



## Multi-Family Housing Project Review



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Hageman Holdings  
Metropolitan Toronto  
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REV 11/2008

Hamilton Engineering



**Gas Solutions, Inc.**  
**Hageman Holdings**  
**Boiler & Water Heater Upgrade Project**  
**2005-2006 43 EVOs Installed**



**Historical Data Tabulation**

Month	Actual Gas M3	Actual Weather HDDs
<b>2004-2005</b>		
October '04	44853	247
November '04	71562	393
December '04	117852	646
January '05	139236	772
February '05	111823	631
March '05	113316	637
April '05	65645	336
<b>2005-2006</b>		
October '05	43501	240
November '05	65561	399
December '05	94524	687
January '06	74210	561
February '06	77619	611
March '06	69283	514
April '06	38589	286
<b>2006-2007</b>		
October '06	36147	305
November '06	43726	387
December '06	59475	494
January '07	81479	694
February '07	90072	772
March '07	64011	555
April '07	50206	392
<b>2007-2008</b>		
October '07	20567	161
November '07	52319	453
December '07	73900	599
January '08	79056	658
February '08	79141	684
March '08	70998	622
April '08	44036	318

**Project Details:**

Gas Solutions, Inc. (Kitchner, ON) was selected from among 12 other condensing product suppliers, to perform a complete replacement of all water heaters and hydronic boiler systems in seven (7) Hageman Holdings' buildings. The heating plants replaced consisted of multiple 15-20 year old atmospheric, copper finned gas fired water heaters and boilers, ranging from 750,000 to 4,000,000 BTUs each.

Hageman Holdings had secured government grants and utility company rebates for this upgrade that would be based on the actual savings produced. The first installation took place at LaSalle Tower in November 2005 and was monitored before and after by Union Gas Company, the local gas utility. Savings projected in initial studies by Union Gas were 28% and **actual savings using the EVO's exceeded 37% in the first year, resulting in an ROI of under 2 years.** Hageman then proceeded to do the remaining 6 buildings with EVOs in 2006.

**Project Highlights:**

In all 7 buildings, heat loss calculations were run by Gas Solutions, Inc. and the heating plants were "right sized" while maintaining the customer required redundancy. For example, **LaSalle Tower had 12,000,000 BTU's in (3) boilers and was reduced to 5,040,000 BTU's in (8) boilers.**

Similar calculations and sizing were done for each Domestic Hot Water System.



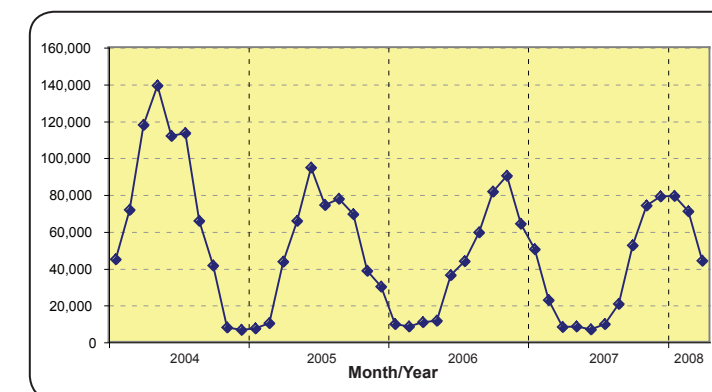
**LaSalle Tower**  
**November 2005**

Gas Solutions, Inc. replaced (3) 4,000,000 BTU Gas Fired Atmospheric Heating Boilers with (8) EVO 599 High Efficiency Condensing Boilers by Hamilton Engineering for heating, and (3) 750,000 BTU water heaters with (2) EVO 599 High Efficiency Condensing Boilers (also by Hamilton) for water. They also replaced the pool heater with an EVO 399!

*The information contained in the following table was provided by Union Gas (LaSalle Tower's Gas Utility Company) and contains actual numbers and costs as it relates to LaSalle Tower in Ontario. The building houses 212 suites.*

**Graph - Actual Gas Usage**

Record Sequence Label by Month  
 Dependent Variable.....Gas  
 Independent Variable.....Weather



<b>Comparative Gas Savings Analysis</b>		
Year	2004	2007
Gas Usage	725,397m <sup>3</sup>	464,814m <sup>3</sup>
Gas Cost	\$318,957	\$204,159

\*Using 2007 gas prices. Gas savings figures provided by Union Gas.