efficiency boilers using RBI XLF 88% efficiency boilers (three per building). New pumps were

also added. A DHW tank relining was also done during the retrofit. The annual savings generated with this addition amounted to 243,411 cubic meters of gas per year. The board also received a one-time incentive from Enbridge of \$61,325. They were able to take part in the double incentive program offered by Enbridge.

- The make up air units were also replaced with four new engineered air units (two per building), which included hydronic cooling and gas fired heating. The new MUAs were equipped with VFDs (Variable Frequency Drives) for additional savings. The VFDs also contributed to the annual savings and incentive as they would run at various speeds depending on time of day and corridor occupancy. The savings generated, as well as incentive received, formed part of the Enbridge incentive listed above.

- The next initiative was the installation of two new chillers. After several chiller options were investigated, the board opted for the York Magnetic Bearing Centrifugal Chiller, complete with VFDs, along with 134A refrigerant.

An excellent choice as these chillers are oil-less and are one of the most efficient in the market. The new chiller plant will save over 77,000 kWh of electricity per year, and has been approved for an incentive of over \$30,000 from the Save on Energy program.

The board of directors, along with the guidance of GPM; Cam Hind (Hind Engineering); and Ambient Mechanical, have taken Guildwood Terrace to a new level as far as energy efficient equipment is concerned. The new equipment will provide the building owners and residents with many years of continued reliability and ongoing energy savings. ■

**Linda Duttman** is senior territory manager with Ambient Mechanical. Linda has been in the HVAC industry for over 25 years. She has worked for a number of OEMs, and is considered an HVAC specialist in the condominium market. She is a long-time ACMO member and past BOMA member. She has been with Ambient Mechanical for over ten years.  
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