



SIEMENS

Energy Conservation Audit

for the

Town of Tonawanda
Tonawanda, New York

Sample Audit

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Sample Audit

The following Energy Conservation Audit for the Town of Tonawanda has been conducted in accordance with the requirements of a Technical Assistance Program for Schools, Hospitals, Units of Local Government and Public Care Institutions as set forth by the New York State Energy Office. This format is an accepted industry standard.

Sample Audit

A. Background

The purpose of this Report is to provide summary details resulting from the Building Analysis/Energy Conservation Audit performed by Siemens Building Technologies, Inc. at the Town of Tonawanda. The following locations were included in the audit:

- › Aquatic & Fitness Center
- › Brighton Park Ice Rink & Pool
- › Brighton Park Maintenance Building
- › Fire Training Tower
- › Highway Department
- › Historical Society
- › Lincoln Park Ice Rink & Pool
- › Lincoln Park Maintenance Building
- › Lincoln Park Police Satellite Station
- › Memorial Hall
- › Municipal Building
- › NOCO Pavilion
- › Paddock Chevrolet Golf Dome
- › Police/Paramedics/Fire/Court
- › Senior Citizens' Center
- › Sheridan Park Maintenance Building #1
- › Sheridan Park Maintenance Building #2
- › Wastewater Treatment Facility

B. Summary of Building Baseline Energy Usage

During the twelve-month period from January 2007 through December 2007, the Town of Tonawanda consumed the following:

Facility	Electricity			Natural Gas		
	kWh	Total Elec. Cost	MBTU	MCF	Total Gas Cost	MBTU
Aquatic & Fitness Center	1,352,400	\$150,726	4,616	8,271	\$89,252	8,519
Brighton Park Ice Rink	394,720	\$53,580	1,347	1,028	\$12,143	1,058
Brighton Park Maintenance Building	61,576	\$10,030	210	1,001	\$11,826	1,031
Brighton Park Pool	49,960	\$6,943	171			
Fire Training Tower	7,503	\$1,311	26	133	\$1,766	137
Highway Department	557,920	\$74,633	1,904	4,605	\$52,423	4,743
Highway Quonset Hut	16,920	\$2,717	58			
Highway Salt Shed	6,004	\$1,103	20			
Historical Society	10,139	\$1,680	35	188	\$2,402	194
Lincoln Park Ice Rink & Pool	477,520	\$63,312	1,630	1,225	\$14,729	1,261
Lincoln Park Maintenance Building	27,641	\$4,411	94	438	\$5,347	452
Lincoln Park Police Satellite Station	2,478	\$604	8			

Facility	Electricity			Natural Gas		
	kWh	Total Elec. Cost	MBTU	MCF	Total Gas Cost	MBTU
Memorial Hall	87,572	\$11,875	299	1,041	\$12,263	1,073
Municipal Building	390,560	\$50,583	1,333	2,058	\$24,068	2,120
NOCO Pavilion	21,680	\$3,312	74	350	\$4,305	361
Paddock Chevrolet Golf Dome	608,080	\$70,813	2,075	18,502	\$198,709	19,057
Police/Paramedics/Fire/Court	806,240	\$97,202	2,752	2,404	\$27,882	2,476
Senior Citizens' Center	220,240	\$32,441	752	3,095	\$35,827	3,188
Sheridan Park Maintenance Building #1	100,329	\$13,873	342	1,219	\$14,450	1,255
Sheridan Park Maintenance Building #2	28,757	\$4,853	98	405	\$4,970	417
Wastewater Treatment Facility	12,977,958	\$1,096,522	44,294	22,014	\$228,571	22,674

Notes:

- 1 - MBTU is based on total building square footage served by each electric and gas account.
- 2 - Gas consumption for the Brighton Park Arena also includes the Brighton Park Pool.

C. Study Objective

The objective of this study was to identify and analyze specific Facility Improvement Measures (FIMs) for the locations listed above.

D. Summary of Facility Improvement Measures (FIMs)

The following table provides a summary of the proposed FIMs and the associated energy savings.

FACILITY IMPROVEMENT MEASURES SUMMARY

Y/N	Location	Description	Total Savings	Electrical Energy Savings	Nat'l Gas Energy Savings	Electricity Savings kWh/Yr.	Electricity Savings kW/Yr.	Nat'l Gas Savings MCF/Yr.
Aquatic and Fitness Center Measures								
	Aquatic and Fitness Center							
y	Aquatic and Fitness Center	Lighting Retrofit	\$17,152	\$17,152	\$0	150,175	303.6	0
y	Aquatic and Fitness Center	Controls Upgrades	\$6,742	\$5,286	\$1,457	65,615	0.0	135
y	Aquatic and Fitness Center	Boiler Replacement	\$6,934	\$0	\$6,934	0	0.0	643
y	Aquatic and Fitness Center	Replace Natatorium Air-Handling System	\$31,774	\$11,496	\$20,277	142,714	0.0	1,879
y	Aquatic and Fitness Center	Replace Rooftop Units	\$1,560	\$1,560	\$0	8,871	50.8	0
Brighton Ice Rink Measures								
	Brighton Ice Rink							
y	Brighton Ice Rink	Lighting Retrofit	\$2,403	\$2,403	\$0	12,578	115.2	0
y	Brighton Ice Rink	Controls Upgrades	\$2,235	\$0	\$2,235	0	0.0	189
y	Brighton Ice Rink	Insulate Bare Pipes	\$21	\$0	\$21	0	0.0	2
y	Brighton Ice Rink	Building Envelope Improvements	\$130	\$0	\$130	0	0.0	11
Brighton Park Maintenance Building Measures								
	Brighton Park Maintenance Building							
y	Brighton Park Maintenance Building	Lighting Retrofit	\$2,953	\$2,953	\$0	23,503	66.0	0
y	Brighton Park Maintenance Building	Controls Upgrades	\$2,147	\$0	\$2,147	0	0.0	182
y	Brighton Park Maintenance Building	Building Envelope Improvements	\$150	\$0	\$150	0	0.0	13
Brighton Pool Measures								
	Brighton Pool							
y	Brighton Pool	Lighting Retrofit	\$80	\$80	\$0	450	3.6	0
Fire Training Tower Measures								
	Fire Training Tower							
y	Fire Training Tower	Lighting Retrofit	\$59	\$59	\$0	416	0.0	0
y	Fire Training Tower	Building Envelope Improvements	\$62	\$0	\$62	0	0.0	5
Highway Garages Measures								
	Highway Garages							
y	Highway Garages	Lighting Retrofit	\$14,706	\$14,706	\$0	106,219	343.2	0
y	Highway Garages	Controls Upgrades	\$17,497	\$0	\$17,497	0	0.0	1,537
y	Highway Garages	Building Envelope Improvements	\$1,583	\$0	\$1,583	0	0.0	139

FACILITY IMPROVEMENT MEASURES SUMMARY

Y/N	Location	Description	Total Savings	Electrical Energy Savings	Nat'l Gas Energy Savings	Electricity Savings kWh/Yr.	Electricity Savings kW/Yr.	Nat'l Gas Savings MCF/Yr.
Historical Society Measures								
	Historical Society							
y	Historical Society	Lighting Retrofit	\$104	\$104	\$0	742	0.0	0
y	Historical Society	Controls Upgrades	\$719	\$0	\$719	0	0.0	56
y	Historical Society	Building Envelope Improvements	\$74	\$0	\$74	0	0.0	6
Lincoln Park Ice Rink Measures								
	Lincoln Park Ice Rink							
y	Lincoln Park Ice Rink	Lighting Retrofit	\$3,808	\$3,808	\$0	19,810	187.2	0
y	Lincoln Park Ice Rink	Controls Upgrades	\$1,713	\$0	\$1,713	0	0.0	142
y	Lincoln Park Ice Rink	Building Envelope Improvements	\$134	\$0	\$134	0	0.0	11
y	Lincoln Park Ice Rink	Insulate Bare Pipes	\$40	\$0	\$40	0	0.0	3
Lincoln Park Maintenance Building Measures								
	Lincoln Park Maintenance Building							
y	Lincoln Park Maintenance Building	Lighting Retrofit	\$871	\$871	\$0	6,322	25.2	0
y	Lincoln Park Maintenance Building	Controls Upgrades	\$1,008	\$0	\$1,008	0	0.0	83
y	Lincoln Park Maintenance Building	Building Envelope Improvements	\$40	\$0	\$40	0	0.0	3
Memorial Hall Measures								
	Memorial Hall							
y	Memorial Hall	Lighting Retrofit	\$1,651	\$1,651	\$0	11,196	55.2	0
y	Memorial Hall	Controls Upgrades	\$1,732	\$0	\$1,732	0	0.0	147
y	Memorial Hall	Building Envelope Improvements	\$220	\$0	\$220	0	0.0	19
y	Memorial Hall	Insulate Bare Pipes	\$48	\$0	\$48	0	0.0	4
Municipal Building Measures								
	Municipal Building							
y	Municipal Building	Lighting Retrofit	\$10,532	\$10,532	\$0	75,925	308.4	0
y	Municipal Building	Controls Upgrades	\$4,826	\$0	\$4,826	0	0.0	413
y	Municipal Building	Building Envelope Improvements	\$467	\$0	\$467	0	0.0	40
NOCO Pavilion Measures								
	NOCO Pavilion							
y	NOCO Pavilion	Lighting Retrofit	\$808	\$808	\$0	5,722	0.0	0
y	NOCO Pavilion	Controls Upgrades	\$499	\$0	\$499	0	0.0	41
y	NOCO Pavilion	Building Envelope Improvements	\$171	\$0	\$171	0	0.0	14
y	NOCO Pavilion	Insulate Bare Pipes	\$75	\$0	\$75	0	0.0	6

FACILITY IMPROVEMENT MEASURES SUMMARY

Y/N	Location	Description	Total Savings	Electrical Energy Savings	Nat'l Gas Energy Savings	Electricity Savings kWh/Yr.	Electricity Savings kW/Yr.	Nat'l Gas Savings MCF/Yr.
Paddock Chevrolet Golf Dome Measures								
	Paddock Chevrolet Golf Dome							
y	Paddock Chevrolet Golf Dome	Lighting Retrofit	\$163	\$163	\$0	1,453	2.4	0
y	Paddock Chevrolet Golf Dome	Controls Upgrades	\$247	\$0	\$247	0	0.0	23
Police/Paramedics/Fire/Court Measures								
	Police/Paramedics/Fire/Court							
Y	Police/Paramedics/Fire/Court	Lighting Retrofit	\$7,826	\$7,826	\$0	53,752	205.2	0
Y	Police/Paramedics/Fire/Court	Building Envelope Improvements	\$545	\$0	\$545	0	0.0	47
Senior Citizen's Center Measures								
	Senior Citizen's Center							
y	Senior Citizen's Center	Lighting Retrofit	\$5,379	\$5,379	\$0	37,721	165.6	0
y	Senior Citizen's Center	Controls Upgrades	\$10,643	\$0	\$10,643	0	0.0	920
y	Senior Citizen's Center	Building Envelope Improvements	\$36	\$0	\$36	0	0.0	3
Sheridan Park Maintenance Building 1 Measures								
	Sheridan Park Maintenance Building 1							
y	Sheridan Park Maintenance Building 1	Lighting Retrofit	\$6,154	\$6,154	\$0	47,265	150.0	0
y	Sheridan Park Maintenance Building 1	Controls Upgrades	\$2,680	\$0	\$2,680	0	0.0	226
y	Sheridan Park Maintenance Building 1	Building Envelope Improvements	\$64	\$0	\$64	0	0.0	5
Sheridan Park Maintenance Building 2 Measures								
	Sheridan Park Maintenance Building 2							
y	Sheridan Park Maintenance Building 2	Lighting Retrofit	\$1,321	\$1,321	\$0	8,601	46.8	0
y	Sheridan Park Maintenance Building 2	Controls Upgrades	\$1,091	\$0	\$1,091	0	0.0	89
y	Sheridan Park Maintenance Building 2	Building Envelope Improvements	\$45	\$0	\$45	0	0.0	4
Wastewater Treatment Facility Measures								
	Wastewater Treatment Facility							
Y	Wastewater Treatment Facility	Air Compressor Replacement	\$4,749	\$4,749	\$0	56,590	100.8	0
TOTAL SAVINGS (FOR ALL RECOMMENDED MEASURES)			\$178,672	\$99,062	\$79,610	835,639	2,129.2	7,038
GUARANTEED SAVINGS			\$169,738	\$94,109	\$75,630	793,857	2,022.7	6,686

Methodology/Utility Summary

Study Approach

In conducting a study of this type, it is essential that the existing conditions be precisely established as a baseline for the evaluation of any potential system improvements. Relevant factors were identified and assessed through a systems approach in an effort to develop potential energy improvement measures. These factors are outlined below:

1. Review of Facility Layout and Facilities
The initial step in the study entailed familiarization with the facility's layout as well as a review of available drawings, and meetings with building operations personnel.
2. Review of Systems Operation/Usage
Since energy usage is dependent on how the building is operated, it was necessary to collect data on operating hours and utilization. Data on past energy consumption levels was collected and correlated with previous utility billings. Additionally, specific systems targeted for replacement were monitored to assist in establishing a relevant baseline and savings projection.
3. Development of Facility Improvement Measures
Based on the field surveys, metered data and related calculations, the Facility Improvement Measures were developed. The measures were analyzed to determine their effect on the overall base energy consumption. Modifications to the existing energized systems were identified for cost/benefit comparisons.
4. Energy Usage Characteristics
The most recent energy consumption data available for the Town of Tonawanda covers January 2007 through December 2007. This includes both electric and natural gas. These dates represent the baseline for the project and any follow on analysis. Energy consumption and associated cost data are summarized in the following table. Refer to Tab 5 for historical electrical and gas energy profiles.

Baseline Energy Consumption

Aquatic & Fitness Center

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	1,352,400	4,616	\$150,726	\$0.081
Electricity (kW)	2,322			\$16.65
Natural Gas (MCF)	8,271	8,519	\$89,252	\$10.79

Brighton Park Arena

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	394,720	1,347	\$53,580	\$0.099
Electricity (kW)	1,392			\$10.10
Natural Gas (MCF)	1,028	1,058	\$12,143	\$11.82

Brighton Park Maintenance Building

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	61,576	210	\$10,030	\$0.097
Electricity (kW)	338			\$10.10
Natural Gas (MCF)	1,001	1,031	\$11,826	\$11.82

Brighton Park Pool

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	49,960	171	\$6,943	\$0.098
Electricity (kW)	141			\$10.10

Fire Training Tower

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	7,503	26	\$1,311	\$0.141
Natural Gas (MCF)	133	137	\$1,766	\$13.28

Highway Department

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	557,920	1,904	\$74,633	\$0.085
Electricity (kW)	1,447			\$16.65
Natural Gas (MCF)	4,605	4,743	\$52,423	\$11.38

Highway Quonset Hut

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	16,920	58	\$2,717	\$0.146

Highway Salt Shed

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	6,004	20	\$1,103	\$0.142

Historical Society

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	10,139	35	\$1,680	\$0.141
Natural Gas (MCF)	188	194	\$2,402	\$12.78

Lincoln Park Ice Rink & Pool

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	477,520	1,630	\$63,312	\$0.097
Electricity (kW)	1,630			\$10.10
Natural Gas (MCF)	1,225	1,261	\$14,729	\$12.03

Lincoln Park Maintenance Building

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	27,641	94	\$4,411	\$0.098
Electricity (kW)	107			\$10.10
Natural Gas (MCF)	438	452	\$5,347	\$12.20

Lincoln Park Police Satellite Station

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	2,478	8	\$604	\$0.142

Memorial Hall

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	87,572	299	\$11,875	\$0.098
Electricity (kW)	267			\$10.10
Natural Gas (MCF)	1,041	1,073	\$12,263	\$11.78

Municipal Building

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	390,560	1,333	\$50,583	\$0.098
Electricity (kW)	1,168			\$10.10
Natural Gas (MCF)	2,058	2,120	\$24,068	\$11.70

NOCO Pavilion

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	21,680	74	\$3,312	\$0.141
Natural Gas (MCF)	350	361	\$4,305	\$12.29

Paddock Chevrolet Golf Dome

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	608,080	2,075	\$70,813	\$0.096
Electricity (kW)	1,179			\$10.10
Natural Gas (MCF)	18,502	19,057	\$198,709	\$10.74

Police/Paramedics/Fire/Court

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	806,240	2,752	\$97,202	\$0.082
Electricity (kW)	1,678			\$16.65
Natural Gas (MCF)	2,404	2,476	\$27,882	\$11.60

Senior Citizens' Center

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	220,240	752	\$32,441	\$0.098
Electricity (kW)	1,007			\$10.10
Natural Gas (MCF)	3,095	3,188	\$35,827	\$11.58

Sheridan Park Maintenance Building #1

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	100,329	342	\$13,873	\$0.098
Electricity (kW)	336			\$10.10
Natural Gas (MCF)	1,219	1,255	\$14,450	\$11.86

Sheridan Park Maintenance Building #2

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	28,757	98	\$4,853	\$0.099
Electricity (kW)	137			\$10.10
Natural Gas (MCF)	405	417	\$4,970	\$12.27

Wastewater Treatment Facility

Source Energy	Consumption	MBTU	Total Cost (\$)	Average Unit Cost (\$)
Electricity (kWh)	12,977,958	44,294	\$1,096,522	\$0.067
Electricity (kW)	22,764			\$9.67
Natural Gas (MCF)	22,014	22,674	\$228,571	\$10.38

Note: Base year for all calculations is January 2007 through December 2007.

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FIM-1: Lighting Retrofit	
Facilities:	Aquatic and Fitness Center Brighton Park Ice Rink Brighton Park Maintenance Building Brighton Park Pool Fire Training Tower Historical Society Lincoln Park Ice Rink & Pool Lincoln Park Maintenance Building Memorial Hall Municipal Building NOCO Pavilion Paddock Chevrolet Golf Dome Senior Citizens' Center Sheridan Park Maintenance Buildings 1& 2 Highway Garages Police Headquarters

Existing:

The existing lighting throughout the Town's facilities is predominantly inefficient T12 or older T8 lamps in combination with inefficient ballasts. The lighting over the pool, garage, ice rink and some hallways is inefficient 400-watt metal halide fixtures. Occupancy controls are present in a few locations, but many areas are prime locations for the installation of either a wall-mounted sensor or ceiling-mounted with power pack dual technology. Incandescent lamps are also being used in certain areas.

Proposed:

Siemens will retrofit the existing lighting using efficient lighting measures. Refer to the lighting retrofit detail sheets for individual retrofits and annual hours of lighting operation, as these vary by room.

FIM-2: Controls Upgrades	
Extend Direct Digital Control Systems	
Facilities:	Aquatic & Fitness Center Senior Citizens' Center Municipal Building Highway Department
Install Programmable Thermostats	
Facilities:	Highway Department Paint Building Brighton Park Maintenance Building Brighton Park Ice Rink Historical Society Lincoln Park Ice Rink & Pool Lincoln Park Maintenance Building Memorial Hall Sheridan Park Maintenance Buildings 1&2 NOCO Pavilion Paddock Chevrolet Golf Dome
Occupancy Controlled Exhaust Fans	
Facilities:	Brighton Park Ice Rink Casino Lincoln Park Casino Paddock Chevrolet Golf Dome

Extend Direct Digital Control Systems

Existing:

These buildings have some level of Direct Digital Control (DDC) facility management systems presently. The user interface is limited to a local display panel at each facility and access by personal computer or from remote locations is not possible. This makes review and adjustment of set points and schedules impractical.

Aquatic & Fitness Center

This facility has a Johnson Controls Metasys DDC system, which provides some control of the heating and ventilation of the existing Natatorium system. This control, as designed, consists of start/stop, inlet guide vanes of the two outdoor fans, Natatorium space pressurization, space relative humidity and space heating.

There are eight rooftop HVAC units serving the Fitness Center. There have been two additions. Each addition had rooftops designated as RTU-1 and RTU-2, which is confusing. For clarification, reference to the units has been appended to indicate when the units were installed (i.e. RTU-#1-1 would be RTU-#1 for the original building and RTU-#1-3 would be RTU-#1 on the second addition).

The existing rooftop units are the following:

Original Bldg	First Addition	Second Addition
RTU-#1-1	RTU-#1-2	RTU-#1-3
RTU-#2-1	RTU-#2-2	RTU-#2-3
RTU-#3-1		RTU-#3-3

The existing Johnson Controls system does not provide control of the three original rooftop units. The two rooftop units installed with the first addition were installed with programmable thermostats and are not part of the Metasys DDC system. The three rooftop units installed with the second addition are controlled with individual unitary Johnson Controls DDC controllers, which are connected to the Metasys DDC system.

All of the rooftop units are operating 24/7. Night setback is not occurring in the Fitness Center spaces and energy use is high. The facility is receiving the same amount of "minimum" outdoor air 24/7. At present, based on information collected on the data loggers, the only units that seem to be bringing in a significant amount of outdoor air are: RTU-#1-1, RTU-#1-3 and RTU-#2-3. However, RTU-#1-1 has an air-to-air heat exchanger that reclaims heat from the exhaust air to the outdoor air.

Senior Citizens' Center

This facility has a Johnson Controls Metasys DDC system that is not functioning properly. Night setback is not occurring and energy use is very high. With night setback not occurring, ventilation is being provided continuously to the building.

Municipal Building

This building has multiple control systems of which the most recent DDC system does not function properly concerning most facility equipment functions. It was determined that that the air-handling units are being turned off at night. However, night setback of space temperatures does not occur. The exhaust fan that serves the toilet rooms is also in operation continuously.

Highway Department – Main Garage and Fabrication Shop

The heating in these areas is provided by two direct-fired Rapid Air units in the Main Garage area and one unit in the Fabrication Shop. The units in the Main Garage area alternate in operation every 12 hours, while the unit in the Fabrication Shop operates 24/7. Space temperature is regulated by modulating the gas valve in the burner. Thus, the burner is operating whenever the outdoor temperature is below the temperature set point in the space. Whenever the burner is operating, the unit brings in a minimum of 20% outdoor air. This volume of outdoor air is not required in the space on a continuous basis. With the proposed installation of a carbon monoxide (CO) monitoring system, the volume of outdoor air can be reduced to 0.05 CFM per sq. ft., unless the carbon monoxide system senses concentrations of carbon monoxide that are in excess of 25 parts per million. Some night setback of space temperature is presently occurring in the Fabrication Shop through manual adjustment of the set point.

Proposed:

Aquatic & Fitness Center

Siemens will replace the existing DDC system and extend control to the eight rooftop units and new Natatorium units to accomplish the original sequence of operation. Control will be added for the pool water heating (main pool, whirlpool and kiddie pool) and glycol hot water boilers. System integration will be provided for communication on the existing Town Ethernet network to a remote location (Sheridan Park Maintenance Building).

Senior Citizens' Center

Siemens will replace the existing DDC system. Temperature setback and eliminating ventilation when the building is unoccupied will be re-established.

Municipal Building

Siemens will replace the existing control system to enable temperature setback, exhaust fan control, and heating and cooling equipment control. The existing pneumatic controls for convectors in the space will remain. The unoccupied space temperature set point will be reduced.

Highway Department – Main Garage and Fabrication Shop

Siemens will install a new DDC system to provide the following functions:

- › Install a CO monitoring system (one each in the Main Garage area and the Fabrication Shop) that will operate automatically upon the detection of CO concentrations in excess of 25 parts per million and increase the volume of ventilation air to the space.
- › Interlock the CO monitoring system with the existing exhaust fans and the outdoor dampers on the Rapid Air units.
- › Provide for automatic night setback of space temperature in the Fabrication Shop.

Install Programmable Thermostats

Facilities: Highway Department Paint Building, Brighton Park Maintenance Building, Brighton Park Ice Rink, Historical Society, Lincoln Park Ice Rink & Pool, Lincoln Park Maintenance Building, Memorial Hall, Sheridan Park Maintenance Buildings 1&2, NOCO Pavilion, Paddock Chevrolet Golf Dome

Existing:

These buildings have very simple temperature control systems presently. Typically the heating systems are controlled by manual or automatic thermostats located in locked covers. These controls were found to be ineffective, resulting in excessive temperature set points both day and night. It is understood that some night setback is occurring in these spaces. However, the installation of programmable thermostats will ensure that setback is occurring on a consistent basis.

Proposed:

Siemens will install programmable thermostat(s) to control the heating equipment (and any direct expansion (DX) air-conditioning equipment) and enable night setback at each facility. The thermostats will be programmed according to the occupancy schedule of each building.

Occupancy Controlled Exhaust Fans

Facilities: Brighton Park Ice Rink Casino, Lincoln Park Casino, Paddock Chevrolet Golf Dome

Existing:

A single exhaust fan serves the toilet rooms. The exhaust fan operates continuously.

Proposed:

Install an occupancy sensor in the Brighton Park Ice Rink Casino, Lincoln Park Casino and Paddock Chevrolet Golf Dome to allow exhaust fan operation only when either toilet room is occupied.

FIM-3: Replace Natatorium Air-Handling System	
Facilities:	Aquatic & Fitness Center

Existing:

The existing air-handling system that serves the Natatorium was installed with air-conditioning, mechanical dehumidification with heat recovery to the Natatorium and heat exchangers to recover heat from the air-conditioning and the dehumidification to the pool water. This system has two main air-handling units. Each unit was designed to deliver 22,000 CFM of air to the Natatorium. There are also two outdoor air units, which were each designed to deliver up to 9,000 CFM of outdoor air to the Natatorium.

At the time of our field surveys, the two main air-handling units were respectively delivering only 40% and 33% of their design CFM to the Natatorium. The outdoor air units were respectively delivering 5,421 and 1,871 CFM of outdoor air to the Natatorium, which is 25% less than the combined minimum requirement of 9,935 CFM.

Additionally, the compressors in the two main air-handling units have failed and have not operated for at least the past four years. Therefore, the existing system has not had either air-conditioning or mechanical dehumidification for four years or more. Further, when the compressors were operating, the facility disabled the heat recovery to the pool water because it would overheat the pool water.

Proposed:

Siemens will replace the existing Natatorium air-handling system with two new built-up air-handling systems. The system will be capable of supplying and exhausting up to 100% outdoor air. The system will be controlled to maintain a negative pressure in the Natatorium. The system will be installed with a heat recovery coil to reclaim heat between the exhaust and outdoor air.

The air-handling system supplying the bleachers will have a cooling coil with a remote condensing unit on the roof. The other system will have the provision for a future cooling coil.

The systems will be controlled by the DDC system to accomplish the original sequence of operation.

The baseline will be adjusted to bring the minimum outdoor air supply to 11,000 CFM based on 0.5 CFM per sq. ft. of water and deck surface, and to add cooling to the bleacher air-handling unit.

FIM-4: Replace Rooftop Units	
Facilities:	Aquatic & Fitness Center

Existing:Unit #1-1 (Fitness Center – Original Locker and Shower Rooms)

RTU-#1-1 serves the locker and shower areas of the original building. It was installed circa 1990 and is reported deteriorating and in poor condition. This unit has a supply and return volume of 3,400 CFM, a glycol heating coil, split system cooling coil, remote condensing unit, supply fan, return fan, and an air-to-air heat exchanger to reclaim heat from the exhaust air stream.

Unit #1-3 (Fitness Center – "GYM" Exercise Area at Northwest Corner)

The rooftop unit on the second addition, which serves the exercise area in the northwest corner of the building, does not provide sufficient cooling during the summer months and the space is always too warm. The facility personnel feel the unit was undersized when initially installed.

Remaining Units (Original Building – RTU #2-1 and #3-1; First Addition – RTU #X-2 and #Y-3; Second Addition – RTU #2-3 and #2-3)

These units are between 13 and 18 years old and reaching the end of their useful life.

Proposed:

Siemens will replace the eight existing rooftop units with units that have the same capacity and a higher EER (air-conditioning efficiency). RTU #1-3 will have a greater cooling capacity than the existing unit.

FIM-5: Boiler Replacement	
Facilities:	Aquatic & Fitness Center

Existing:

This facility has older standard efficiency boilers that are in operation. Boilers with atmospheric burners also experience high off-cycle flue loss.

[Aquatic & Fitness Center – Glycol Heating Boilers](#)

There are three Triad forced draft boilers, which provide heat to the Natatorium air-handling system and to the rooftop unit that serves the original locker/shower rooms. The temperature of the glycol solution in this system is scheduled with the outdoor temperature.

[Aquatic & Fitness Center – Domestic and Pool Water Heaters](#)

There are three atmospheric domestic water heaters. There are three atmospheric pool water heaters that serve the main pool, whirlpool and kiddie pool.

Proposed:[Aquatic & Fitness Center – Glycol Heating Boiler](#)

Siemens will install a high efficiency condensing boiler system to replace the existing heating boilers. The system will have two condensing boilers sized at 1,200 MBH each. The heating coils in the new Natatorium system will be selected so that there is a large temperature drop of the glycol solution.

[Aquatic & Fitness Center – Domestic Water Heaters and Pool Water Heaters](#)

Siemens will install a high efficiency condensing boiler system to replace the three domestic water heaters and the three pool water heaters. The system will have two condensing boilers sized at 1,200 MBH each and will have a primary circulating loop. There will be four heat exchangers connected to this primary loop. One heat exchanger will serve the domestic hot water system, another the main pool, another the whirlpool and the fourth the kiddie pool.

FIM-6: Building Envelope Improvements	
Reduce Infiltration through Windows and Doors	
Facilities:	Brighton Park Ice Rink Brighton Park Maintenance Building Fire Training Tower Historical Society Lincoln Park Ice Rink Lincoln Park Maintenance Building Memorial Hall Municipal Building NOCO Pavilion Senior Citizens' Center Sheridan Park Maintenance Buildings 1&2 Highway Department – Administration Area Police Headquarters Highway Department – Paint Building

Existing:

There are cracks between windows and wall openings in the buildings. There is unwanted outside air infiltration entering into heated and cooled spaces. This air infiltration causes drafts and makes occupants feel uncomfortable. The north and west walls of the original paint building in the Highway department are un-insulated concrete block walls.

Proposed:

Siemens will seal cracks between windows and wall openings and install door weather-stripping as detailed below.

[Brighton Park Ice Rink, Historical Society, Lincoln Park Ice Rink & Pool, Lincoln Park Maintenance Building, Memorial Hall, NOCO Pavilion, Fire Training Tower](#)

- › Install interior window caulking
- › Install door weather-stripping

[Lincoln Park Police Satellite Station, Municipal Building, Highway Department – Administration Area](#)

- › Install interior window caulking

[Brighton Park Maintenance Building, Sheridan Park Maintenance Buildings 1&2](#)

- › Install interior window caulking
- › Install door weather-stripping
- › Install garage overhead door weather-stripping

[Police Headquarters](#)

- › Install window weather-stripping

Senior Citizens' Center

- › Install door weather-stripping

Highway Department – Paint Shop (Original Building)

- › Install insulation on the existing un-insulated north and west walls of the original building.

Sample Audit

FIM-7: Insulate Bare Heating and Domestic Hot Water Pipe	
Facilities:	Brighton Park Ice Rink Lincoln Park Ice Rink Memorial Hall NOCO Pavilion

Existing:

In the facilities there are heating and domestic hot water pipes that are un-insulated. Un-insulated pipes lose heat continuously to the surrounding space.

Proposed:

Insulate un-insulated bare pipes as identified in the detailed scope.

Sample Audit

FIM-8: Compressor Replacement	
Facilities:	Wastewater Treatment Plant

Existing:

The plant air in the Wastewater Treatment Plant is currently provided by a 100 HP compressor. The plant also has a 75 HP unit, which is down for repairs. Based on metering and discussions with plant personnel, the plant air requirements can be satisfied with a smaller compressor.

Proposed:

Siemens will provide a 30 HP compressor to satisfy the instrument air requirements. The compressor will be installed by the Wastewater Treatment Plant.

Sample Audit

Measures Considered but Not Recommended	
Window Replacement	
Facilities:	Brighton Park Ice Rink Municipal Building Lincoln Park Ice Rink & Pool Lincoln Park Maintenance Building Memorial Hall Sheridan Park Maintenance Building #1
Night Setback to VAV Boxes	
Facilities:	Police/Paramedics/Fire/Courts
Low Emissivity Ceilings for Ice Rinks	
Facilities:	Lincoln Park Ice Rink
Not Heat Paint Building	
Facilities:	Highway Department
Whirlpool Ultraviolet (UV) System	
Facilities:	Aquatic Center
Inspect and Replace Steam Traps	
Facilities:	Memorial Hall
Boiler Replacement	
Facilities:	Police Headquarters Municipal Building
Waste Oil Heating System	
Facilities:	Highway Department
Ice-Making Refrigeration System Improvements	
Facilities:	Brighton Park Ice Rink Lincoln Park Ice Rink
Install Premium Efficiency Motors	
Facilities:	Aquatic Center Brighton Park Ice Rink Lincoln Park Ice Rink Municipal Building

Window Replacement

Existing:

In these facilities, there are single-pane wood or metal frame windows. Single-pane windows result in high heat loss due to conduction and air infiltration past loose-fitting or worn-out frames. Installing an interior storm sash on each primary window will create a dead air space, thus increasing the resistance to the flow of heat. Air infiltration will be reduced with a tight-fitting interior storm sash.

Night Setback to VAV Boxes (Police/Paramedics/Fire/Courts)

Existing:

The air distribution system in the Police/Paramedics/Fire/Courts Building is a variable volume system. Consideration was given to implementing night setback when a space is unoccupied (e.g. nights and weekends). However, most of the facility is 24/7 operation. Many of the areas that might be generally unoccupied nights and weekends are often used on short notice. It is considered that the potential savings of night setback in a small percentage of the areas in the building would be more disruptive than cost effective.

Low Emissivity Ceilings for Ice Rinks

Existing:

Low emissivity ceilings reduce the refrigeration load at indoor ice rinks. Energy savings occur primarily during warm weather months, when outdoor air temperatures are warm and the rink ceiling experiences long hours of full sunlight. The Town's two ice rinks however, only operate for five months in the winter, so the potential energy savings for this measure is greatly reduced. Additionally, the present ceiling, a white vinyl-faced fiberglass batt material, has a relatively low emissivity as compared to other building materials. This measure is therefore, not cost-effective for these facilities.

Not Heat Paint Building

Existing:

The Paint Building is heated through the heating season. The Town has indicated that it may not be necessary to occupy this building during the heating season and that the heat could be shut off. The building is basically divided into two halves, the original building and a recent addition. The heating systems for each half of the building are independent of each other. Based on further discussions, this measure was dropped because some maintenance personnel will use this building during the winter.

Whirlpool Ultraviolet (UV) System

Existing:

The whirlpool in the Aquatic Center uses excessive amounts of chlorine to disinfect the water. An ultraviolet disinfection system was investigated to reduce the amount of chlorine usage and provide better comfort to the whirlpool users. Due to regulations in the New York State Sanitation Code, a minimum amount of chlorine has to be maintained in the water. The UV system has a two kVa bulb that increases the energy consumption from existing and will also increase maintenance costs as the bulb has to be replaced each year.

Inspect and Replace Steam Traps

Existing:

The steam traps installed throughout this facility have been in place for many years. Steam traps require replacement on a regular basis to maintain the integrity of the steam and condensate system and provide proper control of the flow of steam. Failed steam traps result in unnecessary heat loss from a condensate system. Inspect steam traps for proper operation and replace defective units. The potential savings from this measure is minimal compared to the cost involved in testing and replacing the steam traps.

Boiler Replacement

Existing:

The heating plant in the Municipal Building has two original gas-fired boilers that are approximately 70 years old. Both of the boilers produce low pressure steam and have atmospheric burners. Steam and forced hot water are used to heat the building. The hot water is produced through a steam-to-hot water heat exchanger. The Police Headquarters utilizes a gas-fired fire tube boiler that is approximately 37 years old. Hot water is supplied to a heat exchanger to heat a glycol solution that is supplied to an air-handling unit and a variable air volume distribution system.

Replacement of the boilers in these facilities with high efficiency condensing hot water boilers was investigated. The potential savings achieved by increased combustions efficiency and reduced jacket and off-cycle losses are minimal compared to the investment required for replacing the boilers.

Waste Oil Heating System

Existing:

The Highway Department processes approximately 7,000 gallons of waste motor oil per year. Presently this motor oil is disposed of by selling it at about \$0.30 per gallon. This creates revenue to the Town of about \$2,100. A waste oil heating system could be installed in the Main Garage area at the Highway Department, which will burn the waste motor oil. This system will also have the capability of firing natural gas in the event there is not sufficient waste oil available. The waste oil should be free from unused gasoline and impurities for proper operation of the system, which will increase the maintenance costs. There will be an increase in cost for pumping the waste oil from the collection tank to the point of use in the system.

Ice-Making Refrigeration System Improvements

Existing:

The ice-making systems utilize a brine solution to maintain the ice surface. The brine solution is cooled by a pair of water cooled Frick reciprocating compressors that use ammonia as a refrigerant. Ice is maintained from mid-October through mid-March. The brine pumps operate continuously, while the compressor, condenser water pump and cooling tower fan cycle to maintain a brine temperature set point. The ice surface temperature is not monitored directly. The energy efficiency of the ice-making systems can be improved by implementing controls to monitor the ice surface temperature and operate the compressors to maintain an ice surface temperature set point. The brine pumps can be turned off during unoccupied hours unless required by the refrigeration system.

Install Premium Efficiency Motors

Existing:

The Aquatic Center has a 40 HP main circulating pump for the pool and two 5 HP whirlpool pumps. Air-handling unit #1 in the Municipal building has a standard efficiency 5 HP fan motor. The brine pump and compressors at Brighton and Lincoln Park Ice Rinks have standard efficiency motors that are approaching 50 years of age. Savings can be obtained by replacing these with premium efficiency motors. The impellers on the pumps will need to be trimmed if high efficiency motors are installed to prevent an increase in energy consumption. This measure is not cost effective.

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Sample Audit

FIM-1: Lighting Retrofit	
Facilities:	<p>Aquatic & Fitness Center Brighton Park Arena Brighton Park Maintenance Building Brighton Park Pool Fire Training Tower Historical Society Lincoln Park Ice Rink & Pool Lincoln Park Maintenance Building Memorial Hall Municipal Building NOCO Pavilion Paddock Chevrolet Golf Dome Senior Citizens' Center Sheridan Park Maintenance Buildings #1&2 Highway Garages Police Headquarters</p>

Existing:

[Aquatic & Fitness Center](#)

This facility is currently using T12 lamps and inefficient ballasts. The lighting over the pool is inefficient 400-watt metal halide fixtures. Inefficient and expensive U-bend lamps are being used in many areas in the facility. Occupancy controls are present in a few locations, but many areas are prime locations for the installation of either a wall-mount sensor or a ceiling-mount with power pack dual technology sensors.

[Brighton Park Ice Rink](#)

This facility is currently using four foot T12 lamps and inefficient magnetic ballasts. The lighting over the ice surface is inefficient 400-watt metal halide lamps in a typical high bay housing. No occupancy controls are being utilized in this facility.

[Brighton Park Maintenance Building](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient magnetic ballasts. Occupancy controls are not being utilized in the facility.

[Brighton Park Pool](#)

This facility is currently using T12 lamps and inefficient ballasts. Incandescent lamps are also being used.

[Fire Training Tower](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient ballasts.

[Highway Department](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient ballasts. Many areas are currently using 32-watt T8 lamps or 400-watt metal halide fixtures. Incandescent lamps are also used throughout the facility.

[Historical Society](#)

This facility is currently using compact fluorescent lamps. The majority of bulbs being used are incandescent.

[Lincoln Park Ice Rink](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient ballasts. 400-watt metal halide fixtures are installed over the ice surface. Incandescent lamps are being used as well.

[Lincoln Park Maintenance Garage](#)

This facility is currently using four foot T12 lamps and inefficient ballasts.

[Lincoln Park Pool](#)

This facility is currently using four foot T12 lamps and inefficient ballasts, as well as incandescent lamps.

[Memorial Hall](#)

This facility is currently using four foot T12 lamps and inefficient ballasts. 400-watt metal halide fixtures are being used along with incandescent lamps.

[Municipal Building](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient ballasts. 400-watt metal halide fixtures are being used along with incandescent lamps.

[NOCO Pavilion](#)

This facility is currently using T12 lamps and inefficient ballasts, as well as incandescent lamps.

[Paddock Chevrolet Golf Dome](#)

This facility is currently using 32-watt T8 lamps and electronic ballasts.

[Police Headquarters](#)

This facility is currently using F32 T8 lamps and electronic ballasts, as well as four foot and eight foot T12 lamps and inefficient ballasts. Incandescent bulbs are scattered throughout the facility.

[Senior Citizens' Center](#)

This facility is currently using four foot and eight foot T12 lamps and inefficient ballasts. Incandescent lamps are also being used.

[Sheridan Park Maintenance Building #1](#)

This facility is currently using four foot and eight foot T12 lamps and electronic ballasts. 400-watt metal halide fixtures are also being used.

[Sheridan Park Maintenance Building #2](#)

This facility is currently using four foot and eight foot T12 lamps and electronic ballasts. 400-watt metal halide fixtures are also being used.

Proposed:

- › Replace 400-watt metal halide fixtures with new 6-lamp, T8, high ballast factor fixtures.
- › Replace T12 lamps and ballasts with T8 lamps and ballasts. RLO (reduced light output) and NLO (normal light output) electronic ballasts will be installed in selected locations.
- › Re-lamp 4-foot T8 lamps with equal number of 4-foot Super T8 lamps. The existing electronic ballasts will be reused.
- › Retrofit 2-lamp, 8-foot fixtures to use four 4-foot, T8 lamps and electronic ballasts.
- › Replace incandescent bulbs with compact fluorescent screw-in type in selected areas.
- › Install occupancy sensors to provide room control in selected areas.
- › Replace exit signs with LED signs.

Refer to the lighting retrofit detail sheets for individual retrofits and annual hours of lighting operation, as these vary by room.

Sample Audit

FIM-2: Controls Upgrades	
Extend Direct Digital Control System	
Facilities:	Aquatic & Fitness Center Senior Citizens' Center Municipal Building Highway Department
Install Programmable Thermostats	
Facilities:	Brighton Park Maintenance Building Brighton Park Ice Rink Historical Society Lincoln Park Ice Rink Lincoln Park Maintenance Building Memorial Hall NOCO Pavilion Paddock Chevrolet Golf Dome Sheridan Park Maintenance Buildings #1&2
Occupancy Controlled Exhaust Fans	
Facilities:	Brighton Park Arena Casino Lincoln Park Casino Paddock Chevrolet Golf Dome

Extend Direct Digital Control System

Existing:

Aquatic & Fitness Center

- › Johnson Controls Metasys DDC system, which provides some control of the heating and ventilation of the existing Natatorium system.
 - § Control consists of start/stop, inlet guide vanes of the two outdoor fans, Natatorium space pressurization, space relative humidity and space heating.
- › Eight rooftop HVAC units serving the Fitness Center.
 - § RTU-#1-1
 - § RTU-#2-1
 - § RTU-#3-1
 - § RTU-#1-2
 - § RTU-#2-2
 - § RTU-#1-3
 - § RTU-#2-3
 - § RTU-#3-3
- › Three rooftop units installed with the original building are not part of the Metasys DDC system.
- › Two rooftop units installed with the second addition were installed with programmable thermostats and are not part of the Metasys DDC system.
- › Three rooftop units installed with the second addition are controlled with individual unitary Johnson Controls DDC controllers, which are connected to the Metasys DDC system.
- › All of the rooftop units are operating 24/7.
- › Night setback is not occurring in the Fitness Center spaces and energy use is high.
- › The facility is receiving the same amount of "minimum" outdoor air 24/7.

- › Based on information collected on the data loggers, the only units that seem to be bringing in a significant amount of outdoor air are: RTU-#1-1, RTU-#1-3 and RTU-#2-3.
- › RTU-#1-1 has an air-to-air heat exchanger, which reclaims heat from the exhaust air to the outdoor air.

Senior Citizens' Center

- › Facility controlled with a Johnson Controls Metasys DDC system that is not functioning properly.
 - § Night setback is not occurring.
 - § Ventilation is occurring continuously to the building.

Municipal Building

- › A variety of control systems from a number of manufacturers are in place with some level of control.
- › The present control system is a Carrier DDC system. Previous control systems have been Honeywell and Johnson Controls.
 - § Night setback of space temperatures does not occur.
 - § Exhaust fan that serves the toilet rooms is in operation continuously.
 - § Air-handling units are being turned off at night.

Highway Department

- › The heating system in this area is two direct-fired Rapid Air units in the main garage and one in the fabrication shop.
- › The units alternate in operation every 12 hours in the main garage.
- › The unit in the fabrication shop runs continuously 24/7 during the heating season.
- › Space temperature is regulated by modulating the gas valve in the burner.
- › The burner is operating continuously whenever the outdoor temperature is below the temperature set point in the space.
- › When the burner is operating, the unit brings in a minimum of 20% outdoor air. This volume of outdoor air is not required in the space on a continuous basis.
- › With the proposed installation of a carbon monoxide monitoring system, the volume of outdoor air can be reduced to 0.05 CFM per sq. ft., unless the carbon monoxide system senses concentrations of carbon monoxide that are in excess of 25 parts per million.
- › Some night setback of space temperature is presently occurring in the fabrication shop through manual adjustment of the set point.

Proposed:

Aquatic & Fitness Center

- › Siemens will replace the existing DDC system with a new Apogee control system.
- › Siemens will extend the DDC system to accomplish the original sequence of operation of the two new Natatorium air-handling units described in FIM-3.
 - § Pool space temperature
 - § Pool relative humidity
 - § Pool pressurization
 - § Pool water heating (main pool, whirlpool, kiddie pool)
 - § Glycol hot water Boilers
 - § Fans – supply and return
 - § System integration to a remote location (Sheridan Park Maintenance Building)
- › Siemens will extend the DDC system to provide full control of the eight rooftop units.
 - § Control of all eight rooftop units and respective exhaust fans

- § Night setback
- § Heating
- § Cooling
- § Economizer
- § Ventilation
- › One Apogee Ethernet Micro-server (AEM) for system integration to a remote location (Sheridan Park Maintenance Building) on the existing Town Ethernet network.
- › Add three start/stop status controls to pool boilers and pumps, and supply/return loop temperatures on piping.

Senior Citizens' Center

- › Siemens will replace the existing Johnson Controls DDC with a new Apogee control system.
 - § Schedule unoccupied setback on ventilation
- › The new Apogee system will provide control for the following:
 - § Two fin radiation zones
 - § 11 pneumatic unit ventilators
 - § One air-handling unit
 - § One boiler and pumps
 - § One chiller and pumps
- › Siemens will verify and check operation of the unit ventilators and air-handling unit to ensure unoccupied setback on ventilation

Municipal Building

- › Siemens will replace the existing Carrier DDC system with an Apogee control system and schedule unoccupied setback on ventilation.
 - § Existing pneumatic controls for convectors in space to remain
 - § Schedule unoccupied temperature setback
- › The new Apogee system will provide control for the following:
 - § Two air-handling units
 - § Two boilers
 - § One chiller
 - § One heat exchanger
 - § Four exhaust fans
 - § Five space sensors for monitoring
- › The unoccupied space temperature set point will be reduced to 63°F.

Highway Department

- › Siemens will install a new Apogee DDC system to provide the following functions:
- › Install a CO monitoring system that will operate automatically upon the detection of CO concentrations in excess of 25 parts per million and increase the volume of ventilation air to the space.
 - § Install six CO/NO2 sensors to the Apogee system and purge space when concentration reaches predetermined level.
- › The CO monitoring systems will be interlocked with the six existing exhaust fans and outdoor dampers on the Rapid Air units.
- › Add a PXC controller for each Rapid Air unit (total of three) to revise the control sequence so that there are two heating sequences:
 - § New Cycle Burner Sequence:
 - This cycle will be used when ventilation is not required through the CO monitoring system.

- o The burner cycles on demand for heating from the space thermostat. When the burner is firing, control the supply air temperature to a fixed 90°F (adjustable).
- o During the heating season, when the burner is cycled "off", continue to operate the fan to minimize stratification in the space and close the combustion air damper. The outdoor air damper will be controlled to provide 0% outdoor air in the main garage area and 0.05 CFM per sq. ft. of outside air in the fabrication shop.
- § Modulating Burner Sequence:
 - o This sequence will be used when ventilation is required through the CO or diesel monitoring systems because of "high" detected concentrations.
 - o This sequence is similar to the existing sequence except that the unit operates with 100% outdoor air. The fan operates continuously, the outdoor air dampers are open 100%, the exhaust fans are turned on and the burner modulates to maintain space temperature.
- › When the burner is "off", the outdoor air dampers will be adjusted to provide the required 0.05 CFM per sq. ft.
- › Provide for automatic night setback of space temperature in the fabrication shop.

Siemens will provide programming, low voltage control wire pulls and conduit (where required by code), terminations, relays, output transducers, current sensors, sensors (temperature and pressure), DDC panels and as-built AutoCAD drawings for all control related items listed below. Additional parts will be supplied where specified. Control and monitor points available to the DDC system under this FIM are included and limited to point counts on the following point list.

POINT DESCRIPTION	DIGITAL INPUT	DIGITAL OUTPUT	ANALOG INPUT	ANALOG OUTPUT	VFD CONTROL
HIGHWAY GARAGE					
RAPID UNITS TYPICAL OF (3)					
Supply Fan Start/Stop		X			
Supply Fan Status	X				
Supply Air Temperature			X		
Zone Temperature			X		
Outside Air Damper				X	
Modulating Gas Burner				X	
EXHAUST FANS TYPICAL OF (6)					
Fan Start/Stop		X			
Fan Status	X				
GENERAL DDC POINTS					
CO and NO2 Gas Detectors (typical of 6)			X		
Outside Air Temperature			X		
SENIOR CITIZENS' CENTER					
UNIT VENTILATORS TYPICAL OF (11)					
Fan Start/Stop		X			
Fan Status	X				
Mixed Air Temperature			X		
Mixed Air Damper				X	
Heating Valve				X	
Outside Air Damper				X	
Space Temperature			X		

POINT DESCRIPTION	DIGITAL INPUT	DIGITAL OUTPUT	ANALOG INPUT	ANALOG OUTPUT	VFD CONTROL
AQUATIC CENTER					
BOILERS TYPICAL OF (2)					
Boiler Enable/Disable		X			
Boiler Status	X				
Boiler Alarm	X				
Supply Hot Water Temperature			X		
Return Hot Water Temperature			X		
HEAT EXHCHANGERS TYPICAL OF (4)					
Heat Exchanger Valve				X	
Supply Hot Water Temperature			X		
Return Hot Water Temperature			X		
Hot Water Circulating Pump Start/Stop		X			
Hot Water Circulating Pump Status	X				
ROOFTOP UNITS TYPICAL OF (8)					
Supply Fan Start/Stop		X			
Supply Fan Status	X				
Supply Air Temperature			X		
Space Temperature			X		
Modulating Gas Burner				X	
NATATORIUM UNITS TYPICAL OF (2)					
Supply Fan Start/Stop		X			
Supply Fan Status	X				
Return Fan Start/Stop		X			
Return Fan Status	X				
Supply Air Temperature			X		
Return Air Temperature			X		
Return Air Relative Humidity			X		
Mixed Air Temperature			X		
Mixed Air Damper				X	
Heating Valve				X	
DX Cooling Stages		X			
Differential Pressure Sensor			X		
Space Temperature			X		
Space Relative Humidity			X		
Heat Recovery Circulating Pump Start/Stop		X			
Heat Recovery Circulating Pump Status	X				
Filter Differential Pressure Sensor	X				

Work Included:

- › Provide pull wire and terminate new field panels, input sensors and relays, and output devices.
- › All existing points currently monitored or controlled by the JCI systems at the Senior Citizens' Center, Aquatic Center and the Municipal Building will be tied into the new Siemens Apogee DDC system network.

- › JCI field panels will become the property of Siemens Building Technologies, Inc.
- › New PC graphical workstation with Apogee software and LaserJet printer will be provided.
- › Training for Town's personnel will be provided on-site by Siemens technician.
- › It is assumed that all existing end devices including valves and actuators, dampers and actuators, and all sensors are in good working condition and will remain to be tied into the new Apogee DDC panels. New valves, dampers, actuators and sensors WILL NOT be installed under this project except where existing temperature sensors are not compatible with Apogee field panels. Should any of the existing end devices (i.e. actuators, valves, dampers) be found to be defective and/or inoperable, it will be the Town's responsibility to repair and/or replace the defective device.
- › The Siemens Apogee systems installed at the Senior Citizens' Center, Aquatic Center and the Municipal Building will be tied into a common communication bus (Town of Tonawanda Ethernet network) so that the entire system, including the Senior Citizens' Center, Aquatic Center and the Municipal Building can be monitored and controlled from the Apogee workstation that will reside at a location to be determined by the Town of Tonawanda. It will be the Town's responsibility to provide network capability between the different locations per Siemens specifications for communication between Apogee workstations. The Apogee system to be installed at the Highway Garage will not be tied into the network, but rather be a standalone system.

Install Programmable Thermostats

Existing:

- › The buildings have very simple temperature control systems.
- › Typically the heating systems are controlled by manual or automatic thermostats located in locked covers.
 - § The controls were found to be ineffective.
 - § Excessive temperature day and night set points are being maintained.

Proposed:

Brighton Park Maintenance Building

- › Replace three manual thermostats that control two gas-fired unit heaters in the garage and an induced draft furnace for the lunchroom, office and toilet room areas with programmable thermostats and locking covers.
- › Replace one manual thermostat that controls a gas-fired unit heater in a separate mechanics building with a programmable thermostat and locking cover.
- › The unoccupied space temperature set point will be reduced to 60°F.

Brighton Park Ice Rink

- › Replace two manual thermostats that control induced draft furnaces with programmable thermostats and locking covers.
- › Replace two manual thermostats that control gas-fired unit heaters in the refrigeration system, Zamboni room and office with programmable thermostats and locking covers.
- › The unoccupied space temperature set point will be reduced to 60°F in the casino, compressor room and office area.

Historical Society

- › Replace one existing thermostat that controls a gas-fired high efficiency-condensing furnace with a programmable thermostat and install a locking cover.
- › The unoccupied space temperature set point will be reduced to 60°F.

Lincoln Park Ice Rink

- › Replace two manual thermostats that control an induced draft furnace and a condensing high efficiency furnace with programmable thermostats and locking covers in the casino.
- › Install one programmable thermostat and locking cover to control the induced draft furnace in the Zamboni room.
- › The unoccupied space temperature set point will be reduced to 60°F in the casino and Zamboni room.

Lincoln Park Maintenance Building

- › Install three programmable thermostats and locking covers to control the unit heaters in the building.
- › The unoccupied space temperature set point will be reduced to 60°F.

Memorial Hall

- › Replace one manual thermostat that controls the gas-fired steam boiler with a programmable thermostat and locking cover.
- › The unoccupied space temperature set point will be reduced to 60°F.

NOCO Pavilion

- › Reprogram one existing Tekmar House Controller to provide night setback during unoccupied periods.
- › The unoccupied space temperature set point will be reduced to 60°F.

Paddock Chevrolet Golf Dome

- › Replace one existing programmable thermostat located in the office that controls a heating and air-conditioning rooftop unit serving the office, hall and toilet rooms.
- › The unoccupied space temperature set point will be reduced to 60°F.

Sheridan Park Maintenance Building #1

- › Install seven programmable thermostats and locking covers to setback the space temperature during unoccupied periods.
 - § Two manual thermostats control an infrared radiant heating system in the garage area.
 - § Three manual thermostats control unit heaters in work areas and equipment storage.
 - § One manual thermostat controls an induced draft furnace for the lunchroom.
 - § One manual thermostat controls the induced draft furnace for the office areas.
- › The unoccupied space temperature set point will be reduced to 60°F.

Sheridan Park Maintenance Building #2

- › Replace two programmable thermostats that control garage gas-fired unit heaters.
- › Replace one manual thermostat that controls a gas-fired, induced draft, forced air furnace that provides heating and cooling in the office, break room and toilet room with a programmable thermostat.
- › The unoccupied space temperature set point will be reduced to 60°F.

Occupancy Controlled Exhaust Fans

Existing:

- › Toilet rooms are served by one exhaust fan that operates continuously.

Proposed:

[Brighton Park Arena Casino, Lincoln Park Casino, Paddock Chevrolet Golf Dome](#)

- › Install an occupancy sensor in the Brighton Park Ice Rink Casino, Lincoln Park Casino and Paddock Chevrolet Golf Dome to allow exhaust fan operation only when either toilet room is occupied.

Sample Audit

FIM-3: Replace Natatorium Air-Handling System	
Facilities:	Aquatic & Fitness Center

Existing:

- › Existing air-handling system that serves the Natatorium originally had capability of:
 - § Air-conditioning
 - § Mechanical dehumidification
 - § Heat recovery from either air-conditioning or mechanical dehumidification to:
 - Natatorium heating
 - Pool water heating
- › This system has two main Dectron air-handling units, each unit designed to deliver 22,000 CFM of air to the Natatorium.
- › There are also two outdoor air units with each unit designed to deliver up to 9,000 CFM of outdoor air to the Natatorium air-handling units.
- › At the time of our field surveys, the two main air-handling units were respectively delivering only 40% and 33% of their design CFM to the Natatorium.
- › The combined outdoor air units were delivering 25% less ventilation air than the combined minimum requirement of 9,935 CFM.
- › The compressors in the two main air-handling units have failed and have not operated for at least the past four years.
 - § The existing system has not had either air-conditioning or mechanical dehumidification.
- › When the compressors were operating, the facility disabled the heat recovery to the pool water because it would overheat the pool water.
- › A significant investment would be required to return the existing equipment to original design operating conditions.

Proposed:

Siemens will replace the existing Natatorium air-handling system with two new air-handling systems, each with the following:

- › Supply fan and return fan capable of 100% outdoor air.
- › Glycol heating coil.
- › Heat recovery coil (heat pipe or runaround coil) – heat reclaim between exhaust and outdoor air with an efficiency of 60%.
- › Control dampers in outdoor, exhaust and return air ducts.
- › A manual balancing damper to the relief and/or return duct from the return air fan to allow for control of flow and pressure within these ducts.
- › Differential pressure control to maintain Natatorium at a negative pressure.
- › Humidity control by varying volume of outdoor air.
- › Install a cooling coil in one of the two new air-handling units that serves the bleacher area and provide an associated split system condensing unit.
 - § Provisions for future air-conditioning cooling coil in the other air-handling unit.
- › Install controls for the two new air-handling systems to be controlled by the DDC system.
- › New air-handling units will have the same airflow as the existing design. Sizes will be verified during the design phase.

Energy Baseline Adjustment

Ventilation

The existing Natatorium air-handling units in the Aquatic Center do not allow for proper, code required ventilation. They currently bring in 7,292 CFM of outdoor air based on field measurements. The facility improvement measures installed as part of this project will bring the ventilation up to code. Increasing the ventilation to meet code will cause an increase in energy consumption. This increase in energy consumption is added to the baseline energy use to show the energy that the Town would have spent if the proper ventilation were used. The following calculations are used to determine the additional energy use to be added to the baseline energy use.

Electric Baseline

Calculated Fan kW = (Fan Motor HP x 0.746 kW/HP x Estimated Load %) ÷ Motor Efficiency
Annual kWh = Measured or Calculated Fan kW x Annual Hours

Tables 1 and 2 below show the calculation of the annual existing and proposed energy consumption due to increasing the airflow to design.

Table 1 ~~3/4~~ Present Operation

FAN	Field Measured CFM	Field Measured Fan kW	Annual Hours	Annual kWh
AHU-1 Dectron Fan	8,515	12.6	8,760	110,668
AHU-2 Dectron Fan	7,383	13.9	8,760	122,056
AHU-3	5,421	2.0	8,760	17,257
AHU-4	1,871	2.2	8,760	18,980
TOTAL				268,961

Table 2 ~~3/4~~ Restore to Design

FAN	Design CFM	Fan Motor HP	Estimated % Loaded	Calculated Fan kW	Annual Hours	Annual kWh
AHU-1 Dectron Fan	22,000	30.0	70%	17.4	8,760	152,482
AHU-2 Dectron Fan	22,000	30	70%	17.4	8,760	152,482
AHU-3	9,000	7.5	50%	3.3	8,760	28,831
AHU-4	9,000	7.5	50%	3.3	8,760	28,831
TOTAL						362,626

Addition to Electric Baseline is 93,665 kWh per year.

Natural Gas Baseline

There will be an increase in heating energy consumption to maintain a space temperature set point of 84°F for the increased amount of outdoor air.

Energy required to heat ventilation air = 1.085 x Outdoor Air CFM x (Indoor Set Point – Outdoor BIN Temperature) x BIN Hours

This calculation is repeated for each bin to calculate the existing and proposed heating energy consumption. The BIN temperature data used for this calculation is shown in Table 3 below.

Table 3 ¾ BIN Temperature Data

DB (°F)	Occupied BIN Hours	Unoccupied BIN Hours
(12.5)	0	0
(7.5)	8	5
(2.5)	9	13
2.5	65	4
7.5	98	25
12.5	246	121
17.5	209	200
22.5	371	133
27.5	443	230
32.5	394	312
37.5	298	296
42.5	332	216
47.5	437	324
52.5	366	377
57.5	509	314
62.5	393	399
67.5	507	226
72.5	379	201
77.5	217	45
82.5	21	4
87.5	12	1
92.5	0	0
97.5	0	0

The annual energy consumption at existing outdoor airflow of 7,292 CFM is 2,076 MCF. The proposed energy consumption after restoring airflow to 11,000 CFM (based on 0.5 CFM per sq. ft. of water and deck surface area) is 3,312 MCF.

Addition to the Natural Gas Baseline is 1,056 MCF.

Air-Conditioning

The compressors in both the Natatorium air-handling units have failed and have not operated for at least the past four years. Therefore, the existing system has not had either air-conditioning or mechanical dehumidification for four years or more. As part of this project, the air-handling unit supplying the bleachers will have a 40-ton cooling coil (size will be verified during design phase) with a remote condensing unit on the roof. The other air-handling unit will have the provision for a future cooling coil.

There will be additional energy required to provide air-conditioning during the summer months that is not calculated in this project.

There will be an increase in energy consumption in the bleachers' unit due to the increased static from the cooling coil. There will also be an increase in energy in the other unit if a cooling coil is installed in the future, but this is not included in the calculations below.

Motor HP = (Airflow CFM x Manufacturer's Data for static pressure across a 6-row cooling coil) / (6,356 x Fan efficiency)

Annual additional energy consumption = Motor HP x 0.746 kW/HP x Annual Hours / Motor Eff.

Based on the above calculations, the increase in fan energy consumption is 34,767 kWh per year.

There will also be an increase in energy consumption for the rooftop unit, RTU#1-3 in the Aquatic Center that is not calculated in this project.

Baseline Adjustment for the Aquatic Center

There will be an increase in the Electric Baseline of 128,432 kWh per year and an increase in the Natural Gas Baseline of 1,056 MCF per year. There will also be additional energy consumption whenever the air-conditioning system is operated to provide cooling to the space.

Sample Audit

FIM-4: Replace Rooftop Units	
Facilities:	Aquatic & Fitness Center

Existing:Unit #1-1 (Fitness Center – Original Locker and Shower Rooms)

- › RTU-#1-1 serves the locker and shower areas of the original building.
 - § It was installed circa 1990.
 - § The unit is reported deteriorating and in poor condition.
 - § This unit has:
 - Supply and return volume of 3,400 CFM
 - Glycol heating coil
 - Split system cooling coil
 - Remote condensing unit
 - Supply fan
 - Return fan
 - Air-to-air heat exchanger to reclaim heat from the exhaust air stream

Unit #1-3 (Fitness Center – "GYM" Exercise Area at Northwest Corner)

- › RTU #1-2 serves the exercise area in the northwest corner of the building.
 - § The rooftop unit was installed as part of the second addition circa 1995.
 - § The unit does not provide sufficient cooling during the summer months.
 - § Facility personnel feel the unit is undersized.
 - § This unit has:
 - Supply fan
 - Gas heating
 - Air-conditioning
 - Designed for 50% minimum outdoor air

Remaining Units

- › Location:
 - § Original Building – RTU #2-1 and #3-1
 - § First Addition – RTU #X-2 and #Y-3
 - § Second Addition – RTU #2-3 and #2-3
- › These units are between 13 and 18 years old and reaching the end of their useful life.
- › These units have:
 - § Supply fan
 - § Gas heating
 - § Air-conditioning
 - § Economizer

The following table provides details on the rooftop units that are being replaced:

Unit Designation	Manufacturer	Model	Building	Area Served
RTU #1-1	DesChamps	MZP-8704	Original	Original Locker/Shower Rooms
RTU #2-1	York	D2CG150	Original	Lobby
RTU #3-1	York	D2CG03	Original	Community Room on 2 nd Floor
RTU #X-2	Carrier	48LJE008510	1 st Addition	Aerobics Room

RTU #Y-2	Carrier	48LJE006520	1 st Addition	Babysitting and Offices
RTU#1-3	York	D3CG102	2 nd Addition	Northwest Fitness Center
RTU #2-3	York	D3CG102	2 nd Addition	Northeast Fitness Center
RTU #3-3	York	D6CG048	2 nd Addition	New Locker/Shower Rooms

Proposed:

- › Siemens will replace the following eight rooftop units with units that have the same capacity and a higher EER (air-conditioning efficiency).

Unit Designation	Building	Area Served
RTU #1-1	Original	Original Locker/Shower Rooms (with Heat Recovery Coil)
RTU #2-1	Original	Lobby
RTU #3-1	Original	Community Room on 2 nd Floor
RTU #X-2	1 st Addition	Aerobics Room
RTU #Y-2	1 st Addition	Babysitting and Offices
RTU #1-3	2 nd Addition	Northwest Fitness Center
RTU #2-3	2 nd Addition	Northeast Fitness Center
RTU #3-3	2 nd Addition	New Locker/Shower Rooms

- › RTU #1-1 will be specified with a heat recovery coil similar to the existing unit.
- › RTU #1-3 will have a greater cooling capacity than the existing unit.
- › The rooftop units will be replaced in kind and actual capacities will be determined during the design phase.

FIM-5: Boiler Replacement	
Facilities:	Aquatic & Fitness Center

Existing:

Aquatic & Fitness Center – Glycol Heating Boilers

- › Three Triad forced draft boilers each rated at 720 MBH output.
 - § Provide heat to the Natatorium air-handling system and to the rooftop unit that serves the original locker/shower rooms.
 - § The temperature of the glycol solution in this system is scheduled with the outdoor temperature.

Aquatic & Fitness Center – Domestic Water Heaters

- › Three atmospheric domestic water heaters.
 - § Two AO Smith BTC 500, each at 500 MBH input, 69-gallon storage
 - § One AO Smith BTC400A at 399 MBH input, 100-gallon storage

Aquatic & Fitness Center – Pool Water Heaters

- › Three atmospheric pool water heaters serving:
 - § Main pool – AO Smith HW1700SB830S rated at 1,275 MBH output
 - § Whirlpool – AO Smith BC160 840 rated at 160 MBH input
 - § Kiddie pool – AO Smith BC160 840 rated at 160 MBH input

Proposed:

Aquatic & Fitness Center – Glycol Heating Boiler

- › Siemens will install a high efficiency condensing boiler system to replace the existing boilers.
- › The system will have two condensing boilers sized at 1,200 MBH each and have a minimum combustion efficiency of 90%.
- › The scheduled temperature of the glycol solution will be adjusted so that the return temperature to the new boilers will be low enough to have condensing in the new high efficiency boilers.
- › The heating coils in the new Natatorium air-handling system will be selected so there is a large temperature drop of the glycol solution through the heating coils so the return temperature to the boilers can result in condensing.
- › It may not be possible to have condensing in the boilers on the coldest days. However, heat is provided to the Natatorium until the ambient temperature is approximately 65°F and there are many operating hours that resulting return temperatures can be low enough to produce condensing in the boilers.

Aquatic & Fitness Center – Domestic Water Heaters and Pool Water Heaters

- › Siemens will install a high efficiency condensing boiler system to replace the three domestic water heaters and three pool water heaters.
- › The system will have two condensing boilers sized at 1,200 MBH each connected to a primary circulating loop and will have a minimum combustion efficiency of 90%.
- › There will be four heat exchangers connected to this primary loop.
 - § This will separate the pool water and the domestic hot water from the boilers.
 - § Each of the systems can be individually controlled at different temperatures.
 - § These will serve the domestic hot water system, main pool, whirlpool and kiddie pool.

The boiler sizes will be confirmed during the design phase.

FIM-6: Building Envelope Improvements	
Facilities:	Brighton Park Ice Rink Brighton Park Maintenance Building Fire Training Tower Highway Department Historical Society Lincoln Park Ice Rink & Pool Lincoln Park Maintenance Building Memorial Hall Municipal Building NOCO Pavilion Police/Paramedics/Fire/Court Senior Citizens' Center Sheridan Park Maintenance Building #1 Sheridan Park Maintenance Building #2

Brighton Park Ice Rink & Pool

Existing:

The existing windows are single-pane with wood frame. There are a couple of windows that require caulking. The exterior doors are in need of new weather-stripping and door sweeps.

Proposed:

1) Window Caulking (two perimeter seams on each interior)

Qty.	@	Size	=	LF of Caulking
6	@	87.25"x92"	=	357.9 LF
1	@	43"x92"	=	45 LF
1	@	39"x20"	=	19.6 LF
22	@	43"x22"	=	476.6 LF
1	@	36"x40"	=	38 LF (three seams – compressor room)
Totals:	31		=	937.1 LF

2) Door Sweep (bottom) and Weather-stripping (three sides)

Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
2	@	38"x80"	=	6.33 LF of Door Sweep
				33 LF of Weather-stripping
Totals:	2		=	6.33 LF of Door Sweep
				33 LF of Weather-stripping

Brighton Park Maintenance Building

Existing:

There are several windows in need of caulking. Weather-stripping and door sweeps are in poor condition and should be replaced. The existing garage doors do not make a tight seal when closed.

Proposed:

1) Window Caulking (three perimeter seams on each interior)

	Qty.	@	Size	=	LF of Caulking
	4	@	60"x36"	=	192 LF
	2	@	41"x41"	=	82 LF
Totals:	6			=	274 LF

2) Door Sweep (bottom) and Weather-stripping (three sides)

	Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
	2	@	36"x80"	=	6 LF of Door Sweep 32.8 LF of Qlon Weather-stripping
	2	@	40"x80"	=	6.8 LF of Door Sweep 33.4 LF of Qlon Weather-stripping
Totals:	4			=	12.8 LF of Door Sweep 66 LF of Qlon Weather-stripping

3) Weather-stripping Garage Doors (top and two sides)

	Qty.	@	Size	=	LF of Weather-stripping
	3	@	10'x10'	=	90 LF
	2	@	8'x10'	=	52 LF
Totals:	5			=	142 LF

[Fire Training Tower](#)

Existing:

All windows are glass block and several require caulking of seams. There is a man door in the garage area that does not seal fully when closed.

Proposed:

1) Window Caulking (three perimeter seams on each interior glass block window)

	Qty.	@	Size	=	LF of Caulking
	8	@	36"x48"	=	336 LF
	3	@	48"x60"	=	162
	2	@	38"x27"	=	65 LF
Totals:	13			=	563 LF

2) Door Sweep (bottom) and Weather-stripping (three sides) – man door only

	Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
	1	@	36"x84"	=	3 LF of Door Sweep 17 LF of Weather-stripping
Totals:	1			=	3 LF of Door Sweep 17 LF of Weather-stripping

[Highway Department](#)

Existing:

[Administration Area](#) – Some of the seams on the windows in the Administration Area require sealing.

Paint Building – The Paint Building has a couple of exhaust fans to help with ventilation. There is one wall that could use some insulation.

Proposed:

Administration Area

- 1) Window Caulking (two seams on each interior and one seam on each exterior)

	Qty.	@	Size	=	LF of Caulking
	32	@	48"x48"	=	1,536 LF
Totals:	32			=	1,536 LF

Paint Building

Insulate 2,325 sq. ft. of block walls with R-11 vinyl-faced fiberglass insulation.

Historical Society

Existing:

The windows are not properly sealed on the interior. The entry door does not seal adequately when closed, and we were unable to observe the crawlspace below.

Proposed:

- 1) Window Caulking (three perimeter seams on each interior)

	Qty.	@	Size	=	LF of Caulking
	12	@	48"x94"	=	852 LF
Totals:	12			=	852 LF

- 2) Weather-stripping Double Entry Door (brass weather-stripping – top and two sides)

	Qty.	@	Size	=	LF of Weather-stripping
	1	@	72"x84"	=	20 LF
Totals:	1			=	20 LF

Lincoln Park Ice Rink & Pool

Existing:

The existing windows are single-pane with wood frame. There are a couple of windows that require caulking. The exterior doors are in need of new weather-stripping and door sweeps.

Proposed:

- 1) Window Caulking (two perimeter seams on each interior)

	Qty.	@	Size	=	LF of Caulking
	3	@	87"x69"	=	156 LF
	3	@	87"x92"	=	179 LF
	1	@	43"x69"	=	37.3 LF
	17	@	43"x22"	=	368.3 LF
Totals:	24			=	740.6 LF

- 2) Door Sweep (bottom) and Weather-stripping (three sides)

Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
------	---	------	---	------------------------------------

	2	@	36"x80"	=	6 LF of Door Sweep 32.66 LF of Weather-stripping
	1	@	72"x80"	=	6 LF of Door Sweep 19.3 LF of Weather-stripping
Totals:	3			=	12 LF of Door Sweep 51.96 LF of Weather-stripping

Lincoln Park Maintenance Building

Existing:

The building seems to be very well ventilated. Some windows were observed to require re-caulking and one door is in need of weather-stripping and a door sweep. There are three single-pane windows in the shop storage area in the back of the building that would benefit from an interior storm window.

Proposed:

1) Window Caulking (three perimeter seams on each interior)

Qty.	@	Size	=	LF of Caulking
1	@	93"x39"	=	66 LF
3	@	66"x42"	=	162 LF
3	@	66"x18"	=	126 LF
Totals:	7		=	354 LF

2) Door Sweep (bottom) and Weather-stripping (three sides)

Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
1	@	36"x80"	=	3 LF of Door Sweep 16'-4" of Weather-stripping
Totals:	1		=	3 LF of Door Sweep 16'-4" of Weather-stripping

Memorial Hall

Existing:

Most of the windows have not been sealed at the perimeter to prevent infiltration. The existing single-pane glass windows would be good candidates for interior storm windows in order to reduce infiltration. A majority of the exterior door seals have deteriorated and are in need of replacement.

Proposed:

1) Window Caulking (two perimeter seams on each window)

Qty.	@	Size	=	LF of Caulking
2	@	52"x70"	=	81.3 LF
1	@	32"x66"	=	32.6 LF
2	@	55"x68"	=	82 LF
2	@	57"x67"	=	82.6 LF
2	@	32"x45"	=	51.3 LF
4	@	70"x77"	=	196 LF
6	@	48"x72"	=	240 LF
1	@	40"x72"	=	37.3 LF
2	@	28"x72"	=	66.6 LF

	1	@	43"x72"	=	38.3 LF
	2	@	40"x50"	=	60 LF
	4	@	16"x64"	=	106.6 LF
	1	@	28"x48"	=	25.33 LF
	2	@	14"x41"	=	36.66 LF
	1	@	30"x65"	=	31.66 LF
	2	@	32"x64"	=	64 LF
Totals:	35			=	1,232.25 LF

2) Window Caulking (three seams – glass block windows)

	Qty.	@	Size	=	LF of Caulking
	5	@	40"x48"	=	220 LF
	1	@	32"x48"	=	40 LF
Totals:	6			=	260 LF

3) Door Sweep (bottom) and Weather-stripping (three sides)

	Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
	6	@	40"x80"	=	20 LF of Door Sweep 100 LF of Weather-stripping
Totals:	6			=	20 LF of Door Sweep 100 LF of Weather-stripping

Municipal Building

Existing:

The existing windows are single-pane, double-hung. There are two seams on each window that require sealing.

Proposed:

1) Window Caulking (two perimeter seams on each)

	Qty.	@	Size	=	LF of Caulking
	62	@	54"x86"	=	2,893.33 LF
	24	@	36"x66"	=	816 LF
Totals:	86			=	3,709.33 LF

NOCO Pavilion

Existing:

The windows are in need of interior sealing. There is 3.5" of existing insulation above the ceiling and there is no poly barrier above the drop ceiling areas. The existing doors are in need of new weather-stripping and door sweeps.

Proposed:

1) Window Caulking (three seams on each interior)

	Qty.	@	Size	=	LF of Caulking
	16	@	28"x48"	=	608 LF
	3	@	36"x48"	=	126 LF
	6	@	28"x32"	=	180 LF

	2	@	36"x32"	=	68 LF
	1	@	48"x60"	=	54 LF
	4	@	27"x48"	=	60 LF
	1	@	36"x36"	=	36 LF
Totals:	35			=	1,132 LF

2) Door Sweep (bottom) and Weather-stripping (three sides)

	Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
	5	@	48"x84"	=	20 LF of Door Sweep 90 LF of Weather-stripping
Totals:	5			=	20 LF of Door Sweep 90 LF of Weather-stripping

Police/Paramedics/Fire/Court

Existing:

Existing windows are dual-pane with thermally broken frames. The existing weather-stripping is deteriorated and not sealing the windows properly.

Proposed:

1) Window Weather-stripping (with polyflex weather-strip)

	Qty.	@	Size	=	LF of Weather-stripping
	48	@	30"x72"	=	816 LF
	15	@	48"x60"	=	270 LF
Totals:	63			=	1,086 LF

Senior Citizens' Center

Existing:

The building envelope is in good condition. There were only a few exit doors that are in need of new weather-stripping and door sweeps. The windows are in very good condition.

Proposed:

1) Door Sweep (bottom) and Weather-stripping (three sides)

	Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
	2	@	36"x80"	=	6 LF of Door Sweep 32'-8" of Weather-stripping
	1	@	48"x80"	=	4 LF of Door Sweep 14'-4" of Weather-stripping
Totals:	3			=	10 LF of Door Sweep 50 LF of Weather-stripping

Note: (1) Cafetorium Emergency Exit
(1) Kitchen
(1) Boiler Room Exit Door

Sheridan Park Maintenance Building #1

Existing:

Some of the existing windows are in need of sealing. There are single-pane glass windows in the upper office areas that would benefit from the installation of interior storm windows in order to create an air barrier.

Proposed:

1) Window Caulking (three perimeter seams on each interior)

Qty.	@	Size	=	LF of Caulking
3	@	70"x22"	=	138 LF
1	@	67"x42"	=	54.49 LF
1	@	87"x21"	=	54 LF
1	@	48"x48"	=	48 LF
1	@	96"x48"	=	72 LF
2	@	48"x48"	=	96 LF
Totals:	9		=	462.49 LF

2) Weather-stripping Garage Doors (top and two sides)

Qty.	@	Size	=	LF of Weather-stripping
2	@	10'x8'	=	52 LF
Totals:	5		=	52 LF

Sheridan Park Maintenance Building #2

Existing:

Existing windows are in need of sealing. Existing doors do not seal properly when closed.

Proposed:

1) Window & Door Caulking (four perimeter seams on each window)

Qty.	@	Size	=	LF of Caulking
3	@	44"x50"	=	188 LF Window Caulking
2	@	36"x80"	=	65.3 LF Door Caulking
Totals:	5		=	253.3 LF

2) Door Sweep (bottom) and Weather-stripping (three sides)

Qty.	@	Size	=	LF of Door Sweep/Weather-stripping
2	@	36"x80"	=	6 LF of Door Sweep
				32'-8" of Weather-stripping
Totals:	2		=	6 LF of Door Sweep
				32'-8" of Weather-stripping

FIM-7: Insulate Bare Heating & Domestic Hot Water Pipes	
Facilities:	Brighton Park Ice Rink Lincoln Park Ice Rink Memorial Hall NOCO Pavilion

Existing:

There are un-insulated heating and domestic hot water pipes.

Proposed:

Siemens will insulate un-insulated bare pipes as indicated below.

Brighton Park Ice Rink

- › Insulate 1" and 1½" diameter domestic hot water lines and fittings with 1" pipe insulation in the refrigeration system building office.
 - § There is approximately 10' of 1" and 12' of 1½" diameter hot water lines and fittings.

Lincoln Park Ice Rink

- › Insulate 1" and 1½" diameter domestic hot water lines and fittings with 1" pipe insulation in the refrigeration system compressor room building.
 - § There is approximately 16' of 1" and 19' of 1½" diameter hot water lines and fittings.

Memorial Hall

- › Insulate ¾" diameter domestic hot water lines and fittings with ¾" pipe insulation in the boiler room.
 - § There is approximately 44' of ¾" diameter domestic hot water lines and fittings.

NOCO Pavilion

- › Insulate ¾" and 1½" diameter hot water lines and fittings with 1" pipe insulation in the mechanical room.
 - § There is approximately 30' of ¾" and 20' of 1½" diameter hot water lines and fittings.

FIM-8: Compressor Replacement	
Facilities:	Wastewater Treatment Plant

Existing:

- › Instrument air currently provided by one 100 HP compressor.
- › The main compressor that was used until recently is a ten-year old 75 HP compressor. It is currently down for repairs.
- › There are two tanks in the Wastewater Plant and one tank across the street.
- › The pressure is currently trended on the SCADA system.
- › Based on data logging, the current compressor loads once every 15 minutes.

Proposed:

- › Siemens will provide a 30 HP, air-cooled, rotary lobe compressor for instrument air. The compressor will be installed by the Wastewater Treatment Plant.
- › The existing 100 HP compressor will be used as a backup.

Sample Audit

SUMMARY OF UTILITY CONSUMPTION AND COST

For the Period from: **January 2007 through December 2007**

Facility	Electricity Use						Natural Gas Use					TOTAL MBTU
	kWh	Peak Demand (kW)	Annual Demand	Total Electric Cost	Incremental \$/kWh	Demand Cost (\$/kW)	Electric MBTU	MCF	Total Gas Cost	\$/MCF	Gas MBTU	
Aquatic and Fitness Center	1,352,400	216	2,322	\$ 150,726	\$ 0.081	\$ 16.65	4,616	8,271	\$ 89,252	\$ 10.79	8,519	13,134
Brighton Arena	394,720	202	1,392	\$ 53,580	\$ 0.099	\$ 10.10	1,347	1,028	\$ 12,143	\$ 11.82	1,058	2,406
Brighton Park Maintenance Building	61,576	41	338	\$ 10,030	\$ 0.097	\$ 10.10	210	1,001	\$ 11,826	\$ 11.82	1,031	1,241
Brighton Pool	49,960	41	141	\$ 6,943	\$ 0.098	\$ 10.10	171					171
Fire Training Tower	7,503	0	0	\$ 1,311	\$ 0.141	\$ 0.00	26	133	\$ 1,766	\$ 13.28	137	163
Highway Department	557,920	158	1,447	\$ 74,633	\$ 0.085	\$ 16.65	1,904	4,605	\$ 52,423	\$ 11.38	4,743	6,647
Highway Quonset Hut	16,920	0	0	\$ 2,717	\$ 0.146	\$ 0.00	58					58
Highway Salt Shed	6,004	0	0	\$ 1,103	\$ 0.142	\$ 0.00	20					20
Historical Society	10,139	0	0	\$ 1,680	\$ 0.141	\$ 0.00	35	188	\$ 2,402	\$ 12.78	194	228
Lincoln Ice Rink and Pool	477,520	218	1,630	\$ 63,312	\$ 0.097	\$ 10.10	1,630	1,225	\$ 14,729	\$ 12.03	1,261	2,891
Lincoln Park Maintenance Building	27,641	10	107	\$ 4,411	\$ 0.098	\$ 10.10	94	438	\$ 5,347	\$ 12.20	452	546
Lincoln Park Police Satellite Station	2,478	0	0	\$ 604	\$ 0.142	\$ 0.00	8					8
Memorial Hall	87,572	25	267	\$ 11,875	\$ 0.098	\$ 10.10	299	1,041	\$ 12,263	\$ 11.78	1,073	1,372
Municipal Building	390,560	110	1,168	\$ 50,583	\$ 0.098	\$ 10.10	1,333	2,058	\$ 24,068	\$ 11.70	2,120	3,453
NOCO Pavilion	21,680	0	0	\$ 3,312	\$ 0.141	\$ 0.00	74	350	\$ 4,305	\$ 12.29	361	435
Paddock Chevrolet Golf Dome	608,080	110	1,179	\$ 70,813	\$ 0.096	\$ 10.10	2,075	18,502	\$ 198,709	\$ 10.74	19,057	21,132
Police/Paramedics/Fire/Court	806,240	165	1,678	\$ 97,202	\$ 0.082	\$ 16.65	2,752	2,404	\$ 27,882	\$ 11.60	2,476	5,227
Senior Citizen's Center	220,240	102	1,007	\$ 32,441	\$ 0.098	\$ 10.10	752	3,095	\$ 35,827	\$ 11.58	3,188	3,940
Sheridan Park Maintenance Building 1	100,329	31	336	\$ 13,873	\$ 0.098	\$ 10.10	342	1,219	\$ 14,450	\$ 11.86	1,255	1,597
Sheridan Park Maintenance Building 2	28,757	13	137	\$ 4,853	\$ 0.099	\$ 10.10	98	405	\$ 4,970	\$ 12.27	417	515
Wastewater Treatment Facility	12,977,958	2,568	22,764	\$ 1,096,522	\$ 0.067	\$ 9.67	44,294	22,014	\$ 228,571	\$ 10.38	22,674	66,968
TOTALS	18,206,197		35,914	\$ 1,752,525			62,138	67,976	\$ 740,935		70,015	132,153

ELECTRICITY CONSUMPTION AND COST ANALYSIS

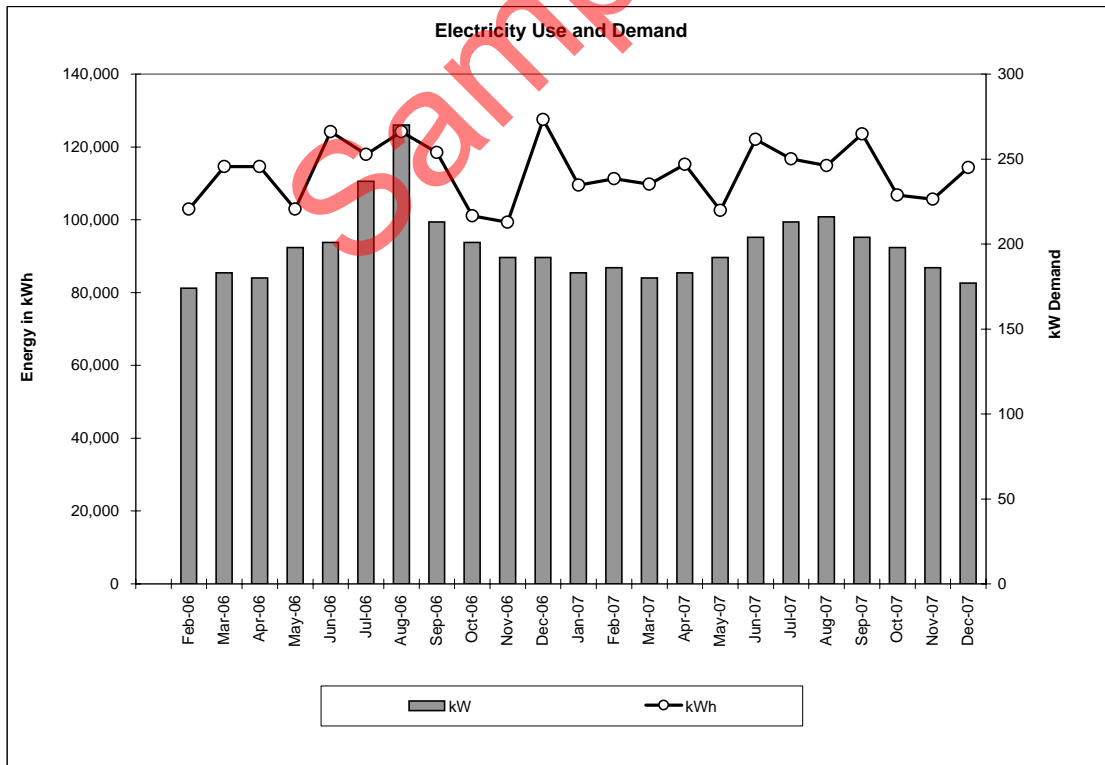
Site **Town of Tonawanda**
 Address **Aquatic and Fitness Center**

49,395 square feet

Account Number **48687-35106** Rate **SC 3 Sec** Delivery Voltage **0 - 2.2 kV**

Tax Rate **0.0000%** Customer Charge **\$ 260.15** Demand Cost **\$ 16.65** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 260.15** **\$ 16.65**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/10/07	33	Actual	114,300	177.0	177.0	0.82	0.0	\$ 8,691	\$ 10,132	\$ 2,947	\$ 4,649	\$ 0.089	\$ 0.117	\$ 13,339
11/7/07	29	Actual	105,600	186.0	186.0	0.82	0.0	\$ 7,424	\$ 8,692	\$ 3,097	\$ 4,625	\$ 0.082	\$ 0.114	\$ 12,049
10/9/07	28	Actual	106,800	198.0	198.0	0.80	0.0	\$ 7,730	\$ 8,947	\$ 3,297	\$ 4,774	\$ 0.084	\$ 0.117	\$ 12,504
9/11/07	32	Actual	123,600	204.0	204.0	0.79	0.0	\$ 8,889	\$ 10,291	\$ 3,397	\$ 5,059	\$ 0.083	\$ 0.113	\$ 13,947
8/10/07	29	Actual	114,900	216.0	216.0	0.76	0.0	\$ 8,588	\$ 10,071	\$ 3,596	\$ 5,339	\$ 0.088	\$ 0.121	\$ 13,927
7/12/07	30	Actual	116,700	213.0	213.0	0.76	0.0	\$ 8,264	\$ 9,543	\$ 3,546	\$ 5,085	\$ 0.082	\$ 0.114	\$ 13,349
6/12/07	32	Actual	122,100	204.0	204.0	0.78	0.0	\$ 7,454	\$ 9,093	\$ 3,397	\$ 5,296	\$ 0.074	\$ 0.104	\$ 12,750
5/11/07	28	Actual	102,600	192.0	192.0	0.80	0.0	\$ 6,328	\$ 7,788	\$ 3,197	\$ 4,917	\$ 0.076	\$ 0.110	\$ 11,245
4/13/07	32	Actual	115,200	183.0	183.0	0.82	0.0	\$ 7,498	\$ 8,940	\$ 3,047	\$ 4,749	\$ 0.078	\$ 0.106	\$ 12,247
3/12/07	30	Actual	109,800	180.0	180.0	0.85	0.0	\$ 8,308	\$ 9,684	\$ 2,997	\$ 4,633	\$ 0.088	\$ 0.118	\$ 12,941
2/10/07	30	Actual	111,300	186.0	186.0	0.83	0.0	\$ 8,076	\$ 9,468	\$ 3,097	\$ 4,749	\$ 0.085	\$ 0.115	\$ 12,825
1/11/07	30	Actual	109,500	183.0	183.0	0.83	0.0	\$ 5,247	\$ 6,295	\$ 3,047	\$ 4,355	\$ 0.057	\$ 0.088	\$ 9,602
12-Dec-06	34	Actual	127,500	192.0	192.0	0.81	0.0	\$ 0	\$ 1,120	\$ 3,197	\$ 4,577	\$ 0.009	\$ 0.036	\$ 4,577
8-Nov-06	28	Actual	99,300	192.0	192.0	0.77	0.0	\$ 0	\$ 985	\$ 3,197	\$ 4,441	\$ 0.010	\$ 0.045	\$ 4,441
11-Oct-06	29	Actual	101,100	201.0	201.0	0.72	0.0	\$ 0	\$ 1,237	\$ 3,347	\$ 4,844	\$ 0.012	\$ 0.048	\$ 4,844
12-Sep-06	32	Actual	118,500	213.0	213.0	0.72	0.0	\$ 0	\$ 1,412	\$ 3,546	\$ 5,219	\$ 0.012	\$ 0.044	\$ 5,219
11-Aug-06	28	Actual	124,200	270.0	270.0	0.68	0.0	\$ 0	\$ 1,521	\$ 4,496	\$ 6,277	\$ 0.012	\$ 0.051	\$ 6,277
14-Jul-06	31	Actual	117,900	237.0	237.0	0.67	0.0	\$ 0	\$ 1,449	\$ 3,946	\$ 5,655	\$ 0.012	\$ 0.048	\$ 5,655
13-Jun-06	33	Actual	124,200	201.0	201.0	0.78	0.0	\$ 0	\$ 1,407	\$ 3,347	\$ 5,014	\$ 0.011	\$ 0.040	\$ 5,014
11-May-06	28	Actual	102,900	198.0	198.0	0.77	0.0	\$ 0	\$ 888	\$ 3,297	\$ 4,444	\$ 0.009	\$ 0.043	\$ 4,444
13-Apr-06	31	Actual	114,600	180.0	180.0	0.86	0.0	\$ 0	\$ 1,152	\$ 2,997	\$ 4,409	\$ 0.010	\$ 0.038	\$ 4,409
13-Mar-06	32	Actual	114,600	183.0	183.0	0.82	0.0	\$ 0	\$ 1,083	\$ 3,047	\$ 4,390	\$ 0.009	\$ 0.038	\$ 4,390
9-Feb-06	29	Actual	102,900	174.0	174.0	0.85	0.0	\$ 0	\$ 1,001	\$ 2,897	\$ 4,158	\$ 0.010	\$ 0.040	\$ 4,158



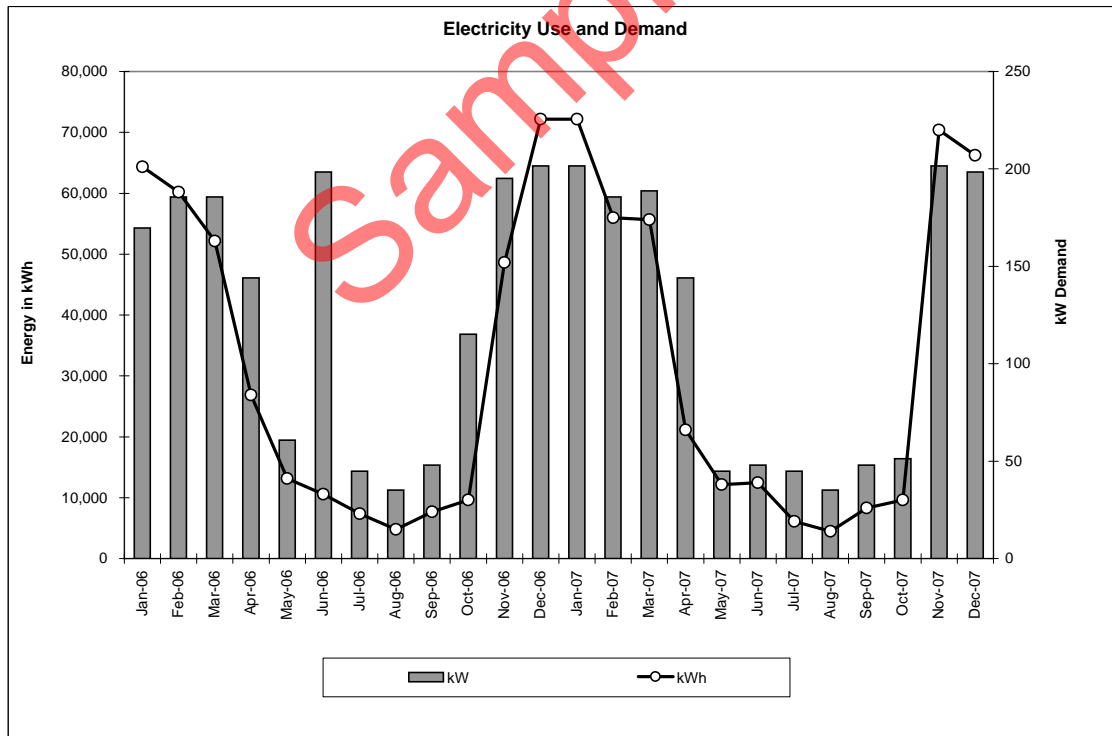
Unit Costs Last Year
 \$ 150,726 Total
 \$ 16.65 Demand
 \$ 0.081 Energy Increm.
 \$ 0.111 Energy Blend.
 363 days
 1,352,400 kWh
 2,322 kW total
 194 kW average
 216 peak kW
 0.81 load factor
 93,418 btu/sf/year
 4.37 watts/sf peak

Unit Costs Prior Year
 \$ 53,429 Total
 \$ 16.65 Demand
 \$ 0.011 Energy Increm.
 \$ 0.043 Energy Blend.
 335 days
 1,247,700 kWh
 2,241 kW total
 204 kW average
 270 peak kW
 0.77 load factor
 86,186 btu/sf/year
 5.47 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 28,674 square feet
 Address **Brighton Arena**
 Account Number **11687-34102** Rate **SC 2D** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 52.52** Demand Cost **\$ 10.10** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 52.52** **\$ 10.10**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incom.	\$/kwh Blended	Total Electricity Cost
12/7/07	30	Actual	66,240	198.4	198.4	0.46	0.0	\$ 0	\$ 6,885	\$ 2,004	\$ 8,941	\$ 0.104	\$ 0.135	\$ 8,941
11/7/07	30	Actual	70,400	201.6	201.6	0.49	0.0	\$ 0	\$ 7,094	\$ 2,036	\$ 9,183	\$ 0.101	\$ 0.130	\$ 9,183
10/8/07	27	Actual	9,600	51.2	51.2	0.29	0.0	\$ 0	\$ 970	\$ 517	\$ 1,539	\$ 0.101	\$ 0.160	\$ 1,539
9/11/07	34	Actual	8,320	48.0	48.0	0.21	0.0	\$ 619	\$ 821	\$ 485	\$ 739	\$ 0.099	\$ 0.163	\$ 1,358
8/8/07	27	Estimated	4,480	35.2	35.2	0.20	0.0	\$ 336	\$ 438	\$ 356	\$ 510	\$ 0.098	\$ 0.189	\$ 846
7/12/07	30	Actual	6,080	44.8	44.8	0.19	0.0	\$ 439	\$ 590	\$ 452	\$ 656	\$ 0.097	\$ 0.180	\$ 1,095
6/12/07	32	Actual	12,480	48.0	48.0	0.34	0.0	\$ 783	\$ 1,249	\$ 485	\$ 1,004	\$ 0.100	\$ 0.143	\$ 1,786
5/11/07	28	Actual	12,160	44.8	44.8	0.40	0.0	\$ 765	\$ 1,207	\$ 452	\$ 947	\$ 0.099	\$ 0.141	\$ 1,712
4/13/07	32	Actual	21,120	144.0	144.0	0.19	0.0	\$ 1,389	\$ 2,007	\$ 1,454	\$ 2,125	\$ 0.095	\$ 0.166	\$ 3,513
3/12/07	33	Actual	55,680	188.8	188.8	0.37	0.0	\$ 4,260	\$ 5,576	\$ 1,907	\$ 3,276	\$ 0.100	\$ 0.135	\$ 7,536
2/7/07	27	Estimated	56,000	185.6	185.6	0.47	0.0	\$ 4,087	\$ 5,710	\$ 1,875	\$ 3,550	\$ 0.102	\$ 0.136	\$ 7,637
1/11/07	33	split	72,160	201.6	201.6	0.46	0.0	\$ 4,115	\$ 6,345	\$ 2,036	\$ 4,318	\$ 0.088	\$ 0.117	\$ 8,433
10-Dec-06	32	split	72,160	201.6	201.6	0.46	0.0	\$ 4,115	\$ 6,345	\$ 2,036	\$ 4,318	\$ 0.088	\$ 0.117	\$ 8,433
7-Nov-06	28	Actual	48,640	195.2	195.2	0.37	0.0	\$ 0	\$ 1,222	\$ 1,972	\$ 3,246	\$ 0.025	\$ 0.067	\$ 3,246
10-Oct-06	28	Actual	9,600	115.2	115.2	0.12	0.0	\$ 0	\$ 295	\$ 1,164	\$ 1,512	\$ 0.031	\$ 0.157	\$ 1,512
12-Sep-06	32	Actual	7,680	48.0	48.0	0.21	0.0	\$ 0	\$ 202	\$ 485	\$ 739	\$ 0.026	\$ 0.096	\$ 739
11-Aug-06	29	Actual	4,800	35.2	35.2	0.20	0.0	\$ 0	\$ 49	\$ 356	\$ 458	\$ 0.010	\$ 0.095	\$ 458
13-Jul-06	30	Actual	7,360	44.8	44.8	0.23	0.0	\$ 0	\$ 194	\$ 452	\$ 699	\$ 0.026	\$ 0.095	\$ 699
13-Jun-06	34	Actual	10,560	198.4	198.4	0.07	0.0	\$ 0	\$ 249	\$ 2,004	\$ 2,305	\$ 0.024	\$ 0.218	\$ 2,305
10-May-06	30	Estimated	13,120	60.8	60.8	0.30	0.0	\$ 0	\$ 377	\$ 614	\$ 1,044	\$ 0.029	\$ 0.080	\$ 1,044
10-Apr-06	31	Estimated	26,880	144.0	144.0	0.25	0.0	\$ 0	\$ 886	\$ 1,454	\$ 2,393	\$ 0.033	\$ 0.089	\$ 2,393
10-Mar-06	28	Actual	52,160	185.6	185.6	0.42	0.0	\$ 0	\$ 1,858	\$ 1,875	\$ 3,785	\$ 0.036	\$ 0.073	\$ 3,785
10-Feb-06	29	Actual	60,160	185.6	185.6	0.47	0.0	\$ 0	\$ 2,553	\$ 1,875	\$ 4,480	\$ 0.042	\$ 0.074	\$ 4,480
12-Jan-06	34	Actual	64,320	169.6	169.6	0.46	0.0	\$ 0	\$ 534	\$ 1,713	\$ 2,299	\$ 0.008	\$ 0.036	\$ 2,299



Unit Costs Last Year
 \$ 53,580 Total
 \$ 10.10 Demand
 \$ 0.099 Energy Incom.
 \$ 0.136 Energy Blend.
 363 days
 394,720 kWh
 1,392 kW total
 116 kW average
 202 peak kW
 0.39 load factor
 46,969 btu/sf/year
 7.03 watts/sf peak

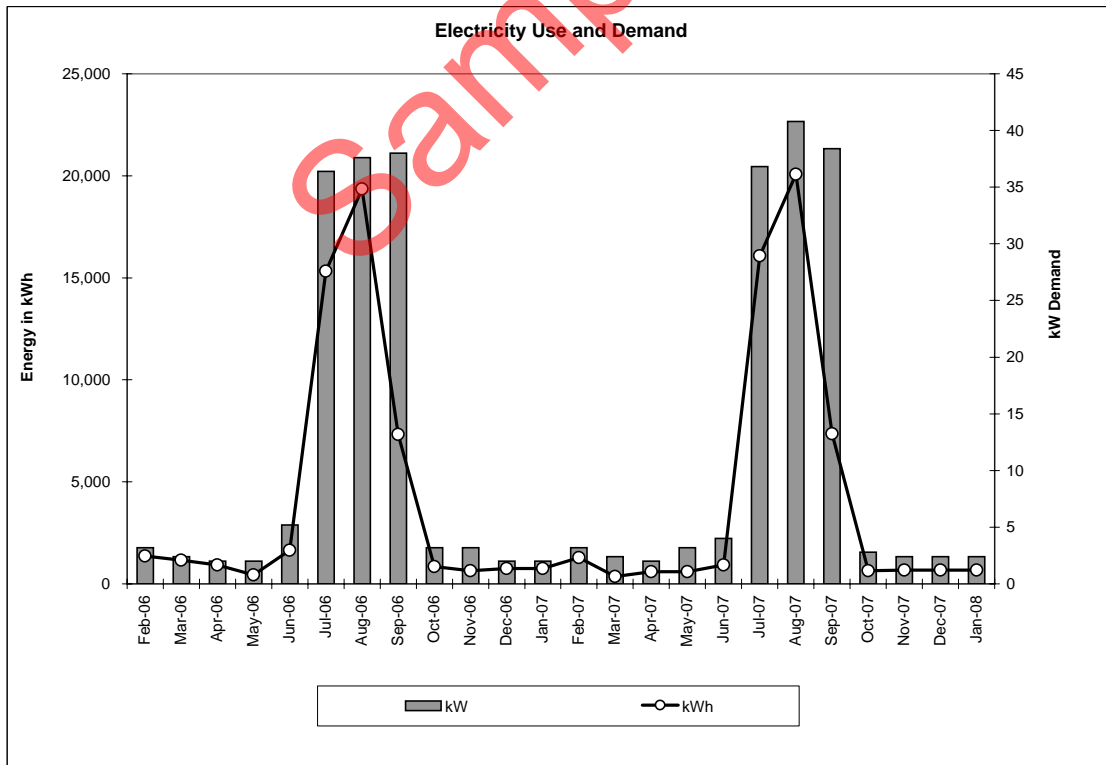
Unit Costs Prior Year
 \$ 31,393 Total
 \$ 10.10 Demand
 \$ 0.039 Energy Incom.
 \$ 0.083 Energy Blend.
 365 days
 377,440 kWh
 1,584 kW total
 132 kW average
 202 peak kW
 0.33 load factor
 44,913 btu/sf/year
 7.03 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 1,344 square feet
 Address **Brighton Pool**

Account Number **53087-32108** Rate **SC 2D** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 52.52** Demand Cost **\$ 10.10** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 52.52** **\$ 10.10**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
1/10/08	31	split	680	2.4	2.4	0.38	0.0	\$ 52	\$ 68	\$ 24	\$ 93	\$ 0.100	\$ 0.212	\$ 144
12/10/07	31	split	680	2.4	2.4	0.38	0.0	\$ 52	\$ 68	\$ 24	\$ 93	\$ 0.100	\$ 0.212	\$ 144
11/8/07	32	split	680	2.4	2.4	0.38	0.0	\$ 48	\$ 64	\$ 24	\$ 93	\$ 0.095	\$ 0.208	\$ 141
10/8/07	27	Actual	640	2.8	2.8	0.35	0.0	\$ 47	\$ 62	\$ 28	\$ 96	\$ 0.097	\$ 0.223	\$ 143
9/11/07	32	Actual	7,360	38.4	38.4	0.25	0.0	\$ 538	\$ 717	\$ 388	\$ 619	\$ 0.097	\$ 0.157	\$ 1,157
8/10/07	29	Actual	20,080	40.8	40.8	0.71	0.0	\$ 1,528	\$ 1,976	\$ 412	\$ 912	\$ 0.098	\$ 0.122	\$ 2,441
7/12/07	30	Actual	16,080	36.8	36.8	0.61	0.0	\$ 1,162	\$ 1,561	\$ 372	\$ 823	\$ 0.097	\$ 0.123	\$ 1,985
6/12/07	32	Actual	920	4.0	4.0	0.30	0.0	\$ 58	\$ 92	\$ 40	\$ 127	\$ 0.100	\$ 0.201	\$ 185
5/11/07	28	Actual	600	3.2	3.2	0.28	0.0	\$ 38	\$ 60	\$ 32	\$ 107	\$ 0.099	\$ 0.241	\$ 144
4/13/07	32	Actual	600	2.0	2.0	0.39	0.0	\$ 39	\$ 57	\$ 20	\$ 90	\$ 0.095	\$ 0.216	\$ 130
3/12/07	33	Actual	360	2.4	2.4	0.19	0.0	\$ 28	\$ 36	\$ 24	\$ 85	\$ 0.100	\$ 0.313	\$ 113
2/7/07	27	Estimated	1,280	3.2	3.2	0.62	0.0	\$ 93	\$ 131	\$ 32	\$ 122	\$ 0.102	\$ 0.168	\$ 215
11-Jan-07	33	split	760	2.0	2.0	0.49	0.0	\$ 0	\$ 23	\$ 20	\$ 96	\$ 0.030	\$ 0.126	\$ 96
10-Dec-06	32	split	760	2.0	2.0	0.49	0.0	\$ 0	\$ 23	\$ 20	\$ 96	\$ 0.030	\$ 0.126	\$ 96
7-Nov-06	28	Actual	640	3.2	3.2	0.30	0.0	\$ 0	\$ 15	\$ 32	\$ 100	\$ 0.023	\$ 0.156	\$ 100
10-Oct-06	28	Actual	840	3.2	3.2	0.39	0.0	\$ 0	\$ 29	\$ 32	\$ 114	\$ 0.035	\$ 0.136	\$ 114
12-Sep-06	32	Actual	7,320	38.0	38.0	0.25	0.0	\$ 0	\$ 197	\$ 384	\$ 634	\$ 0.027	\$ 0.087	\$ 634
11-Aug-06	29	Actual	19,360	37.6	37.6	0.74	0.0	\$ 0	\$ 267	\$ 380	\$ 699	\$ 0.014	\$ 0.036	\$ 699
13-Jul-06	30	Actual	15,320	36.4	36.4	0.58	0.0	\$ 0	\$ 445	\$ 368	\$ 865	\$ 0.029	\$ 0.056	\$ 865
13-Jun-06	34	Actual	1,640	5.2	5.2	0.39	0.0	\$ 0	\$ 54	\$ 53	\$ 159	\$ 0.033	\$ 0.097	\$ 159
10-May-06	30	Estimated	440	2.0	2.0	0.31	0.0	\$ 0	\$ 12	\$ 20	\$ 85	\$ 0.027	\$ 0.192	\$ 85
10-Apr-06	31	Estimated	920	2.0	2.0	0.62	0.0	\$ 0	\$ 31	\$ 20	\$ 103	\$ 0.033	\$ 0.112	\$ 103
10-Mar-06	28	Actual	1,160	2.4	2.4	0.72	0.0	\$ 0	\$ 39	\$ 24	\$ 116	\$ 0.034	\$ 0.100	\$ 116
10-Feb-06	29	Actual	1,360	3.2	3.2	0.61	0.0	\$ 0	\$ 54	\$ 32	\$ 139	\$ 0.040	\$ 0.102	\$ 139



Unit Costs Last Year
 \$ 6,943 Total
 \$ 10.10 Demand
 \$ 0.098 Energy Increm.
 \$ 0.139 Energy Blend.
 364 days
 49,960 kwh
 141 kW total
 12 kW average
 41 peak kW
 0.49 load factor
 126,833 btu/sf/year
 30.36 watts/sf peak

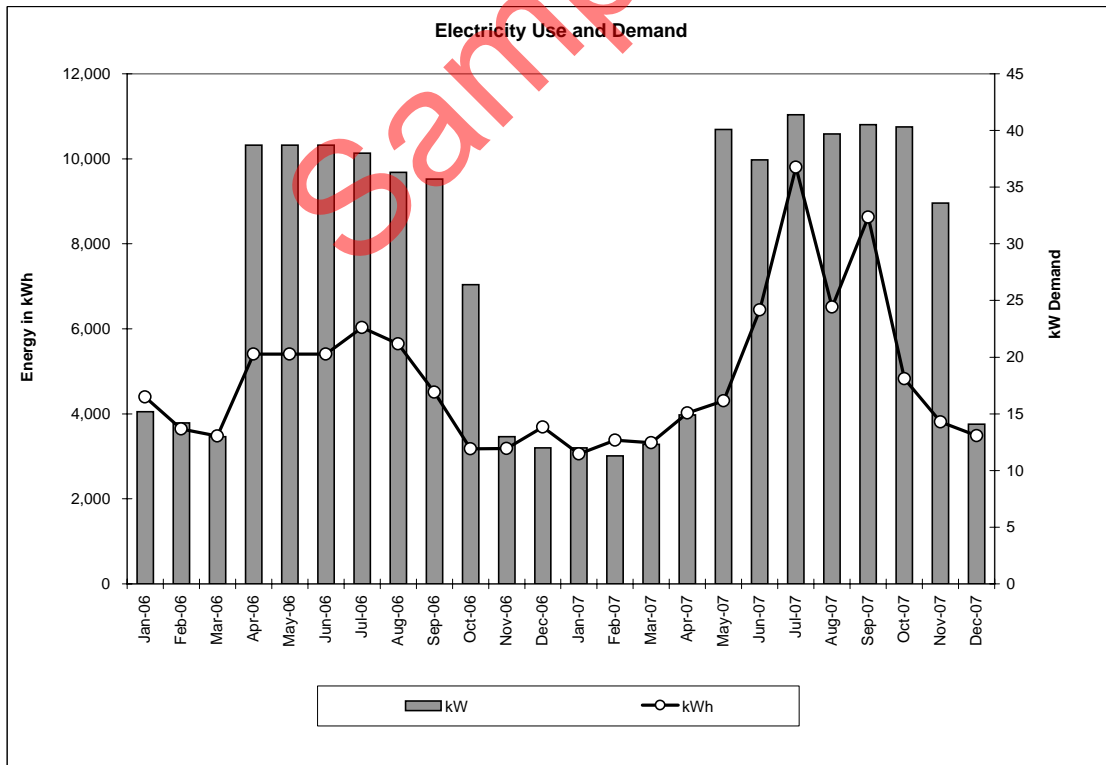
Unit Costs Prior Year
 \$ 3,205 Total
 \$ 10.10 Demand
 \$ 0.024 Energy Increm.
 \$ 0.063 Energy Blend.
 364 days
 50,520 kwh
 137 kW total
 11 kW average
 38 peak kW
 0.51 load factor
 128,255 btu/sf/year
 28.27 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 5,372 square feet
 Address **Brighton Park Maintenance Building**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
64287-32116	SC 2D	0 - 2.2 kV	percent factor 1.0000	\$ 52.52	\$ 10.10	With GRT

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
12/7/07	30	Actual	3,489	14.1	14.1	0.34	0.0	\$ 265	\$ 340	\$ 142	\$ 270	\$ 0.097	\$ 0.153	\$ 535
11/7/07	30	Actual	3,807	33.6	33.6	0.16	0.0	\$ 273	\$ 364	\$ 339	\$ 482	\$ 0.096	\$ 0.198	\$ 756
10/8/07	27	Actual	4,825	40.3	40.3	0.18	0.0	\$ 353	\$ 466	\$ 407	\$ 572	\$ 0.097	\$ 0.192	\$ 926
9/11/07	32	Actual	8,624	40.5	40.5	0.28	0.0	\$ 631	\$ 840	\$ 409	\$ 671	\$ 0.097	\$ 0.151	\$ 1,302
8/10/07	29	Actual	6,510	39.7	39.7	0.24	0.0	\$ 496	\$ 641	\$ 401	\$ 599	\$ 0.098	\$ 0.168	\$ 1,094
7/12/07	30	Actual	9,798	41.4	41.4	0.33	0.0	\$ 708	\$ 951	\$ 418	\$ 714	\$ 0.097	\$ 0.145	\$ 1,422
6/12/07	32	Actual	6,442	37.4	37.4	0.22	0.0	\$ 404	\$ 645	\$ 378	\$ 671	\$ 0.100	\$ 0.167	\$ 1,075
5/11/07	28	Actual	4,305	40.1	40.1	0.16	0.0	\$ 271	\$ 427	\$ 405	\$ 614	\$ 0.099	\$ 0.206	\$ 885
4/13/07	32	Actual	4,020	14.9	14.9	0.35	0.0	\$ 264	\$ 382	\$ 150	\$ 321	\$ 0.095	\$ 0.146	\$ 585
3/12/07	30	Actual	3,317	12.3	12.3	0.37	0.0	\$ 254	\$ 332	\$ 124	\$ 255	\$ 0.100	\$ 0.153	\$ 509
2/10/07	30	Actual	3,382	11.3	11.3	0.42	0.0	\$ 249	\$ 340	\$ 114	\$ 258	\$ 0.101	\$ 0.150	\$ 507
1/11/07	29	Actual	3,057	12.0	12.0	0.37	0.0	\$ 147	\$ 262	\$ 121	\$ 289	\$ 0.086	\$ 0.143	\$ 436
13-Dec-06	36	Actual	3,686	12.0	12.0	0.36	0.0	\$ 0	\$ 123	\$ 121	\$ 297	\$ 0.033	\$ 0.080	\$ 297
7-Nov-06	28	Actual	3,188	13.0	13.0	0.36	0.0	\$ 0	\$ 79	\$ 131	\$ 263	\$ 0.025	\$ 0.082	\$ 263
10-Oct-06	28	Actual	3,179	26.4	26.4	0.18	0.0	\$ 0	\$ 105	\$ 267	\$ 424	\$ 0.033	\$ 0.133	\$ 424
12-Sep-06	32	Actual	4,508	35.7	35.7	0.16	0.0	\$ 0	\$ 113	\$ 361	\$ 527	\$ 0.025	\$ 0.117	\$ 527
11-Aug-06	29	Actual	5,643	36.3	36.3	0.22	0.0	\$ 0	\$ 61	\$ 367	\$ 481	\$ 0.011	\$ 0.085	\$ 481
13-Jul-06	30	Actual	6,033	38.0	38.0	0.22	0.0	\$ 0	\$ 157	\$ 384	\$ 593	\$ 0.026	\$ 0.098	\$ 593
13-Jun-06	31	split	5,407	38.7	38.7	0.18	0.0	\$ 0	\$ 158	\$ 391	\$ 601	\$ 0.029	\$ 0.111	\$ 601
13-May-06	31	split	5,407	38.7	38.7	0.18	0.0	\$ 0	\$ 158	\$ 391	\$ 601	\$ 0.029	\$ 0.111	\$ 601
10-Apr-06	33	split	5,407	38.7	38.7	0.18	0.0	\$ 0	\$ 158	\$ 391	\$ 601	\$ 0.029	\$ 0.111	\$ 601
10-Mar-06	28	Actual	3,476	13.0	13.0	0.40	0.0	\$ 0	\$ 118	\$ 131	\$ 302	\$ 0.034	\$ 0.087	\$ 302
10-Feb-06	29	Actual	3,642	14.2	14.2	0.37	0.0	\$ 0	\$ 144	\$ 143	\$ 340	\$ 0.040	\$ 0.093	\$ 340
12-Jan-06	34	Actual	4,397	15.2	15.2	0.35	0.0	\$ 0	\$ 25	\$ 154	\$ 231	\$ 0.006	\$ 0.053	\$ 231



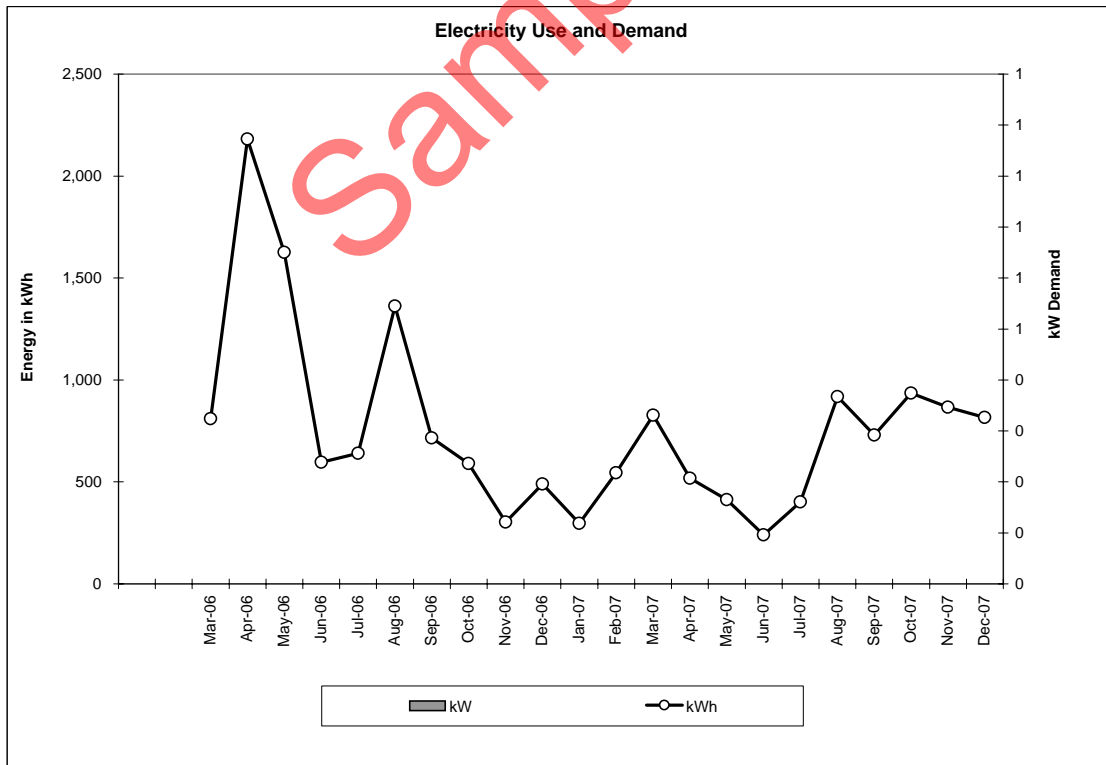
Unit Costs	Last Year
\$ 10,030	Total
\$ 10.10	Demand
\$ 0.097	Energy Incr.
\$ 0.163	Energy Blend.
359	days
61,576	kwh
338	kW total
28	kW average
41	peak kW
0.25	load factor
39,110	btu/sf/year
7.71	watts/sf peak
Unit Costs	Prior Year
\$ 5,260	Total
\$ 10.10	Demand
\$ 0.026	Energy Incr.
\$ 0.097	Energy Blend.
369	days
53,974	kwh
320	kW total
27	kW average
39	peak kW
0.23	load factor
34,281	btu/sf/year
7.20	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 3,375 square feet
 Address **Fire Training Tower**

Account Number **7275-46107** Rate **SC 2ND** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 21.02** Demand Cost **\$ 0.00** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 21.02** **\$ 0.00**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/6/07	31	Actual	816	0.0	0.0	0.00	0.0	\$ 61	\$ 115	\$ 0	\$ 75	\$ 0.141	\$ 0.167	\$ 136
11/5/07	31	Actual	867	0.0	0.0	0.00	0.0	\$ 62	\$ 121	\$ 0	\$ 80	\$ 0.140	\$ 0.164	\$ 142
10/5/07	29	Actual	935	0.0	0.0	0.00	0.0	\$ 68	\$ 130	\$ 0	\$ 83	\$ 0.140	\$ 0.162	\$ 151
9/6/07	30	Actual	729	0.0	0.0	0.00	0.0	\$ 54	\$ 103	\$ 0	\$ 69	\$ 0.141	\$ 0.170	\$ 124
8/7/07	28	Actual	918	0.0	0.0	0.00	0.0	\$ 68	\$ 129	\$ 0	\$ 81	\$ 0.140	\$ 0.163	\$ 150
7/10/07	32	Actual	401	0.0	0.0	0.00	0.0	\$ 29	\$ 56	\$ 0	\$ 48	\$ 0.140	\$ 0.192	\$ 77
6/8/07	31	Actual	240	0.0	0.0	0.00	0.0	\$ 15	\$ 35	\$ 0	\$ 41	\$ 0.146	\$ 0.234	\$ 56
5/8/07	28	Actual	412	0.0	0.0	0.00	0.0	\$ 26	\$ 60	\$ 0	\$ 55	\$ 0.146	\$ 0.197	\$ 81
4/10/07	33	Actual	518	0.0	0.0	0.00	0.0	\$ 34	\$ 73	\$ 0	\$ 60	\$ 0.141	\$ 0.182	\$ 94
3/8/07	28	Actual	827	0.0	0.0	0.00	0.0	\$ 63	\$ 119	\$ 0	\$ 77	\$ 0.143	\$ 0.169	\$ 140
2/8/07	30	Actual	544	0.0	0.0	0.00	0.0	\$ 39	\$ 79	\$ 0	\$ 61	\$ 0.145	\$ 0.184	\$ 100
1/9/07	32	Actual	296	0.0	0.0	0.00	0.0	\$ 14	\$ 39	\$ 0	\$ 46	\$ 0.133	\$ 0.204	\$ 60
8-Dec-06	32	Actual	489	0.0	0.0	0.00	0.0	\$ 0	\$ 33	\$ 0	\$ 54	\$ 0.067	\$ 0.110	\$ 54
6-Nov-06	27	Actual	303	0.0	0.0	0.00	0.0	\$ 0	\$ 21	\$ 0	\$ 42	\$ 0.071	\$ 0.140	\$ 42
10-Oct-06	29	Actual	590	0.0	0.0	0.00	0.0	\$ 0	\$ 49	\$ 0	\$ 70	\$ 0.082	\$ 0.118	\$ 70
11-Sep-06	34	Actual	716	0.0	0.0	0.00	0.0	\$ 0	\$ 53	\$ 0	\$ 74	\$ 0.073	\$ 0.103	\$ 74
8-Aug-06	28	Actual	1,362	0.0	0.0	0.00	0.0	\$ 0	\$ 78	\$ 0	\$ 99	\$ 0.057	\$ 0.072	\$ 99
11-Jul-06	32	Actual	641	0.0	0.0	0.00	0.0	\$ 0	\$ 42	\$ 0	\$ 63	\$ 0.065	\$ 0.098	\$ 63
9-Jun-06	30	Actual	596	0.0	0.0	0.00	0.0	\$ 0	\$ 47	\$ 0	\$ 68	\$ 0.079	\$ 0.114	\$ 68
10-May-06	32	Actual	1,626	0.0	0.0	0.00	0.0	\$ 0	\$ 120	\$ 0	\$ 141	\$ 0.074	\$ 0.086	\$ 141
8-Apr-06	30	Actual	2,182	0.0	0.0	0.00	0.0	\$ 0	\$ 176	\$ 0	\$ 197	\$ 0.081	\$ 0.090	\$ 197
9-Mar-06	29	Actual	810	0.0	0.0	0.00	0.0	\$ 0	\$ 63	\$ 0	\$ 84	\$ 0.078	\$ 0.104	\$ 84



Unit Costs Last Year
 \$ 1,311 Total
 #DIV/0! Demand
 \$ 0.141 Energy Increm.
 \$ 0.175 Energy Blend.
 363 days
 7,503 kwh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 7,585 btu/sf/year
 - watts/sf peak

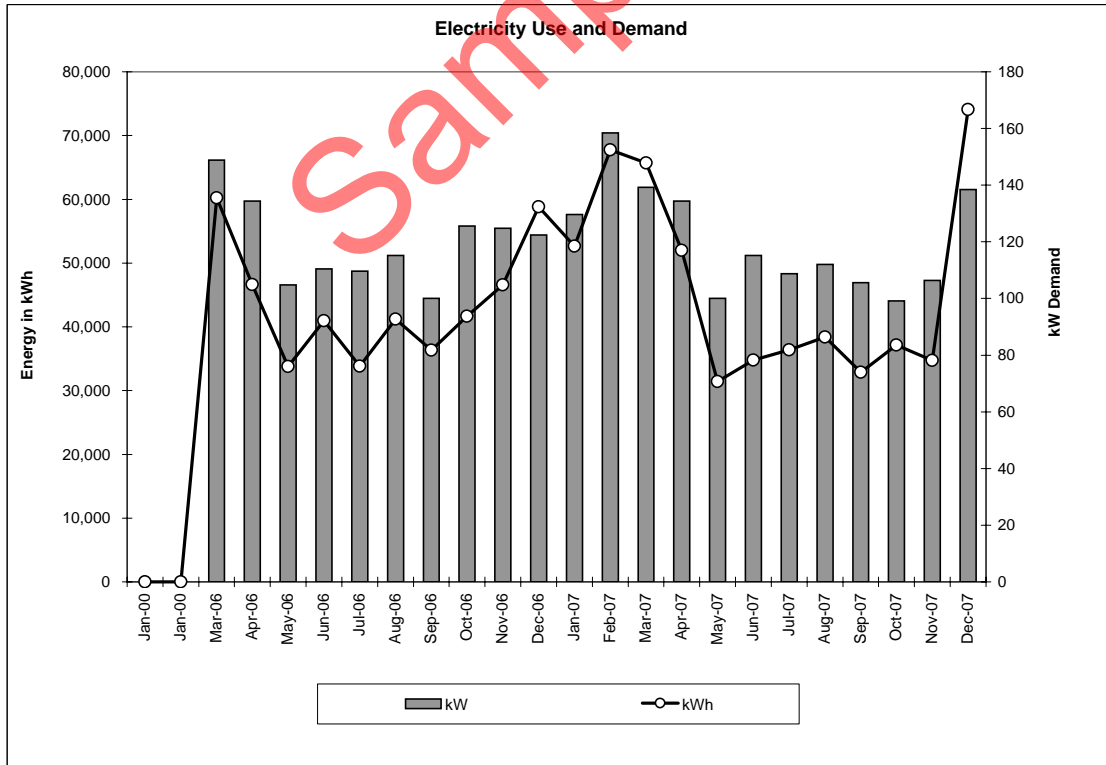
Unit Costs Prior Year
 \$ 891 Total
 #DIV/0! Demand
 \$ 0.073 Energy Increm.
 \$ 0.096 Energy Blend.
 303 days
 9,315 kwh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 9,417 btu/sf/year
 - watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 43,612 square feet
 Address **Highway Department**

Account Number **28387-60108** Rate **SC 3 Sec** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 260.15** Demand Cost **\$ 16.65** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 260.15** **\$ 16.65**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/26/07	35	Actual	74,080	138.4	138.4	0.64	0.0	\$ 6,100	\$ 7,119	\$ 2,304	\$ 3,583	\$ 0.096	\$ 0.131	\$ 9,684
11/21/07	28	Actual	34,720	106.4	106.4	0.49	0.0	\$ 2,516	\$ 3,032	\$ 1,772	\$ 2,548	\$ 0.087	\$ 0.146	\$ 5,064
10/24/07	33	Actual	37,120	99.2	99.2	0.47	0.0	\$ 2,765	\$ 3,259	\$ 1,652	\$ 2,405	\$ 0.088	\$ 0.139	\$ 5,171
9/21/07	29	Actual	32,880	105.6	105.6	0.45	0.0	\$ 2,317	\$ 2,782	\$ 1,758	\$ 2,483	\$ 0.085	\$ 0.146	\$ 4,800
8/23/07	29	Actual	38,400	112.0	112.0	0.49	0.0	\$ 2,918	\$ 3,481	\$ 1,865	\$ 2,688	\$ 0.091	\$ 0.146	\$ 5,606
7/25/07	30	Actual	36,400	108.8	108.8	0.46	0.0	\$ 2,481	\$ 2,952	\$ 1,812	\$ 2,543	\$ 0.081	\$ 0.138	\$ 5,024
6/25/07	32	Actual	34,800	115.2	115.2	0.39	0.0	\$ 2,358	\$ 2,923	\$ 1,918	\$ 2,743	\$ 0.084	\$ 0.147	\$ 5,101
5/24/07	29	Actual	31,440	100.0	100.0	0.45	0.0	\$ 1,815	\$ 2,325	\$ 1,665	\$ 2,435	\$ 0.074	\$ 0.135	\$ 4,250
4/25/07	30	Actual	52,000	134.4	134.4	0.54	0.0	\$ 3,345	\$ 4,128	\$ 2,238	\$ 3,281	\$ 0.079	\$ 0.127	\$ 6,626
3/26/07	31	Actual	65,680	139.2	139.2	0.63	0.0	\$ 4,639	\$ 5,575	\$ 2,318	\$ 3,514	\$ 0.085	\$ 0.124	\$ 8,153
2/23/07	30	Actual	67,760	158.4	158.4	0.59	0.0	\$ 5,471	\$ 6,458	\$ 2,637	\$ 3,884	\$ 0.095	\$ 0.138	\$ 9,356
1/24/07	29	Actual	52,640	129.6	129.6	0.58	0.0	\$ 2,748	\$ 3,382	\$ 2,158	\$ 3,052	\$ 0.064	\$ 0.110	\$ 5,800
26-Dec-06	34	Actual	58,800	122.4	122.4	0.59	0.0	\$ 0	\$ 615	\$ 2,038	\$ 2,913	\$ 0.010	\$ 0.050	\$ 2,913
22-Nov-06	29	Actual	46,560	124.8	124.8	0.54	0.0	\$ 0	\$ 500	\$ 2,078	\$ 2,838	\$ 0.011	\$ 0.061	\$ 2,838
24-Oct-06	29	Actual	41,680	125.6	125.6	0.48	0.0	\$ 0	\$ 541	\$ 2,091	\$ 2,892	\$ 0.013	\$ 0.069	\$ 2,892
25-Sep-06	32	Actual	36,320	100.0	100.0	0.47	0.0	\$ 0	\$ 477	\$ 1,665	\$ 2,402	\$ 0.013	\$ 0.066	\$ 2,402
24-Aug-06	30	Actual	41,200	115.2	115.2	0.50	0.0	\$ 0	\$ 509	\$ 1,918	\$ 2,688	\$ 0.012	\$ 0.065	\$ 2,688
25-Jul-06	26	Actual	33,840	109.6	109.6	0.49	0.0	\$ 0	\$ 437	\$ 1,825	\$ 2,522	\$ 0.013	\$ 0.075	\$ 2,522
29-Jun-06	34	Actual	40,960	110.4	110.4	0.45	0.0	\$ 0	\$ 535	\$ 1,838	\$ 2,633	\$ 0.013	\$ 0.064	\$ 2,633
26-May-06	30	Actual	33,760	104.8	104.8	0.45	0.0	\$ 0	\$ 319	\$ 1,745	\$ 2,324	\$ 0.009	\$ 0.069	\$ 2,324
26-Apr-06	30	Actual	46,640	134.4	134.4	0.48	0.0	\$ 0	\$ 596	\$ 2,238	\$ 3,094	\$ 0.013	\$ 0.066	\$ 3,094
27-Mar-06	31	Actual	60,240	148.8	148.8	0.54	0.0	\$ 0	\$ 587	\$ 2,478	\$ 3,324	\$ 0.010	\$ 0.055	\$ 3,324
0-Jan-00	0	0	0	0.0	0.0	0.00	0.0	\$ 0	(\$ 260)	\$ 0	\$ 0	#DIV/0!	#DIV/0!	\$ 0
0-Jan-00	0	0	0	0.0	0.0	0.00	0.0	\$ 0	(\$ 260)	\$ 0	\$ 0	#DIV/0!	#DIV/0!	\$ 0



Unit Costs Last Year
 \$ 74,633 Total
 \$ 16.65 Demand
 \$ 0.085 Energy Increm.
 \$ 0.134 Energy Blend.
 365 days
 557,920 kWh
 1,447 kW total
 121 kW average
 158 peak kW
 0.54 load factor
 43,649 btu/sf/year
 3.63 watts/sf peak

Unit Costs Prior Year
 \$ 27,631 Total
 \$ 16.65 Demand
 \$ 0.010 Energy Increm.
 \$ 0.063 Energy Blend.
 305 days
 440,000 kWh
 1,196 kW total
 100 kW average
 149 peak kW
 0.51 load factor
 34,424 btu/sf/year
 3.41 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 3,200 square feet
 Address **Highway Quonset Hut**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
8187-60100	SC 2ND	0 - 2.2 kV	percent factor 0.0000% 1.0000	\$ 21.02 \$ 21.02	\$ 0.00 \$ 0.00	With GRT

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
1/24/08	28	Actual	1,720	0.0	0.0	0.00	0.0	\$ 170	\$ 301	\$ 0	\$ 152	\$ 0.175	\$ 0.187	\$ 322
12/27/07	36	Actual	2,160	0.0	0.0	0.00	0.0	\$ 143	\$ 269	\$ 0	\$ 147	\$ 0.125	\$ 0.134	\$ 290
11/21/07	28	Actual	1,600	0.0	0.0	0.00	0.0	\$ 116	\$ 226	\$ 0	\$ 131	\$ 0.141	\$ 0.154	\$ 247
10/24/07	33	Actual	1,960	0.0	0.0	0.00	0.0	\$ 111	\$ 239	\$ 0	\$ 149	\$ 0.122	\$ 0.133	\$ 261
9/21/07	29	Actual	840	0.0	0.0	0.00	0.0	\$ 73	\$ 131	\$ 0	\$ 79	\$ 0.156	\$ 0.181	\$ 152
8/23/07	29	Actual	720	0.0	0.0	0.00	0.0	\$ 50	\$ 96	\$ 0	\$ 67	\$ 0.134	\$ 0.163	\$ 117
7/25/07	30	Actual	840	0.0	0.0	0.00	0.0	\$ 58	\$ 117	\$ 0	\$ 80	\$ 0.139	\$ 0.164	\$ 138
6/25/07	32	Actual	720	0.0	0.0	0.00	0.0	\$ 56	\$ 112	\$ 0	\$ 77	\$ 0.156	\$ 0.185	\$ 133
5/24/07	29	Actual	1,240	0.0	0.0	0.00	0.0	\$ 60	\$ 168	\$ 0	\$ 129	\$ 0.135	\$ 0.152	\$ 189
4/25/07	30	Actual	1,720	0.0	0.0	0.00	0.0	\$ 148	\$ 278	\$ 0	\$ 151	\$ 0.162	\$ 0.174	\$ 299
3/26/07	31	Actual	1,640	0.0	0.0	0.00	0.0	\$ 116	\$ 237	\$ 0	\$ 141	\$ 0.144	\$ 0.157	\$ 258
2/23/07	30	Actual	1,760	0.0	0.0	0.00	0.0	\$ 177	\$ 290	\$ 0	\$ 134	\$ 0.165	\$ 0.177	\$ 311
24-Jan-07	29	Actual	3,240	0.0	0.0	0.00	0.0	\$ 0	\$ 267	\$ 0	\$ 288	\$ 0.082	\$ 0.089	\$ 288
26-Dec-06	34	Actual	3,440	0.0	0.0	0.00	0.0	\$ 0	\$ 256	\$ 0	\$ 277	\$ 0.074	\$ 0.080	\$ 277
22-Nov-06	29	Actual	1,800	0.0	0.0	0.00	0.0	\$ 0	\$ 113	\$ 0	\$ 134	\$ 0.063	\$ 0.075	\$ 134
24-Oct-06	29	Actual	1,880	0.0	0.0	0.00	0.0	\$ 0	\$ 155	\$ 0	\$ 176	\$ 0.082	\$ 0.093	\$ 176
25-Sep-06	32	Actual	1,160	0.0	0.0	0.00	0.0	\$ 0	\$ 92	\$ 0	\$ 113	\$ 0.079	\$ 0.097	\$ 113
24-Aug-06	30	Actual	800	0.0	0.0	0.00	0.0	\$ 0	\$ 47	\$ 0	\$ 69	\$ 0.059	\$ 0.086	\$ 69
25-Jul-06	26	Actual	800	0.0	0.0	0.00	0.0	\$ 0	\$ 51	\$ 0	\$ 72	\$ 0.063	\$ 0.090	\$ 72
29-Jun-06	34	Actual	1,280	0.0	0.0	0.00	0.0	\$ 0	\$ 94	\$ 0	\$ 115	\$ 0.074	\$ 0.090	\$ 115
26-May-06	30	Actual	1,280	0.0	0.0	0.00	0.0	\$ 0	\$ 94	\$ 0	\$ 115	\$ 0.074	\$ 0.090	\$ 115
26-Apr-06	30	Actual	1,360	0.0	0.0	0.00	0.0	\$ 0	\$ 114	\$ 0	\$ 135	\$ 0.084	\$ 0.099	\$ 135



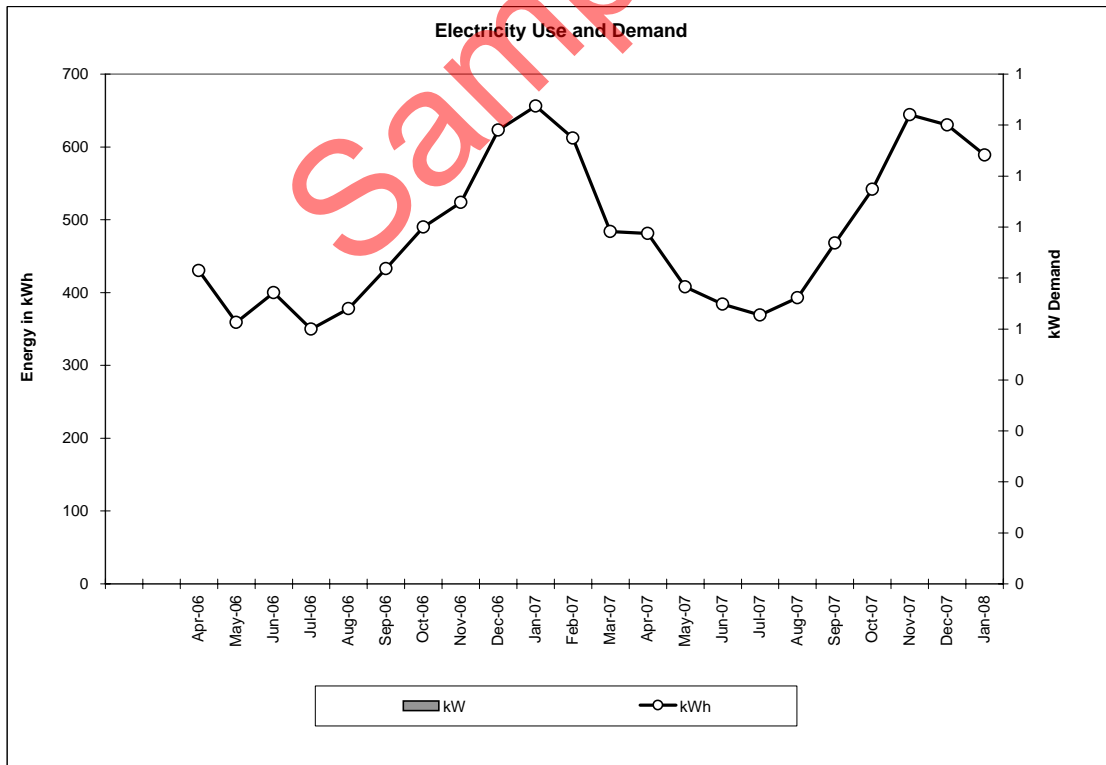
Unit Costs	Last Year
\$ 2,717	Total
#DIV/0!	Demand
\$ 0.146	Energy Incr.
\$ 0.161	Energy Blend.
365	days
16,920	kwh
0	kW total
0	kW average
0	peak kW
#DIV/0!	load factor
18,041	btu/sf/year
-	watts/sf peak
Unit Costs	Prior Year
\$ 1,493	Total
#DIV/0!	Demand
\$ 0.075	Energy Incr.
\$ 0.088	Energy Blend.
303	days
17,040	kwh
0	kW total
0	kW average
0	peak kW
#DIV/0!	load factor
18,169	btu/sf/year
-	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 1,200 square feet
 Address **Highway Salt Shed**

Account Number **86387-59107** Rate **SC 2ND** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 21.02** Demand Cost **\$ 0.00** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 21.02** **\$ 0.00**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
1/24/08	28	Actual	589	0.0	0.0	0.00	0.0	\$ 34	\$ 79	\$ 0	\$ 66	\$ 0.134	\$ 0.169	\$ 100
12/27/07	31	Actual	630	0.0	0.0	0.00	0.0	\$ 50	\$ 85	\$ 0	\$ 57	\$ 0.135	\$ 0.169	\$ 106
11/26/07	34	Actual	644	0.0	0.0	0.00	0.0	\$ 34	\$ 79	\$ 0	\$ 66	\$ 0.123	\$ 0.156	\$ 100
10/23/07	31	Actual	542	0.0	0.0	0.00	0.0	\$ 31	\$ 67	\$ 0	\$ 56	\$ 0.123	\$ 0.162	\$ 88
9/22/07	30	Actual	468	0.0	0.0	0.00	0.0	\$ 24	\$ 57	\$ 0	\$ 54	\$ 0.122	\$ 0.167	\$ 78
8/23/07	29	Actual	393	0.0	0.0	0.00	0.0	\$ 27	\$ 52	\$ 0	\$ 46	\$ 0.132	\$ 0.185	\$ 73
7/25/07	30	Actual	369	0.0	0.0	0.00	0.0	\$ 26	\$ 51	\$ 0	\$ 47	\$ 0.139	\$ 0.196	\$ 72
6/25/07	31	Actual	384	0.0	0.0	0.00	0.0	\$ 31	\$ 60	\$ 0	\$ 51	\$ 0.157	\$ 0.212	\$ 81
5/25/07	30	Actual	408	0.0	0.0	0.00	0.0	\$ 34	\$ 69	\$ 0	\$ 56	\$ 0.169	\$ 0.220	\$ 90
4/25/07	30	Actual	481	0.0	0.0	0.00	0.0	\$ 41	\$ 78	\$ 0	\$ 57	\$ 0.161	\$ 0.205	\$ 99
3/26/07	31	Actual	484	0.0	0.0	0.00	0.0	\$ 46	\$ 82	\$ 0	\$ 57	\$ 0.168	\$ 0.212	\$ 103
2/23/07	30	Actual	612	0.0	0.0	0.00	0.0	\$ 53	\$ 93	\$ 0	\$ 60	\$ 0.152	\$ 0.186	\$ 114
24-Jan-07	33	Actual	656	0.0	0.0	0.00	0.0	\$ 0	\$ 54	\$ 0	\$ 75	\$ 0.082	\$ 0.114	\$ 75
22-Dec-06	30	Actual	623	0.0	0.0	0.00	0.0	\$ 0	\$ 46	\$ 0	\$ 67	\$ 0.073	\$ 0.107	\$ 67
22-Nov-06	29	Actual	524	0.0	0.0	0.00	0.0	\$ 0	\$ 33	\$ 0	\$ 54	\$ 0.063	\$ 0.103	\$ 54
24-Oct-06	29	Actual	490	0.0	0.0	0.00	0.0	\$ 0	\$ 40	\$ 0	\$ 61	\$ 0.082	\$ 0.125	\$ 61
25-Sep-06	31	Actual	433	0.0	0.0	0.00	0.0	\$ 0	\$ 34	\$ 0	\$ 55	\$ 0.079	\$ 0.128	\$ 55
25-Aug-06	30	Actual	378	0.0	0.0	0.00	0.0	\$ 0	\$ 23	\$ 0	\$ 44	\$ 0.060	\$ 0.115	\$ 44
26-Jul-06	30	Actual	350	0.0	0.0	0.00	0.0	\$ 0	\$ 19	\$ 0	\$ 40	\$ 0.054	\$ 0.114	\$ 40
26-Jun-06	33	Actual	400	0.0	0.0	0.00	0.0	\$ 0	\$ 30	\$ 0	\$ 51	\$ 0.074	\$ 0.127	\$ 51
24-May-06	28	Actual	359	0.0	0.0	0.00	0.0	\$ 0	\$ 26	\$ 0	\$ 47	\$ 0.073	\$ 0.132	\$ 47
26-Apr-06	30	Actual	430	0.0	0.0	0.00	0.0	\$ 0	\$ 36	\$ 0	\$ 57	\$ 0.083	\$ 0.132	\$ 57



Unit Costs Last Year
 \$ 1,103 Total
 #DIV/0! Demand
 \$ 0.142 Energy Incr.
 \$ 0.184 Energy Blend.
 365 days
 6,004 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 17,071 btu/sf/year
 - watts/sf peak

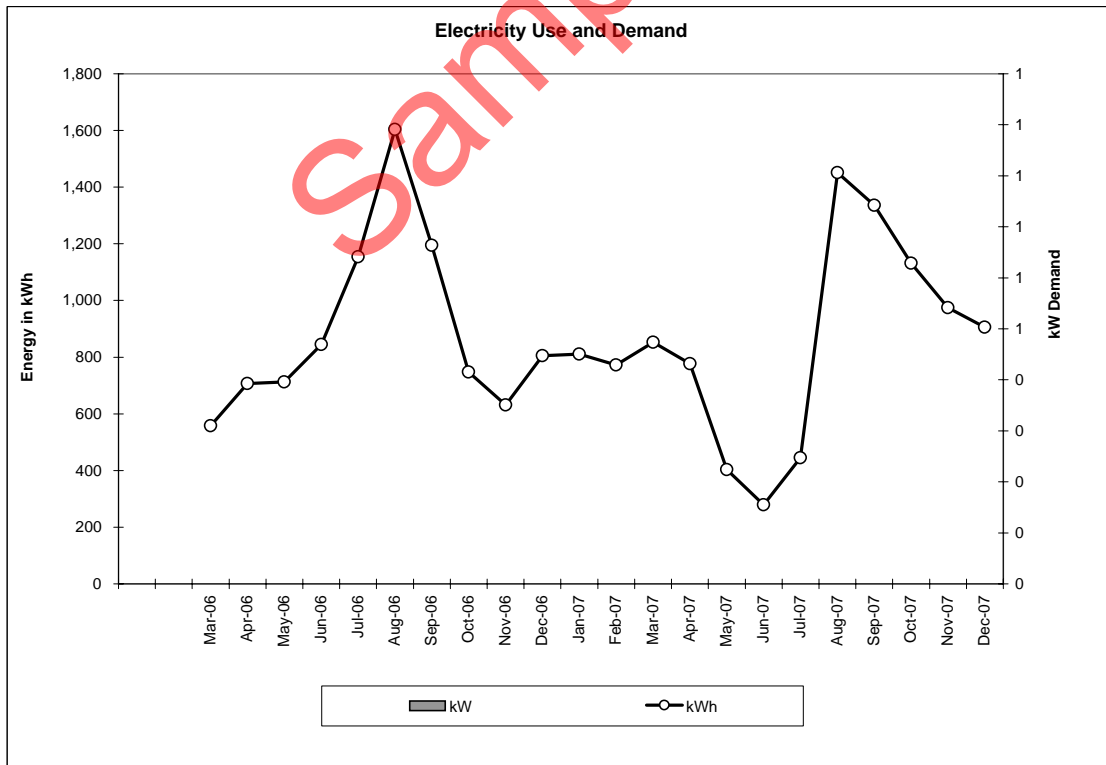
Unit Costs Prior Year
 \$ 550 Total
 #DIV/0! Demand
 \$ 0.073 Energy Incr.
 \$ 0.118 Energy Blend.
 303 days
 4,643 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 13,202 btu/sf/year
 - watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 1,500 square feet
 Address **Historical Society**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
95675-45107	SC 2ND	0 - 2.2 kV	percent factor 1.0000	\$ 52.52	\$ 10.10	With GRT
				\$ 52.52	\$ 10.10	

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/6/07	31	Actual	906	0.0	0.0	0.00	0.0	\$ 68	\$ 96	\$ 0	\$ 81	\$ 0.106	\$ 0.164	\$ 149
11/5/07	31	Actual	975	0.0	0.0	0.00	0.0	\$ 69	\$ 105	\$ 0	\$ 88	\$ 0.107	\$ 0.161	\$ 157
10/5/07	29	Actual	1,131	0.0	0.0	0.00	0.0	\$ 82	\$ 126	\$ 0	\$ 97	\$ 0.112	\$ 0.158	\$ 179
9/6/07	29	Actual	1,336	0.0	0.0	0.00	0.0	\$ 99	\$ 156	\$ 0	\$ 110	\$ 0.117	\$ 0.156	\$ 208
8/8/07	29	Actual	1,451	0.0	0.0	0.00	0.0	\$ 109	\$ 173	\$ 0	\$ 116	\$ 0.119	\$ 0.155	\$ 226
7/10/07	29	Actual	445	0.0	0.0	0.00	0.0	\$ 32	\$ 31	\$ 0	\$ 51	\$ 0.069	\$ 0.188	\$ 83
6/11/07	34	Actual	279	0.0	0.0	0.00	0.0	\$ 17	\$ 9	\$ 0	\$ 45	\$ 0.033	\$ 0.222	\$ 62
5/8/07	28	Actual	403	0.0	0.0	0.00	0.0	\$ 26	\$ 27	\$ 0	\$ 54	\$ 0.068	\$ 0.198	\$ 80
4/10/07	33	Actual	777	0.0	0.0	0.00	0.0	\$ 51	\$ 78	\$ 0	\$ 79	\$ 0.101	\$ 0.168	\$ 131
3/8/07	28	Actual	853	0.0	0.0	0.00	0.0	\$ 65	\$ 91	\$ 0	\$ 79	\$ 0.106	\$ 0.168	\$ 143
2/8/07	30	Actual	772	0.0	0.0	0.00	0.0	\$ 55	\$ 81	\$ 0	\$ 78	\$ 0.104	\$ 0.172	\$ 133
1/9/07	32	Actual	811	0.0	0.0	0.00	0.0	\$ 40	\$ 77	\$ 0	\$ 89	\$ 0.094	\$ 0.159	\$ 129
8-Dec-06	31	Actual	805	0.0	0.0	0.00	0.0	\$ 0	\$ 23	\$ 0	\$ 75	\$ 0.028	\$ 0.094	\$ 75
7-Nov-06	28	Actual	631	0.0	0.0	0.00	0.0	\$ 0	\$ 13	\$ 0	\$ 65	\$ 0.020	\$ 0.103	\$ 65
10-Oct-06	29	Actual	748	0.0	0.0	0.00	0.0	\$ 0	\$ 30	\$ 0	\$ 83	\$ 0.040	\$ 0.110	\$ 83
11-Sep-06	33	Actual	1,195	0.0	0.0	0.00	0.0	\$ 0	\$ 56	\$ 0	\$ 109	\$ 0.047	\$ 0.091	\$ 109
9-Aug-06	29	Actual	1,603	0.0	0.0	0.00	0.0	\$ 0	\$ 59	\$ 0	\$ 112	\$ 0.037	\$ 0.070	\$ 112
11-Jul-06	32	Actual	1,154	0.0	0.0	0.00	0.0	\$ 0	\$ 48	\$ 0	\$ 101	\$ 0.042	\$ 0.087	\$ 101
9-Jun-06	30	Actual	845	0.0	0.0	0.00	0.0	\$ 0	\$ 35	\$ 0	\$ 87	\$ 0.041	\$ 0.103	\$ 87
10-May-06	29	Actual	712	0.0	0.0	0.00	0.0	\$ 0	\$ 21	\$ 0	\$ 73	\$ 0.029	\$ 0.103	\$ 73
11-Apr-06	32	Actual	707	0.0	0.0	0.00	0.0	\$ 0	\$ 24	\$ 0	\$ 77	\$ 0.034	\$ 0.108	\$ 77
10-Mar-06	30	Actual	558	0.0	0.0	0.00	0.0	\$ 0	\$ 12	\$ 0	\$ 64	\$ 0.021	\$ 0.115	\$ 64



Unit Costs	Last Year
\$ 1,680	Total
#DIV/0!	Demand
\$ 0.103	Energy Increm.
\$ 0.166	Energy Blend.
363	days
10,139	kwh
0	kW total
0	kW average
0	peak kW
#DIV/0!	load factor
23,063	btu/sf/year
-	watts/sf peak
Unit Costs	Prior Year
\$ 846	Total
#DIV/0!	Demand
\$ 0.036	Energy Increm.
\$ 0.094	Energy Blend.
303	days
8,958	kwh
0	kW total
0	kW average
0	peak kW
#DIV/0!	load factor
20,376	btu/sf/year
-	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

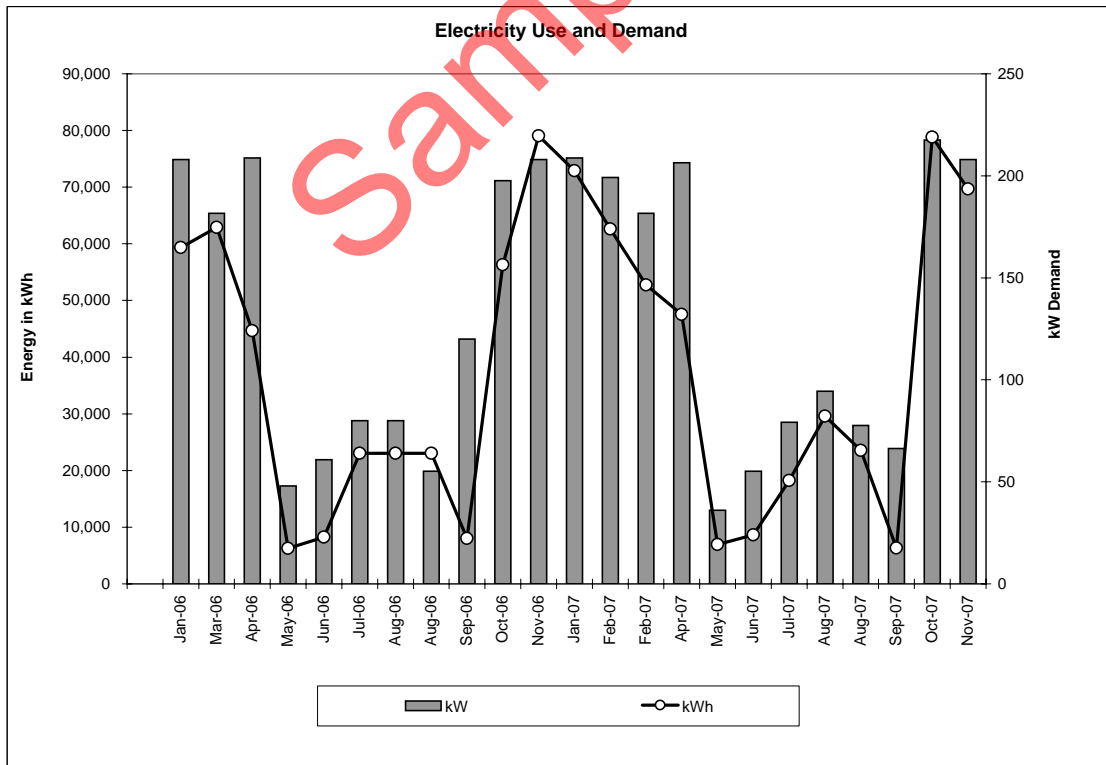
Site **Town of Tonawanda**
 Address **Lincoln Ice Rink and Pool**

32,464 square feet

Account Number **78412-73100**
 Rate **SC 2D**
 Delivery Voltage **0 - 2.2 kV**

Tax Rate **0.0000%**
 Customer Charge **\$ 52.52**
 Demand Cost **\$ 10.10**
 Tariff Rate **With GRT**
 percent factor **1.0000**
\$ 52.52
\$ 10.10

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
11/29/07	30	Actual	69,680	208.0	208.0	0.47	0.0	\$ 5,121	\$ 6,931	\$ 2,101	\$ 3,963	\$ 0.099	\$ 0.130	\$ 9,084
10/30/07	32	Actual	78,800	217.6	217.6	0.47	0.0	\$ 5,953	\$ 7,658	\$ 2,198	\$ 3,956	\$ 0.097	\$ 0.126	\$ 9,908
9/28/07	29	Actual	6,320	66.4	66.4	0.14	0.0	\$ 452	\$ 610	\$ 671	\$ 880	\$ 0.096	\$ 0.211	\$ 1,333
8/30/07	29	Actual	23,520	77.6	77.6	0.44	0.0	\$ 1,803	\$ 2,255	\$ 784	\$ 1,288	\$ 0.096	\$ 0.131	\$ 3,091
8/1/07	30	Actual	29,600	94.4	94.4	0.44	0.0	\$ 2,111	\$ 2,888	\$ 953	\$ 1,784	\$ 0.098	\$ 0.132	\$ 3,894
7/2/07	31	Actual	18,240	79.2	79.2	0.31	0.0	\$ 1,280	\$ 1,770	\$ 800	\$ 1,343	\$ 0.097	\$ 0.144	\$ 2,623
6/1/07	31	Actual	8,640	55.2	55.2	0.21	0.0	\$ 527	\$ 866	\$ 558	\$ 949	\$ 0.100	\$ 0.171	\$ 1,476
5/1/07	29	Actual	6,960	36.0	36.0	0.28	0.0	\$ 456	\$ 693	\$ 364	\$ 653	\$ 0.100	\$ 0.159	\$ 1,109
4/2/07	34	Actual	47,520	206.4	206.4	0.28	0.0	\$ 3,316	\$ 4,525	\$ 2,085	\$ 3,346	\$ 0.095	\$ 0.140	\$ 6,663
2/27/07	26	Estimated	52,720	181.6	181.6	0.47	0.0	\$ 4,268	\$ 5,330	\$ 1,834	\$ 2,948	\$ 0.101	\$ 0.137	\$ 7,217
2/1/07	29	Actual	62,640	199.2	199.2	0.45	0.0	\$ 3,925	\$ 6,188	\$ 2,012	\$ 4,327	\$ 0.099	\$ 0.132	\$ 8,252
1/3/07	35	Actual	72,880	208.8	208.8	0.42	0.0	\$ 4,063	\$ 6,500	\$ 2,109	\$ 4,598	\$ 0.089	\$ 0.119	\$ 8,662
29-Nov-06	30	Estimated	79,040	208.0	208.0	0.53	0.0	\$ 0	\$ 1,769	\$ 2,101	\$ 3,922	\$ 0.022	\$ 0.050	\$ 3,922
30-Oct-06	31	Actual	56,320	197.6	197.6	0.38	0.0	\$ 0	\$ 1,783	\$ 1,996	\$ 3,831	\$ 0.032	\$ 0.068	\$ 3,831
29-Sep-06	29	Actual	8,000	120.0	120.0	0.10	0.0	\$ 0	\$ 217	\$ 1,212	\$ 1,481	\$ 0.027	\$ 0.185	\$ 1,481
31-Aug-06	30	Actual	23,040	55.2	55.2	0.58	0.0	\$ 0	\$ 478	\$ 558	\$ 1,088	\$ 0.021	\$ 0.047	\$ 1,088
1-Aug-06	31	split	23,040	80.0	80.0	0.39	0.0	\$ 0	\$ 560	\$ 808	\$ 1,421	\$ 0.024	\$ 0.062	\$ 1,421
1-Jul-06	30	split	23,040	80.0	80.0	0.39	0.0	\$ 0	\$ 560	\$ 808	\$ 1,421	\$ 0.024	\$ 0.062	\$ 1,421
1-Jun-06	29	Actual	8,240	60.8	60.8	0.19	0.0	\$ 0	\$ 247	\$ 614	\$ 914	\$ 0.030	\$ 0.111	\$ 914
3-May-06	30	Actual	6,240	48.0	48.0	0.18	0.0	\$ 0	\$ 167	\$ 485	\$ 704	\$ 0.027	\$ 0.113	\$ 704
3-Apr-06	31	Actual	44,640	208.8	208.8	0.29	0.0	\$ 0	\$ 1,525	\$ 2,109	\$ 3,686	\$ 0.034	\$ 0.083	\$ 3,686
3-Mar-06	31	Actual	62,880	181.6	181.6	0.47	0.0	\$ 0	\$ 2,238	\$ 1,834	\$ 4,125	\$ 0.036	\$ 0.066	\$ 4,125
31-Jan-06	27	Actual	59,360	208.0	208.0	0.44	0.0	\$ 0	\$ 2,373	\$ 2,101	\$ 4,527	\$ 0.040	\$ 0.076	\$ 4,527



Unit Costs Last Year
 \$ 63,312 Total
 \$ 10.10 Demand
 \$ 0.097 Energy Increm.
 \$ 0.133 Energy Blend.
 365 days
 477,520 kWh
 1,630 kW total
 136 kW average
 218 peak kW
 0.41 load factor
 50,188 btu/sf/year
 6.70 watts/sf peak

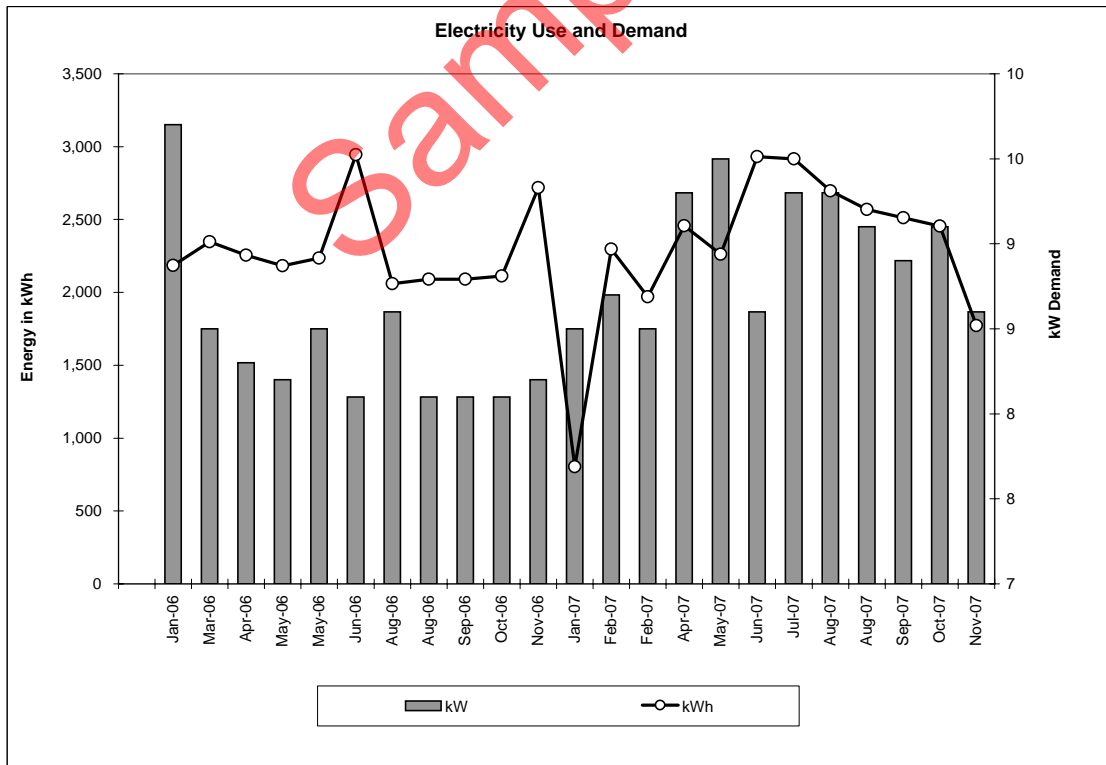
Unit Costs Prior Year
 \$ 27,120 Total
 \$ 10.10 Demand
 \$ 0.030 Energy Increm.
 \$ 0.069 Energy Blend.
 329 days
 393,840 kWh
 1,448 kW total
 132 kW average
 209 peak kW
 0.38 load factor
 41,393 btu/sf/year
 6.43 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 3,600 square feet
 Address **Lincoln Park Maintenance Building**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
82012-70106	SC 2D	0 - 2.2 kV	percent factor	0.0000%	\$ 52.52	\$ 10.10
				\$ 52.52	\$ 10.10	With GRT

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
11/29/07	30	Actual	1,773	8.6	8.6	0.29	0.0	\$ 130	\$ 176	\$ 87	\$ 185	\$ 0.099	\$ 0.178	\$ 316
10/30/07	32	Actual	2,455	9.1	9.1	0.35	0.0	\$ 185	\$ 239	\$ 92	\$ 198	\$ 0.097	\$ 0.156	\$ 383
9/28/07	29	Actual	2,513	8.9	8.9	0.41	0.0	\$ 180	\$ 242	\$ 90	\$ 205	\$ 0.096	\$ 0.153	\$ 385
8/30/07	29	Actual	2,568	9.1	9.1	0.41	0.0	\$ 197	\$ 246	\$ 92	\$ 194	\$ 0.096	\$ 0.152	\$ 391
8/1/07	30	Actual	2,697	9.3	9.3	0.40	0.0	\$ 192	\$ 263	\$ 94	\$ 217	\$ 0.098	\$ 0.152	\$ 410
7/2/07	31	Actual	2,915	9.3	9.3	0.42	0.0	\$ 204	\$ 283	\$ 94	\$ 225	\$ 0.097	\$ 0.147	\$ 429
6/1/07	31	Actual	2,932	8.6	8.6	0.46	0.0	\$ 179	\$ 294	\$ 87	\$ 254	\$ 0.100	\$ 0.148	\$ 433
5/1/07	29	Actual	2,261	9.5	9.5	0.34	0.0	\$ 148	\$ 225	\$ 96	\$ 226	\$ 0.100	\$ 0.165	\$ 374
4/2/07	34	Actual	2,458	9.3	9.3	0.32	0.0	\$ 172	\$ 234	\$ 94	\$ 209	\$ 0.095	\$ 0.155	\$ 381
2/27/07	26	Estimated	1,969	8.5	8.5	0.37	0.0	\$ 159	\$ 199	\$ 86	\$ 178	\$ 0.101	\$ 0.171	\$ 337
2/1/07	29	Actual	2,296	8.7	8.7	0.38	0.0	\$ 144	\$ 227	\$ 88	\$ 223	\$ 0.099	\$ 0.160	\$ 367
1/3/07	35	Actual	804	8.5	8.5	0.11	0.0	\$ 45	\$ 67	\$ 86	\$ 161	\$ 0.084	\$ 0.256	\$ 206
29-Nov-06	33	Estimated	2,718	8.2	8.2	0.42	0.0	\$ 0	\$ 59	\$ 83	\$ 195	\$ 0.022	\$ 0.072	\$ 195
27-Oct-06	28	Estimated	2,113	8.1	8.1	0.39	0.0	\$ 0	\$ 72	\$ 82	\$ 206	\$ 0.034	\$ 0.098	\$ 206
29-Sep-06	30	split	2,091	8.1	8.1	0.36	0.0	\$ 0	\$ 55	\$ 82	\$ 190	\$ 0.026	\$ 0.091	\$ 190
31-Aug-06	29	split	2,091	8.1	8.1	0.36	0.0	\$ 0	\$ 55	\$ 82	\$ 190	\$ 0.026	\$ 0.091	\$ 190
1-Aug-06	33	Actual	2,059	8.6	8.6	0.30	0.0	\$ 0	\$ 39	\$ 87	\$ 179	\$ 0.019	\$ 0.087	\$ 179
29-Jun-06	30	Estimated	2,945	8.1	8.1	0.50	0.0	\$ 0	\$ 84	\$ 82	\$ 218	\$ 0.029	\$ 0.074	\$ 218
30-May-06	28	Estimated	2,235	8.5	8.5	0.39	0.0	\$ 0	\$ 63	\$ 86	\$ 202	\$ 0.028	\$ 0.090	\$ 202
2-May-06	29	Actual	2,183	8.2	8.2	0.38	0.0	\$ 0	\$ 63	\$ 83	\$ 198	\$ 0.029	\$ 0.091	\$ 198
3-Apr-06	31	Actual	2,254	8.3	8.3	0.37	0.0	\$ 0	\$ 76	\$ 84	\$ 212	\$ 0.034	\$ 0.094	\$ 212
3-Mar-06	31	Actual	2,348	8.5	8.5	0.37	0.0	\$ 0	\$ 75	\$ 86	\$ 214	\$ 0.032	\$ 0.091	\$ 214
31-Jan-06	28	Actual	2,184	9.7	9.7	0.34	0.0	\$ 0	\$ 79	\$ 98	\$ 229	\$ 0.036	\$ 0.105	\$ 229



Unit Costs	Last Year
\$ 4,411	Total
\$ 10.10	Demand
\$ 0.098	Energy Incr.
\$ 0.160	Energy Blend.
365	days
27,641	kwh
107	kW total
9	kW average
10	peak kW
0.36	load factor
26,198	btu/sf/year
2.64	watts/sf peak
Unit Costs	Prior Year
\$ 2,233	Total
\$ 10.10	Demand
\$ 0.029	Energy Incr.
\$ 0.089	Energy Blend.
330	days
25,221	kwh
92	kW total
8	kW average
10	peak kW
0.38	load factor
23,904	btu/sf/year
2.69	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 690 square feet
 Address **Lincoln Park Police Satellite Station**

Account Number **93212-73106** Rate **SC 2ND** Delivery Voltage **0 - 2.2 kV**
 Tax Rate percent factor **0.0000%** Customer Charge **\$ 21.02** Demand Cost **\$ 0.00** Tariff Rate **With GRT**
 Tax Rate factor **1.0000** Customer Charge **\$ 21.02** Demand Cost **\$ 0.00**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
1/30/08	30	Actual	218	0.0	0.0	0.00	0.0	\$ 18	\$ 33	\$ 0	\$ 36	\$ 0.153	\$ 0.249	\$ 54
12/31/07	32	Actual	221	0.0	0.0	0.00	0.0	\$ 13	\$ 27	\$ 0	\$ 35	\$ 0.120	\$ 0.215	\$ 48
11/29/07	31	Actual	175	0.0	0.0	0.00	0.0	\$ 12	\$ 24	\$ 0	\$ 33	\$ 0.137	\$ 0.258	\$ 45
10/29/07	32	Actual	156	0.0	0.0	0.00	0.0	\$ 12	\$ 23	\$ 0	\$ 31	\$ 0.145	\$ 0.280	\$ 44
9/27/07	29	Actual	172	0.0	0.0	0.00	0.0	\$ 22	\$ 33	\$ 0	\$ 33	\$ 0.193	\$ 0.316	\$ 54
8/29/07	30	Actual	277	0.0	0.0	0.00	0.0	\$ 14	\$ 31	\$ 0	\$ 38	\$ 0.113	\$ 0.189	\$ 52
7/30/07	31	Actual	211	0.0	0.0	0.00	0.0	\$ 15	\$ 30	\$ 0	\$ 36	\$ 0.140	\$ 0.240	\$ 51
6/29/07	29	Actual	204	0.0	0.0	0.00	0.0	\$ 9	\$ 23	\$ 0	\$ 35	\$ 0.115	\$ 0.218	\$ 44
5/31/07	31	Actual	156	0.0	0.0	0.00	0.0	\$ 13	\$ 27	\$ 0	\$ 34	\$ 0.172	\$ 0.307	\$ 48
4/30/07	32	Actual	204	0.0	0.0	0.00	0.0	\$ 14	\$ 31	\$ 0	\$ 38	\$ 0.153	\$ 0.256	\$ 52
3/29/07	28	Actual	206	0.0	0.0	0.00	0.0	\$ 22	\$ 37	\$ 0	\$ 36	\$ 0.180	\$ 0.282	\$ 58
3/1/07	31	Actual	278	0.0	0.0	0.00	0.0	\$ 14	\$ 33	\$ 0	\$ 40	\$ 0.118	\$ 0.194	\$ 54
29-Jan-07	30	Actual	249	0.0	0.0	0.00	0.0	\$ 0	\$ 20	\$ 0	\$ 41	\$ 0.078	\$ 0.163	\$ 41
30-Dec-06	30	Actual	257	0.0	0.0	0.00	0.0	\$ 0	\$ 20	\$ 0	\$ 41	\$ 0.076	\$ 0.158	\$ 41
30-Nov-06	34	Actual	246	0.0	0.0	0.00	0.0	\$ 0	\$ 16	\$ 0	\$ 37	\$ 0.067	\$ 0.152	\$ 37
27-Oct-06	29	Actual	134	0.0	0.0	0.00	0.0	\$ 0	\$ 11	\$ 0	\$ 32	\$ 0.080	\$ 0.237	\$ 32
28-Sep-06	29	Actual	152	0.0	0.0	0.00	0.0	\$ 0	\$ 12	\$ 0	\$ 33	\$ 0.079	\$ 0.218	\$ 33
30-Aug-06	30	Actual	240	0.0	0.0	0.00	0.0	\$ 0	\$ 15	\$ 0	\$ 36	\$ 0.062	\$ 0.150	\$ 36
31-Jul-06	32	Actual	273	0.0	0.0	0.00	0.0	\$ 0	\$ 18	\$ 0	\$ 39	\$ 0.066	\$ 0.143	\$ 39
29-Jun-06	30	Actual	196	0.0	0.0	0.00	0.0	\$ 0	\$ 14	\$ 0	\$ 35	\$ 0.073	\$ 0.180	\$ 35
30-May-06	29	Actual	155	0.0	0.0	0.00	0.0	\$ 0	\$ 11	\$ 0	\$ 32	\$ 0.073	\$ 0.208	\$ 32
1-May-06	32	Actual	198	0.0	0.0	0.00	0.0	\$ 0	\$ 14	\$ 0	\$ 35	\$ 0.072	\$ 0.179	\$ 35
30-Mar-06	30	Actual	242	0.0	0.0	0.00	0.0	\$ 0	\$ 18	\$ 0	\$ 39	\$ 0.074	\$ 0.161	\$ 39
28-Feb-06	29	Actual	251	0.0	0.0	0.00	0.0	\$ 0	\$ 20	\$ 0	\$ 41	\$ 0.080	\$ 0.164	\$ 41



Unit Costs Last Year
 \$ 604 Total
 #DIV/0! Demand
 \$ 0.142 Energy Increm.
 \$ 0.244 Energy Blend.
 366 days
 2,478 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 12,254 btu/sf/year
 - watts/sf peak

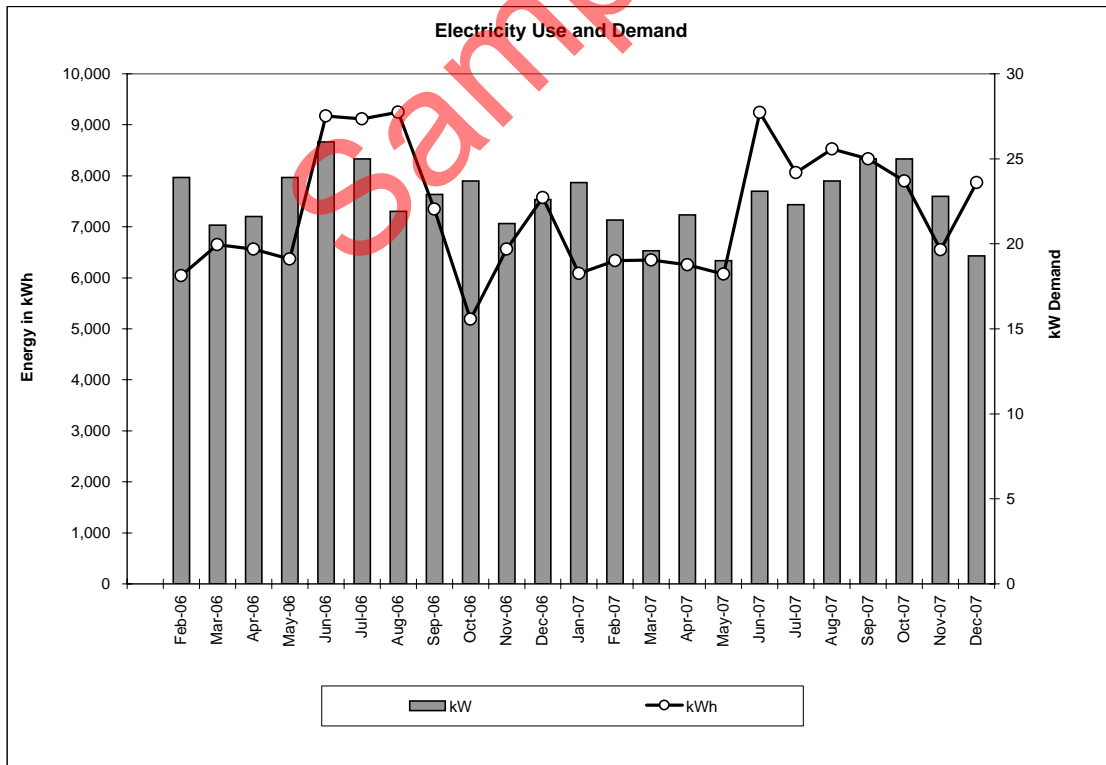
Unit Costs Prior Year
 \$ 441 Total
 #DIV/0! Demand
 \$ 0.073 Energy Increm.
 \$ 0.170 Energy Blend.
 364 days
 2,593 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 12,822 btu/sf/year
 - watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 15,150 square feet
 Address **Memorial Hall**

Account Number **84587-59109** Rate **SC 2D** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 52.52** Demand Cost **\$ 10.10** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 52.52** **\$ 10.10**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/26/07	35	Actual	7,867	19.3	19.3	0.49	0.0	\$ 656	\$ 759	\$ 195	\$ 350	\$ 0.096	\$ 0.128	\$ 1,006
11/21/07	29	Actual	6,550	22.8	22.8	0.41	0.0	\$ 478	\$ 638	\$ 230	\$ 443	\$ 0.097	\$ 0.141	\$ 921
10/23/07	32	Actual	7,901	25.0	25.0	0.41	0.0	\$ 601	\$ 771	\$ 253	\$ 475	\$ 0.098	\$ 0.136	\$ 1,076
9/21/07	29	Actual	8,331	25.0	25.0	0.48	0.0	\$ 597	\$ 811	\$ 253	\$ 518	\$ 0.097	\$ 0.134	\$ 1,116
8/23/07	28	Actual	8,528	23.7	23.7	0.54	0.0	\$ 663	\$ 844	\$ 239	\$ 473	\$ 0.099	\$ 0.133	\$ 1,136
7/26/07	31	Actual	8,059	22.3	22.3	0.49	0.0	\$ 559	\$ 775	\$ 225	\$ 493	\$ 0.096	\$ 0.131	\$ 1,052
6/25/07	32	Actual	9,238	23.1	23.1	0.52	0.0	\$ 642	\$ 946	\$ 233	\$ 590	\$ 0.102	\$ 0.133	\$ 1,232
5/24/07	28	Actual	6,073	19.0	19.0	0.48	0.0	\$ 358	\$ 603	\$ 192	\$ 490	\$ 0.099	\$ 0.140	\$ 848
4/26/07	31	Actual	6,255	21.7	21.7	0.39	0.0	\$ 409	\$ 593	\$ 219	\$ 455	\$ 0.095	\$ 0.138	\$ 864
3/26/07	30	Actual	6,347	19.6	19.6	0.45	0.0	\$ 454	\$ 631	\$ 198	\$ 427	\$ 0.099	\$ 0.139	\$ 882
2/24/07	30	Actual	6,339	21.4	21.4	0.41	0.0	\$ 515	\$ 645	\$ 216	\$ 398	\$ 0.102	\$ 0.144	\$ 913
1/25/07	29	Actual	6,084	23.6	23.6	0.37	0.0	\$ 328	\$ 538	\$ 238	\$ 501	\$ 0.088	\$ 0.136	\$ 829
27-Dec-06	35	Actual	7,575	22.6	22.6	0.40	0.0	\$ 0	\$ 222	\$ 228	\$ 502	\$ 0.029	\$ 0.066	\$ 502
22-Nov-06	29	Actual	6,559	21.2	21.2	0.44	0.0	\$ 0	\$ 125	\$ 214	\$ 392	\$ 0.019	\$ 0.060	\$ 392
24-Oct-06	29	Actual	5,190	23.7	23.7	0.31	0.0	\$ 0	\$ 184	\$ 239	\$ 476	\$ 0.035	\$ 0.092	\$ 476
25-Sep-06	32	Actual	7,344	22.9	22.9	0.42	0.0	\$ 0	\$ 245	\$ 231	\$ 529	\$ 0.033	\$ 0.072	\$ 529
24-Aug-06	29	Actual	9,247	21.9	21.9	0.61	0.0	\$ 0	\$ 153	\$ 221	\$ 426	\$ 0.016	\$ 0.046	\$ 426
26-Jul-06	28	Actual	9,113	25.0	25.0	0.54	0.0	\$ 0	\$ 230	\$ 253	\$ 535	\$ 0.025	\$ 0.059	\$ 535
28-Jun-06	34	Actual	9,173	26.0	26.0	0.43	0.0	\$ 0	\$ 264	\$ 263	\$ 579	\$ 0.029	\$ 0.063	\$ 579
25-May-06	29	Actual	6,367	23.9	23.9	0.38	0.0	\$ 0	\$ 183	\$ 241	\$ 477	\$ 0.029	\$ 0.075	\$ 477
26-Apr-06	30	Actual	6,559	21.6	21.6	0.42	0.0	\$ 0	\$ 254	\$ 218	\$ 525	\$ 0.039	\$ 0.080	\$ 525
27-Mar-06	31	Actual	6,647	21.1	21.1	0.42	0.0	\$ 0	\$ 242	\$ 213	\$ 507	\$ 0.036	\$ 0.076	\$ 507
24-Feb-06	29	Actual	6,039	23.9	23.9	0.36	0.0	\$ 0	\$ 256	\$ 241	\$ 550	\$ 0.042	\$ 0.091	\$ 550



Unit Costs Last Year
 \$ 11,875 Total
 \$ 10.10 Demand
 \$ 0.098 Energy Increm.
 \$ 0.136 Energy Blend.
 364 days
 87,572 kwh
 267 kW total
 22 kW average
 25 peak kW
 0.46 load factor
 19,722 btu/sf/year
 1.65 watts/sf peak

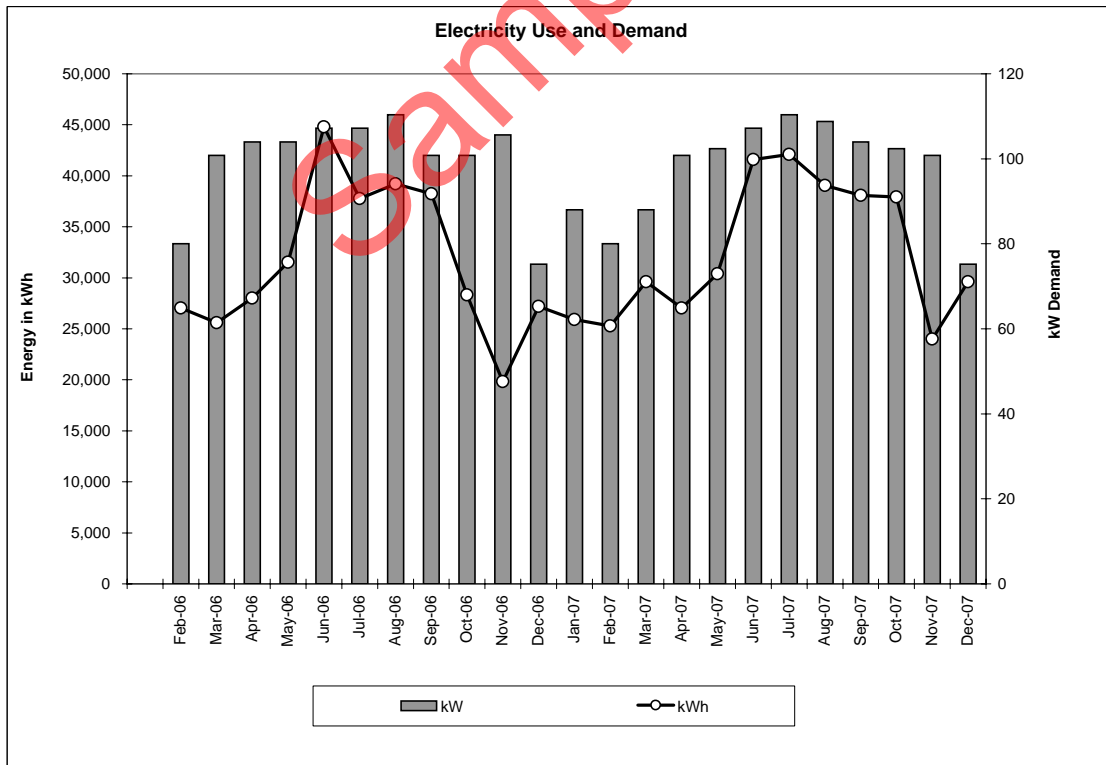
Unit Costs Prior Year
 \$ 5,499 Total
 \$ 10.10 Demand
 \$ 0.030 Energy Increm.
 \$ 0.069 Energy Blend.
 335 days
 79,813 kwh
 254 kW total
 23 kW average
 26 peak kW
 0.44 load factor
 17,975 btu/sf/year
 1.72 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 38,160 square feet
 Address **Municipal Building**

Account Number **2787-68102** Rate **SC 2D** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 52.52** Demand Cost **\$ 10.10** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 52.52** **\$ 10.10**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/26/07	35	Actual	29,600	75.2	75.2	0.47	0.0	\$ 2,468	\$ 2,854	\$ 760	\$ 1,198	\$ 0.096	\$ 0.124	\$ 3,666
11/21/07	29	Actual	24,000	100.8	100.8	0.34	0.0	\$ 1,751	\$ 2,338	\$ 1,018	\$ 1,657	\$ 0.097	\$ 0.142	\$ 3,408
10/23/07	32	Actual	37,920	102.4	102.4	0.48	0.0	\$ 2,886	\$ 3,701	\$ 1,034	\$ 1,902	\$ 0.098	\$ 0.126	\$ 4,788
9/21/07	29	Actual	38,080	104.0	104.0	0.53	0.0	\$ 2,731	\$ 3,705	\$ 1,050	\$ 2,077	\$ 0.097	\$ 0.126	\$ 4,808
8/23/07	28	Actual	39,040	108.8	108.8	0.53	0.0	\$ 3,035	\$ 3,864	\$ 1,099	\$ 1,980	\$ 0.099	\$ 0.128	\$ 5,015
7/26/07	31	Actual	42,080	110.4	110.4	0.51	0.0	\$ 2,918	\$ 4,044	\$ 1,115	\$ 2,294	\$ 0.096	\$ 0.124	\$ 5,212
6/25/07	32	Actual	41,600	107.2	107.2	0.51	0.0	\$ 2,890	\$ 4,259	\$ 1,083	\$ 2,505	\$ 0.102	\$ 0.130	\$ 5,394
5/24/07	28	Actual	30,400	102.4	102.4	0.44	0.0	\$ 1,792	\$ 3,020	\$ 1,034	\$ 2,315	\$ 0.099	\$ 0.135	\$ 4,107
4/26/07	31	Actual	27,040	100.8	100.8	0.36	0.0	\$ 1,770	\$ 2,563	\$ 1,018	\$ 1,863	\$ 0.095	\$ 0.134	\$ 3,633
3/26/07	32	Actual	29,600	88.0	88.0	0.44	0.0	\$ 2,105	\$ 2,930	\$ 889	\$ 1,766	\$ 0.099	\$ 0.131	\$ 3,871
2/22/07	28	Estimated	25,280	80.0	80.0	0.47	0.0	\$ 2,080	\$ 2,585	\$ 808	\$ 1,366	\$ 0.102	\$ 0.136	\$ 3,445
1/25/07	29	Actual	25,920	88.0	88.0	0.42	0.0	\$ 1,399	\$ 2,295	\$ 889	\$ 1,838	\$ 0.089	\$ 0.125	\$ 3,236
27-Dec-06	35	Actual	27,200	75.2	75.2	0.43	0.0	\$ 0	\$ 802	\$ 760	\$ 1,614	\$ 0.029	\$ 0.059	\$ 1,614
22-Nov-06	29	Actual	19,840	105.6	105.6	0.27	0.0	\$ 0	\$ 356	\$ 1,067	\$ 1,475	\$ 0.018	\$ 0.074	\$ 1,475
24-Oct-06	29	Estimated	28,320	100.8	100.8	0.40	0.0	\$ 0	\$ 1,026	\$ 1,018	\$ 2,096	\$ 0.036	\$ 0.074	\$ 2,096
25-Sep-06	32	Actual	38,240	100.8	100.8	0.49	0.0	\$ 0	\$ 1,291	\$ 1,018	\$ 2,362	\$ 0.034	\$ 0.062	\$ 2,362
24-Aug-06	29	Actual	39,200	110.4	110.4	0.51	0.0	\$ 0	\$ 639	\$ 1,115	\$ 1,806	\$ 0.016	\$ 0.046	\$ 1,806
26-Jul-06	28	Actual	37,760	107.2	107.2	0.52	0.0	\$ 0	\$ 969	\$ 1,083	\$ 2,105	\$ 0.026	\$ 0.056	\$ 2,105
28-Jun-06	29	Actual	44,800	107.2	107.2	0.60	0.0	\$ 0	\$ 1,307	\$ 1,083	\$ 2,442	\$ 0.029	\$ 0.055	\$ 2,442
30-May-06	34	Actual	31,520	104.0	104.0	0.37	0.0	\$ 0	\$ 915	\$ 1,050	\$ 2,018	\$ 0.029	\$ 0.064	\$ 2,018
26-Apr-06	30	Actual	28,000	104.0	104.0	0.37	0.0	\$ 0	\$ 1,081	\$ 1,050	\$ 2,184	\$ 0.039	\$ 0.078	\$ 2,184
27-Mar-06	31	Actual	25,600	100.8	100.8	0.34	0.0	\$ 0	\$ 911	\$ 1,018	\$ 1,982	\$ 0.036	\$ 0.077	\$ 1,982
24-Feb-06	30	Actual	27,040	80.0	80.0	0.47	0.0	\$ 0	\$ 1,213	\$ 808	\$ 2,074	\$ 0.045	\$ 0.077	\$ 2,074



Unit Costs Last Year

- \$ 50,583 Total
- \$ 10.10 Demand
- \$ 0.098 Energy Increm.
- \$ 0.130 Energy Blend.
- 364 days
- 390,560 kWh
- 1,168 kW total
- 97 kW average
- 110 peak kW
- 0.46 load factor
- 34,921 btu/sf/year
- 2.89 watts/sf peak

Unit Costs Prior Year

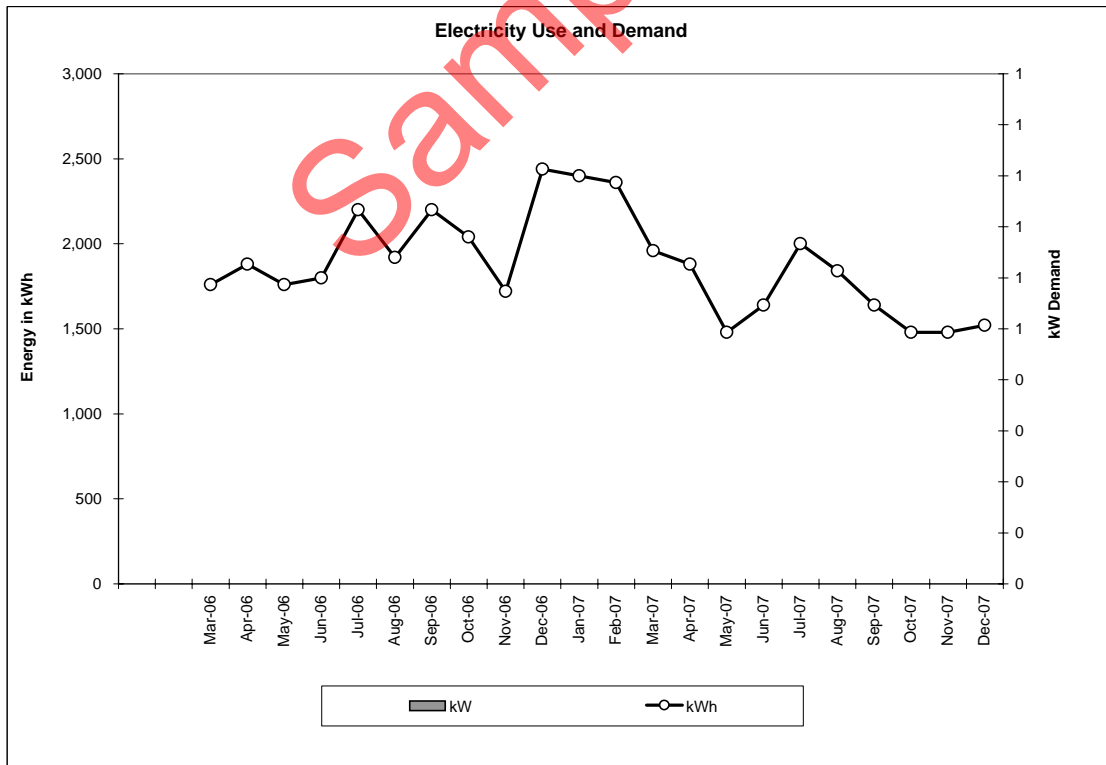
- \$ 22,157 Total
- \$ 10.10 Demand
- \$ 0.030 Energy Increm.
- \$ 0.064 Energy Blend.
- 336 days
- 347,520 kWh
- 1,096 kW total
- 100 kW average
- 110 peak kW
- 0.44 load factor
- 31,073 btu/sf/year
- 2.89 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 3,126 square feet
 Address **NOCO Pavilion**

Account Number **54075-46100** Rate **SC 2ND** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 21.02** Demand Cost **\$ 0.00** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 21.02** **\$ 0.00**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/6/07	31	Actual	1,520	0.0	0.0	0.00	0.0	\$ 114	\$ 214	\$ 0	\$ 122	\$ 0.141	\$ 0.155	\$ 235
11/5/07	31	Actual	1,480	0.0	0.0	0.00	0.0	\$ 105	\$ 207	\$ 0	\$ 122	\$ 0.140	\$ 0.154	\$ 228
10/5/07	29	Actual	1,480	0.0	0.0	0.00	0.0	\$ 108	\$ 206	\$ 0	\$ 120	\$ 0.140	\$ 0.154	\$ 227
9/6/07	30	Actual	1,640	0.0	0.0	0.00	0.0	\$ 123	\$ 231	\$ 0	\$ 130	\$ 0.141	\$ 0.154	\$ 252
8/7/07	28	Actual	1,840	0.0	0.0	0.00	0.0	\$ 137	\$ 258	\$ 0	\$ 142	\$ 0.140	\$ 0.152	\$ 279
7/10/07	32	Actual	2,000	0.0	0.0	0.00	0.0	\$ 143	\$ 279	\$ 0	\$ 157	\$ 0.139	\$ 0.150	\$ 300
6/8/07	31	Actual	1,640	0.0	0.0	0.00	0.0	\$ 102	\$ 240	\$ 0	\$ 159	\$ 0.146	\$ 0.159	\$ 261
5/8/07	28	Actual	1,480	0.0	0.0	0.00	0.0	\$ 94	\$ 216	\$ 0	\$ 143	\$ 0.146	\$ 0.160	\$ 237
4/10/07	33	Actual	1,880	0.0	0.0	0.00	0.0	\$ 124	\$ 265	\$ 0	\$ 162	\$ 0.141	\$ 0.152	\$ 286
3/8/07	28	Actual	1,960	0.0	0.0	0.00	0.0	\$ 148	\$ 281	\$ 0	\$ 154	\$ 0.143	\$ 0.154	\$ 302
2/8/07	30	Actual	2,360	0.0	0.0	0.00	0.0	\$ 170	\$ 342	\$ 0	\$ 194	\$ 0.145	\$ 0.154	\$ 364
1/9/07	32	Actual	2,400	0.0	0.0	0.00	0.0	\$ 118	\$ 320	\$ 0	\$ 223	\$ 0.133	\$ 0.142	\$ 341
8-Dec-06	32	Actual	2,440	0.0	0.0	0.00	0.0	\$ 0	\$ 165	\$ 0	\$ 186	\$ 0.068	\$ 0.076	\$ 186
6-Nov-06	27	Actual	1,720	0.0	0.0	0.00	0.0	\$ 0	\$ 122	\$ 0	\$ 143	\$ 0.071	\$ 0.083	\$ 143
10-Oct-06	29	Actual	2,040	0.0	0.0	0.00	0.0	\$ 0	\$ 168	\$ 0	\$ 189	\$ 0.082	\$ 0.093	\$ 189
11-Sep-06	34	Actual	2,200	0.0	0.0	0.00	0.0	\$ 0	\$ 162	\$ 0	\$ 183	\$ 0.073	\$ 0.083	\$ 183
8-Aug-06	28	Actual	1,920	0.0	0.0	0.00	0.0	\$ 0	\$ 110	\$ 0	\$ 131	\$ 0.057	\$ 0.068	\$ 131
11-Jul-06	33	Actual	2,200	0.0	0.0	0.00	0.0	\$ 0	\$ 157	\$ 0	\$ 178	\$ 0.071	\$ 0.081	\$ 178
8-Jun-06	29	Actual	1,800	0.0	0.0	0.00	0.0	\$ 0	\$ 141	\$ 0	\$ 162	\$ 0.079	\$ 0.090	\$ 162
10-May-06	32	Actual	1,760	0.0	0.0	0.00	0.0	\$ 0	\$ 129	\$ 0	\$ 150	\$ 0.074	\$ 0.085	\$ 150
8-Apr-06	30	Actual	1,880	0.0	0.0	0.00	0.0	\$ 0	\$ 152	\$ 0	\$ 173	\$ 0.081	\$ 0.092	\$ 173
9-Mar-06	30	Actual	1,760	0.0	0.0	0.00	0.0	\$ 0	\$ 139	\$ 0	\$ 160	\$ 0.079	\$ 0.091	\$ 160



Unit Costs Last Year
 \$ 3,312 Total
 #DIV/0! Demand
 \$ 0.141 Energy Increm.
 \$ 0.153 Energy Blend.
 363 days
 21,680 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 23,664 btu/sf/year
 - watts/sf peak

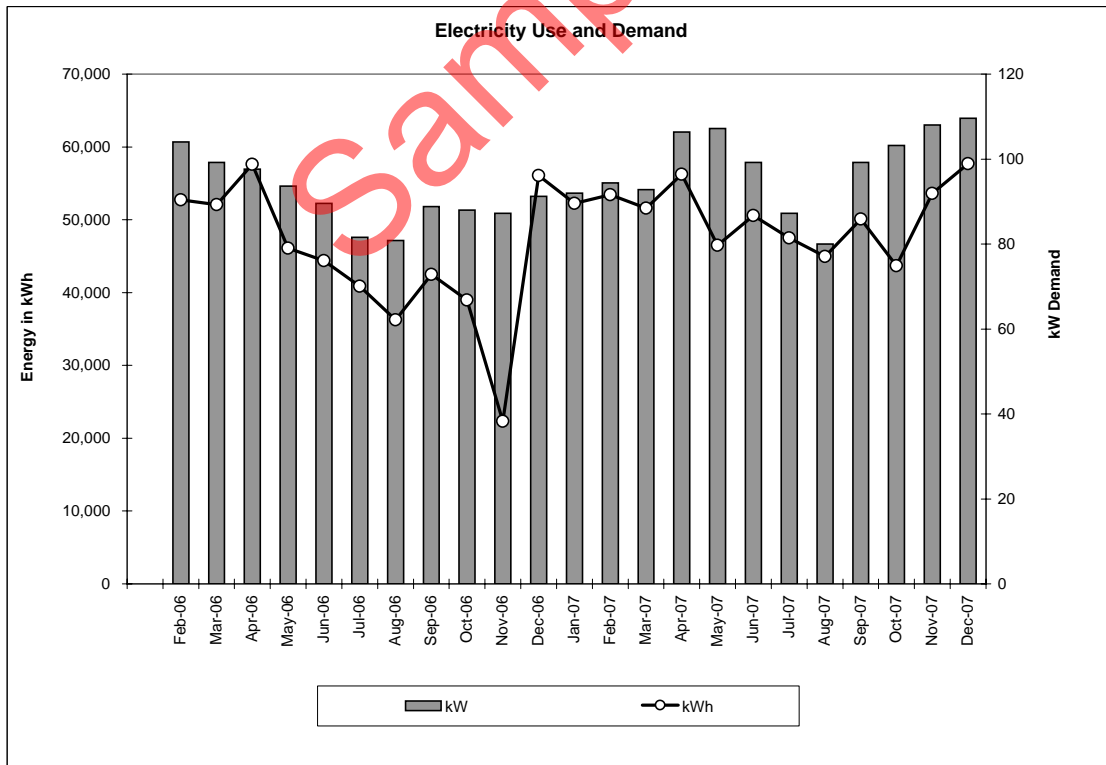
Unit Costs Prior Year
 \$ 1,655 Total
 #DIV/0! Demand
 \$ 0.073 Energy Increm.
 \$ 0.084 Energy Blend.
 304 days
 19,720 kWh
 0 kW total
 0 kW average
 0 peak kW
 #DIV/0! load factor
 21,524 btu/sf/year
 - watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 92,728 square feet
 Address **Paddock Chevrolet Golf Dome**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
12421-15001	SC 2D	0 - 2.2 kV	percent factor 1.0000	\$ 52.52	\$ 10.10	With GRT

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
12/7/07	30	Actual	57,680	109.6	109.6	0.73	0.0	\$ 4,382	\$ 5,616	\$ 1,107	\$ 2,394	\$ 0.097	\$ 0.117	\$ 6,776
11/7/07	30	Actual	53,600	108.0	108.0	0.69	0.0	\$ 3,849	\$ 4,122	\$ 1,091	\$ 2,417	\$ 0.096	\$ 0.117	\$ 6,266
10/8/07	27	Actual	43,680	103.2	103.2	0.65	0.0	\$ 3,197	\$ 4,219	\$ 1,042	\$ 2,116	\$ 0.097	\$ 0.122	\$ 5,314
9/11/07	32	Actual	50,080	99.2	99.2	0.66	0.0	\$ 3,663	\$ 4,880	\$ 1,002	\$ 2,271	\$ 0.097	\$ 0.118	\$ 5,934
8/10/07	29	Actual	44,960	80.0	80.0	0.81	0.0	\$ 3,422	\$ 4,424	\$ 808	\$ 1,863	\$ 0.098	\$ 0.118	\$ 5,285
7/12/07	30	Actual	47,520	87.2	87.2	0.76	0.0	\$ 3,434	\$ 4,612	\$ 881	\$ 2,111	\$ 0.097	\$ 0.117	\$ 5,546
6/12/07	32	Actual	50,560	99.2	99.2	0.66	0.0	\$ 3,171	\$ 5,060	\$ 1,002	\$ 2,944	\$ 0.100	\$ 0.121	\$ 6,114
5/11/07	28	Actual	46,480	107.2	107.2	0.65	0.0	\$ 2,924	\$ 4,613	\$ 1,083	\$ 2,824	\$ 0.099	\$ 0.124	\$ 5,748
4/13/07	32	Actual	56,240	106.4	106.4	0.69	0.0	\$ 3,698	\$ 5,343	\$ 1,075	\$ 2,773	\$ 0.095	\$ 0.115	\$ 6,470
3/12/07	30	Actual	51,600	92.8	92.8	0.77	0.0	\$ 3,945	\$ 5,165	\$ 937	\$ 2,210	\$ 0.100	\$ 0.119	\$ 6,155
2/10/07	30	Actual	53,440	94.4	94.4	0.79	0.0	\$ 3,878	\$ 5,390	\$ 953	\$ 2,519	\$ 0.101	\$ 0.120	\$ 6,396
1/11/07	30	Actual	52,240	92.0	92.0	0.79	0.0	\$ 2,503	\$ 3,828	\$ 929	\$ 2,306	\$ 0.073	\$ 0.092	\$ 4,810
12-Dec-06	35	Actual	56,080	91.2	91.2	0.73	0.0	\$ 0	\$ 1,317	\$ 921	\$ 2,291	\$ 0.023	\$ 0.041	\$ 2,291
7-Nov-06	28	Actual	22,320	87.2	87.2	0.38	0.0	\$ 0	\$ 1,017	\$ 881	\$ 1,950	\$ 0.046	\$ 0.087	\$ 1,950
10-Oct-06	28	Actual	38,960	88.0	88.0	0.66	0.0	\$ 0	\$ 1,287	\$ 889	\$ 2,228	\$ 0.033	\$ 0.057	\$ 2,228
12-Sep-06	32	Actual	42,480	88.8	88.8	0.62	0.0	\$ 0	\$ 1,331	\$ 897	\$ 2,281	\$ 0.031	\$ 0.054	\$ 2,281
11-Aug-06	29	Actual	36,240	80.8	80.8	0.64	0.0	\$ 0	\$ 1,186	\$ 816	\$ 2,054	\$ 0.033	\$ 0.057	\$ 2,054
13-Jul-06	30	Actual	40,880	81.6	81.6	0.70	0.0	\$ 0	\$ 1,239	\$ 824	\$ 2,116	\$ 0.030	\$ 0.052	\$ 2,116
13-Jun-06	32	Actual	44,400	89.6	89.6	0.65	0.0	\$ 0	\$ 1,349	\$ 905	\$ 2,306	\$ 0.030	\$ 0.052	\$ 2,306
12-May-06	30	Actual	46,080	93.6	93.6	0.68	0.0	\$ 0	\$ 1,232	\$ 945	\$ 2,230	\$ 0.027	\$ 0.048	\$ 2,230
12-Apr-06	33	Actual	57,600	97.6	97.6	0.75	0.0	\$ 0	\$ 1,431	\$ 986	\$ 2,469	\$ 0.025	\$ 0.043	\$ 2,469
10-Mar-06	28	Actual	52,080	99.2	99.2	0.78	0.0	\$ 0	\$ 1,370	\$ 1,002	\$ 2,425	\$ 0.026	\$ 0.047	\$ 2,425
10-Feb-06	29	Actual	52,720	104.0	104.0	0.73	0.0	\$ 0	\$ 1,420	\$ 1,050	\$ 2,523	\$ 0.027	\$ 0.048	\$ 2,523

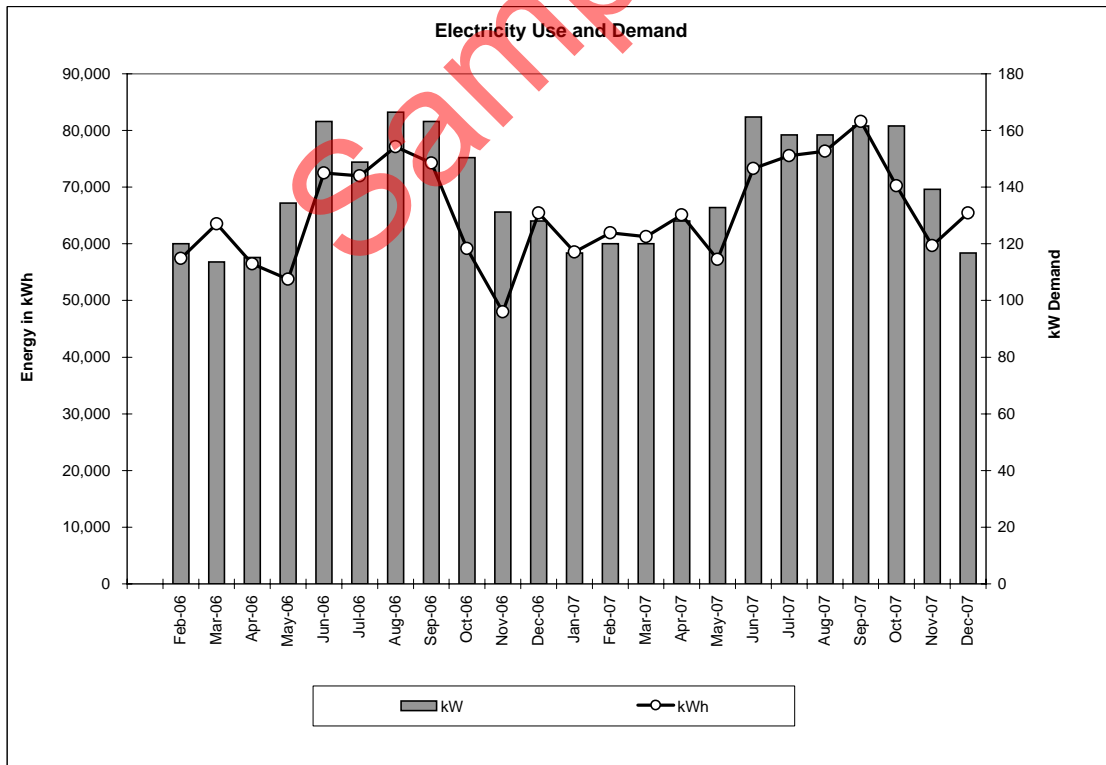


Unit Costs	Last Year
\$ 70,813	Total
\$ 10.10	Demand
\$ 0.096	Energy Incr.
\$ 0.116	Energy Blend.
360	days
608,080	kwh
1,179	kW total
98	kW average
110	peak kW
0.72	load factor
22,375	btu/sf/year
1.18	watts/sf peak
Unit Costs	Prior Year
\$ 24,874	Total
\$ 10.10	Demand
\$ 0.029	Energy Incr.
\$ 0.051	Energy Blend.
334	days
489,840	kwh
1,002	kW total
91	kW average
104	peak kW
0.68	load factor
18,024	btu/sf/year
1.12	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 37,800 square feet
 Address **Police/Paramedics/Fire/Court**
 Account Number **12287-34102** Rate **SC 3 Sec** Delivery Voltage **0 - 2.2 kV**
 Tax Rate **0.0000%** Customer Charge **\$ 260.15** Demand Cost **\$ 16.65** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 260.15** **\$ 16.65**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/10/07	33	Actual	65,440	116.8	116.8	0.71	0.0	\$ 4,976	\$ 5,856	\$ 1,945	\$ 3,085	\$ 0.089	\$ 0.123	\$ 8,061
11/7/07	28	Actual	59,680	139.2	139.2	0.64	0.0	\$ 4,187	\$ 5,009	\$ 2,318	\$ 3,399	\$ 0.084	\$ 0.127	\$ 7,587
10/10/07	29	Actual	70,240	161.6	161.6	0.62	0.0	\$ 5,096	\$ 5,993	\$ 2,691	\$ 3,848	\$ 0.085	\$ 0.127	\$ 8,944
9/11/07	32	Actual	81,600	161.6	161.6	0.66	0.0	\$ 5,868	\$ 6,890	\$ 2,691	\$ 3,973	\$ 0.084	\$ 0.121	\$ 9,841
8/10/07	29	Actual	76,320	158.4	158.4	0.69	0.0	\$ 5,704	\$ 6,742	\$ 2,637	\$ 3,936	\$ 0.088	\$ 0.126	\$ 9,640
7/12/07	30	Actual	75,520	158.4	158.4	0.66	0.0	\$ 5,348	\$ 6,249	\$ 2,637	\$ 3,799	\$ 0.083	\$ 0.121	\$ 9,146
6/12/07	32	Actual	73,280	164.8	164.8	0.58	0.0	\$ 4,473	\$ 5,603	\$ 2,744	\$ 4,134	\$ 0.076	\$ 0.117	\$ 8,607
5/11/07	28	Actual	57,280	132.8	132.8	0.64	0.0	\$ 3,533	\$ 4,424	\$ 2,211	\$ 3,363	\$ 0.077	\$ 0.120	\$ 6,895
4/13/07	32	Actual	65,120	128.0	128.0	0.66	0.0	\$ 4,239	\$ 5,141	\$ 2,131	\$ 3,294	\$ 0.079	\$ 0.116	\$ 7,532
3/12/07	30	Actual	61,280	120.0	120.0	0.71	0.0	\$ 4,637	\$ 5,475	\$ 1,998	\$ 3,096	\$ 0.089	\$ 0.126	\$ 7,733
2/10/07	30	Actual	61,920	120.0	120.0	0.72	0.0	\$ 4,493	\$ 5,326	\$ 1,998	\$ 3,092	\$ 0.086	\$ 0.122	\$ 7,585
1/11/07	30	Actual	58,560	116.8	116.8	0.70	0.0	\$ 2,806	\$ 3,426	\$ 1,945	\$ 2,825	\$ 0.059	\$ 0.096	\$ 5,631
12-Dec-06	34	Actual	65,440	128.0	128.0	0.63	0.0	\$ 0	\$ 660	\$ 2,131	\$ 3,052	\$ 0.010	\$ 0.047	\$ 3,052
8-Nov-06	28	Actual	48,000	131.2	131.2	0.54	0.0	\$ 0	\$ 515	\$ 2,184	\$ 2,960	\$ 0.011	\$ 0.062	\$ 2,960
11-Oct-06	29	Actual	59,200	150.4	150.4	0.57	0.0	\$ 0	\$ 764	\$ 2,504	\$ 3,528	\$ 0.013	\$ 0.060	\$ 3,528
12-Sep-06	32	Actual	74,240	163.2	163.2	0.59	0.0	\$ 0	\$ 971	\$ 2,717	\$ 3,948	\$ 0.013	\$ 0.053	\$ 3,948
11-Aug-06	28	Actual	77,120	166.4	166.4	0.69	0.0	\$ 0	\$ 941	\$ 2,771	\$ 3,972	\$ 0.012	\$ 0.051	\$ 3,972
14-Jul-06	31	Actual	72,000	148.8	148.8	0.65	0.0	\$ 0	\$ 894	\$ 2,478	\$ 3,632	\$ 0.012	\$ 0.050	\$ 3,632
13-Jun-06	33	Actual	72,480	163.2	163.2	0.56	0.0	\$ 0	\$ 948	\$ 2,717	\$ 3,925	\$ 0.013	\$ 0.054	\$ 3,925
11-May-06	28	Actual	53,760	134.4	134.4	0.60	0.0	\$ 0	\$ 510	\$ 2,238	\$ 3,007	\$ 0.009	\$ 0.056	\$ 3,007
13-Apr-06	30	Actual	56,480	115.2	115.2	0.68	0.0	\$ 0	\$ 622	\$ 1,918	\$ 2,800	\$ 0.011	\$ 0.050	\$ 2,800
14-Mar-06	33	Actual	63,520	113.6	113.6	0.71	0.0	\$ 0	\$ 615	\$ 1,891	\$ 2,767	\$ 0.010	\$ 0.044	\$ 2,767
9-Feb-06	29	Actual	57,440	120.0	120.0	0.69	0.0	\$ 0	\$ 588	\$ 1,998	\$ 2,846	\$ 0.010	\$ 0.050	\$ 2,846



Unit Costs Last Year
 \$ 97,202 Total
 \$ 16.65 Demand
 \$ 0.082 Energy Increm.
 \$ 0.121 Energy Blend.
 363 days
 806,240 kWh
 1,678 kW total
 140 kW average
 165 peak kW
 0.67 load factor
 72,775 btu/sf/year
 4.36 watts/sf peak

Unit Costs Prior Year
 \$ 36,437 Total
 \$ 16.65 Demand
 \$ 0.011 Energy Increm.
 \$ 0.052 Energy Blend.
 335 days
 699,680 kWh
 1,534 kW total
 139 kW average
 166 peak kW
 0.63 load factor
 63,156 btu/sf/year
 4.40 watts/sf peak

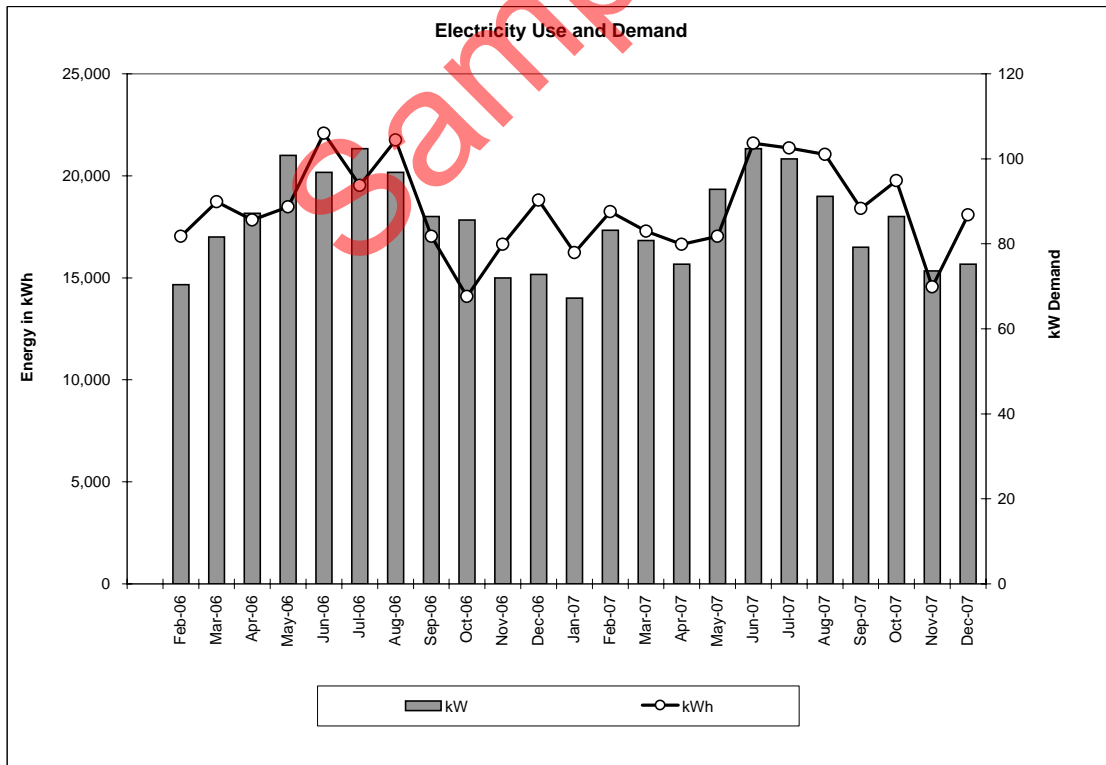
ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda**
 Address **Senior Citizen's Center**
 Account Number **11387-60103** Rate **SC 2D** Delivery Voltage **0 - 2.2 kV**

25,756 square feet

Tax Rate **0.0000%** Customer Charge **\$ 52.52** Demand Cost **\$ 10.10** Tariff Rate **With GRT**
 percent factor **1.0000** **\$ 52.52** **\$ 10.10**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/27/07	36	Actual	18,080	75.2	75.2	0.28	0.0	\$ 1,493	\$ 1,896	\$ 760	\$ 1,215	\$ 0.105	\$ 0.150	\$ 2,708
11/21/07	28	Actual	14,560	73.6	73.6	0.29	0.0	\$ 1,067	\$ 1,423	\$ 743	\$ 1,151	\$ 0.098	\$ 0.152	\$ 2,219
10/24/07	33	Actual	19,760	86.4	86.4	0.29	0.0	\$ 1,498	\$ 1,923	\$ 873	\$ 1,350	\$ 0.097	\$ 0.144	\$ 2,848
9/21/07	29	Actual	18,400	79.2	79.2	0.33	0.0	\$ 1,320	\$ 1,790	\$ 800	\$ 1,323	\$ 0.097	\$ 0.144	\$ 2,643
8/23/07	29	Actual	21,040	91.2	91.2	0.33	0.0	\$ 1,629	\$ 2,076	\$ 921	\$ 1,420	\$ 0.099	\$ 0.145	\$ 3,049
7/25/07	30	Actual	21,360	100.0	100.0	0.30	0.0	\$ 1,482	\$ 2,044	\$ 1,010	\$ 1,625	\$ 0.096	\$ 0.145	\$ 3,107
6/25/07	32	Actual	21,600	102.4	102.4	0.27	0.0	\$ 1,500	\$ 2,211	\$ 1,034	\$ 1,798	\$ 0.102	\$ 0.153	\$ 3,298
5/24/07	29	Actual	17,040	92.8	92.8	0.26	0.0	\$ 1,008	\$ 1,697	\$ 937	\$ 1,678	\$ 0.100	\$ 0.158	\$ 2,687
4/25/07	30	Actual	16,640	75.2	75.2	0.31	0.0	\$ 1,088	\$ 1,582	\$ 760	\$ 1,306	\$ 0.095	\$ 0.144	\$ 2,394
3/26/07	31	Actual	17,280	80.8	80.8	0.29	0.0	\$ 1,231	\$ 1,712	\$ 816	\$ 1,350	\$ 0.099	\$ 0.149	\$ 2,581
2/23/07	30	Actual	18,240	83.2	83.2	0.30	0.0	\$ 1,490	\$ 1,851	\$ 840	\$ 1,253	\$ 0.101	\$ 0.150	\$ 2,743
1/24/07	29	Actual	16,240	67.2	67.2	0.35	0.0	\$ 859	\$ 1,434	\$ 679	\$ 1,306	\$ 0.088	\$ 0.133	\$ 2,165
26-Dec-06	34	Actual	18,800	72.8	72.8	0.32	0.0	\$ 0	\$ 535	\$ 735	\$ 1,323	\$ 0.028	\$ 0.070	\$ 1,323
22-Nov-06	29	Actual	16,640	72.0	72.0	0.33	0.0	\$ 0	\$ 308	\$ 727	\$ 1,088	\$ 0.019	\$ 0.065	\$ 1,088
24-Oct-06	29	Actual	14,080	85.6	85.6	0.24	0.0	\$ 0	\$ 488	\$ 865	\$ 1,405	\$ 0.035	\$ 0.100	\$ 1,405
25-Sep-06	32	Actual	17,040	86.4	86.4	0.26	0.0	\$ 0	\$ 549	\$ 873	\$ 1,474	\$ 0.032	\$ 0.087	\$ 1,474
24-Aug-06	30	Actual	21,760	96.8	96.8	0.31	0.0	\$ 0	\$ 332	\$ 978	\$ 1,362	\$ 0.015	\$ 0.063	\$ 1,362
25-Jul-06	27	Actual	19,520	102.4	102.4	0.29	0.0	\$ 0	\$ 477	\$ 1,034	\$ 1,564	\$ 0.024	\$ 0.080	\$ 1,564
28-Jun-06	33	Actual	22,080	96.8	96.8	0.29	0.0	\$ 0	\$ 616	\$ 978	\$ 1,647	\$ 0.028	\$ 0.075	\$ 1,647
26-May-06	30	Actual	18,480	100.8	100.8	0.25	0.0	\$ 0	\$ 516	\$ 1,018	\$ 1,587	\$ 0.028	\$ 0.086	\$ 1,587
26-Apr-06	30	Actual	17,840	87.2	87.2	0.28	0.0	\$ 0	\$ 672	\$ 881	\$ 1,605	\$ 0.038	\$ 0.090	\$ 1,605
27-Mar-06	31	Actual	18,720	81.6	81.6	0.31	0.0	\$ 0	\$ 651	\$ 824	\$ 1,528	\$ 0.035	\$ 0.082	\$ 1,528
24-Feb-06	30	Actual	17,040	70.4	70.4	0.34	0.0	\$ 0	\$ 727	\$ 711	\$ 1,491	\$ 0.043	\$ 0.087	\$ 1,491



Unit Costs Last Year
 \$ 32,441 Total
 \$ 10.10 Demand
 \$ 0.098 Energy Increm.
 \$ 0.147 Energy Blend.
 366 days
 220,240 kWh
 1,007 kW total
 84 kW average
 102 peak kW
 0.30 load factor
 29,176 btu/sf/year
 3.98 watts/sf peak

Unit Costs Prior Year
 \$ 16,073 Total
 \$ 10.10 Demand
 \$ 0.029 Energy Increm.
 \$ 0.080 Energy Blend.
 335 days
 202,000 kWh
 953 kW total
 87 kW average
 102 peak kW
 0.29 load factor
 26,760 btu/sf/year
 3.98 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

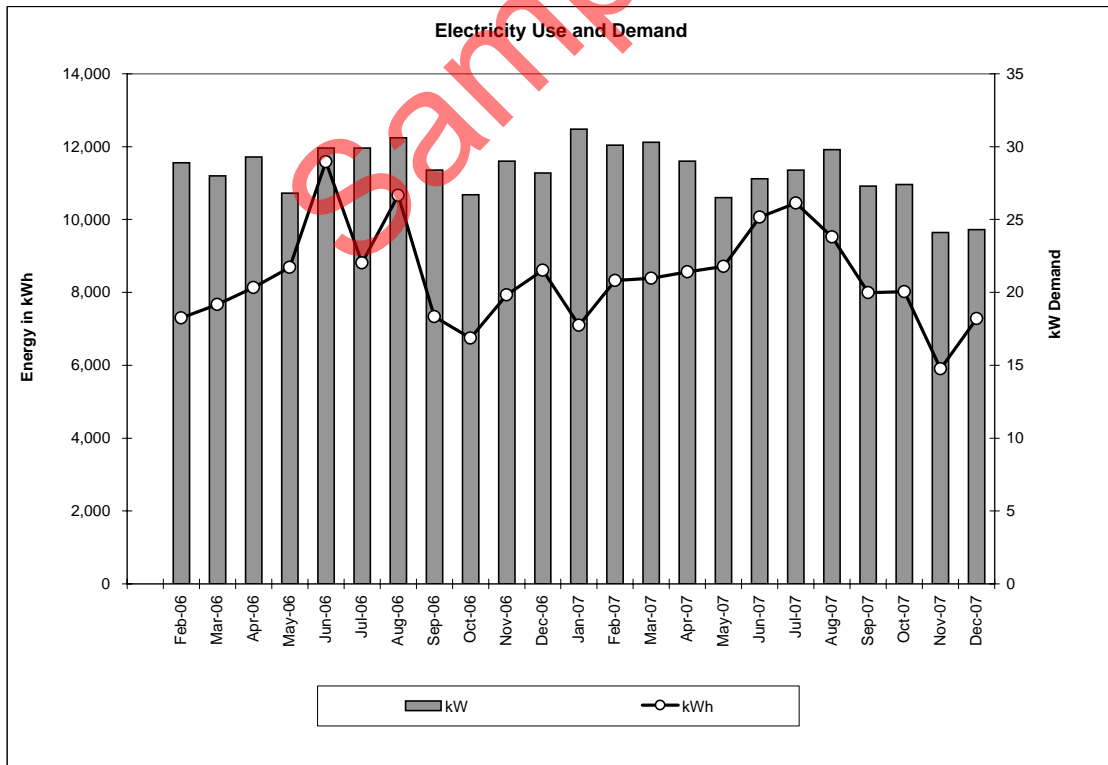
Site **Town of Tonawanda**
 Address **Sheridan Park Maintenance Building 1**

14,166 square feet

Account Number **39787-58103**
 Rate **SC 2D**
 Delivery Voltage **0 - 2.2 kV**

Tax Rate **0.0000%**
 Customer Charge **\$ 52.52**
 Demand Cost **\$ 10.10**
 Tariff Rate **With GRT**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Increm.	\$/kwh Blended	Total Electricity Cost
12/27/07	36	Actual	7,283	24.3	24.3	0.35	0.0	\$ 601	\$ 758	\$ 245	\$ 455	\$ 0.104	\$ 0.145	\$ 1,056
11/21/07	28	Actual	5,902	24.1	24.1	0.36	0.0	\$ 433	\$ 577	\$ 243	\$ 440	\$ 0.098	\$ 0.148	\$ 873
10/24/07	33	Actual	8,023	27.4	27.4	0.37	0.0	\$ 608	\$ 781	\$ 277	\$ 502	\$ 0.097	\$ 0.138	\$ 1,110
9/21/07	29	Actual	7,994	27.3	27.3	0.42	0.0	\$ 573	\$ 778	\$ 276	\$ 533	\$ 0.097	\$ 0.138	\$ 1,106
8/23/07	29	Actual	9,520	29.8	29.8	0.46	0.0	\$ 737	\$ 939	\$ 301	\$ 556	\$ 0.099	\$ 0.136	\$ 1,293
7/25/07	30	Actual	10,448	28.4	28.4	0.51	0.0	\$ 725	\$ 1,000	\$ 287	\$ 614	\$ 0.096	\$ 0.128	\$ 1,339
6/25/07	32	Actual	10,069	27.8	27.8	0.47	0.0	\$ 699	\$ 1,031	\$ 281	\$ 665	\$ 0.102	\$ 0.135	\$ 1,364
5/24/07	29	Actual	8,713	26.5	26.5	0.47	0.0	\$ 516	\$ 868	\$ 268	\$ 672	\$ 0.100	\$ 0.136	\$ 1,188
4/25/07	30	Actual	8,562	29.0	29.0	0.41	0.0	\$ 560	\$ 814	\$ 293	\$ 600	\$ 0.095	\$ 0.135	\$ 1,159
3/26/07	31	Actual	8,391	30.3	30.3	0.37	0.0	\$ 598	\$ 831	\$ 306	\$ 592	\$ 0.099	\$ 0.142	\$ 1,190
2/23/07	30	Actual	8,329	30.1	30.1	0.38	0.0	\$ 680	\$ 845	\$ 304	\$ 521	\$ 0.101	\$ 0.144	\$ 1,202
1/24/07	29	Actual	7,095	31.2	31.2	0.33	0.0	\$ 375	\$ 626	\$ 315	\$ 618	\$ 0.088	\$ 0.140	\$ 994
26-Dec-06	34	Actual	8,604	28.2	28.2	0.37	0.0	\$ 0	\$ 248	\$ 285	\$ 585	\$ 0.029	\$ 0.068	\$ 585
22-Nov-06	29	Actual	7,934	29.0	29.0	0.39	0.0	\$ 0	\$ 150	\$ 293	\$ 495	\$ 0.019	\$ 0.062	\$ 495
24-Oct-06	29	Actual	6,745	26.7	26.7	0.36	0.0	\$ 0	\$ 242	\$ 270	\$ 564	\$ 0.036	\$ 0.084	\$ 564
25-Sep-06	32	Actual	7,337	28.4	28.4	0.34	0.0	\$ 0	\$ 241	\$ 287	\$ 581	\$ 0.033	\$ 0.079	\$ 581
24-Aug-06	30	Actual	10,661	30.6	30.6	0.48	0.0	\$ 0	\$ 173	\$ 309	\$ 534	\$ 0.016	\$ 0.050	\$ 534
25-Jul-06	27	Actual	8,809	29.9	29.9	0.45	0.0	\$ 0	\$ 222	\$ 302	\$ 576	\$ 0.025	\$ 0.065	\$ 576
28-Jun-06	33	Actual	11,581	29.9	29.9	0.49	0.0	\$ 0	\$ 336	\$ 302	\$ 690	\$ 0.029	\$ 0.060	\$ 690
26-May-06	30	Actual	8,682	26.8	26.8	0.45	0.0	\$ 0	\$ 255	\$ 271	\$ 578	\$ 0.029	\$ 0.067	\$ 578
26-Apr-06	30	Actual	8,135	29.3	29.3	0.39	0.0	\$ 0	\$ 314	\$ 296	\$ 662	\$ 0.039	\$ 0.081	\$ 662
27-Mar-06	31	Actual	7,665	28.0	28.0	0.37	0.0	\$ 0	\$ 273	\$ 283	\$ 608	\$ 0.036	\$ 0.079	\$ 608
24-Feb-06	30	Actual	7,302	28.9	28.9	0.35	0.0	\$ 0	\$ 311	\$ 292	\$ 655	\$ 0.043	\$ 0.090	\$ 655



Unit Costs Last Year

- \$ 13,873 Total
- \$ 10.10 Demand
- \$ 0.098 Energy Increm.
- \$ 0.138 Energy Blend.
- 366 days
- 100,329 kwh
- 336 kW total
- 28 kW average
- 31 peak kW
- 0.41 load factor
- 24,165 btu/sf/year
- 2.20 watts/sf peak

Unit Costs Prior Year

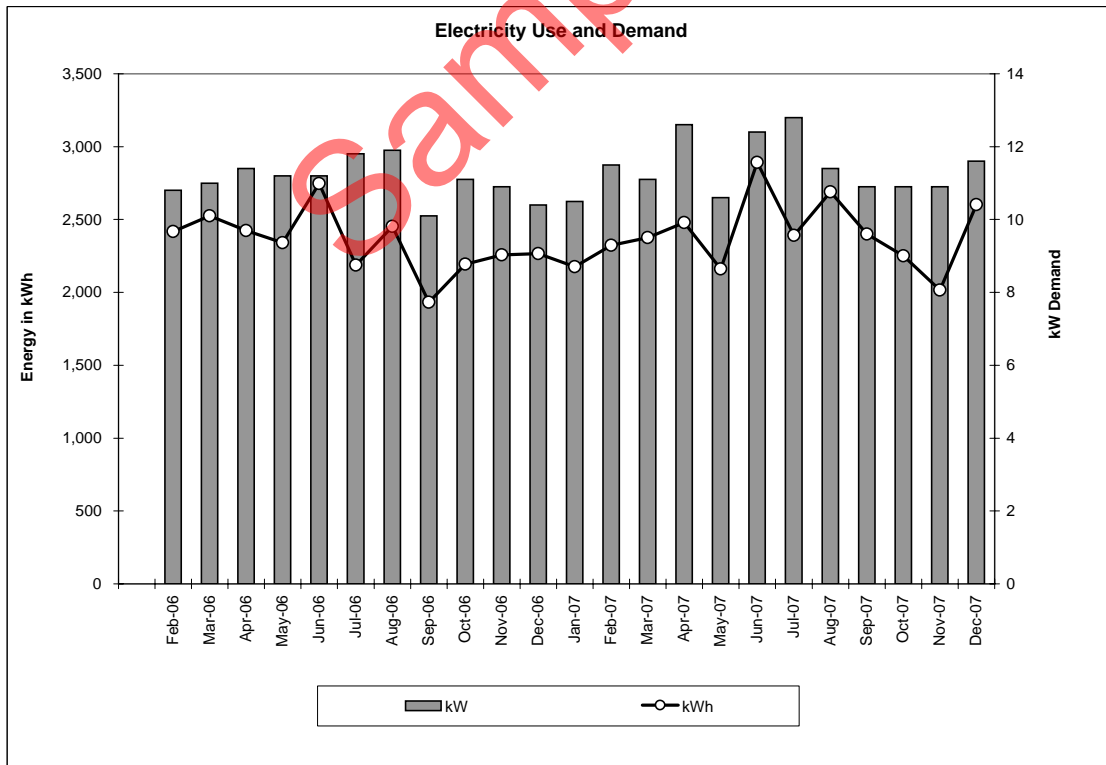
- \$ 6,530 Total
- \$ 10.10 Demand
- \$ 0.030 Energy Increm.
- \$ 0.070 Energy Blend.
- 335 days
- 93,455 kwh
- 316 kW total
- 29 kW average
- 31 peak kW
- 0.41 load factor
- 22,509 btu/sf/year
- 2.16 watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

Site **Town of Tonawanda** 3,200 square feet
 Address **Sheridan Park Maintenance Building 2**

Account Number	Rate	Delivery Voltage	Tax Rate	Customer Charge	Demand Cost	Tariff Rate
10987-60109	SC 2D	0 - 2.2 kV	percent factor 0.0000% 1.0000	\$ 52.52 \$ 52.52	\$ 10.10 \$ 10.10	With GRT

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
12/27/07	36	Actual	2,603	11.6	11.6	0.26	0.0	\$ 215	\$ 284	\$ 117	\$ 238	\$ 0.109	\$ 0.174	\$ 453
11/21/07	28	Actual	2,015	10.9	10.9	0.28	0.0	\$ 148	\$ 197	\$ 110	\$ 212	\$ 0.098	\$ 0.178	\$ 360
10/24/07	33	Actual	2,251	10.9	10.9	0.26	0.0	\$ 171	\$ 219	\$ 110	\$ 211	\$ 0.097	\$ 0.170	\$ 382
9/21/07	29	Actual	2,401	10.9	10.9	0.32	0.0	\$ 172	\$ 234	\$ 110	\$ 224	\$ 0.097	\$ 0.165	\$ 396
8/23/07	29	Actual	2,690	11.4	11.4	0.34	0.0	\$ 208	\$ 265	\$ 115	\$ 225	\$ 0.099	\$ 0.161	\$ 433
7/25/07	30	Actual	2,392	12.8	12.8	0.26	0.0	\$ 166	\$ 229	\$ 129	\$ 245	\$ 0.096	\$ 0.172	\$ 411
6/25/07	32	Actual	2,891	12.4	12.4	0.30	0.0	\$ 201	\$ 296	\$ 125	\$ 273	\$ 0.102	\$ 0.164	\$ 474
5/24/07	29	Actual	2,161	10.6	10.6	0.29	0.0	\$ 128	\$ 215	\$ 107	\$ 247	\$ 0.100	\$ 0.173	\$ 375
4/25/07	30	Actual	2,480	12.6	12.6	0.27	0.0	\$ 162	\$ 236	\$ 127	\$ 253	\$ 0.095	\$ 0.168	\$ 416
3/26/07	31	Actual	2,375	11.1	11.1	0.29	0.0	\$ 169	\$ 235	\$ 112	\$ 231	\$ 0.099	\$ 0.168	\$ 400
2/23/07	30	Actual	2,322	11.5	11.5	0.28	0.0	\$ 190	\$ 236	\$ 116	\$ 215	\$ 0.101	\$ 0.174	\$ 404
1/24/07	29	Actual	2,176	10.5	10.5	0.30	0.0	\$ 115	\$ 192	\$ 106	\$ 235	\$ 0.088	\$ 0.161	\$ 350
26-Dec-06	34	Actual	2,267	10.4	10.4	0.27	0.0	\$ 0	\$ 63	\$ 105	\$ 220	\$ 0.028	\$ 0.097	\$ 220
22-Nov-06	29	Actual	2,258	10.9	10.9	0.30	0.0	\$ 0	\$ 40	\$ 110	\$ 203	\$ 0.018	\$ 0.090	\$ 203
24-Oct-06	29	Actual	2,194	11.1	11.1	0.28	0.0	\$ 0	\$ 77	\$ 112	\$ 241	\$ 0.035	\$ 0.110	\$ 241
25-Sep-06	32	Actual	1,933	10.1	10.1	0.25	0.0	\$ 0	\$ 61	\$ 102	\$ 216	\$ 0.032	\$ 0.112	\$ 216
24-Aug-06	30	Actual	2,452	11.9	11.9	0.29	0.0	\$ 0	\$ 36	\$ 120	\$ 209	\$ 0.015	\$ 0.085	\$ 209
25-Jul-06	27	Actual	2,186	11.8	11.8	0.29	0.0	\$ 0	\$ 47	\$ 119	\$ 219	\$ 0.022	\$ 0.100	\$ 219
28-Jun-06	33	Actual	2,747	11.2	11.2	0.31	0.0	\$ 0	\$ 76	\$ 113	\$ 242	\$ 0.028	\$ 0.088	\$ 242
26-May-06	30	Actual	2,340	11.2	11.2	0.29	0.0	\$ 0	\$ 66	\$ 113	\$ 231	\$ 0.028	\$ 0.099	\$ 231
26-Apr-06	30	Actual	2,423	11.4	11.4	0.30	0.0	\$ 0	\$ 90	\$ 115	\$ 258	\$ 0.037	\$ 0.106	\$ 258
27-Mar-06	31	Actual	2,525	11.0	11.0	0.31	0.0	\$ 0	\$ 83	\$ 111	\$ 247	\$ 0.033	\$ 0.098	\$ 247
24-Feb-06	30	Actual	2,418	10.8	10.8	0.31	0.0	\$ 0	\$ 97	\$ 109	\$ 259	\$ 0.040	\$ 0.107	\$ 259



Unit Costs	Last Year
\$ 4,853	Total
\$ 10.10	Demand
\$ 0.099	Energy Incr.
\$ 0.169	Energy Blend.
366	days
28,757	kwh
137	kW total
11	kW average
13	peak kW
0.29	load factor
30,662	btu/sf/year
4.00	watts/sf peak
Unit Costs	Prior Year
\$ 2,545	Total
\$ 10.10	Demand
\$ 0.029	Energy Incr.
\$ 0.099	Energy Blend.
335	days
25,743	kwh
122	kW total
11	kW average
12	peak kW
0.29	load factor
27,448	btu/sf/year
3.72	watts/sf peak

ELECTRICITY CONSUMPTION AND COST ANALYSIS

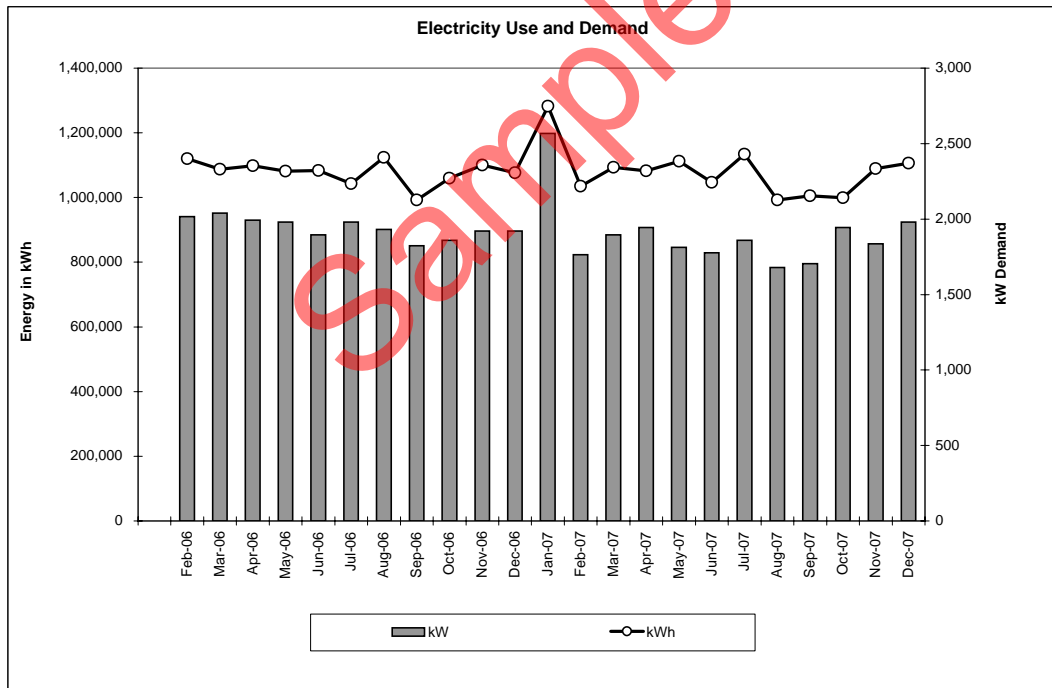
Site **Town of Tonawanda**
Address **Wastewater Treatment Facility**

NIS square feet /Estimated Value-True Value Not Known

Account Number **2148-83100** Rate **SC 3A** Delivery Voltage **22 - 50 kV**

Tax Rate **0.0000%** Customer Charge **\$ 14,000.00** Demand Cost **\$ 7.57** Tariff Rate **With GRT**
percent factor **1.0000** **\$ 14,000.00** **\$ 7.57**

Period Ending	Days	Type	kWh Total	Metered Peak kW	Billed Peak kW	Load Factor	RKVA	Commodity kWh Cost	Total kWh Cost	Demand Cost	Total Utility Cost	\$/kwh Incr.	\$/kwh Blended	Total Electricity Cost
12/18/07	30	Actual	1,106,622	1,980.0	1,980.0	0.78	588.0	\$ 88,647	\$ 82,771	\$ 14,989	\$ 23,112	\$ 0.075	\$ 0.101	\$ 111,759
11/18/07	32	Actual	1,089,696	1,836.0	1,836.0	0.77	600.0	\$ 73,134	\$ 66,271	\$ 13,899	\$ 21,036	\$ 0.061	\$ 0.086	\$ 94,170
10/17/07	29	Actual	999,657	1,944.0	1,944.0	0.74	636.0	\$ 69,392	\$ 61,196	\$ 14,716	\$ 20,521	\$ 0.061	\$ 0.090	\$ 89,912
9/18/07	29	Actual	1,004,946	1,704.0	1,704.0	0.85	644.0	\$ 65,724	\$ 57,500	\$ 12,899	\$ 18,676	\$ 0.057	\$ 0.084	\$ 84,400
8/20/07	29	Actual	992,589	1,680.0	1,680.0	0.85	592.0	\$ 69,669	\$ 61,756	\$ 12,718	\$ 18,805	\$ 0.062	\$ 0.089	\$ 88,474
7/22/07	32	Actual	1,133,571	1,860.0	1,860.0	0.79	640.0	\$ 72,013	\$ 63,464	\$ 14,080	\$ 19,532	\$ 0.056	\$ 0.081	\$ 91,545
6/20/07	30	Actual	1,046,637	1,776.0	1,776.0	0.82	608.0	\$ 65,319	\$ 58,382	\$ 13,444	\$ 20,508	\$ 0.056	\$ 0.082	\$ 85,827
5/21/07	32	Actual	1,112,220	1,812.0	1,812.0	0.80	596.0	\$ 58,290	\$ 51,627	\$ 13,717	\$ 21,053	\$ 0.046	\$ 0.071	\$ 79,344
4/19/07	30	Actual	1,082,064	1,944.0	1,944.0	0.77	600.0	\$ 66,305	\$ 59,478	\$ 14,716	\$ 21,889	\$ 0.055	\$ 0.082	\$ 88,194
3/20/07	29	Actual	1,092,903	1,896.0	1,896.0	0.83	592.0	\$ 76,248	\$ 69,260	\$ 14,353	\$ 21,364	\$ 0.063	\$ 0.089	\$ 97,612
2/19/07	29	Actual	1,035,075	1,764.0	1,764.0	0.84	516.0	\$ 79,163	\$ 71,722	\$ 13,353	\$ 19,913	\$ 0.069	\$ 0.096	\$ 99,076
1/21/07	33	Actual	1,281,978	2,568.0	2,568.0	0.63	608.0	\$ 60,559	\$ 52,770	\$ 19,440	\$ 25,651	\$ 0.041	\$ 0.067	\$ 86,210
19-Dec-06	30	Actual	1,076,637	1,920.0	1,920.0	0.78	572.0	\$ 0	(\$ 9,468)	\$ 14,534	\$ 49,067	(\$ 0.009)	\$ 0.018	\$ 19,067
19-Nov-06	31	Actual	1,100,697	1,920.0	1,920.0	0.77	572.0	\$ 0	(\$ 9,649)	\$ 14,534	\$ 18,885	(\$ 0.009)	\$ 0.017	\$ 18,885
19-Oct-06	30	Actual	1,059,954	1,860.0	1,860.0	0.79	616.0	\$ 0	(\$ 7,867)	\$ 14,080	\$ 20,213	(\$ 0.007)	\$ 0.019	\$ 20,213
19-Sep-06	29	Actual	992,718	1,824.0	1,824.0	0.78	640.0	\$ 0	(\$ 7,946)	\$ 13,808	\$ 19,861	(\$ 0.008)	\$ 0.020	\$ 19,861
21-Aug-06	32	Actual	1,124,340	1,932.0	1,932.0	0.76	652.0	\$ 0	(\$ 8,162)	\$ 14,625	\$ 20,463	(\$ 0.007)	\$ 0.018	\$ 20,463
20-Jul-06	29	Actual	1,042,521	1,980.0	1,980.0	0.76	648.0	\$ 0	(\$ 7,859)	\$ 14,989	\$ 21,130	(\$ 0.008)	\$ 0.020	\$ 21,130
21-Jun-06	31	Actual	1,083,726	1,896.0	1,896.0	0.77	628.0	\$ 0	(\$ 8,004)	\$ 14,353	\$ 20,349	(\$ 0.007)	\$ 0.019	\$ 20,349
21-May-06	31	Actual	1,080,930	1,980.0	1,980.0	0.73	732.0	\$ 0	(\$ 9,988)	\$ 14,989	\$ 19,001	(\$ 0.009)	\$ 0.018	\$ 19,001
20-Apr-06	30	Actual	1,097,745	1,992.0	1,992.0	0.77	740.0	\$ 0	(\$ 7,968)	\$ 15,079	\$ 21,111	(\$ 0.007)	\$ 0.019	\$ 21,111
21-Mar-06	29	Actual	1,087,134	2,040.0	2,040.0	0.77	760.0	\$ 0	(\$ 8,808)	\$ 15,443	\$ 20,634	(\$ 0.008)	\$ 0.019	\$ 20,634
20-Feb-06	29	Actual	1,120,419	2,016.0	2,016.0	0.80	780.0	\$ 0	(\$ 8,593)	\$ 15,261	\$ 20,668	(\$ 0.008)	\$ 0.018	\$ 20,668



Unit Costs	Last Year
\$ 1,096,522	Total
\$ 7.57	Demand
\$ 0.058	Energy Incr.
\$ 0.084	Energy Blend.
364	days
12,977,958	kwh
22,764	kWh total
1,897	kW average
2,568	peak kW
0.79	load factor
#VALUE!	btu/sf/year
#VALUE!	watts/sf peak
Unit Costs	Prior Year
\$ 221,381	Total
\$ 7.57	Demand
(\$ 0.008)	Energy Incr.
\$ 0.019	Energy Blend.
331	days
11,866,821	kwh
21,360	kWh total
1,942	kW average
2,040	peak kW
0.77	load factor
#VALUE!	btu/sf/year
#VALUE!	watts/sf peak

NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** Tonawanda - Youth, Parks, & Recreation
 Address: **Aquatic and Fitness Center** 1 Pool Plaza
 Utility: **National Fuel Gas**
 Account # **3824-901** 0
 Commodity Supplier: **COE**
 Base Customer Charge:

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **49,395** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	1,217	\$ 12,996	\$ 10.68
2	11/30/07	30		Nov-07	767	995	\$ 10,335	\$ 10.39
3	10/31/07	31		Oct-07	228	486	\$ 5,019	\$ 10.32
4	9/30/07	30		Sep-07	65	273	\$ 2,829	\$ 10.36
5	8/31/07	31		Aug-07	172	183	\$ 1,910	\$ 10.46
6	7/31/07	31		Jul-07	5	237	\$ 2,586	\$ 10.93
7	6/30/07	30		Jun-07	25	262	\$ 2,962	\$ 11.32
8	5/31/07	31		May-07	215	500	\$ 5,273	\$ 10.55
9	4/30/07	30		Apr-07	684	825	\$ 8,560	\$ 10.37
10	3/31/07	31		Mar-07	936	1,018	\$ 11,836	\$ 11.63
11	2/28/07	28		Feb-07	1,287	1,171	\$ 13,100	\$ 11.18
12	1/31/07	31		Jan-07	1,103	1,104	\$ 11,846	\$ 10.73

Cost Components:

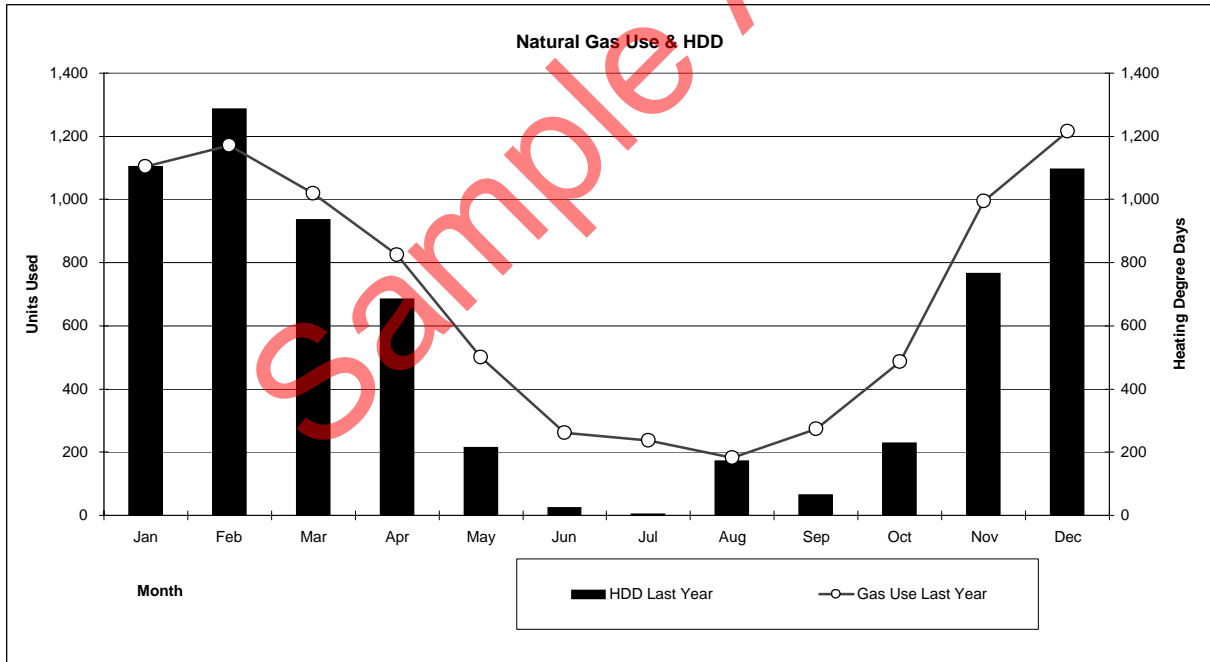
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
1,217	\$ 10,807	1,217	\$ 2,093
995	\$ 8,499	995	\$ 1,757
486	\$ 3,975	486	\$ 1,005
273	\$ 2,103	273	\$ 704
183	\$ 1,318	183	\$ 577
237	\$ 1,924	237	\$ 643
262	\$ 2,265	262	\$ 677
500	\$ 4,231	500	\$ 1,002
825	\$ 7,051	825	\$ 1,442
1,018	\$ 10,030	1,018	\$ 1,724
1,171	\$ 11,072	1,171	\$ 1,934
1,104	\$ 9,921	1,104	\$ 1,837

btu/sf.yr. 172,461
 btu/sf.yr/HDD 26.20
 Last Year
 HDD 6,583
 MCF 8,271
 \$/MCF \$ 10.79
\$ 89,252

Commodity 34,998
 Trans. & Delivery 8,271
 \$ 73,195
 \$ 15,395

Last Year
 8,271 MCF
 \$ 89,252 Total Cost
 \$ 10.791 \$/MCF
 172,461 BTU/sq.ft./yr.
 6,583 HDD
 1.3 MCF / HDD
 \$ 8.85 / MCF commodity
 \$ 1.86 / MCF T & D

Average Cost per MCF: \$ 10.791



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** Tonawanda - Youth, Parks, & Recreation
 Address: **Brighton Ice Rink & Pool** 251 Brompton Road
 Utility: **National Fuel Gas**
 Account # **3758-820** 0
 Commodity Supplier: **COE**
 Base Customer Charge:

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **28,674** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	197	\$ 2,272	\$ 11.54
2	11/30/07	30		Nov-07	767	132	\$ 1,485	\$ 11.25
3	10/31/07	31		Oct-07	228	32	\$ 399	\$ 12.30
4	9/30/07	30		Sep-07	65	5	\$ 70	\$ 13.54
5	8/31/07	31		Aug-07	172	7	\$ 85	\$ 12.35
6	7/31/07	31		Jul-07	5	5	\$ 68	\$ 12.84
7	6/30/07	30		Jun-07	25	(3)	(\$ 21)	\$ 8.30
8	5/31/07	31		May-07	215	13	\$ 165	\$ 12.28
9	4/30/07	30		Apr-07	684	79	\$ 886	\$ 11.28
10	3/31/07	31		Mar-07	936	157	\$ 1,973	\$ 12.58
11	2/28/07	28		Feb-07	1,287	203	\$ 2,415	\$ 11.89
12	1/31/07	31		Jan-07	1,103	199	\$ 2,345	\$ 11.77

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 36,909 5.61 Last Year 6,583 1,028 \$ 12,143 \$ 11.82

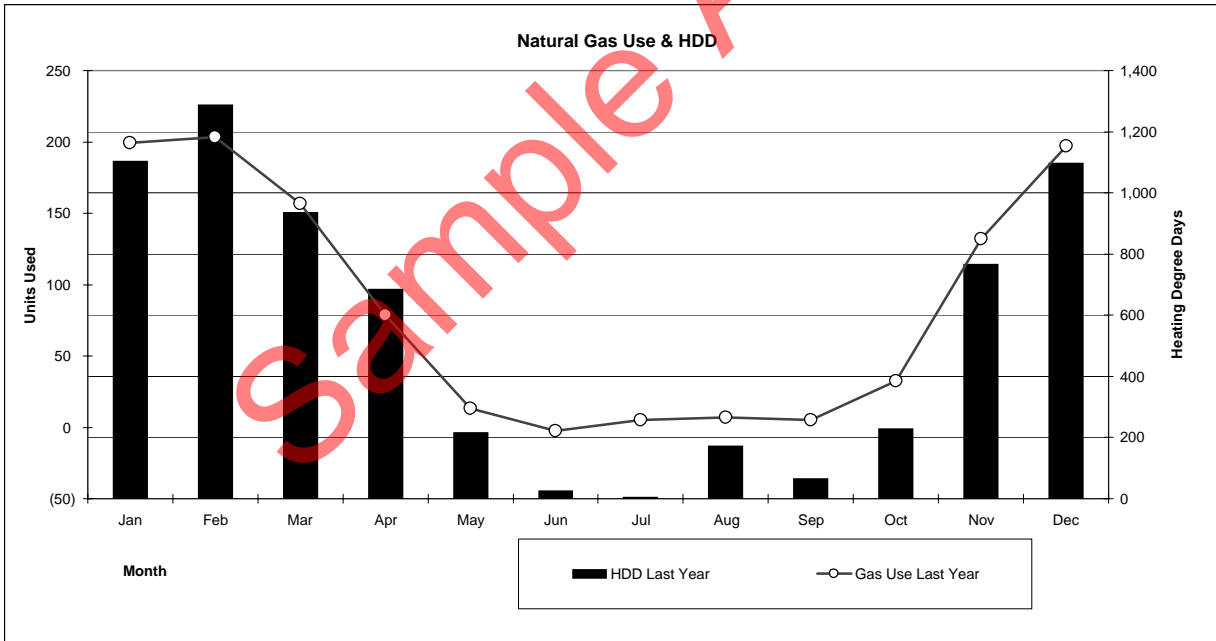
Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
197	\$ 1,808	197	\$ 449
132	\$ 1,166	132	\$ 308
32	\$ 274	32	\$ 122
5	\$ 42	5	\$ 28
7	\$ 52	7	\$ 33
5	\$ 45	5	\$ 23
(3)	(\$ 22)	(3)	\$ 2
13	\$ 117	13	\$ 46
79	\$ 695	79	\$ 185
157	\$ 1,596	157	\$ 365
203	\$ 1,987	203	\$ 412
199	\$ 1,855	199	\$ 475

Commodity Trans. & Delivery
 34,998 \$ 9,612 1,028 \$ 2,449

Last Year
 1,028 MCF
 \$ 12,143 Total Cost
 \$ 11.818 \$/MCF
 36,909 BTU/sq.ft./yr.
 6,583 HDD
 0.2 MCF / HDD
 \$ 9.35 / MCF commodity
 \$ 2.38 / MCF T & D

Average Cost per MCF: \$ 11.818



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** Tonawanda - Youth, Parks, & Recreation
 Address: **Brighton Park Maintenance Building** 144 Brompton Road
 Utility: **National Fuel Gas**
 Account # **3758-819** 0
 Commodity Supplier: **COE**
 Base Customer Charge: **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **5,372** sq. ft.

Use & Cost Summary:

Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
12/31/07	31		Dec-07	1,096	168	\$ 1,946	\$ 11.57
11/30/07	30		Nov-07	767	106	\$ 1,202	\$ 11.33
10/31/07	31		Oct-07	228	30	\$ 374	\$ 12.33
9/30/07	30		Sep-07	65	7	\$ 87	\$ 12.86
8/31/07	31		Aug-07	172	3	\$ 49	\$ 14.72
7/31/07	31		Jul-07	5	2	\$ 30	\$ 15.96
6/30/07	30		Jun-07	25	6	\$ 75	\$ 13.24
5/31/07	31		May-07	215	25	\$ 298	\$ 11.96
4/30/07	30		Apr-07	684	116	\$ 1,293	\$ 11.12
3/31/07	31		Mar-07	936	142	\$ 1,793	\$ 12.61
2/28/07	28		Feb-07	1,287	220	\$ 2,611	\$ 11.87
1/31/07	31		Jan-07	1,103	175	\$ 2,069	\$ 11.80

btu/sf.yr. btu/sf.yr/HDD HDD MCF \$/MCF
 191,888 29.15 Last Year 6,583 1,001 **\$ 11,826** \$ 11.82

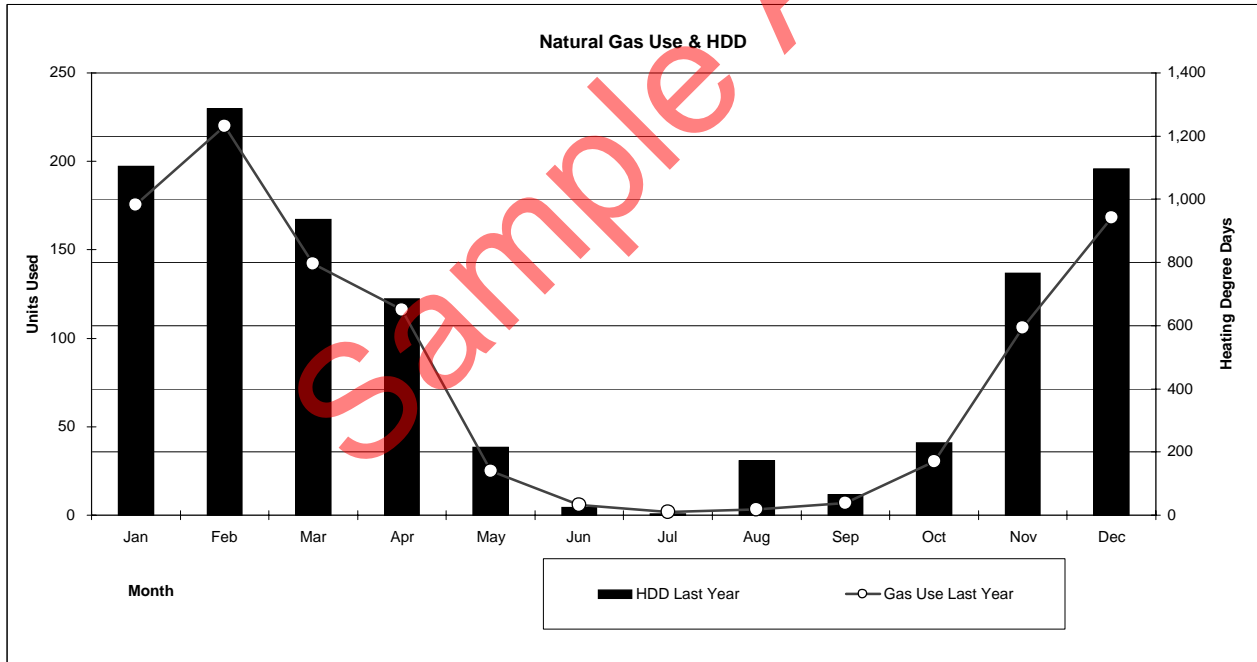
Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
168	\$ 1,542	168	\$ 390
106	\$ 937	106	\$ 256
30	\$ 257	30	\$ 115
7	\$ 54	7	\$ 33
3	\$ 25	3	\$ 24
2	\$ 16	2	\$ 14
6	\$ 51	6	\$ 24
25	\$ 218	25	\$ 78
116	\$ 1,027	116	\$ 256
142	\$ 1,447	142	\$ 334
220	\$ 2,150	220	\$ 443
175	\$ 1,633	175	\$ 422

Commodity Trans. & Delivery
 34,998 \$ 9,357 1,001 \$ 2,389

Last Year
 1,001 MCF
 \$ 11,826 Total Cost
 \$ 11.817 \$/MCF
 191,888 BTU/sq.ft./yr.
 6,583 HDD
 0.2 MCF / HDD
 \$ 9.35 / MCF commodity
 \$ 2.39 / MCF T & D

Average Cost per MCF: **\$ 11.817**



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Fire Training Classroom Building** 70 Fire tower Drive
 Utility: **National Fuel Gas**
 Account # **4347-089** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **3,375** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	13	\$ 166	\$ 13.09
2	11/30/07	30		Nov-07	767	18	\$ 218	\$ 12.34
3	10/31/07	31		Oct-07	228	3	\$ 59	\$ 17.40
4	9/30/07	30		Sep-07	65	2	\$ 31	\$ 20.65
5	8/31/07	31		Aug-07	172	(0)	\$ 15	(\$ 50.93)
6	7/31/07	31		Jul-07	5	0	\$ 14	\$ 47.97
7	6/30/07	30		Jun-07	25	(5)	(\$ 48)	\$ 9.55
8	5/31/07	31		May-07	215	5	\$ 68	\$ 13.41
9	4/30/07	30		Apr-07	684	6	\$ 82	\$ 12.84
10	3/31/07	31		Mar-07	936	24	\$ 322	\$ 13.30
11	2/28/07	28		Feb-07	1,287	33	\$ 417	\$ 12.56
12	1/31/07	31		Jan-07	1,103	34	\$ 420	\$ 12.44

Cost Components:

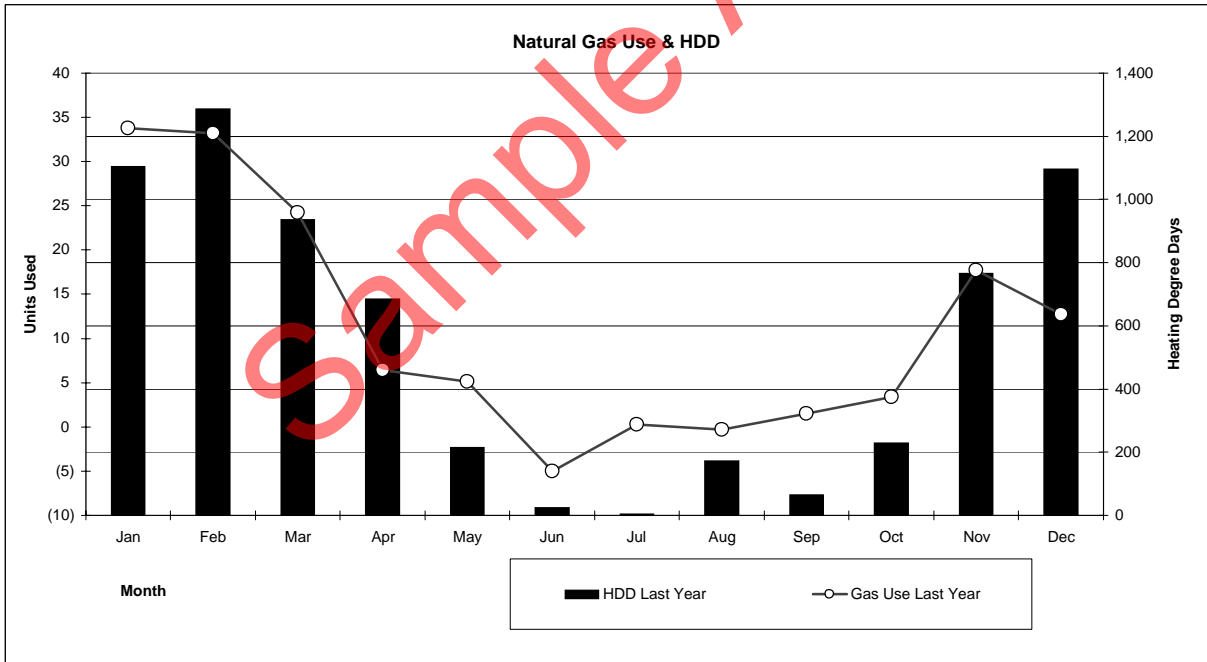
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
13	\$ 117	13	\$ 49
18	\$ 156	18	\$ 61
3	\$ 29	3	\$ 30
2	\$ 12	2	\$ 19
(0)	(\$ 2)	(0)	\$ 18
0	\$ 3	0	\$ 12
(5)	(\$ 45)	(5)	(\$ 3)
5	\$ 45	5	\$ 23
6	\$ 57	6	\$ 25
24	\$ 246	24	\$ 74
33	\$ 325	33	\$ 90
34	\$ 315	34	\$ 103

Last Year
 133 MCF
 \$ 1,766 Total Cost
 \$ 13.282 \$/MCF
 40,590 BTU/sq.ft./yr.
 6,583 HDD
 0.0 MCF / HDD
 \$ 9.44 / MCF commodity
 \$ 3.76 / MCF T & D

btu/sf.yr. 40,590 btu/sf.yr/HDD 6.17 Last Year HDD 6,583 MCF 133 \$ 1,766 \$/MCF 13.28

Commodity 34,998 \$ 1,256 Trans. & Delivery 133 \$ 500

Average Cost per MCF: \$ 13.282



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Highway**
 Address: **Highway Office Building** 450 Woodward Avenue
 Utility: **National Fuel Gas**
 Account # **4692-309** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **43,612** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	918	\$ 9,886	\$ 10.77
2	11/30/07	30		Nov-07	767	314	\$ 3,481	\$ 11.09
3	10/31/07	31		Oct-07	228	0	\$ 321	#DIV/0!
4	9/30/07	30		Sep-07	65	73	\$ 991	\$ 13.57
5	8/31/07	31		Aug-07	172	8	\$ 390	\$ 48.77
6	7/31/07	31		Jul-07	5	10	\$ 416	\$ 41.63
7	6/30/07	30		Jun-07	25	18	\$ 502	\$ 27.90
8	5/31/07	31		May-07	215	95	\$ 1,262	\$ 13.28
9	4/30/07	30		Apr-07	684	554	\$ 5,853	\$ 10.56
10	3/31/07	31		Mar-07	936	838	\$ 9,799	\$ 11.69
11	2/28/07	28		Feb-07	1,287	705	\$ 8,012	\$ 11.36
12	1/31/07	31		Jan-07	1,103	1,072	\$ 11,511	\$ 10.74

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 108,758 16.52 Last Year 6,583 4,605 \$ 52,423 \$ 11.38

Cost Components:

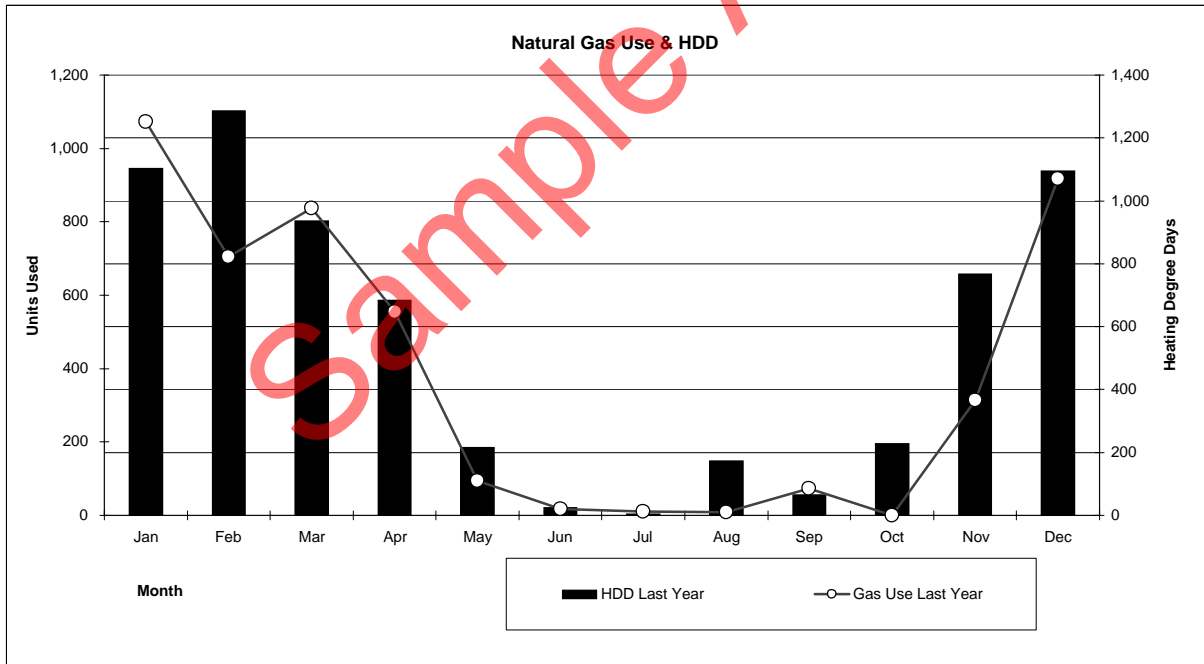
COE Commodity MCF	Cost	National Fuel Gas Trans. & Delivery MCF	Cost
918	\$ 8,155	918	\$ 1,658
314	\$ 2,682	314	\$ 774
0	\$ 0	0	\$ 321
73	\$ 562	73	\$ 423
8	\$ 58	8	\$ 332
10	\$ 81	10	\$ 334
18	\$ 156	18	\$ 345
95	\$ 804	95	\$ 450
554	\$ 4,734	554	\$ 1,074
838	\$ 8,256	838	\$ 1,476
705	\$ 6,663	705	\$ 1,292
1,072	\$ 9,632	1,072	\$ 1,793

Commodity Trans. & Delivery
 34,998 \$ 41,783 4,605 \$ 10,271

Last Year

4,605 MCF
 \$ 52,423 Total Cost
 \$ 11.384 \$/MCF
 108,758 BTU/sq.ft./yr.
 6,583 HDD
 0.7 MCF / HDD
 \$ 9.07 / MCF commodity
 \$ 2.23 / MCF T & D

Average Cost per MCF: \$ 11.384



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** Tonawanda - Youth, Parks, & Recreation
 Address: **Historical Building** 100 Knoche Road
 Utility: **National Fuel Gas**
 Account # **5621-339** 0
 Commodity Supplier: **COE**
 Base Customer Charge: **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **1,500** sq. ft.

Use & Cost Summary:

Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1 12/31/07	31		Dec-07	1,096	20	\$ 253	\$ 12.63
2 11/30/07	30		Nov-07	767	24	\$ 290	\$ 12.12
3 10/31/07	31		Oct-07	228	7	\$ 98	\$ 13.98
4 9/30/07	30		Sep-07	65	2	\$ 35	\$ 18.54
5 8/31/07	31		Aug-07	172	(0)	\$ 16	(\$ 80.15)
6 7/31/07	31		Jul-07	5	0	\$ 14	\$ 67.70
7 6/30/07	30		Jun-07	25	0	\$ 15	\$ 48.47
8 5/31/07	31		May-07	215	6	\$ 82	\$ 13.06
9 4/30/07	30		Apr-07	684	32	\$ 374	\$ 11.66
10 3/31/07	31		Mar-07	936	26	\$ 349	\$ 13.27
11 2/28/07	28		Feb-07	1,287	39	\$ 484	\$ 12.52
12 1/31/07	31		Jan-07	1,103	32	\$ 392	\$ 12.46

Cost Components:

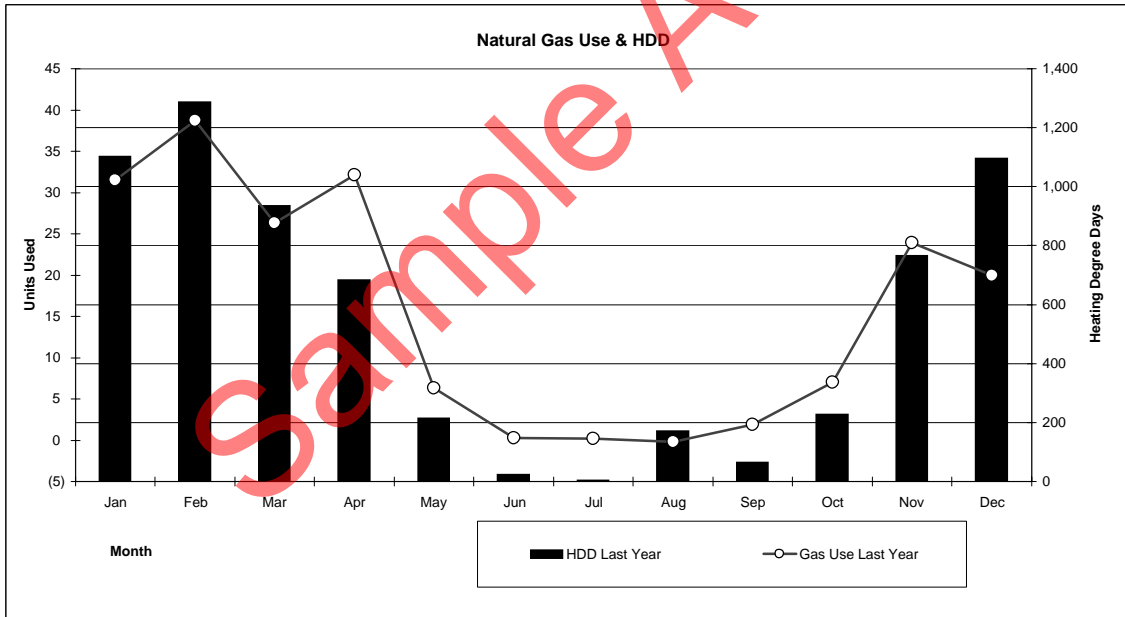
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
20	\$ 184	20	\$ 68
24	\$ 211	24	\$ 77
7	\$ 59	7	\$ 38
2	\$ 15	2	\$ 20
(0)	(\$ 2)	(0)	\$ 18
0	\$ 2	0	\$ 12
0	\$ 3	0	\$ 12
6	\$ 55	6	\$ 27
32	\$ 284	32	\$ 88
26	\$ 268	26	\$ 79
39	\$ 378	39	\$ 103
32	\$ 293	32	\$ 97

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 129,093 19.61 Last Year 6,583 188 \$ 2,402 \$ 12.78

Commodity Trans. & Delivery
 34,998 \$ 1,750 188 \$ 637

Last Year
 188 MCF
 \$ 2,402 Total Cost
 \$ 12.777 /MCF
 129,093 BTU/sq.ft./yr.
 6,583 HDD
 0.0 MCF / HDD
 \$ 9.31 / MCF commodity
 \$ 3.39 / MCF T & D

Average Cost per MCF: \$ 12.777



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Lincoln Ice Rink and Casino** 1200 Parker Blvd
 Utility: **National Fuel Gas**
 Account # **3543-597** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **31,060** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	78	\$ 925	\$ 11.88
2	11/30/07	30		Nov-07	767	61	\$ 710	\$ 11.63
3	10/31/07	31		Oct-07	228	16	\$ 208	\$ 12.76
4	9/30/07	30		Sep-07	65	8	\$ 100	\$ 12.54
5	8/31/07	31		Aug-07	172	6	\$ 73	\$ 12.81
6	7/31/07	31		Jul-07	5	8	\$ 98	\$ 12.25
7	6/30/07	30		Jun-07	25	(1)	(\$ 3)	\$ 3.02
8	5/31/07	31		May-07	215	4	\$ 61	\$ 13.96
9	4/30/07	30		Apr-07	684	39	\$ 456	\$ 11.60
10	3/31/07	31		Mar-07	936	111	\$ 1,409	\$ 12.68
11	2/28/07	28		Feb-07	1,287	93	\$ 1,125	\$ 12.11
12	1/31/07	31		Jan-07	1,103	84	\$ 1,008	\$ 12.04

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 16,823 2.56 Last Year 6,583 507 \$ 6,170 \$ 12.16

Cost Components:

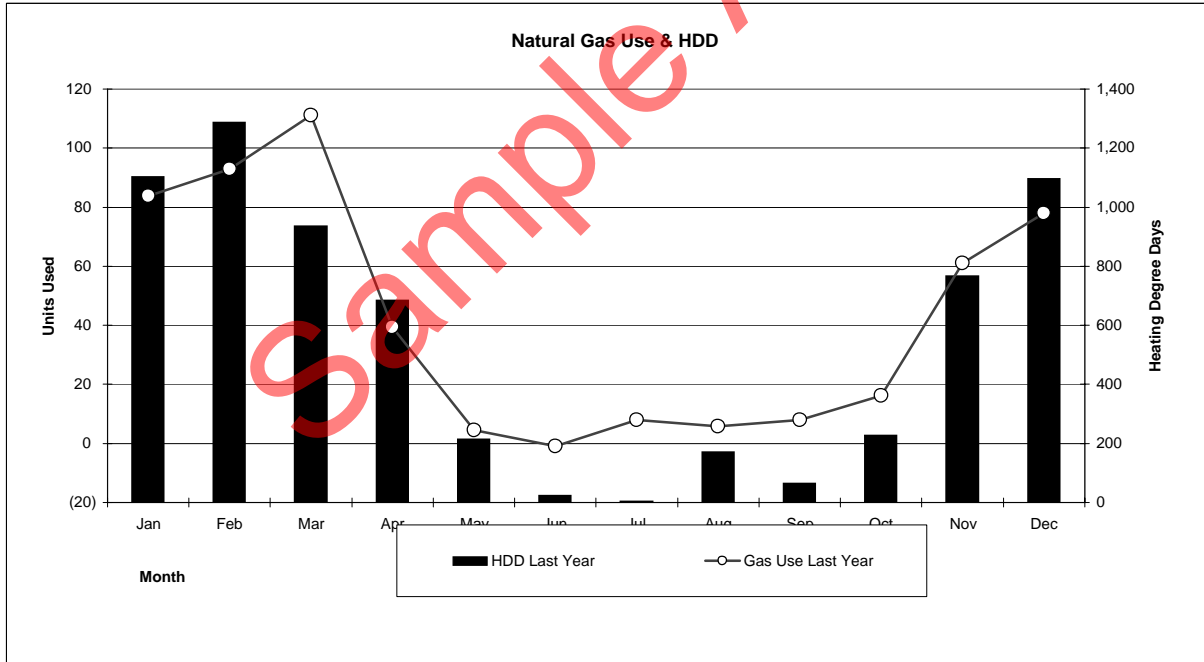
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
78	\$ 715	78	\$ 204
61	\$ 539	61	\$ 166
16	\$ 138	16	\$ 69
8	\$ 64	8	\$ 36
6	\$ 43	6	\$ 30
8	\$ 67	8	\$ 30
(1)	(\$ 9)	(1)	\$ 6
4	\$ 39	4	\$ 23
39	\$ 347	39	\$ 106
111	\$ 1,131	111	\$ 270
93	\$ 908	93	\$ 209
84	\$ 779	84	\$ 222

Commodity Trans. & Delivery
 34,998 \$ 4,761 507 \$ 1,369

Last Year

507 MCF
 \$ 6,170 Total Cost
 \$ 12.163 \$/MCF
 16,823 BTU/sq.ft./yr.
 6,583 HDD
 0.1 MCF / HDD
 \$ 9.38 / MCF commodity
 \$ 2.70 / MCF T & D

Average Cost per MCF: \$ 12.163



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Lincoln Park Maintenance Bld** 299 Decatur Road
 Utility: **National Fuel Gas**
 Account # **3543-599** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **3,600** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	73	\$ 869	\$ 11.91
2	11/30/07	30		Nov-07	767	47	\$ 549	\$ 11.82
3	10/31/07	31		Oct-07	228	13	\$ 163	\$ 13.04
4	9/30/07	30		Sep-07	65	6	\$ 76	\$ 13.29
5	8/31/07	31		Aug-07	172	3	\$ 48	\$ 14.86
6	7/31/07	31		Jul-07	5	2	\$ 36	\$ 14.95
7	6/30/07	30		Jun-07	25	3	\$ 39	\$ 15.18
8	5/31/07	31		May-07	215	12	\$ 150	\$ 12.36
9	4/30/07	30		Apr-07	684	51	\$ 584	\$ 11.55
10	3/31/07	31		Mar-07	936	62	\$ 797	\$ 12.96
11	2/28/07	28		Feb-07	1,287	86	\$ 1,038	\$ 12.15
12	1/31/07	31		Jan-07	1,103	83	\$ 998	\$ 12.04

Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
73	\$ 669	73	\$ 194
47	\$ 411	47	\$ 135
13	\$ 106	13	\$ 56
6	\$ 46	6	\$ 30
3	\$ 24	3	\$ 23
2	\$ 20	2	\$ 15
3	\$ 23	3	\$ 16
12	\$ 106	12	\$ 43
51	\$ 447	51	\$ 133
62	\$ 626	62	\$ 166
86	\$ 836	86	\$ 196
83	\$ 772	83	\$ 220

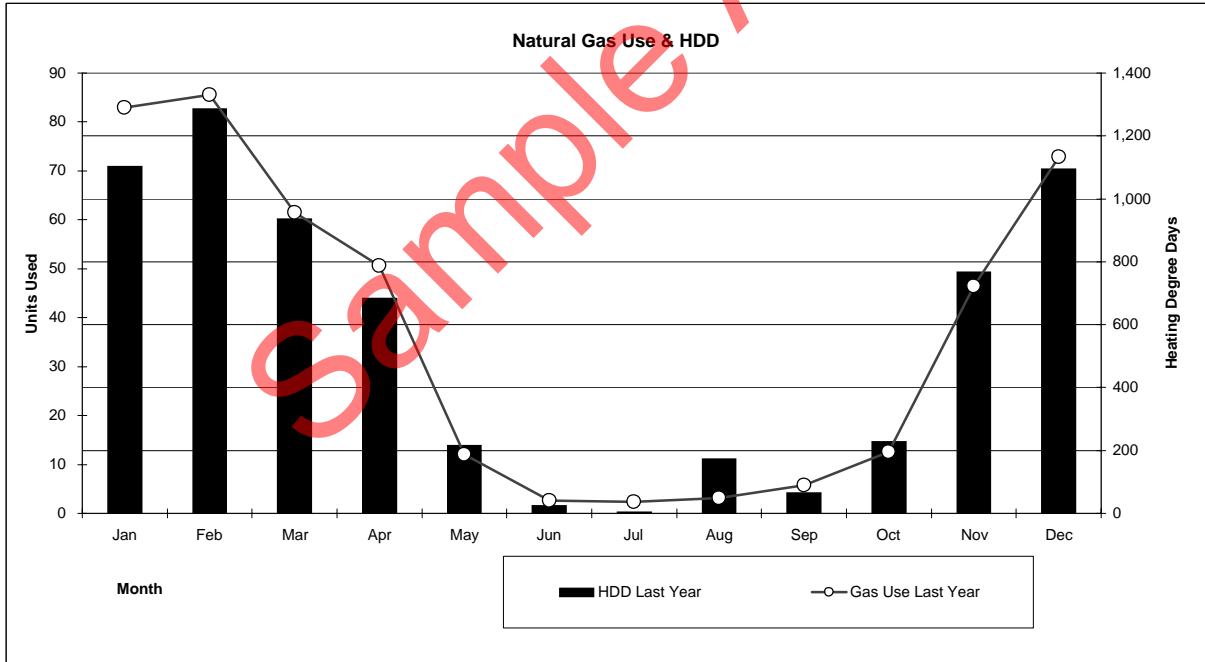
Last Year

438 MCF
 \$ 5,347 Total Cost
 \$ 12.197 \$/MCF
 125,431 BTU/sq.ft./yr.
 6,583 HDD
 0.1 MCF / HDD
 \$ 9.32 / MCF commodity
 \$ 2.80 / MCF T & D

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 125,431 19.05 Last Year 6,583 438 \$ 5,347 \$ 12.20

Commodity Trans. & Delivery
 34,998 \$ 4,085 438 \$ 1,227

Average Cost per MCF: \$ 12.197



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Lincoln Zamboni Garage and Pool** 1200 Parker Blvd
 Utility: **National Fuel Gas**
 Account # **3543-598** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **1,404** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	122	\$ 1,421	\$ 11.67
2	11/30/07	30		Nov-07	767	86	\$ 979	\$ 11.43
3	10/31/07	31		Oct-07	228	20	\$ 246	\$ 12.61
4	9/30/07	30		Sep-07	65	9	\$ 107	\$ 12.41
5	8/31/07	31		Aug-07	172	2	\$ 36	\$ 17.31
6	7/31/07	31		Jul-07	5	2	\$ 31	\$ 15.73
7	6/30/07	30		Jun-07	25	26	\$ 316	\$ 11.97
8	5/31/07	31		May-07	215	25	\$ 294	\$ 11.97
9	4/30/07	30		Apr-07	684	72	\$ 814	\$ 11.32
10	3/31/07	31		Mar-07	936	99	\$ 1,256	\$ 12.73
11	2/28/07	28		Feb-07	1,287	138	\$ 1,649	\$ 11.98
12	1/31/07	31		Jan-07	1,103	118	\$ 1,409	\$ 11.90
					btu/sf/yr.	btu/sf/yr/HDD		
					526,224	79.93		
					Last Year	HDD	MCF	\$/MCF
						6,583	717	\$ 8,559

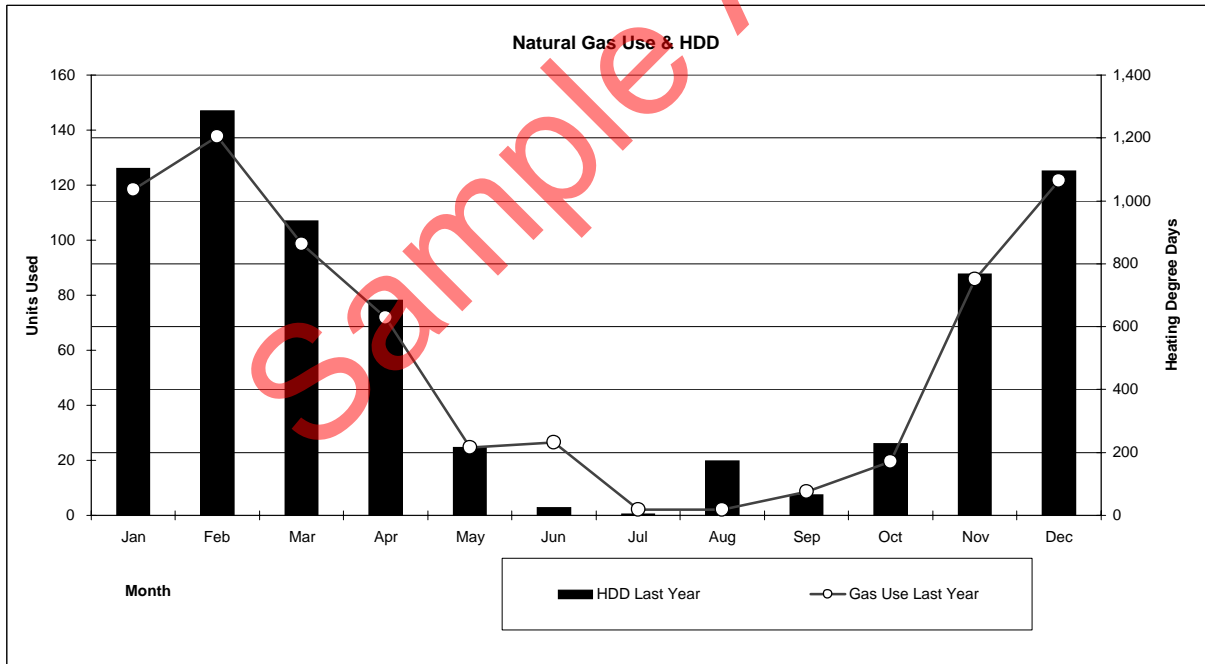
Cost Components:

COE Commodity MCF	Cost	National Fuel Gas Trans. & Delivery MCF	Cost
122	\$ 1,117	122	\$ 294
86	\$ 757	86	\$ 216
20	\$ 165	20	\$ 79
9	\$ 69	9	\$ 37
2	\$ 16	2	\$ 20
2	\$ 17	2	\$ 14
26	\$ 236	26	\$ 78
25	\$ 215	25	\$ 77
72	\$ 635	72	\$ 173
99	\$ 1,004	99	\$ 244
138	\$ 1,346	138	\$ 292
118	\$ 1,102	118	\$ 298
Commodity		Trans. & Delivery	
34,998		\$ 6,680	
		717	
		\$ 1,822	

Last Year

717 MCF
 \$ 8,559 Total Cost
 \$ 11.933 /MCF
 526,224 BTU/sq.ft./yr.
 6,583 HDD
 0.1 MCF / HDD
 \$ 9.31 / MCF commodity
 \$ 2.54 / MCF T & D

Average Cost per MCF: \$ 11.933



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Memorial Hall** 3354 Delaware Avenue
 Utility: **National Fuel Gas**
 Account # **3135-119** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **15,150** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	193	\$ 2,228	\$ 11.54
2	11/30/07	30		Nov-07	767	129	\$ 1,454	\$ 11.25
3	10/31/07	31		Oct-07	228	33	\$ 402	\$ 12.30
4	9/30/07	30		Sep-07	65	11	\$ 128	\$ 12.08
5	8/31/07	31		Aug-07	172	5	\$ 68	\$ 13.07
6	7/31/07	31		Jul-07	5	4	\$ 49	\$ 13.66
7	6/30/07	30		Jun-07	25	5	\$ 67	\$ 13.47
8	5/31/07	31		May-07	215	41	\$ 487	\$ 11.82
9	4/30/07	30		Apr-07	684	102	\$ 1,140	\$ 11.17
10	3/31/07	31		Mar-07	936	122	\$ 1,542	\$ 12.65
11	2/28/07	28		Feb-07	1,287	210	\$ 2,496	\$ 11.88
12	1/31/07	31		Jan-07	1,103	187	\$ 2,200	\$ 11.79

btu/sf/yr. btu/sf/yr/HDD Last Year HDD MCF \$/MCF
 70,801 10.75 Last Year 6,583 1,041 \$ 12,263 \$ 11.78

Cost Components:

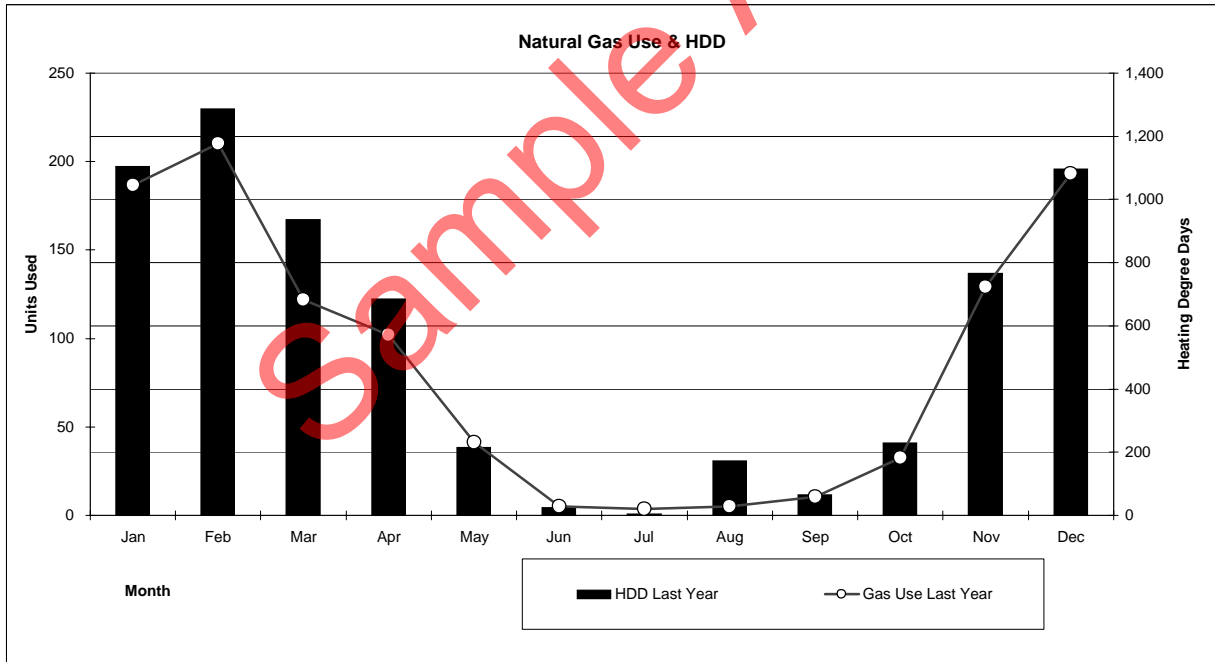
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
193	\$ 1,772	193	\$ 441
129	\$ 1,141	129	\$ 303
33	\$ 277	33	\$ 123
11	\$ 85	11	\$ 42
5	\$ 39	5	\$ 28
4	\$ 30	4	\$ 19
5	\$ 45	5	\$ 22
41	\$ 361	41	\$ 123
102	\$ 902	102	\$ 230
122	\$ 1,240	122	\$ 292
210	\$ 2,054	210	\$ 425
187	\$ 1,738	187	\$ 447

Commodity Trans. & Delivery
 34,998 \$ 9,684 1,041 \$ 2,495

Last Year

1,041 MCF
 \$ 12,263 Total Cost
 \$ 11.775 \$/MCF
 70,801 BTU/sq.ft./yr.
 6,583 HDD
 0.2 MCF / HDD
 \$ 9.30 / MCF commodity
 \$ 2.40 / MCF T & D

Average Cost per MCF: \$ 11.775



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Municipal Building** 2919 Delaware Avenue
 Utility: **National Fuel Gas**
 Account # **3135-129** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **38,160** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	304	\$ 3,484	\$ 11.48
2	11/30/07	30		Nov-07	767	250	\$ 2,773	\$ 11.11
3	10/31/07	31		Oct-07	228	82	\$ 965	\$ 11.83
4	9/30/07	30		Sep-07	65	28	\$ 312	\$ 11.23
5	8/31/07	31		Aug-07	172	15	\$ 170	\$ 11.21
6	7/31/07	31		Jul-07	5	15	\$ 171	\$ 11.76
7	6/30/07	30		Jun-07	25	17	\$ 207	\$ 12.19
8	5/31/07	31		May-07	215	28	\$ 334	\$ 11.96
9	4/30/07	30		Apr-07	684	162	\$ 1,789	\$ 11.05
10	3/31/07	31		Mar-07	936	333	\$ 4,158	\$ 12.48
11	2/28/07	28		Feb-07	1,287	430	\$ 5,080	\$ 11.81
12	1/31/07	31		Jan-07	1,103	395	\$ 4,624	\$ 11.70

btu/sf.yr. 55,546 btu/sf.yr/HDD 8.44 Last Year HDD 6,583 MCF 2,058 \$ 24,068 \$/MCF 11.70

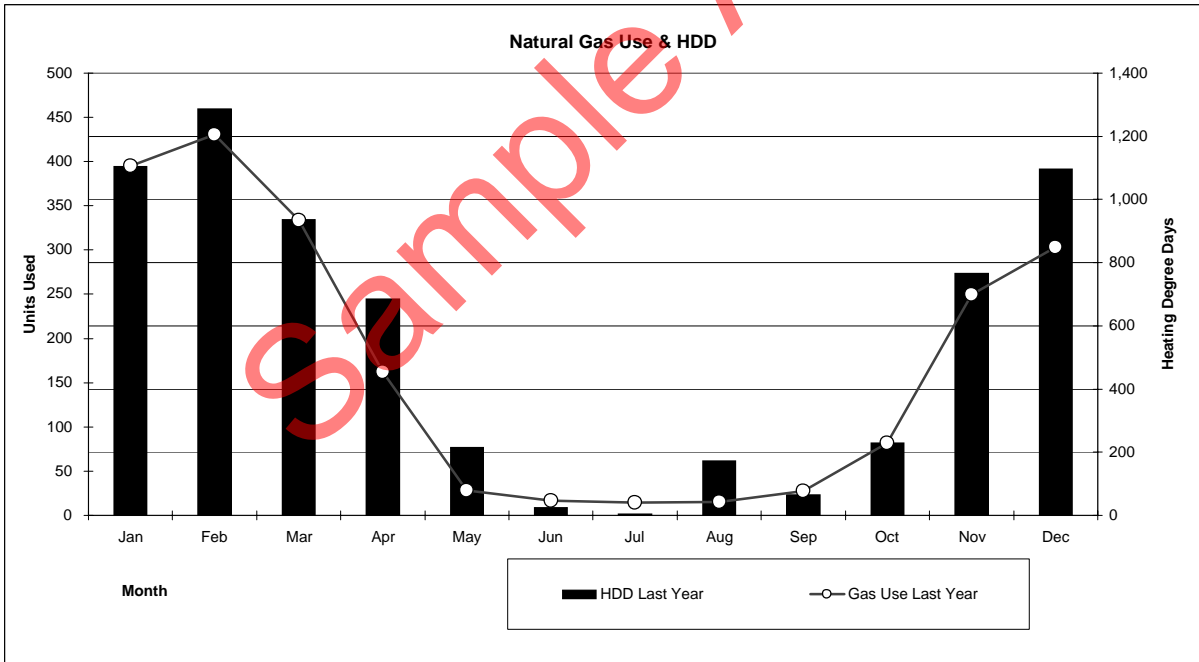
Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
304	\$ 2,785	304	\$ 675
250	\$ 2,204	250	\$ 549
82	\$ 691	82	\$ 268
28	\$ 222	28	\$ 88
15	\$ 114	15	\$ 55
15	\$ 122	15	\$ 47
17	\$ 152	17	\$ 54
28	\$ 244	28	\$ 87
162	\$ 1,432	162	\$ 345
333	\$ 3,392	333	\$ 740
430	\$ 4,207	430	\$ 839
395	\$ 3,679	395	\$ 913

Commodity 34,998 \$ 19,244 Trans. & Delivery 2,058 \$ 4,660

Last Year
 2,058 MCF
 \$ 24,068 Total Cost
 \$ 11.696 \$/MCF
 55,546 BTU/sq.ft./yr.
 6,583 HDD
 0.3 MCF / HDD
 \$ 9.35 / MCF commodity
 \$ 2.26 / MCF T & D

Average Cost per MCF: \$ 11.696



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **NOCO Pavilion** 450 Ensminger Road
 Utility: **National Fuel Gas**
 Account # **4891-355** 0
 Commodity Supplier: **COE**
 Base Customer Charge \$ 0

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **3,126** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	54	\$ 658	\$ 12.12
2	11/30/07	30		Nov-07	767	38	\$ 453	\$ 11.89
3	10/31/07	31		Oct-07	228	15	\$ 188	\$ 12.86
4	9/30/07	30		Sep-07	65	9	\$ 109	\$ 12.37
5	8/31/07	31		Aug-07	172	8	\$ 95	\$ 12.08
6	7/31/07	31		Jul-07	5	7	\$ 82	\$ 12.50
7	6/30/07	30		Jun-07	25	8	\$ 103	\$ 12.76
8	5/31/07	31		May-07	215	15	\$ 187	\$ 12.20
9	4/30/07	30		Apr-07	684	38	\$ 439	\$ 11.62
10	3/31/07	31		Mar-07	936	44	\$ 573	\$ 13.13
11	2/28/07	28		Feb-07	1,287	64	\$ 788	\$ 12.30
12	1/31/07	31		Jan-07	1,103	51	\$ 630	\$ 12.33
					btu/sf.yr.	btu/sf.yr/HDD		
					115,422	17.53	Last Year	
					HDD	MCF	Total Cost	\$/MCF
					6,583	350	\$ 4,305	\$ 12.29

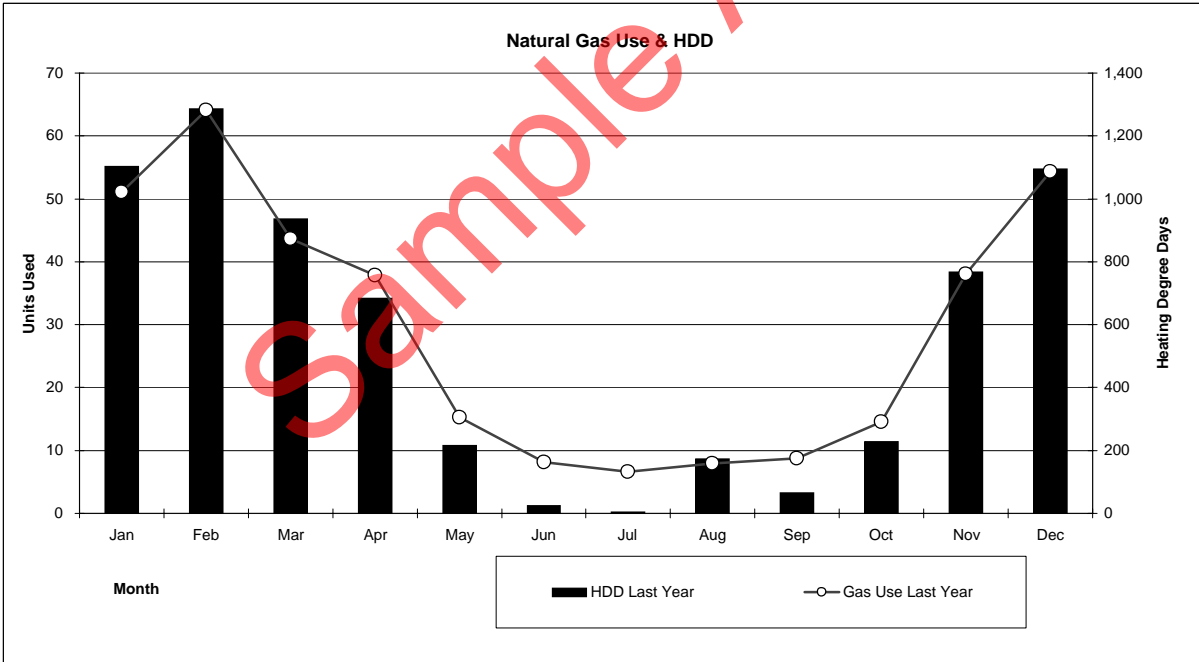
Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
54	\$ 498	54	\$ 156
38	\$ 336	38	\$ 113
15	\$ 124	15	\$ 63
9	\$ 70	9	\$ 38
8	\$ 59	8	\$ 35
7	\$ 56	7	\$ 26
8	\$ 72	8	\$ 30
15	\$ 134	15	\$ 51
38	\$ 334	38	\$ 102
44	\$ 444	44	\$ 125
64	\$ 627	64	\$ 156
51	\$ 476	51	\$ 150
Commodity		Trans. & Delivery	
34,998		350	
\$ 3,230		\$ 1,047	

Last Year

350 MCF
 \$ 4,305 Total Cost
 \$ 12.291 \$/MCF
 115,422 BTU/sq.ft.yr.
 6,583 HDD
 0.1 MCF / HDD
 \$ 9.22 / MCF commodity
 \$ 2.99 / MCF T & D

Average Cost per MCF: \$ 12.291



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Golf Dome** 175 Brompton Toad
 Utility: **National Fuel Gas**
 Account # **5115-511** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **92,728** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	3,219	\$ 33,863	\$ 10.52
2	11/30/07	30		Nov-07	767	1,878	\$ 19,221	\$ 10.24
3	10/31/07	31		Oct-07	228	587	\$ 5,991	\$ 10.21
4	9/30/07	30		Sep-07	65	170	\$ 1,882	\$ 11.07
5	8/31/07	31		Aug-07	172	32	\$ 597	\$ 18.78
6	7/31/07	31		Jul-07	5	32	\$ 626	\$ 19.62
7	6/30/07	30		Jun-07	25	51	\$ 839	\$ 16.33
8	5/31/07	31		May-07	215	319	\$ 3,481	\$ 10.91
9	4/30/07	30		Apr-07	684	2,085	\$ 21,145	\$ 10.14
10	3/31/07	31		Mar-07	936	2,858	\$ 32,650	\$ 11.42
11	2/28/07	28		Feb-07	1,287	4,000	\$ 43,957	\$ 10.99
12	1/31/07	31		Jan-07	1,103	3,270	\$ 34,456	\$ 10.54

btu/st/yr. btu/st/yr/HDD Last Year HDD MCF \$/MCF
 205,513 31.22 Last Year 6,583 18,502 \$ 198,709 \$ 10.74

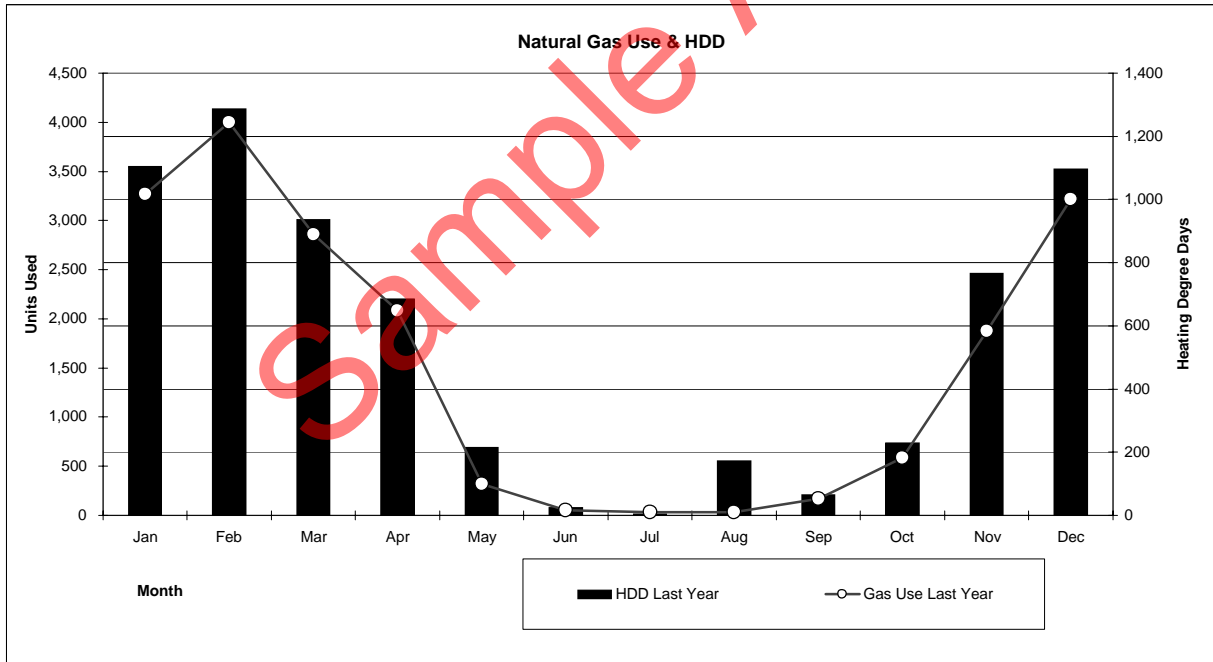
Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
3,219	\$ 28,596	3,219	\$ 5,009
1,878	\$ 16,040	1,878	\$ 3,031
587	\$ 4,797	587	\$ 1,147
170	\$ 1,309	170	\$ 559
32	\$ 230	32	\$ 365
32	\$ 259	32	\$ 364
51	\$ 445	51	\$ 390
319	\$ 2,700	319	\$ 755
2,085	\$ 17,822	2,085	\$ 3,156
2,858	\$ 28,159	2,858	\$ 4,262
4,000	\$ 37,806	4,000	\$ 5,831
3,270	\$ 29,383	3,270	\$ 4,812

Commodity Trans. & Delivery
 34,998 \$ 167,546 18,502 \$ 29,683

Last Year
 18,502 MCF
 \$ 198,709 Total Cost
 \$ 10.740 \$/MCF
 205,513 BTU/sq.ft./yr.
 6,583 HDD
 2.8 MCF / HDD
 \$ 9.06 / MCF commodity
 \$ 1.60 / MCF T & D

Average Cost per MCF: \$ 10.740



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Police**
 Address: **Police Headquarters** 1835 Sheridan Drive
 Utility: **National Fuel Gas**
 Account # **3508-663** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **37,800** sq. ft.

Use & Cost Summary:

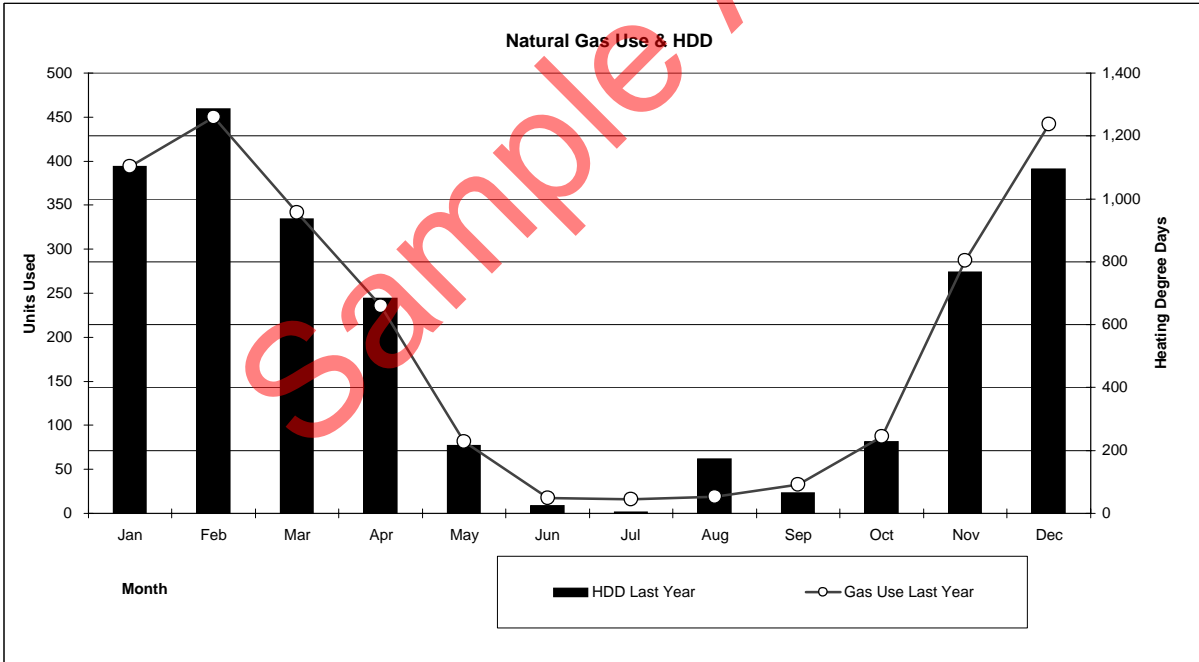
	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	442	\$ 5,045	\$ 11.41
2	11/30/07	30		Nov-07	767	287	\$ 3,177	\$ 11.07
3	10/31/07	31		Oct-07	228	87	\$ 1,022	\$ 11.76
4	9/30/07	30		Sep-07	65	33	\$ 362	\$ 11.13
5	8/31/07	31		Aug-07	172	19	\$ 210	\$ 10.97
6	7/31/07	31		Jul-07	5	16	\$ 190	\$ 11.66
7	6/30/07	30		Jun-07	25	18	\$ 215	\$ 12.14
8	5/31/07	31		May-07	215	82	\$ 937	\$ 11.48
9	4/30/07	30		Apr-07	684	235	\$ 2,576	\$ 10.95
10	3/31/07	31		Mar-07	936	341	\$ 4,249	\$ 12.45
11	2/28/07	28		Feb-07	1,287	450	\$ 5,300	\$ 11.78
12	1/31/07	31		Jan-07	1,103	394	\$ 4,600	\$ 11.68
					btu/sf.yr.	btu/sf.yr/HDD		
					65,492	9.95	Last Year	
					HDD	MCF	Total Cost	\$/MCF
					6,583	2,404	\$ 27,882	\$ 11.60

Cost Components:

COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
442	\$ 4,057	442	\$ 953
287	\$ 2,535	287	\$ 619
87	\$ 736	87	\$ 280
33	\$ 260	33	\$ 99
19	\$ 143	19	\$ 65
16	\$ 137	16	\$ 52
18	\$ 158	18	\$ 55
82	\$ 714	82	\$ 216
235	\$ 2,079	235	\$ 479
341	\$ 3,473	341	\$ 749
450	\$ 4,398	450	\$ 866
394	\$ 3,667	394	\$ 901
Commodity		Trans. & Delivery	
34,998	\$ 22,357	2,404	\$ 5,333

Last Year
 2,404 MCF
 \$ 27,882 Total Cost
 \$ 11.601 \$/MCF
 65,492 BTU/sq.ft./yr.
 6,583 HDD
 0.4 MCF / HDD
 \$ 9.30 / MCF commodity
 \$ 2.22 / MCF T & D

Average Cost per MCF: \$ 11.601



NATURAL GAS CONSUMPTION AND COST ANALYSIS!

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Senior Citizen's Center** 291 Ensinger Road
 Utility: **National Fuel Gas**
 Account # **4071-870** **0**
 Commodity Supplier: **COE**
 Base Customer Charge **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **25,756** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	492	\$ 5,605	\$ 11.40
2	11/30/07	30		Nov-07	767	318	\$ 3,511	\$ 11.05
3	10/31/07	31		Oct-07	228	85	\$ 1,006	\$ 11.80
4	9/30/07	30		Sep-07	65	30	\$ 339	\$ 11.16
5	8/31/07	31		Aug-07	172	12	\$ 138	\$ 11.42
6	7/31/07	31		Jul-07	5	7	\$ 84	\$ 12.48
7	6/30/07	30		Jun-07	25	3	\$ 47	\$ 13.83
8	5/31/07	31		May-07	215	154	\$ 1,738	\$ 11.26
9	4/30/07	30		Apr-07	684	385	\$ 4,189	\$ 10.89
10	3/31/07	31		Mar-07	936	466	\$ 5,782	\$ 12.42
11	2/28/07	28		Feb-07	1,287	591	\$ 6,956	\$ 11.76
12	1/31/07	31		Jan-07	1,103	552	\$ 6,432	\$ 11.65

Cost Components:

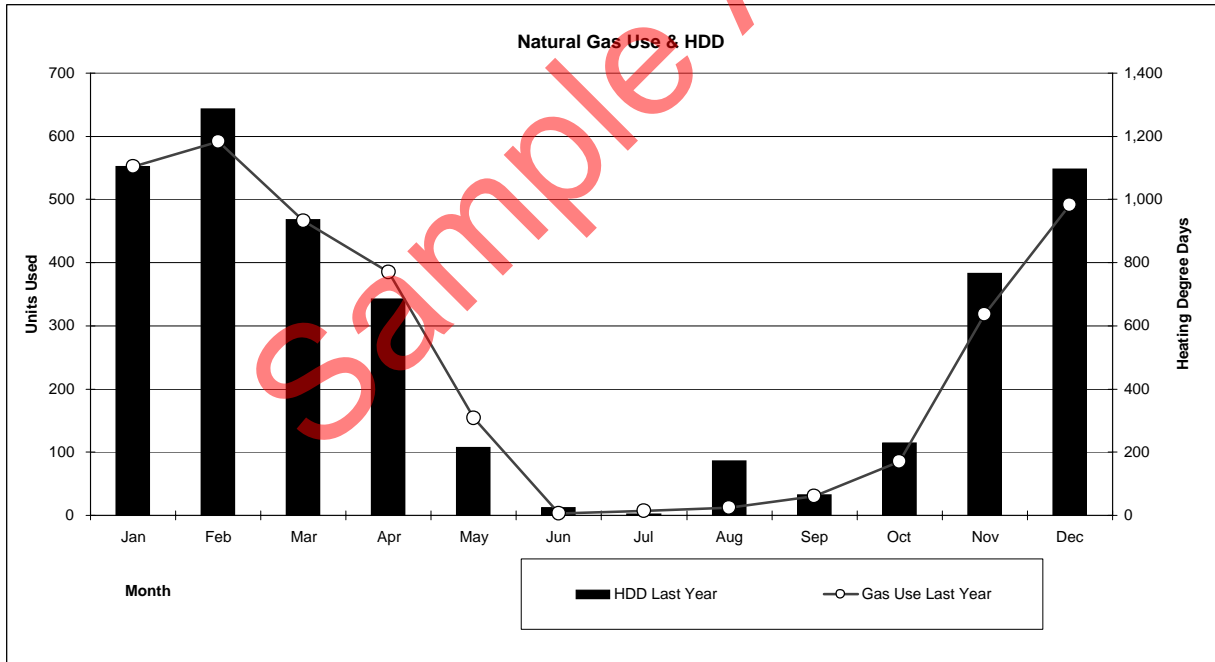
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
492	\$ 4,511	492	\$ 1,055
318	\$ 2,806	318	\$ 680
85	\$ 721	85	\$ 278
30	\$ 243	30	\$ 94
12	\$ 91	12	\$ 46
7	\$ 56	7	\$ 27
3	\$ 30	3	\$ 16
154	\$ 1,352	154	\$ 374
385	\$ 3,400	385	\$ 759
466	\$ 4,737	466	\$ 1,007
591	\$ 5,782	591	\$ 1,127
552	\$ 5,140	552	\$ 1,247

Last Year
 3,095 MCF
 \$ 35,827 Total Cost
 \$ 11.575 \$/MCF
 123,779 BTU/sq.ft./yr.
 6,583 HDD
 0.5 MCF / HDD
 \$ 9.33 / MCF commodity
 \$ 2.17 / MCF T & D

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 123,779 18.80 Last Year 6,583 3,095 \$ 35,827 \$ 11.58

Commodity Trans. & Delivery
 34,998 \$ 28,869 3,095 \$ 6,711

Average Cost per MCF: \$ 11.575



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** **Tonawanda - Youth, Parks, & Recreation**
 Address: **Sheridan Park Maintenance Bldg** 490 A East Park Drive
 Utility: **National Fuel Gas**
 Account # **3396-035** **0**
 Commodity Supplier: **COE**
 Base Customer Charge: **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **14,166** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	206	\$ 2,370	\$ 11.53
2	11/30/07	30		Nov-07	767	117	\$ 1,321	\$ 11.29
3	10/31/07	31		Oct-07	228	29	\$ 365	\$ 12.64
4	9/30/07	30		Sep-07	65	9	\$ 110	\$ 12.35
5	8/31/07	31		Aug-07	172	4	\$ 59	\$ 13.67
6	7/31/07	31		Jul-07	5	3	\$ 41	\$ 14.28
7	6/30/07	30		Jun-07	25	(6)	(\$ 54)	\$ 9.01
8	5/31/07	31		May-07	215	30	\$ 351	\$ 11.91
9	4/30/07	30		Apr-07	684	123	\$ 1,366	\$ 11.10
10	3/31/07	31		Mar-07	936	295	\$ 3,676	\$ 12.47
11	2/28/07	28		Feb-07	1,287	220	\$ 2,612	\$ 11.87
12	1/31/07	31		Jan-07	1,103	190	\$ 2,233	\$ 11.78

Cost Components:

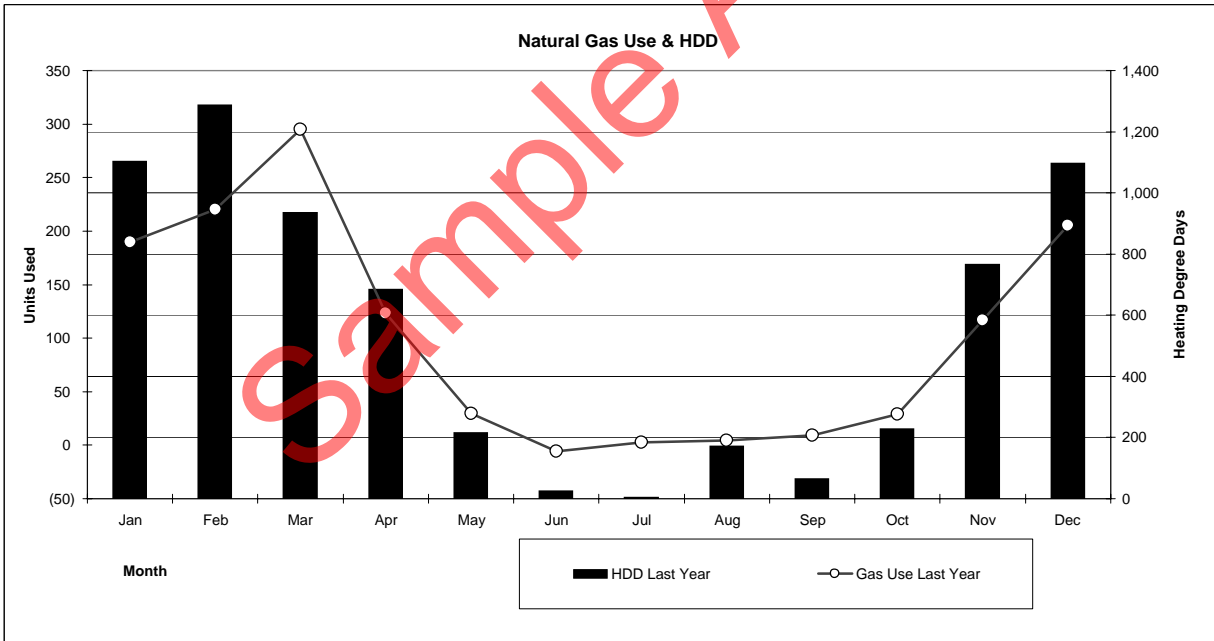
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
206	\$ 1,887	206	\$ 467
117	\$ 1,033	117	\$ 278
29	\$ 245	29	\$ 118
9	\$ 71	9	\$ 38
4	\$ 32	4	\$ 26
3	\$ 24	3	\$ 17
(6)	(\$ 54)	(6)	\$ 0
30	\$ 258	30	\$ 91
123	\$ 1,088	123	\$ 268
295	\$ 3,000	295	\$ 652
220	\$ 2,151	220	\$ 443
190	\$ 1,764	190	\$ 453

Last Year
 1,219 MCF
 \$ 14,450 Total Cost
 \$ 11.859 /MCF
 88,596 BTU/sq.ft./yr.
 6,583 HDD
 0.2 MCF / HDD
 \$ 9.44 / MCF commodity
 \$ 2.34 / MCF T & D

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 88,596 13.46 Last Year 6,583 1,219 \$ 14,450 \$ 11.86

Commodity Trans. & Delivery
 34,998 \$ 11,500 1,219 \$ 2,852

Average Cost per MCF: \$ 11.859



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** Tonawanda - Youth, Parks, & Recreation
 Address: **Sheridan Park Maintenance Bldg** 490 B East Park Drive
 Utility: **National Fuel Gas**
 Account # **4116-959** 0
 Commodity Supplier: **COE**
 Base Customer Charge: **\$ 0**

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: **3,200** sq. ft.

Use & Cost Summary:

	Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1	12/31/07	31		Dec-07	1,096	53	\$ 641	\$ 12.14
2	11/30/07	30		Nov-07	767	48	\$ 568	\$ 11.81
3	10/31/07	31		Oct-07	228	12	\$ 156	\$ 13.23
4	9/30/07	30		Sep-07	65	5	\$ 66	\$ 13.79
5	8/31/07	31		Aug-07	172	(0)	\$ 15	(\$ 76.30)
6	7/31/07	31		Jul-07	5	1	\$ 24	\$ 18.21
7	6/30/07	30		Jun-07	25	1	\$ 24	\$ 18.74
8	5/31/07	31		May-07	215	15	\$ 177	\$ 12.23
9	4/30/07	30		Apr-07	684	56	\$ 637	\$ 11.48
10	3/31/07	31		Mar-07	936	58	\$ 749	\$ 13.00
11	2/28/07	28		Feb-07	1,287	84	\$ 1,026	\$ 12.15
12	1/31/07	31		Jan-07	1,103	73	\$ 886	\$ 12.10

Cost Components:

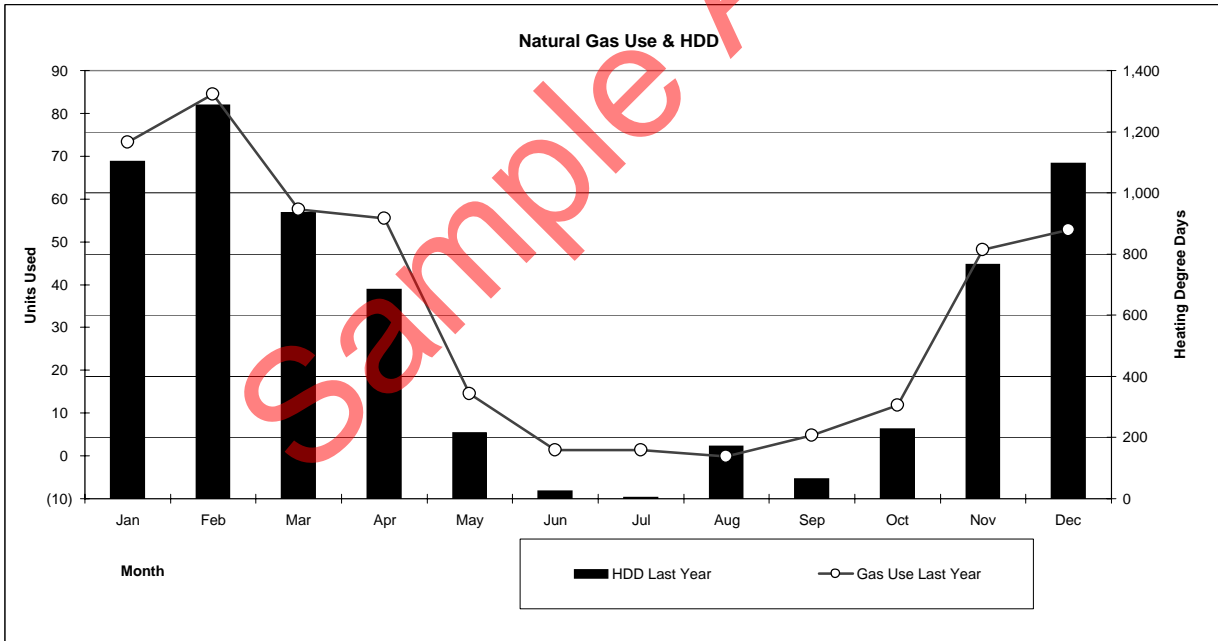
COE Commodity		National Fuel Gas Trans. & Delivery	
MCF	Cost	MCF	Cost
53	\$ 484	53	\$ 152
48	\$ 425	48	\$ 139
12	\$ 100	12	\$ 55
5	\$ 38	5	\$ 27
(0)	(\$ 2)	(0)	\$ 17
1	\$ 11	1	\$ 13
1	\$ 12	1	\$ 13
15	\$ 127	15	\$ 49
56	\$ 490	56	\$ 142
58	\$ 586	58	\$ 158
84	\$ 825	84	\$ 194
73	\$ 682	73	\$ 199

Last Year
 405 MCF
 \$ 4,970 Total Cost
 \$ 12.268 \$/MCF
 130,392 BTU/sq.ft./yr.
 6,583 HDD
 0.1 MCF / HDD
 \$ 9.33 /MCF commodity
 \$ 2.86 /MCF T & D

btu/sf/yr. btu/sf/yr/HDD HDD MCF \$/MCF
 130,392 19.81 Last Year 6,583 405 \$ 4,970 \$ 12.27

Commodity Trans. & Delivery
 34,998 \$ 3,779 405 \$ 1,159

Average Cost per MCF: \$ 12.268



NATURAL GAS CONSUMPTION AND COST ANALYSIS

Client: **Town of Tonawanda** Tonawanda - Waste Water
 Address: **Wasterwater Treatment Plant**
 Utility: **National Fuel Gas**
 Account # **3758-688**
 Commodity Supplier: **COE**
 Base Customer Charge:

Billing Unit: **MCF**
 BTU per unit: **1,030,000**
 Gross Area: sq. ft.

Use & Cost Summary:

Month Ending	Days	Bill Type	Month of Gas Use	Heating Degree Days	Total Gas Used	Total Gas Cost	\$/MCF
1 1/31/07	31		Jan-07	1,103	2,593	\$ 26,846	\$ 10.35
2 2/28/07	28		Feb-07	1,287	3,440	\$ 36,990	\$ 10.75
3 3/31/07	31		Mar-07	936	3,206	\$ 35,803	\$ 11.17
4 4/30/07	30		Apr-07	684	2,395	\$ 23,783	\$ 9.93
5 5/31/07	31		May-07	215	1,281	\$ 12,941	\$ 10.10
6 6/30/07	30		Jun-07	25	571	\$ 6,269	\$ 10.98
7 7/31/07	31		Jul-07	5	534	\$ 5,627	\$ 10.54
8 8/31/07	31		Aug-07	172	512	\$ 4,974	\$ 9.71
9 9/30/07	30		Sep-07	65	722	\$ 7,069	\$ 9.79
10 10/31/07	31		Oct-07	228	985	\$ 9,861	\$ 10.01
11 11/30/07	30		Nov-07	767	2,309	\$ 23,013	\$ 9.97
12 12/31/07	31		Dec-07	1,096	3,466	\$ 35,395	\$ 10.21

Cost Components:

COE Commodity		National Fuel Gas	
MCF	Cost	MCF	Cost
2,593	\$ 23,299	2,593	\$ 3,340
3,440	\$ 32,514	3,440	\$ 4,200
3,206	\$ 31,584	3,206	\$ 3,963
2,395	\$ 20,468	2,395	\$ 3,124
1,281	\$ 10,840	1,281	\$ 1,999
571	\$ 4,942	571	\$ 1,282
534	\$ 4,340	534	\$ 1,244
512	\$ 3,697	512	\$ 1,236
722	\$ 5,558	722	\$ 1,454
985	\$ 8,053	985	\$ 1,729
2,309	\$ 19,722	2,309	\$ 3,106
3,466	\$ 30,790	3,466	\$ 4,328

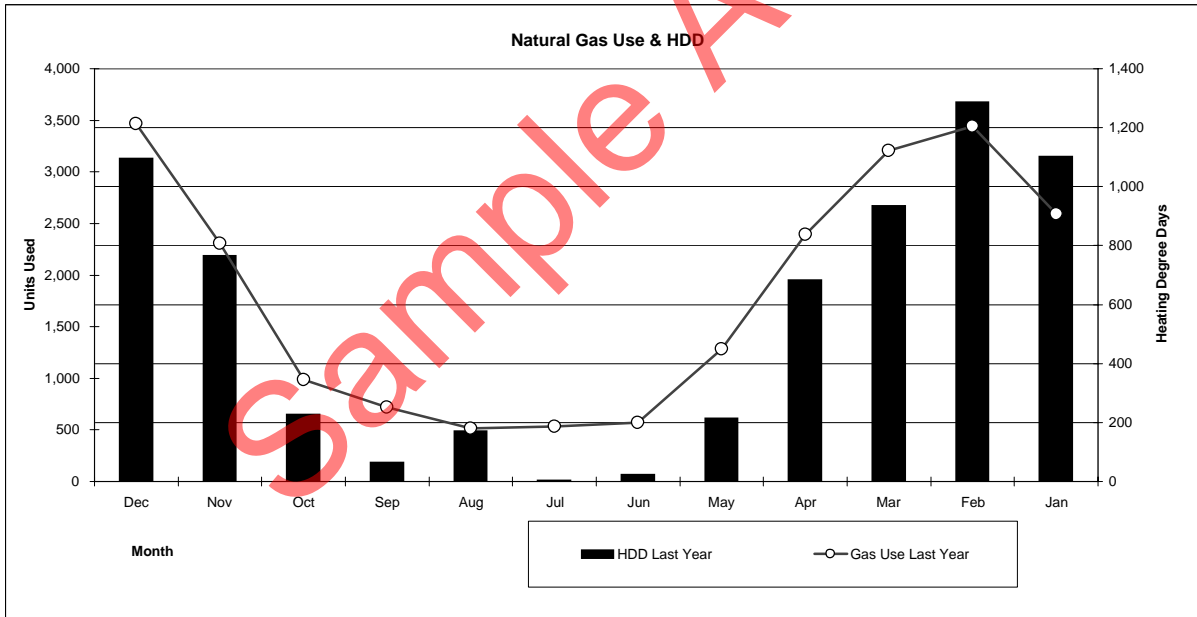
Last Year

22,014 MCF
 \$ 228,571 Total Cost
 \$ 10.383 /MCF

 6,583 HDD
 3.3 MCF / HDD
 \$ 8.89 / MCF commodity
 \$ 1.41 / MCF T & D

	HDD	MCF	\$/MCF	Commodity	Trans. & Delivery
Last Year	6,583	22,014	\$ 228,571	\$ 195,806	\$ 31,004

Average Cost per MCF: \$ 10.383



Sample Audit

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