

Spring Branch Independent School District

Energy Management Program

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Table of Contents

Executive Summary	2
Program Description	3
Preparation and Start-up.....	4
Procedures	5
General Procedures.....	5
HVAC	5
Lighting	6
Personal Appliances	7
Water Conservation	7
Implementation	9
Audits.....	9
Technology	9
Billing	9
Marketing.....	10
Results	11

Executive Summary

Spring Branch Independent school district is located in Houston, Texas. For the past two years, student populations have remained approximately the same at 32,000 students. However, SBISD has increased square footage by 250,000, and expects to add about 180,000 more within the next 2 years.

The Energy Management program officially began in July 2003, with the employment of Gary Briley and Rebecca Cordeiro, and under the direction of consulting firm Energy Education Incorporated (EEI). The main focus of this program was and continues to be education. The premise is an increased awareness of energy use, and a mandate to be more conservative in this area.

Great pains were taken to involve every employee of SBISD in this co-operative effort, lead by the Energy Management team, but supported largely by the Maintenance and Custodial departments. Without their hard work, our results would not have been so dramatic.

Spring Branch ISD has achieved an overall Cost Avoidance of more \$898,000 in the period July 2003 – April 2004. Cost Avoidance is the amount of money that we avoided spending as a result of the energy management program, after taking into consideration weather and square footage changes. The Energy Use Indices in year one of the program are lower than the EUI in the base year at most of the campuses. The 2003 – 2004 Utilities budgeted was significantly under spent as a result of this energy management program. In short, the program is a great success, and called for little to no capital expenditures.

Program Description

The energy conservation efforts at Spring Branch ISD targeted the human element, and attempted to reduce costs by reducing waste district wide. Preliminary audits showed that energy waste was widespread throughout the district, and that significant savings could be realized by gaining proper control of systems, and through behavior modification.

The 5.5 mil ft² district had not previously paid any attention to conservation efforts, evidenced by an annual utility bill of over \$6 million. With 365-day construction, and numerous projects planned for the years ahead, it was clear that the utility bills would keep increasing unless some measures were taken to gain control of our energy use.

A program involving each and every employee of SBISD was planned and implemented starting in July 2003. The process, implementation plan and results are outlined in the following sections.

Preparation and Start-up

To begin, a “baseline year” was established in order to track success, and to identify possible problems. All utility bills dated June 2002 and later were gathered, sorted by account number and filed by campus/facility name. The utility consumption, cost and billing dates from these bills were then entered into the Energy CAP software, in order to track and analyze billing trends, unit costs, and cost per square foot.

At the same time, it was important to be seen in the district, since this program was perceived in a negative way. With 55 facilities in the district, the Administrator for Energy devised a zoning plan to split the district into two “cost centers”, North and South using the major freeway as a dividing line. Gary Briley would audit the North, and Rebecca Cordeiro would audit the South cost center. Within the cost centers there were further divisions into zones (1 – 4) to group the facilities by location. This was done to optimize travel time, and increase productivity. A goal was set to eventually be able to audit one zone per day. It was expected that this goal would not be realized the first year, due to first year preparations and office duties. Facility plots were printed for each campus in order to learn the layout and mark such things as exterior lighting timers, security alarm panels and utility meters.

In order to monitor the buildings objectively, the Energy Office required tools to measure temperature, humidity and lighting levels. The following items were purchased:

- Climate loggers
- Infrared Temperature guns
- Light Meters
- Flashlights
- Multipurpose tools

The energy office also set up meetings and presentations to provide information on what was expected of every employee. The aim was to reduce the negative perception the energy program had, and to reassure staff that their safety, and the instructional process would not be compromised. The energy office presented to campus administrators, faculty members, custodians and maintenance personnel separately to provide a targeted plan of action to each faction. One-on-one meetings with principals, maintenance and custodians were and still are important to encourage, coach and praise energy efficient behaviors.

Procedures

General Procedures

The party line is “If you’re not using it, turn it off”. The first thing that was done was to get the Board to approve an energy policy, making each employee responsible for their energy use, and making energy efficiency a part of each principals’ evaluation. Guidelines were then developed to help each individual understand and meet the high expectations that were being set for them. The next step was to enforce these guidelines through frequent Energy Audits. An audit is essentially a checklist of equipment that needs to be turned off when the building is unoccupied, and it allows enough space for comments, suggestions and accolades.

Over the holiday periods, these audits are stepped up and holiday checklists are provided to all staff (via email and the website) in order to gain the maximum amount of savings possible. The following sections provide more information on specific equipment.

HVAC

Houston has a hot and humid climate, with very short, temperate fall and spring periods. Cooling is the predominant form of conditioning, and electricity costs represent about 80% of total utility costs. Given that motors consume most of this energy, the area that would guarantee the highest savings would be the HVAC systems (chillers, air handlers and pumps).

The Maintenance department began inspections and installation of door sweeps on exterior doors to eliminate large gaps thereby sealing the building envelope. Construction contracts were amended to include a dedication on the part of contractors to be aware and conservative regarding their energy use. Closer coordination between mechanical contractors and EMS programmers was mandated to prevent the HVAC systems running continuously with no controls.

Although the HVAC department had tried to initiate an energy management scheme, they lacked formal support and official guidelines to communicate their intentions to the “customer” (the schools). The Energy Management team developed a plan for each type of school, primary to secondary, and instead of assuming a blanket schedule of 6am to 6pm (plus extra requested air for special programs), time schedules were created for each campus based on observed behavior. For example, the classroom wing of a building may be empty by 4pm, whereas the office may not close till 6pm. Auditoriums were placed on a “request only” schedule, where their HVAC units would only run for humidity control and extra requests for programs.

A standard form to request extra air was developed to aid the HVAC technicians responsible for filling the requests to perform their task quicker, and to make special temperature adjustments for group sizes.

In previous years, during extended vacations, the HVAC system would be completely shut off, resulting in mold growth and humidity damage. Year startup mold remediation and clean ups were a common occurrence. A decision was made before the energy management program was implemented, to run the systems half a day, from 6am to noon, for the workweek. Although this alleviated some of the mold problems, it did not solve it completely. The year the energy management started, summer schedules were changed to a four-day week. This summer, HVAC systems will run for two 2-hour periods throughout the day, during the workweek, and two 2-hour periods over the weekend. The purpose is for humidity control, and to afford some comfort to the working custodians.

The energy management team also tried to keep building temperatures between 70 – 75 degrees in summer and 66 - 70 in winter. Different buildings had different set points depending on their building envelope and the type of HVAC system used.

Lighting

In the past, there were no guidelines for lighting use during the normal workday. Classroom lights were frequently used by custodians as “markers” after breaks, where if the light was off, they had probably already cleaned that area. The new policy was to reduce light levels right after the students leave the building. Hallway lights are now reduced to half or security level, and all room lights should be off when unoccupied. Hallways, cafeterias, and restroom lights are the custodians’ responsibility. The coaches are responsible for gymnasium and weight-room lights, and teachers and staff are responsible for their own room lights.

All staff are encouraged to use day lighting wherever possible, and many libraries, cafeterias and gymnasiums do not even turn on the lights on sunny days. Staff also use sectional lighting in large areas such as auditoriums, gyms, cafeterias and libraries.

Most of the exterior lighting is controlled by on-site timers or remotely through the Metasys system. Previously, exterior lights ran all night long, and frequently all day long too, because of faulty timers, and a general lack of attention. To reset timers (such as after a power outage or for daylight savings time) work orders had to be generated for the centralized Maintenance staff. The energy management team saved time, transportation and labor costs, and increased productivity by turning over timer resets to the head custodians, who are already present in the buildings. Faulty timers were located and replaced by the night Maintenance crew. Guidelines for exterior lighting were set, first on a general basis, and then refined according to each campus’ security needs. For locations least affected by vandalism, timers were set to turn the lights on at dusk, and off ½ an hour after the custodians normally clock out – 11pm for primary

schools, 12am for secondary. In higher risk areas, lights were allowed to remain on into the early hours of the morning.

Personal Appliances

Personal appliances refer to computers, printers, refrigerators, microwaves etc. Conservation in this area was the hardest goal to achieve. Apparently many people are highly allergic to sleeping computers; and close proximity to a refrigerator is a necessity for continued good health. At the risk of being shunned by the entire academic community, Gary Briley and Rebecca Cordeiro bravely stepped forward to dispel these myths by gaining the support of technology personnel who helped reset all the power options on each computer to put the monitors in sleep mode after 5 minutes of inactivity. The community continued to thrive, and no lightning bolts from the heavens befell us. The time was ripe for the battle of the refrigerators to begin.

It was agreed that a decree to ban all refrigerators in classrooms would be greeted with a lynching mob complete with pitchforks and flaming torches. The solution then was to give a general direction to campus administrators to begin consolidating refrigerators so as to have one per wing, or one or two large ones in the lounge. The details and specifics were left up to the campus administrators, so that their special and particular needs would be addressed. Some administrators chose to disallow personal refrigerators altogether (which resulted in refrigerators being hidden in closets and under desks and blankets). Others chose to totally ignore the energy management team in the hopes that we would eventually go away and leave them alone. Nevertheless, during every holiday period greater than 3 days, the energy management department requires that all personal refrigerators be unplugged and cleaned out.

After the first year, there are plans to focus on appliances and provide more information on the approximate number of refrigerators in the district and the amount of energy that these units actually use. During the summer, the foodstuffs in the kitchens are consolidated and equipment is shut down. The pilot lights on gas stoves are also turned off by closing the gas valve.

Water Conservation

After electricity, the largest source of concern is water waste. In a show of apparent disdain for rain water, many campuses were noted as having sprinkler systems run during downpours. In addition, many leaks went unreported, or unnoticed. The energy management team has just started a water management campaign which relies on heightened observation of any running or standing water on campuses, chronically wet areas (in the case of underground leaks) and any dripping faucets, commodes etc. Plans are underway to provide better watering guidelines to the head custodians and to the grounds crew. The Maintenance Administrator drafted a plan to evaluate and

recommend the elimination of small grassy areas in interior courtyards and/or replace them with drought tolerant plants. This would eliminate the need for lawn care and sprinkler systems in these areas, saving water and labor hours. Maintenance also implemented a plan to assess sprinkler systems district wide to determine their condition, timer settings and cost for repairs. Campuses are encouraged to put in rain gauges in any new sprinkler systems, and to speak with their PTAs about the same. They are also required to request sprinkler installations through Maintenance instead of hiring outside contractors. With the addition of new square footage and new lawns, the consumption of water has increased.

The Board of Trustees approved a retrofit contract to replace all water fixtures in the district in June 2004.

Implementation

Audits

Audits are done on a frequent basis, and are stepped up on holiday periods. Weekend and after hour audits are done on a regular basis as well. It remains important however to do audits while people are in the building to serve as a reminder and also to be available to answer questions about our program.

The typical audit starts on the outside of the building to check for water leaks, and to monitor the chiller and air handling units. Any leaks are identified, noted on the audit form and called in to the Product Control Center (PCC) for a work order to be issued. After the exterior audit is complete the energy managers enter the building, silence the alarms if after hours, and begin an internal audit of lighting systems, appliances and office equipment. The energy department has also been mandated to check for safety issues, and any concerns are noted on the audit form.

Technology

Because we occasionally like to see our families, 24-hour observation of every facility is not feasible. The energy management team used, and continues to use climate data logging devices to monitor environmental conditions, such as light levels, temperature and humidity, and provides a graphical printout. With these loggers, we are able to see how the building was run without being physically present. Many problems were resolved by the use of these handy devices from HVAC short cycling issues, to behavioral lighting issues.

We also use the remote Energy Management System (EMS) to program in common schedules to turn the HVAC units on and off from one location. Programs are also written to control a small number of exterior parking lot lights. Plans are underway to increase the productivity of this technology by upgrading to a web-based structure rather than remain with phone lines. This would offer flexibility, speed and eliminate the necessity and cost for proprietary software.

Billing

In order to gauge our success, we used software called Energy CAP to track out usage and costs. Utility bills from June 2002 were gathered and entered into the software, separated by meter. Each meter is assigned to the campus it serves, and the data can be reported per meter, energy type or site. Square footage, weather data and special adjustments for new equipment were also entered into Energy CAP to accurately track changing conditions.

Marketing

Since the energy management program relies upon the cooperation of every employee, communication of our expectations and guidelines is vital to our success. We used every form of communication available to us: email, letters, newsletters, website personal meetings and group presentations. The public energy website can be reached in the following way:

www.springbranchisd.com > Site Index > Energy Management

We also have a district Intranet which has more detailed information specific to employees, cost avoidance numbers and the online versions of the newsletter “What’s Watt”.

Results

The following section provides details on our success for the period July 2003 – April 2004 compared to the same time period the previous year. In spite of increasing our conditioned area by approximately 215,000 square feet, SBISD achieved the following reductions in consumption:

Electricity:	2,044,446	Kwh
Natural Gas:	103,128	Therms
Water and Sewer:	-3632	KGals

Actual dollars spent on utilities in program year one was \$34,660 less than the base year. Total avoided cost as a result of the program (accounting for increased square footage, rate changes and weather) amount to \$898,000. A higher emphasis has been placed on water conservation, and SBISD will enter into a retrofit contract with JCI to replace water fixtures, toilets etc. This contract was approved by the Board of Trustees in June 2004.

A description of each data table is given below.

Tables 1 and 2: Utility Break up

This shows the break up of utility usage for the base year and year one respectively. There is no significant change between the two years. Electricity represents about 78% of total energy costs, Gas is 11%, and water is about 11%.

Table 3: Cost per Square Foot Comparison

This table illustrates the changes in conditioned space between the base year and year one of the program. It also shows that our efforts have resulted in a net decrease of cost per square foot district wide.

Table 4: Energy Use Index Comparison

The EUI for each site was calculated for the period July – April of both years. It can be seen that most of the campuses showed a decrease in their BTU/SQFT.

Chart 5: Energy Use Trend – District Wide

This chart illustrates the electric use patterns over the two years. It can be seen that the overall electricity use has decreased since the implementation of the program.

Tables 6 – 8 Average unit cost per utility type

Table 6: Electricity unit cost comparison between base year and year one. There was a negligible increase. Beginning in June 2004, there was a ½ cent per kilowatt hour (KWH) increase in our electric rate, and beginning November 2004, there will be another increase of 1 cent per KWH.

Table 7: Gas unit cost comparison

There has been a 22% increase in rate due to the market cost of gas. Even though we have reduced gas consumption in the district, the total amount spent on gas bills has increased due to this sizable rate hike.

Table 8a and 8b Water unit cost comparison

The difference in average water rates is not significant. However, on June 1 2004, the City of Houston Water department increased their rates by 14% to cover costs for upgrades to the storm sewer systems.

Tables 9 – 12: Cost Avoidance

Cost Avoidance refers to the amount that we did not pay as a result of our conservation efforts. “Cost without CAP” is the cost of last year’s usage at this year’s cost, had conditions remained the same. Special adjustments, based on face plate data on new equipment, and operational times, were made to account for the additional equipment added to condition new square footage. The software also took into consideration weather information, and rate changes. In essence, Cost without CAP is a forecasted amount that we would have paid had we not implemented an Energy Program.

Table 9: Electricity Cost Avoidance

Table 10: Natural Gas Cost Avoidance

Table 11: Water and Sewer Cost Avoidance

Table 12: Overall Cost Avoidance by Energy Type

The remaining tables and charts represent data for Stratford High school.

Chart 13: Electricity Use Trend Comparison

Table 14: Monthly EUI analysis

SBISD

Energy CAP

Cost Avoidance Program

Cost Summary Graph

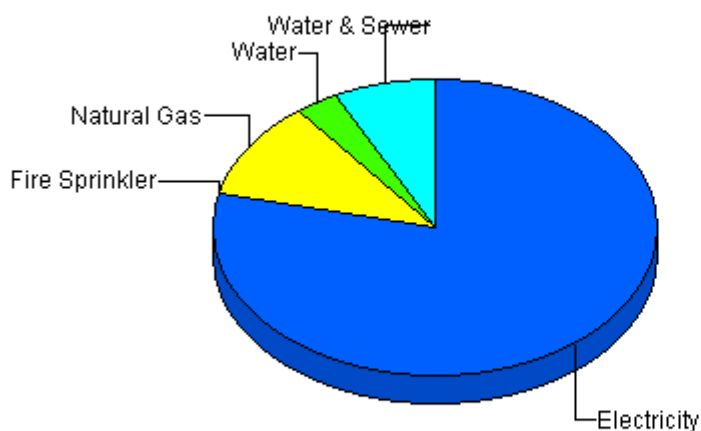
Grouped by Energy Type



Energy Type	Use	Units	Total Cost	Avg Unit Cost	% of Total Cost
All Sites					
Electricity	58,905,177	KWH	\$3,777,027.25	0.0641	78.69%
Natural Gas	715,881	THERM	\$521,328.62	0.7282	10.86%
Water	29,759	KGAL	\$142,667.81	4.7940	2.97%
Water & Sewer	55,513	KGAL	\$358,146.72	6.4516	7.46%
Fire Sprinkler	0	KGAL	\$446.98	0.0000	0.01%

Total Cost: \$4,799,617.38

For All Sites



Electricity	78.7%
Fire Sprinkler	0.0%
Natural Gas	10.9%
Water	3.0%
Water & Sewer	7.5%
Total:	100.0%

Filters: Billing Periods In Range From 200207 To 200304



SBISD

Energy CAP

Cost Avoidance Program

Cost Summary Graph

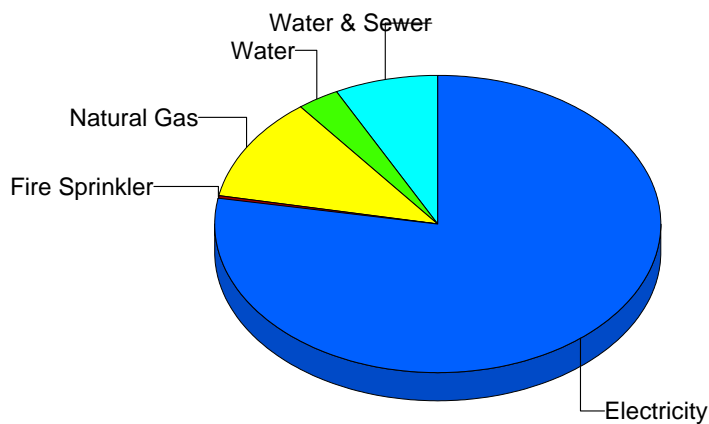
Grouped by Energy Type



Energy Type	Use	Units	Total Cost	Avg Unit Cost	% of Total Cost
All Sites					
Electricity	56,749,099	KWH	\$3,696,372.56	0.0651	77.90%
Natural Gas	607,564	THERM	\$540,964.24	0.8904	11.40%
Water	31,999	KGAL	\$148,248.58	4.6330	3.12%
Water & Sewer	54,973	KGAL	\$358,481.19	6.5210	7.55%
Fire Sprinkler	0	KGAL	\$914.62	0.0000	0.02%

Total Cost: \$4,744,981.19

For All Sites



Electricity	77.9%
Fire Sprinkler	0.0%
Natural Gas	11.4%
Water	3.1%
Water & Sewer	7.6%
Total:	100.0%

Filters: Billing Periods In Range From 200307 To 200404



Cost Per Square Foot Comparison

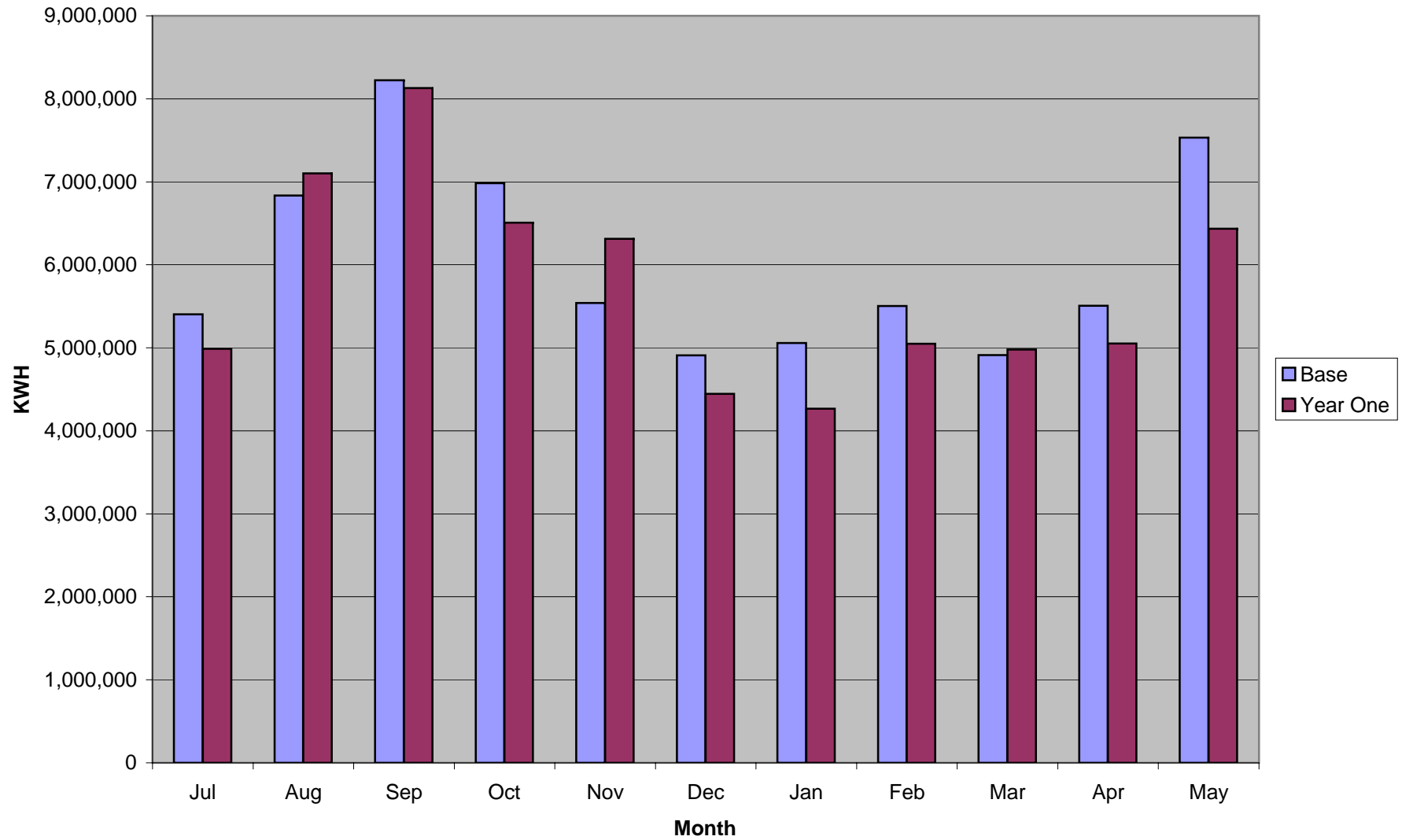
	SQFT		Total		Cost per SQFT	
Energy Type Name	Base	Year One	Base Cost	Year One Cost	Base	Year One
Site: 001 - Memorial HS	246,298	246,298	\$205,033	\$191,787	\$0.83	\$0.78
Site: 003 - Spring Woods HS	347,521	347,521	\$222,990	\$232,603	\$0.64	\$0.67
Site: 005 - Northbrook Sr	358,191	358,191	\$249,995	\$232,649	\$0.70	\$0.65
Site: 006 - Stratford HS	281,575	281,575	\$291,049	\$231,324	\$1.03	\$0.82
Site: 007 - Career Center	87,114	87,114	\$87,302	\$87,243	\$1.00	\$1.00
Site: 014 - Westchester Education Center	294,963	294,963	\$294,856	\$282,077	\$1.00	\$0.96
Site: 031 - Science Center	22,053	22,053	\$14,560	\$15,374	\$0.66	\$0.70
Site: 038 - Spring Branch Education Center	287,663	287,663	\$186,823	\$170,876	\$0.65	\$0.59
Site: 041 - Landrum	155,934	176,071	\$101,918	\$99,659	\$0.65	\$0.57
Site: 042 - Memorial MS	175,504	175,504	\$97,529	\$96,218	\$0.56	\$0.55
Site: 043 - Spring Branch MS	199,824	199,824	\$142,734	\$96,324	\$0.71	\$0.48
Site: 044 - Spring Woods MS	206,152	206,152	\$128,553	\$131,609	\$0.62	\$0.64
Site: 045 - Spring Forest MS	171,516	171,516	\$51,164	\$57,335	\$0.30	\$0.33
Site: 046 - Spring Oaks MS	165,578	165,578	\$124,764	\$117,360	\$0.75	\$0.71
Site: 047 - Northbrook MS	182,772	202,147	\$167,406	\$190,966	\$0.92	\$0.94
Site: 101 - Bendwood Elem	38,830	38,830	\$35,241	\$29,334	\$0.91	\$0.76
Site: 102 - Bunker Hill Elem	58,385	58,385	\$65,180	\$49,475	\$1.12	\$0.85
Site: 103 - Edgewood Elem	74,345	74,345	\$64,571	\$57,671	\$0.87	\$0.78
Site: 104A - Frostwood Elem	49,454	64,657	\$50,216	\$49,554	\$1.02	\$0.77
Site: 105A - Hollibrook	96,144	100,419	\$74,831	\$69,559	\$0.78	\$0.69
Site: 106 - Housman	69,404	80,927	\$51,753	\$57,450	\$0.75	\$0.71
Site: 107 - Hunters Creek	61,939	61,939	\$52,830	\$51,057	\$0.85	\$0.82
Site: 108 - Meadow Wood	54,003	74,066	\$108,472	\$106,587	\$2.01	\$1.44
Site: 109 - Memorial Drive	38,098	62,098	\$36,444	\$49,990	\$0.96	\$0.81
Site: 110 - Pine Shadows Elem	71,475	94,475	\$70,501	\$76,229	\$0.99	\$0.81
Site: 111 - Ridgecrest Elem	87,185	96,185	\$65,906	\$61,626	\$0.76	\$0.64
Site: 112 - Rummel Creek Elem	73,959	73,832	\$55,854	\$59,403	\$0.76	\$0.80
Site: 113 - Shadow Oaks Elem	67,603	87,603	\$60,164	\$66,412	\$0.89	\$0.76
Site: 114 - Spring Branch Elem	63,960	81,960	\$55,306	\$66,705	\$0.86	\$0.81
Site: 115 - Valley Oaks Elem	63,497	73,584	\$62,389	\$58,234	\$0.98	\$0.79
Site: 116 - Westwood Elem	46,814	64,710	\$40,569	\$56,552	\$0.87	\$0.87
Site: 117 - Woodview Elem	75,884	75,884	\$47,596	\$49,396	\$0.63	\$0.65
Site: 118 - Wilchester Elem	61,303	78,303	\$50,575	\$47,463	\$0.82	\$0.61
Site: 119 - Sherwood Elem	56,660	73,660	\$37,645	\$44,106	\$0.66	\$0.60
Site: 120 - Spring Shadows Elem	73,832	87,936	\$55,740	\$66,030	\$0.75	\$0.75
Site: 121 - Nottingham Elem	52,210	68,510	\$39,118	\$48,129	\$0.75	\$0.70
Site: 122 - Terrace Elem	63,365	63,365	\$57,649	\$57,670	\$0.91	\$0.91
Site: 123 - Thornwood Elem	55,098	71,726	\$72,234	\$67,850	\$1.31	\$0.95
Site: 124 - Cedar Brook Elem	84,867	84,867	\$88,851	\$87,182	\$1.05	\$1.03
Site: 125 - Treasure Forest Elem	82,179	82,179	\$73,965	\$66,131	\$0.90	\$0.80
Site: 126 - Buffalo Creek Elem	83,523	83,523	\$68,166	\$69,711	\$0.82	\$0.83
Site: 128 - Wildcat Way Pre-K	26,000	26,000	\$39,646	\$37,804	\$1.52	\$1.45
Site: 703 - Tax Office	3,136	3,136	\$3,631	\$3,269	\$1.16	\$1.04
Site: 936A - Admin Bldg	59,125	59,125	\$71,166	\$63,075	\$1.20	\$1.07
Site: 936B - Ag-FFA	23,250	23,250	\$9,308	\$9,078	\$0.40	\$0.39
Site: 981 - Maintenance Complex	142,910	142,910	\$85,511	\$79,023	\$0.60	\$0.55
Site: 982 - Security Services	16,195	16,195	\$18,568	\$17,132	\$1.15	\$1.06
Site: 995 - Athletics Tully/Coliseum	74,037	74,037	\$66,657	\$60,963	\$0.90	\$0.82
Site: 996 - Natatorium	21,525	21,525	\$58,798	\$47,660	\$2.73	\$2.21
Totals	5,252,852.00	5,546,316.00	\$4,261,726	\$4,120,912	\$0.81	\$0.74

Energy Use Index Comparison

Energy Type Name	Total BTUs		SQFT		EUI		
	Base	Year One	Base	Year One	Base	Year One	
Site: 001 - Memorial HS	13309699823	11854062179	246,298	246,298	54039	48129	EUI Down from Base
Site: 003 - Spring Woods HS	14703635077	14612511907	347,521	347,521	42310	42048	EUI Down from Base
Site: 005 - Northbrook Sr	18764512243	14620508272	358,191	358,191	52387	40818	EUI Down from Base
Site: 006 - Stratford HS	19351912375	14709264592	281,575	281,575	68727	52239	EUI Down from Base
Site: 007 - Career Center	6449932480	6074637840	87,114	87,114	74040	69732	EUI Down from Base
Site: 014 - Westchester Education Center	21303187728	19198046725	294,963	294,963	72223	65086	EUI Down from Base
Site: 031 - Science Center	795064552	754570392	22,053	22,053	36052	34216	EUI Down from Base
Site: 038 - Spring Branch Education Center	12035289363	9889572078	287,663	287,663	41838	34379	EUI Down from Base
Site: 041 - Landrum	6063868896	5506637552	155,934	176,071	38887	31275	EUI Down from Base
Site: 042 - Memorial MS	6028689248	5538567552	175,504	175,504	34351	31558	EUI Down from Base
Site: 043 - Spring Branch MS	6088937000	6096675120	199,824	199,824	30471	30510	EUI Up from Base
Site: 044 - Spring Woods MS	8119376633	7500314398	206,152	206,152	39385	36382	EUI Down from Base
Site: 045 - Spring Forest MS	3642632648	3254926632	171,516	171,516	21238	18977	EUI Down from Base
Site: 046 - Spring Oaks MS	8064629887	6823238334	165,578	165,578	48706	41209	EUI Down from Base
Site: 047 - Northbrook MS	10811382349	12829554836	182,772	202,147	59152	63466	EUI Up from Base
Site: 101 - Bendwood Elem	2530031272	1643726968	38,830	38,830	65157	42331	EUI Down from Base
Site: 102 - Bunker Hill Elem	3016031664	2689932824	58,385	58,385	51658	46072	EUI Down from Base
Site: 103 - Edgewood Elem	3904773424	3120930776	74,345	74,345	52522	41979	EUI Down from Base
Site: 104A - Frostwood Elem	2858954066	2579567311	49,454	64,657	57810	39896	EUI Down from Base
Site: 105A - Hollibrook	4264848680	4016382108	96,144	100,419	44359	39996	EUI Down from Base
Site: 106 - Housman	3449976600	3341245880	69,404	80,927	49709	41287	EUI Down from Base
Site: 107 - Hunters Creek	3137934160	2778445376	61,939	61,939	50662	44858	EUI Down from Base
Site: 108 - Meadow Wood	6103389215	5688908139	54,003	74,066	113019	76809	EUI Down from Base
Site: 109 - Memorial Drive	2179510400	2955675408	38,098	62,098	57208	47597	EUI Down from Base
Site: 110 - Pine Shadows Elem	4542298920	5170516112	71,475	94,475	63551	54729	EUI Down from Base
Site: 111 - Ridgcrest Elem	4419516680	3788402840	87,185	96,185	50691	39387	EUI Down from Base
Site: 112 - Rummel Creek Elem	3281631640	3071464784	73,959	73,832	44371	41601	EUI Down from Base
Site: 113 - Shadow Oaks Elem	3617331648	3894062432	67,603	87,603	53508	44451	EUI Down from Base
Site: 114 - Spring Branch Elem	3190401560	3959859624	63,960	81,960	49881	48315	EUI Down from Base
Site: 115 - Valley Oaks Elem	3640943904	3302236536	63,497	73,584	57340	44877	EUI Down from Base
Site: 116 - Westwood Elem	2377660400	3174966904	46,814	64,710	50790	49065	EUI Down from Base
Site: 117 - Woodview Elem	3001675800	2855905200	75,884	75,884	39556	37635	EUI Down from Base
Site: 118 - Wilchester Elem	3243432992	2854070384	61,303	78,303	52908	36449	EUI Down from Base

	Total BTUs		SQFT		EUI		
Energy Type Name	Base	Year One	Base	Year One	Base	Year One	
Site: 119 - Sherwood Elem	2175669584	2860647424	56,660	73,660	38399	38836	EUI Up from Base
Site: 120 - Spring Shadows Elem	3705325296	4004175368	73,832	87,936	50186	45535	EUI Down from Base
Site: 121 - Nottingham Elem	2466977600	3150330952	52,210	68,510	47251	45984	EUI Down from Base
Site: 122 - Terrace Elem	3385300888	3000481416	63,365	63,365	53425	47352	EUI Down from Base
Site: 123 - Thornwood Elem	3491101776	4065091632	55,098	71,726	63362	56675	EUI Down from Base
Site: 124 - Cedar Brook Elem	5639449896	5307581544	84,867	84,867	66450	62540	EUI Down from Base
Site: 125 - Treasure Forest Elem	3952738424	2973136880	82,179	82,179	48099	36179	EUI Down from Base
Site: 126 - Buffalo Creek Elem	3821786920	3878901744	83,523	83,523	45757	46441	EUI Up from Base
Site: 128 - Wildcat Way Pre-K	2157539440	1900496448	26,000	26,000	82982	73096	EUI Down from Base
Site: 703 - Tax Office	184434628	153855005	3,136	3,136	58812	49061	EUI Down from Base
Site: 936A - Admin Bldg	4288912320	3600851520	59,125	59,125	72540	60902	EUI Down from Base
Site: 936B - Ag-FFA	530202724	495325277	23,250	23,250	22804	21304	EUI Down from Base
Site: 981 - Maintenance Complex	5925381206	5029567972	142,910	142,910	41462	35194	EUI Down from Base
Site: 982 - Security Services	998234240	899939840	16,195	16,195	61638	55569	EUI Down from Base
Site: 995 - Athletics Tully/Coliseum	3729813606	3313158773	74,037	74,037	50378	44750	EUI Down from Base
Site: 996 - Natatorium	5858582256	4038528688	21,525	21,525	272176	187620	EUI Down from Base
Totals	270,604,544,130	248,821,458,498	5,252,852.00	5,546,316.00	51,516	44,862	EUI Down from Base
	Total		SQFT		EUI		
Following schools only have data from Feb 03	Base	Year One	Base	Year One	Base	Year One	
Site: 130 - Lion Lane Pre-K	738	815	26,000	26,000	28,390	31,350	EUI Up from Base
Site: 131 - Bear Blvd Pre-K	850	650	26,000	26,000	32,670	25,010	EUI Down from Base
Site: 132 - Tiger Trail Pre-K	875	747	26,000	26,000	33,650	28,730	EUI Down from Base

District Wide Electricity Use Trend



Electricity Cost and Consumption Comparison							
		Base Year	Year One	Base Year	Year One	Base Year	Year One
Energy Type Name	Unit	Use	Use	Cost	Cost	Cost/Unit	Cost/Unit
Site: 001 - Memorial HS	KWH	2,910,780	2,674,831	\$179,202.91	\$166,796.96	\$0.062	\$0.062
Site: 003 - Spring Woods HS	KWH	3,572,520	3,390,401	\$204,999.99	\$205,137.03	\$0.057	\$0.061
Site: 005 - Northbrook Sr	KWH	3,765,120	3,424,401	\$215,066.98	\$205,304.03	\$0.057	\$0.060
Site: 006 - Stratford HS	KWH	4,268,770	3,323,384	\$253,278.75	\$201,006.97	\$0.059	\$0.060
Site: 007 - Career Center	KWH	1,272,960	1,159,680	\$72,286.84	\$67,834.30	\$0.057	\$0.058
Site: 014 - Westchester Education Center	KWH	3,662,704	3,412,273	\$227,224.21	\$213,961.12	\$0.062	\$0.063
Site: 031 - Science Center	KWH	206,304	201,984	\$13,789.24	\$14,695.67	\$0.067	\$0.073
Site: 038 - Spring Branch Education Center	KWH	2,459,913	2,229,311	\$156,909.50	\$149,937.69	\$0.064	\$0.067
Site: 041 - Landrum	KWH	1,387,392	1,298,304	\$92,292.27	\$90,425.75	\$0.067	\$0.070
Site: 042 - Memorial MS	KWH	1,399,296	1,298,304	\$88,142.49	\$86,735.97	\$0.063	\$0.067
Site: 043 - Spring Branch MS	KWH	1,169,000	1,082,240	\$126,935.27	\$74,076.98	\$0.109	\$0.068
Site: 044 - Spring Woods MS	KWH	1,733,493	1,643,189	\$111,448.24	\$114,067.26	\$0.064	\$0.069
Site: 045 - Spring Forest MS	KWH	612,096	742,464	\$40,284.44	\$51,063.60	\$0.066	\$0.069
Site: 046 - Spring Oaks MS	KWH	1,686,308	1,530,213	\$107,633.23	\$102,312.97	\$0.064	\$0.067
Site: 047 - Northbrook MS	KWH	2,216,473	2,551,877	\$143,019.62	\$154,095.35	\$0.065	\$0.060
Site: 101 - Bendwood Elem	KWH	447,744	332,736	\$30,894.26	\$24,845.73	\$0.069	\$0.075
Site: 102 - Bunker Hill Elem	KWH	697,728	642,048	\$60,637.23	\$45,121.05	\$0.087	\$0.070
Site: 103 - Edgewood Elem	KWH	877,248	745,152	\$58,058.39	\$52,674.92	\$0.066	\$0.071
Site: 104A - Frostwood Elem	KWH	720,482	661,347	\$47,456.39	\$46,664.06	\$0.066	\$0.071
Site: 105A - Hollibrook	KWH	1,018,360	941,516	\$68,977.48	\$64,009.37	\$0.068	\$0.068
Site: 106 - Housman	KWH	679,200	707,760	\$43,195.07	\$49,475.30	\$0.064	\$0.070
Site: 107 - Hunters Creek	KWH	712,320	644,352	\$47,991.27	\$46,026.14	\$0.067	\$0.071
Site: 108 - Meadow Wood	KWH	1,666,898	1,510,751	\$105,591.82	\$101,911.56	\$0.063	\$0.067
Site: 109 - Memorial Drive	KWH	484,800	695,616	\$32,868.97	\$44,820.29	\$0.068	\$0.064
Site: 110 - Pine Shadows Elem	KWH	987,840	1,031,424	\$62,307.76	\$65,069.04	\$0.063	\$0.063
Site: 111 - Ridgecrest Elem	KWH	927,360	751,680	\$57,306.83	\$51,139.65	\$0.062	\$0.068
Site: 112 - Rummel Creek Elem	KWH	833,280	787,968	\$52,833.39	\$55,990.05	\$0.063	\$0.071
Site: 113 - Shadow Oaks Elem	KWH	828,096	944,064	\$54,636.98	\$60,533.79	\$0.066	\$0.064
Site: 114 - Spring Branch Elem	KWH	771,120	837,648	\$51,183.44	\$57,268.48	\$0.066	\$0.068
Site: 115 - Valley Oaks Elem	KWH	854,208	804,672	\$57,333.03	\$53,356.62	\$0.067	\$0.066
Site: 116 - Westwood Elem	KWH	556,800	758,208	\$37,276.40	\$51,403.38	\$0.067	\$0.068
Site: 117 - Woodview Elem	KWH	696,600	662,400	\$43,296.41	\$44,169.16	\$0.062	\$0.067
Site: 118 - Wilchester Elem	KWH	725,184	639,168	\$45,266.02	\$41,604.97	\$0.062	\$0.065
Site: 119 - Sherwood Elem	KWH	509,568	589,248	\$34,685.52	\$39,007.81	\$0.068	\$0.066
Site: 120 - Spring Shadows Elem	KWH	851,192	925,536	\$50,488.06	\$58,719.34	\$0.059	\$0.063
Site: 121 - Nottingham Elem	KWH	571,200	679,104	\$35,630.44	\$40,931.29	\$0.062	\$0.060
Site: 122 - Terrace Elem	KWH	816,576	762,432	\$53,670.58	\$54,142.11	\$0.066	\$0.071
Site: 123 - Thornwood Elem	KWH	781,152	850,464	\$67,450.63	\$57,893.15	\$0.086	\$0.068
Site: 124 - Cedar Brook Elem	KWH	1,243,392	1,087,488	\$78,691.80	\$72,789.22	\$0.063	\$0.067
Site: 125 - Treasure Forest Elem	KWH	985,248	833,760	\$70,092.89	\$64,906.03	\$0.071	\$0.078
Site: 126 - Buffalo Creek Elem	KWH	963,840	933,888	\$64,669.35	\$63,709.78	\$0.067	\$0.068
Site: 128 - Wildcat Way Pre-K	KWH	602,880	525,696	\$38,901.80	\$36,767.17	\$0.065	\$0.070
Site: 130 - Lion Lane Pre-K	KWH	131,520	602,688	\$9,092.50	\$39,591.31	\$0.069	\$0.066
Site: 131 - Bear Blvd Pre-K	KWH	137,664	553,728	\$9,395.16	\$37,504.31	\$0.068	\$0.068
Site: 132 - Tiger Trail Pre-K	KWH	145,824	571,296	\$11,384.72	\$39,230.30	\$0.078	\$0.069
Site: 703 - Tax Office	KWH	53,556	44,385	\$3,459.78	\$3,085.61	\$0.065	\$0.070
Site: 936A - Admin Bldg	KWH	1,256,640	1,055,040	\$71,166.28	\$63,074.99	\$0.057	\$0.060
Site: 936B - Ag-FFA	KWH	155,348	145,129	\$9,308.41	\$9,077.85	\$0.060	\$0.063
Site: 981 - Maintenance Complex	KWH	1,297,262	1,217,644	\$74,510.78	\$70,886.96	\$0.057	\$0.058
Site: 982 - Security Services	KWH	292,480	263,680	\$18,568.18	\$17,131.80	\$0.063	\$0.065
Site: 995 - Athletics Tully/Coliseum	KWH	860,510	721,169	\$61,298.72	\$53,594.60	\$0.071	\$0.074
Site: 996 - Natatorium	KWH	410,112	406,176	\$22,592.78	\$23,137.47	\$0.055	\$0.057
Totals		58,874,361	56,829,915	3,774,684	3,698,716	\$0.064	\$0.065

Natural Gas Cost and Consumption Comparison

		Base	Year One	Base	Year One	Base	Year One
Energy Type Name	Energy Unit	Use	Use	Cost	Cost	Cost/Unit	Cost/Unit
Site: 001 - Memorial HS	THERM	33,752	27,249	\$25,829.70	\$24,990.19	\$0.765	\$0.917
Site: 003 - Spring Woods HS	THERM	25,106	30,411	\$17,990.37	\$27,465.76	\$0.717	\$0.903
Site: 005 - Northbrook Sr	THERM	59,142	29,330	\$34,928.35	\$27,344.82	\$0.591	\$0.932
Site: 006 - Stratford HS	THERM	47,826	33,666	\$37,770.28	\$30,317.41	\$0.790	\$0.901
Site: 007 - Career Center	THERM	21,053	21,167	\$15,014.80	\$19,408.92	\$0.713	\$0.917
Site: 014 - Westchester Education Center	THERM	88,024	75,520	\$67,631.90	\$68,116.02	\$0.768	\$0.902
Site: 031 - Science Center	THERM	909	652	\$770.39	\$678.39	\$0.847	\$1.040
Site: 038 - Spring Branch Education Center	THERM	36,396	22,809	\$29,913.31	\$20,938.50	\$0.822	\$0.918
Site: 041 - Landrum	THERM	13,287	10,755	\$9,625.48	\$9,233.08	\$0.724	\$0.858
Site: 042 - Memorial MS	THERM	12,529	11,075	\$9,386.53	\$9,482.47	\$0.749	\$0.856
Site: 043 - Spring Branch MS	THERM	20,991	24,030	\$15,799.08	\$22,246.71	\$0.753	\$0.926
Site: 044 - Spring Woods MS	THERM	22,030	18,921	\$17,104.43	\$17,541.35	\$0.776	\$0.927
Site: 045 - Spring Forest MS	THERM	15,535	7,209	\$10,879.20	\$6,271.88	\$0.700	\$0.870
Site: 046 - Spring Oaks MS	THERM	23,093	16,006	\$17,130.31	\$15,046.90	\$0.742	\$0.940
Site: 047 - Northbrook MS	THERM	32,466	41,200	\$24,386.47	\$36,870.19	\$0.751	\$0.895
Site: 101 - Bendwood Elem	THERM	10,019	5,081	\$4,346.53	\$4,487.98	\$0.434	\$0.883
Site: 102 - Bunker Hill Elem	THERM	6,347	4,986	\$4,543.06	\$4,353.82	\$0.716	\$0.873
Site: 103 - Edgewood Elem	THERM	9,107	5,777	\$6,512.60	\$4,995.91	\$0.715	\$0.865
Site: 104A - Frostwood Elem	THERM	3,999	3,224	\$2,759.41	\$2,889.81	\$0.690	\$0.896
Site: 105A - Hollibrook	THERM	7,892	8,030	\$5,853.43	\$5,549.73	\$0.742	\$0.691
Site: 106 - Housman	THERM	11,319	9,257	\$8,557.58	\$7,974.94	\$0.756	\$0.862
Site: 107 - Hunters Creek	THERM	7,068	5,793	\$4,838.86	\$5,030.55	\$0.685	\$0.868
Site: 108 - Meadow Wood	THERM	4,143	5,327	\$2,879.83	\$4,675.00	\$0.695	\$0.878
Site: 109 - Memorial Drive	THERM	5,249	5,815	\$3,575.17	\$5,169.36	\$0.681	\$0.889
Site: 110 - Pine Shadows Elem	THERM	11,708	16,503	\$8,193.20	\$11,160.33	\$0.700	\$0.676
Site: 111 - Ridgecrest Elem	THERM	12,544	12,229	\$8,599.39	\$10,486.05	\$0.686	\$0.857
Site: 112 - Rummel Creek Elem	THERM	4,376	3,821	\$3,021.08	\$3,412.84	\$0.690	\$0.893
Site: 113 - Shadow Oaks Elem	THERM	7,910	6,720	\$5,527.05	\$5,877.81	\$0.699	\$0.875
Site: 114 - Spring Branch Elem	THERM	5,586	11,010	\$4,122.68	\$9,436.02	\$0.738	\$0.857
Site: 115 - Valley Oaks Elem	THERM	7,255	5,559	\$5,056.01	\$4,877.62	\$0.697	\$0.877
Site: 116 - Westwood Elem	THERM	4,773	5,872	\$3,292.13	\$5,148.19	\$0.690	\$0.877
Site: 117 - Woodview Elem	THERM	6,242	5,951	\$4,299.31	\$5,227.19	\$0.689	\$0.878
Site: 118 - Wilchester Elem	THERM	7,684	6,726	\$5,308.70	\$5,858.42	\$0.691	\$0.871
Site: 119 - Sherwood Elem	THERM	4,365	8,495	\$2,959.53	\$5,098.24	\$0.678	\$0.600
Site: 120 - Spring Shadows Elem	THERM	8,002	8,453	\$5,252.09	\$7,310.58	\$0.656	\$0.865
Site: 121 - Nottingham Elem	THERM	5,175	8,325	\$3,487.57	\$7,197.57	\$0.674	\$0.865
Site: 122 - Terrace Elem	THERM	5,983	3,983	\$3,978.19	\$3,527.46	\$0.665	\$0.886
Site: 123 - Thornwood Elem	THERM	8,250	11,625	\$4,783.24	\$9,956.56	\$0.580	\$0.857
Site: 124 - Cedar Brook Elem	THERM	13,958	15,960	\$10,159.59	\$14,393.15	\$0.728	\$0.902
Site: 125 - Treasure Forest Elem	THERM	5,901	1,275	\$3,872.27	\$1,225.13	\$0.656	\$0.961
Site: 126 - Buffalo Creek Elem	THERM	5,322	6,915	\$3,496.99	\$6,001.04	\$0.657	\$0.868
Site: 128 - Wildcat Way Pre-K	THERM	999	1,063	\$744.35	\$1,036.87	\$0.745	\$0.975
Site: 129 - Early Childhood Dev.	THERM	290	592	\$652.77	\$843.61	\$2.253	\$1.424
Site: 130 - Lion Lane Pre-K	THERM	101	176	\$786.10	\$926.20	\$7.748	\$5.249
Site: 131 - Bear Blvd Pre-K	THERM	973	907	\$766.21	\$1,000.42	\$0.788	\$1.102
Site: 132 - Tiger Trail Pre-K	THERM	1,037	848	\$812.73	\$866.20	\$0.784	\$1.022
Site: 703 - Tax Office	THERM	16	24	\$171.30	\$183.25	\$10.394	\$7.735
Site: 981 - Maintenance Complex	THERM	14,978	8,737	\$10,999.79	\$8,136.40	\$0.734	\$0.931
Site: 995 - Athletics Tully/Coliseum	THERM	7,929	8,518	\$5,358.25	\$7,368.48	\$0.676	\$0.865
Site: 996 - Natatorium	THERM	44,589	26,523	\$36,204.73	\$24,522.56	\$0.812	\$0.925
Totals		713,229	610,100	\$519,932.32	\$542,157.88	\$0.729	\$0.889

Water Cost and Consumption Comparison

		Base	Year One	Base	Year One	Base	Year One
Energy Type Name	Energy Unit	Use	Use	Cost	Cost	Cost/Unit	Cost/Unit
Site: 001 - Memorial HS	KGAL	4,204	4,480	\$9,831.60	\$10,108.20	\$2.339	\$2.256
Site: 003 - Spring Woods HS	KGAL	2,841	2,370	\$12,620.30	\$10,546.00	\$4.442	\$4.450
Site: 005 - Northbrook Sr	KGAL	1,910	2,462	\$8,599.80	\$10,866.30	\$4.503	\$4.414
Site: 006 - Stratford HS	KGAL	3,456	2,998	\$15,810.20	\$13,721.00	\$4.575	\$4.577
Site: 007 - Career Center	KGAL	326	287	\$2,130.68	\$1,898.54	\$6.536	\$6.615
Site: 014 - Westchester Education Center	KGAL	1,082	978	\$7,796.00	\$7,330.88	\$7.205	\$7.496
Site: 031 - Science Center	KGAL	50	40	\$521.50	\$541.66	\$10.430	\$13.542
Site: 038 - Spring Branch Education Center	KGAL	4,623	4,992	\$31,198.08	\$34,270.82	\$6.748	\$6.865
Site: 043 - Spring Branch MS	KGAL	1,197	2,630	\$3,579.15	\$8,422.87	\$2.990	\$3.203
Site: 044 - Spring Woods MS	KGAL	987	1,266	\$7,370.96	\$8,857.64	\$7.468	\$6.997
Site: 047 - Northbrook MS	KGAL	620	808	\$2,850.80	\$3,659.20	\$4.598	\$4.529
Site: 101 - Bendwood Elem	KGAL	99	75	\$847.00	\$740.80	\$8.556	\$9.877
Site: 102 - Bunker Hill Elem	KGAL	1,116	671	\$3,031.76	\$1,869.11	\$2.717	\$2.786
Site: 104A - Frostwood Elem	KGAL	558	780	\$1,441.46	\$2,179.76	\$2.583	\$2.794
Site: 106 - Housman	KGAL	1,724	1,218	\$10,994.72	\$7,889.84	\$6.377	\$6.478
Site: 107 - Hunters Creek	KGAL	902	1,376	\$2,420.65	\$4,034.30	\$2.684	\$2.932
Site: 109 - Memorial Drive	KGAL	840	829	\$2,484.75	\$2,452.25	\$2.958	\$2.958
Site: 121 - Nottingham Elem	KGAL	100	104	\$531.30	\$522.70	\$5.313	\$5.026
Site: 128 - Wildcat Way Pre-K	KGAL	236	363	\$1,281.30	\$1,861.80	\$5.429	\$5.129
Site: 130 - Lion Lane Pre-K	KGAL	176	165	\$848.74	\$824.35	\$4.811	\$4.996
Site: 131 - Bear Blvd Pre-K	KGAL	610	955	\$4,059.91	\$6,427.23	\$6.656	\$6.730
Site: 132 - Tiger Trail Pre-K	KGAL	279	87	\$1,479.10	\$1,109.30	\$5.301	\$12.751
Site: 936A - Admin Bldg	KGAL	628	905	\$1,580.85	\$3,054.20	\$2.517	\$3.375
Site: 981 - Maintenance Complex	KGAL	167	146	\$1,747.81	\$1,751.50	\$10.466	\$11.997
Totals		28,731	30,985	\$135,058.42	\$144,940.25	\$4.701	\$4.678

Water and Sewer Cost and Consumption Comparison

		Base	Year One	Base	Year One	Base	Year One
Energy Type Name	Energy Unit	Use	Use	Cost	Cost	Cost/Unit	Cost/Unit
Site: 003 - Spring Woods HS	KGAL	4,687	2,752	\$30,050.54	\$18,626.30	\$6.411	\$6.768
Site: 005 - Northbrook Sr	KGAL	7,964	10,788	\$50,043.38	\$67,530.66	\$6.284	\$6.260
Site: 006 - Stratford HS	KGAL	2,444	2,326	\$15,976.36	\$15,251.56	\$6.537	\$6.557
Site: 041 - Landrum	KGAL	2,076	4,270	\$13,709.89	\$27,286.97	\$6.604	\$6.390
Site: 042 - Memorial MS	KGAL	1,892	1,348	\$12,032.96	\$8,704.34	\$6.360	\$6.457
Site: 045 - Spring Forest MS	KGAL	3,203	1,575	\$20,134.94	\$10,073.90	\$6.286	\$6.396
Site: 046 - Spring Oaks MS	KGAL	2,060	1,698	\$13,170.08	\$10,834.04	\$6.393	\$6.380
Site: 047 - Northbrook MS	KGAL	1,222	2,125	\$7,976.72	\$13,452.90	\$6.528	\$6.331
Site: 101 - Bendwood Elem	KGAL	2,182	723	\$14,140.57	\$5,237.44	\$6.481	\$7.244
Site: 103 - Edgewood Elem	KGAL	1,036	942	\$6,615.38	\$6,033.81	\$6.386	\$6.405
Site: 105A - Hollibrook	KGAL	2,951	2,888	\$18,757.76	\$18,188.24	\$6.356	\$6.298
Site: 108 - Meadow Wood	KGAL	666	488	\$4,344.32	\$3,299.78	\$6.523	\$6.762
Site: 110 - Pine Shadows Elem	KGAL	1,575	3,059	\$9,941.54	\$19,148.22	\$6.312	\$6.260
Site: 111 - Ridgecrest Elem	KGAL	2,104	1,595	\$13,257.80	\$10,070.00	\$6.301	\$6.313
Site: 112 - Rummel Creek Elem	KGAL	810	628	\$5,243.12	\$4,142.78	\$6.473	\$6.597
Site: 113 - Shadow Oaks Elem	KGAL	844	975	\$5,430.77	\$6,371.28	\$6.435	\$6.535
Site: 114 - Spring Branch Elem	KGAL	1,381	1,493	\$8,785.22	\$9,439.64	\$6.361	\$6.323
Site: 115 - Valley Oaks Elem	KGAL	1,294	1,443	\$8,209.82	\$9,130.64	\$6.345	\$6.328
Site: 116 - Westwood Elem	KGAL	737	586	\$4,818.62	\$3,927.62	\$6.538	\$6.702
Site: 117 - Woodview Elem	KGAL	961	761	\$6,202.46	\$4,978.04	\$6.454	\$6.541
Site: 118 - Wilchester Elem	KGAL	733	958	\$4,941.38	\$6,462.86	\$6.741	\$6.746
Site: 119 - Sherwood Elem	KGAL	608	767	\$3,891.20	\$5,120.30	\$6.400	\$6.676
Site: 120 - Spring Shadows Elem	KGAL	1,735	1,118	\$10,935.20	\$7,164.32	\$6.303	\$6.408
Site: 121 - Nottingham Elem	KGAL	616	754	\$4,061.96	\$5,171.22	\$6.594	\$6.858
Site: 122 - Terrace Elem	KGAL	766	711	\$4,957.88	\$4,684.58	\$6.472	\$6.589
Site: 123 - Thornwood Elem	KGAL	909	581	\$5,830.52	\$3,803.48	\$6.414	\$6.546
Site: 124 - Cedar Brook Elem	KGAL	690	1,005	\$5,199.06	\$7,531.26	\$7.535	\$7.494
Site: 125 - Treasure Forest Elem	KGAL	630	699	\$4,848.30	\$5,393.34	\$7.696	\$7.716
Site: 126 - Buffalo Creek Elem	KGAL	850	806	\$6,052.33	\$5,902.78	\$7.120	\$7.324
Site: 128 - Wildcat Way Pre-K	KGAL	434	377	\$3,337.93	\$3,119.14	\$7.691	\$8.274
Site: 132 - Tiger Trail Pre-K	KGAL	686	485	\$4,894.43	\$3,766.60	\$7.135	\$7.766
Site: 936B - Ag-FFA	KGAL	405	583	\$2,645.04	\$3,743.86	\$6.531	\$6.422
Site: 981 - Maintenance Complex	KGAL	734	614	\$5,366.64	\$4,699.26	\$7.311	\$7.654
Site: 995 - Athletics Tully/Coliseum	KGAL	1,387	2,031	\$8,844.50	\$12,764.48	\$6.377	\$6.285
Site: 996 - Natatorium	KGAL	2,132	1,957	\$13,984.08	\$13,273.18	\$6.559	\$6.782
Totals		55,404	55,909	\$358,632.70	\$364,328.82	\$6.47	\$6.52

Electricity Cost Avoidance - July 2003 - April 2004

Site Code & Name	Cost	Actual Cost	Cost	Cost
	Without CAP		Avoidance \$	Avoidance %
001 - Memorial HS	\$196,361.46	\$166,796.96	\$29,564.50	15.06%
003 - Spring Woods HS	\$283,530.81	\$205,137.03	\$78,393.78	27.65%
005 - Northbrook Sr	\$237,923.30	\$205,304.03	\$32,619.27	13.71%
006 - Stratford HS	\$275,497.40	\$201,006.97	\$74,490.43	27.04%
007 - Career Center	\$77,002.40	\$67,834.30	\$9,168.10	11.91%
014 - Westchester Education Center	\$240,931.92	\$213,961.12	\$26,970.80	11.19%
031 - Science Center	\$17,098.15	\$14,695.67	\$2,402.48	14.05%
038 - Spring Branch Education Center	\$176,666.85	\$149,937.69	\$26,729.16	15.13%
041 - Landrum	\$100,978.09	\$90,425.75	\$10,552.34	10.45%
042 - Memorial MS	\$97,080.55	\$86,735.97	\$10,344.58	10.66%
043 - Spring Branch MS	\$82,529.32	\$74,076.98	\$8,452.34	10.24%
044 - Spring Woods MS	\$129,667.26	\$114,067.26	\$15,600.00	12.03%
045 - Spring Forest MS	\$45,855.65	\$51,063.60	(\$5,207.95)	(11.36%)
046 - Spring Oaks MS	\$122,245.82	\$102,312.97	\$19,932.85	16.31%
047 - Northbrook MS	\$143,270.81	\$154,095.35	(\$10,824.54)	(7.56%)
101 - Bendwood Elem	\$34,881.90	\$24,845.73	\$10,036.17	28.77%
102 - Bunker Hill Elem	\$51,287.68	\$45,121.05	\$6,166.63	12.02%
103 - Edgewood Elem	\$64,937.26	\$52,674.92	\$12,262.34	18.88%
104A - Frostwood Elem	\$81,863.77	\$46,336.34	\$35,527.43	43.40%
105A - Hollibrook	\$73,206.08	\$64,000.65	\$9,205.43	12.57%
106 - Housman	\$64,546.28	\$49,475.30	\$15,070.98	23.35%
107 - Hunters Creek	\$52,221.63	\$46,026.14	\$6,195.49	11.86%
108 - Meadow Wood	\$164,162.63	\$101,911.56	\$62,251.07	37.92%
109 - Memorial Drive	\$46,285.96	\$44,820.29	\$1,465.67	3.17%
110 - Pine Shadows Elem	\$71,773.41	\$65,069.04	\$6,704.37	9.34%
111 - Ridgecrest Elem	\$59,655.93	\$51,139.65	\$8,516.28	14.28%
112 - Rummel Creek Elem	\$61,783.35	\$55,990.05	\$5,793.30	9.38%
113 - Shadow Oaks Elem	\$70,302.91	\$60,533.79	\$9,769.12	13.90%
114 - Spring Branch Elem	\$80,020.99	\$57,268.48	\$22,752.51	28.43%
115 - Valley Oaks Elem	\$59,363.31	\$53,356.62	\$6,006.69	10.12%
116 - Westwood Elem	\$63,955.26	\$51,403.38	\$12,551.88	19.63%
117 - Woodview Elem	\$48,689.36	\$44,169.16	\$4,520.20	9.28%
118 - Wilchester Elem	\$51,654.93	\$41,604.97	\$10,049.96	19.46%
119 - Sherwood Elem	\$39,904.84	\$39,007.81	\$897.03	2.25%
120 - Spring Shadows Elem	\$77,523.35	\$58,719.34	\$18,804.01	24.26%
121 - Nottingham Elem	\$43,408.54	\$40,931.29	\$2,477.25	5.71%
122 - Terrace Elem	\$67,218.87	\$53,621.91	\$13,596.96	20.23%
123 - Thornwood Elem	\$68,310.37	\$56,069.60	\$12,240.77	17.92%
124 - Cedar Brook Elem	\$86,771.91	\$72,789.22	\$13,982.69	16.11%
125 - Treasure Forest Elem	\$80,199.47	\$64,906.03	\$15,293.44	19.07%
126 - Buffalo Creek Elem	\$68,578.05	\$63,709.78	\$4,868.27	7.10%
128 - Wildcat Way Pre-K	\$44,665.04	\$36,767.17	\$7,897.87	17.68%
130 - Lion Lane Pre-K	\$39,589.88	\$39,591.31	(\$1.43)	(0.00%)
131 - Bear Blvd Pre-K	\$11,129.00	\$9,873.78	\$1,255.22	11.28%
132 - Tiger Trail Pre-K	\$40,490.88	\$39,230.30	\$1,260.58	3.11%
703 - Tax Office	\$3,930.04	\$3,085.61	\$844.43	21.49%
936A - Admin Bldg	\$76,281.70	\$63,074.99	\$13,206.71	17.31%
936B - Ag-FFA	\$10,090.12	\$9,077.85	\$1,012.27	10.03%
981 - Maintenance Complex	\$78,336.07	\$70,886.96	\$7,449.11	9.51%
982 - Security Services	\$19,732.37	\$17,131.80	\$2,600.57	13.18%
995 - Athletics Tully/Coliseum	\$68,407.40	\$53,594.60	\$14,812.80	21.65%
996 - Natatorium	\$23,957.10	\$23,137.47	\$819.63	3.42%
Totals	\$4,375,757.44	\$3,668,405.59	\$707,351.85	16.17%
Filters: Energy Type Equal To Electricity; Billing Periods In Range From 200307 To 200404				

Natural Gas Cost Avoidance - July 2003 - April 2004

Site Code & Name	Cost	Actual Cost	Cost	Cost
	Without CAP		Avoidance \$	Avoidance %
001 - Memorial HS	\$29,944.41	\$24,990.19	\$4,954.22	16.54%
003 - Spring Woods HS	\$35,686.13	\$27,465.76	\$8,220.37	23.04%
005 - Northbrook Sr	\$52,933.22	\$27,344.82	\$25,588.40	48.34%
006 - Stratford HS	\$41,150.45	\$30,317.41	\$10,833.04	26.33%
007 - Career Center	\$18,457.33	\$19,408.92	(\$951.59)	(5.16%)
014 - Westchester Education Center	\$81,590.87	\$68,116.02	\$13,474.85	16.52%
031 - Science Center	\$761.76	\$678.39	\$83.37	10.94%
038 - Spring Branch Education Center	\$31,195.99	\$20,938.50	\$10,257.49	32.88%
041 - Landrum	\$10,775.03	\$9,233.08	\$1,541.95	14.31%
042 - Memorial MS	\$10,184.04	\$9,482.47	\$701.57	6.89%
043 - Spring Branch MS	\$20,183.52	\$22,246.71	(\$2,063.19)	(10.22%)
044 - Spring Woods MS	\$19,477.84	\$17,541.35	\$1,936.49	9.94%
045 - Spring Forest MS	\$12,813.46	\$6,271.88	\$6,541.58	51.05%
046 - Spring Oaks MS	\$21,792.82	\$15,046.90	\$6,745.92	30.95%
047 - Northbrook MS	\$30,316.50	\$36,870.19	(\$6,553.69)	(21.62%)
101 - Bendwood Elem	\$8,272.79	\$4,487.98	\$3,784.81	45.75%
102 - Bunker Hill Elem	\$4,851.73	\$4,353.82	\$497.91	10.26%
103 - Edgewood Elem	\$7,287.27	\$4,995.91	\$2,291.36	31.44%
104A - Frostwood Elem	\$4,328.05	\$2,889.81	\$1,438.24	33.23%
105A - Hollibrook	\$5,561.41	\$5,549.73	\$11.68	0.21%
106 - Housman	\$10,280.98	\$7,974.94	\$2,306.04	22.43%
107 - Hunters Creek	\$5,604.35	\$5,030.55	\$573.80	10.24%
108 - Meadow Wood	\$4,604.01	\$4,675.00	(\$70.99)	(1.54%)
109 - Memorial Drive	\$7,353.29	\$5,169.36	\$2,183.93	29.70%
110 - Pine Shadows Elem	\$9,732.09	\$11,160.33	(\$1,428.24)	(14.68%)
111 - Ridgecrest Elem	\$11,158.36	\$10,486.05	\$672.31	6.03%
112 - Rummel Creek Elem	\$3,575.44	\$3,412.84	\$162.60	4.55%
113 - Shadow Oaks Elem	\$8,092.85	\$5,877.81	\$2,215.04	27.37%
114 - Spring Branch Elem	\$5,538.92	\$9,436.02	(\$3,897.10)	(70.36%)
115 - Valley Oaks Elem	\$5,877.53	\$4,877.62	\$999.91	17.01%
116 - Westwood Elem	\$5,300.56	\$5,148.19	\$152.37	2.87%
117 - Woodview Elem	\$5,185.26	\$5,227.19	(\$41.93)	(0.81%)
118 - Wilchester Elem	\$6,743.26	\$5,858.42	\$884.84	13.12%
119 - Sherwood Elem	\$3,452.76	\$5,098.24	(\$1,645.48)	(47.66%)
120 - Spring Shadows Elem	\$8,065.91	\$7,310.58	\$755.33	9.36%
121 - Nottingham Elem	\$5,406.17	\$7,197.57	(\$1,791.40)	(33.14%)
122 - Terrace Elem	\$5,206.80	\$3,527.46	\$1,679.34	32.25%
123 - Thornwood Elem	\$8,043.28	\$9,956.56	(\$1,913.28)	(23.79%)
124 - Cedar Brook Elem	\$20,474.51	\$12,977.23	\$7,497.28	36.62%
125 - Treasure Forest Elem	\$6,878.34	\$1,225.13	\$5,653.21	82.19%
126 - Buffalo Creek Elem	\$4,563.21	\$6,001.04	(\$1,437.83)	(31.51%)
128 - Wildcat Way Pre-K	\$1,270.87	\$1,036.87	\$234.00	18.41%
129 - Early Childhood Dev.	\$1,094.65	\$843.61	\$251.04	22.93%
130 - Lion Lane Pre-K	\$1,093.73	\$926.20	\$167.53	15.32%
131 - Bear Blvd Pre-K	\$1,067.18	\$1,000.42	\$66.76	6.26%
132 - Tiger Trail Pre-K	\$990.78	\$866.20	\$124.58	12.57%
703 - Tax Office	\$159.06	\$183.25	(\$24.19)	(15.21%)
936B - Ag-FFA	\$116.89	\$116.03	\$0.86	0.73%
981 - Maintenance Complex	\$14,476.81	\$8,136.40	\$6,340.41	43.80%
995 - Athletics Tully/Coliseum	\$6,344.30	\$7,368.48	(\$1,024.18)	(16.14%)
996 - Natatorium	\$41,597.29	\$24,522.56	\$17,074.73	41.05%
Totals	\$666,914.07	\$540,857.99	\$126,056.08	18.90%
Filters: Energy Type Equal To Natural Gas; Billing Periods In Range From 200307 To 200404				

Water and Water/Sewer Cost Avoidance - July 2003 - April 2004

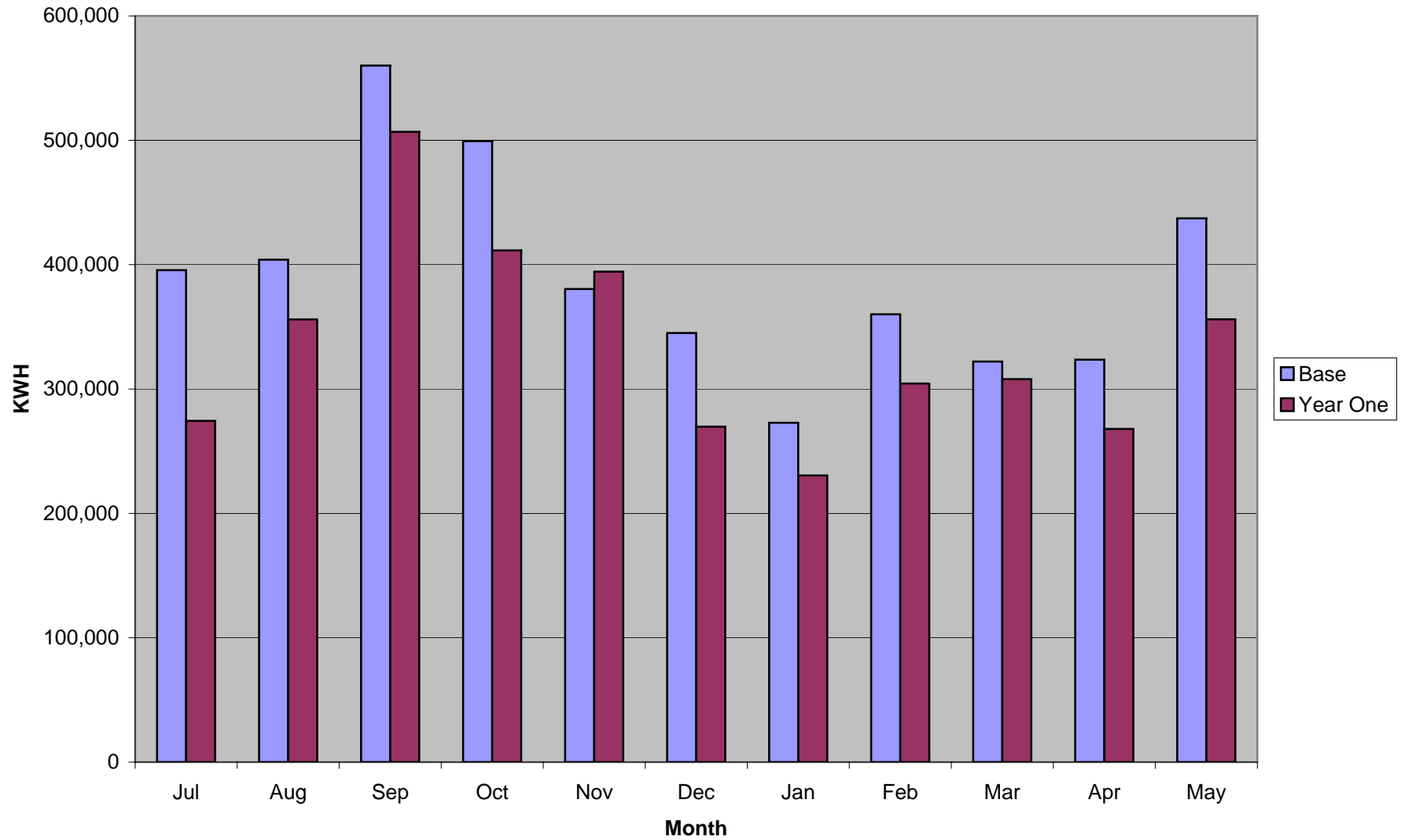
Site Code & Name	Cost Without CAP	Actual Cost	Cost Avoidance \$	Cost Avoidance %	Comments
001 - Memorial HS	\$11,101.54	\$10,076.40	\$1,025.14	9.23%	
003 - Spring Woods HS	\$51,660.91	\$29,172.30	\$22,488.61	43.53%	Major leak in base yr
005 - Northbrook Sr	\$64,741.77	\$72,961.60	(\$8,219.83)	(12.70%)	
006 - Stratford HS	\$31,256.83	\$28,972.56	\$2,284.27	7.31%	
007 - Career Center	\$2,256.50	\$1,898.54	\$357.96	15.86%	
014 - Westchester Education Center	\$8,253.91	\$7,330.88	\$923.03	11.18%	
031 - Science Center	\$845.84	\$541.66	\$304.18	35.96%	
038 - Spring Branch Education Center	\$38,632.51	\$34,270.82	\$4,361.69	11.29%	
041 - Landrum	\$24,362.62	\$27,286.97	(\$2,924.35)	(12.00%)	
042 - Memorial MS	\$12,510.93	\$8,704.34	\$3,806.59	30.43%	
043 - Spring Branch MS	\$3,779.79	\$8,422.87	(\$4,643.08)	(122.84%)	Bad meter in base yr
044 - Spring Woods MS	\$6,974.36	\$8,857.64	(\$1,883.28)	(27.00%)	
045 - Spring Forest MS	\$20,515.30	\$10,073.90	\$10,441.40	50.90%	
046 - Spring Oaks MS	\$13,193.84	\$10,834.04	\$2,359.80	17.89%	
047 - Northbrook MS	\$10,773.15	\$17,112.10	(\$6,338.95)	(58.84%)	
101 - Bendwood Elem	\$17,216.56	\$5,978.24	\$11,238.32	65.28%	
102 - Bunker Hill Elem	\$4,685.96	\$3,521.95	\$1,164.01	24.84%	
103 - Edgewood Elem	\$6,658.79	\$6,033.81	\$624.98	9.39%	
104A - Frostwood Elem	\$2,449.10	\$2,592.85	(\$143.75)	(5.87%)	
105A - Hollibrook	\$18,846.89	\$18,188.24	\$658.65	3.49%	
106 - Housman	\$13,528.42	\$7,889.84	\$5,638.58	41.68%	
107 - Hunters Creek	\$3,011.27	\$3,905.30	(\$894.03)	(29.69%)	
108 - Meadow Wood	\$6,738.00	\$3,299.78	\$3,438.22	51.03%	
109 - Memorial Drive	\$3,589.48	\$2,452.25	\$1,137.23	31.68%	
110 - Pine Shadows Elem	\$2,777.71	\$2,328.44	\$449.27	16.17%	
111 - Ridgecrest Elem	\$13,359.79	\$10,070.00	\$3,289.79	24.62%	
112 - Rummel Creek Elem	\$5,383.56	\$4,142.78	\$1,240.78	23.05%	
113 - Shadow Oaks Elem	\$6,447.15	\$6,022.10	\$425.05	6.59%	
114 - Spring Branch Elem	\$10,050.68	\$9,439.64	\$611.04	6.08%	
115 - Valley Oaks Elem	\$8,256.51	\$9,130.64	(\$874.13)	(10.59%)	
116 - Westwood Elem	\$7,553.00	\$3,927.62	\$3,625.38	48.00%	
117 - Woodview Elem	\$6,290.95	\$4,978.04	\$1,312.91	20.87%	
118 - Wilchester Elem	\$6,841.52	\$6,462.86	\$378.66	5.53%	
119 - Sherwood Elem	\$5,373.83	\$5,120.30	\$253.53	4.72%	
120 - Spring Shadows Elem	\$13,770.26	\$7,164.32	\$6,605.94	47.97%	
121 - Nottingham Elem	\$5,821.55	\$5,693.92	\$127.63	2.19%	
122 - Terrace Elem	\$5,157.20	\$4,684.58	\$472.62	9.16%	
123 - Thornwood Elem	\$5,968.40	\$3,803.48	\$2,164.92	36.27%	
124 - Cedar Brook Elem	\$5,827.65	\$7,054.42	(\$1,226.77)	(21.05%)	
125 - Treasure Forest Elem	\$4,712.21	\$5,393.34	(\$681.13)	(14.45%)	
126 - Buffalo Creek Elem	\$6,540.47	\$5,902.78	\$637.69	9.75%	
128 - Wildcat Way Pre-K	\$5,352.49	\$4,980.94	\$371.55	6.94%	
130 - Lion Lane Pre-K	\$1,775.24	\$1,678.44	\$96.80	5.45%	
131 - Bear Blvd Pre-K	\$4,752.52	\$6,427.23	(\$1,674.71)	(35.24%)	
132 - Tiger Trail Pre-K	\$19,435.00	\$17,079.98	\$2,355.02	12.12%	
936A - Admin Bldg	\$2,389.54	\$3,054.20	(\$664.66)	(27.82%)	Bad meter in base yr
936B - Ag-FFA	\$3,093.98	\$3,534.50	(\$440.52)	(14.24%)	
981 - Maintenance Complex	\$8,798.27	\$6,450.76	\$2,347.51	26.68%	
995 - Athletics Tully/Coliseum	\$9,100.51	\$12,764.48	(\$3,663.97)	(40.26%)	
996 - Natatorium	\$1,826.24	\$1,069.10	\$757.14	41.46%	
Totals	\$554,240.48	\$488,737.77	\$65,502.71	11.82%	
Filters: Energy Type One Of Water, Water & Sewer; Billing Periods In Range From 200307 To 200404					

Cost Avoidance Summary - Energy Types

Sorted by Energy Type

Energy Type	Cost Without CAP	Actual Cost	Cost Avoidance \$	Cost Avoidance %
Electricity	\$4,375,757.44	\$3,668,405.59	\$707,351.85	16.17%
Natural Gas	\$666,914.07	\$540,857.99	\$126,056.08	18.90%
Water	\$554,240.48	\$488,737.77	\$65,502.71	11.82%
	\$5,596,912.00	\$4,698,001.35	\$898,910.65	16.06%

Stratford High School Electricity 2002 - 2004



EUI Analysis for Stratford High School

Base Year EUI for Stratford High School

	Gas (BTU)	Electric (BTU)	Total (Btu)	EUI
Jul	39100000	1349804260	1388904260	4933
Aug	102000000	1378502592	1480502592	5258
Sep	86500000	1910832596	1997332596	7093
Oct	201400000	1703638896	1905038896	6766
Nov	882100000	1297993040	2180093040	7742
Dec	862700000	1177194592	2039894592	7245
Jan	1206900000	930834544	2137734544	7592
Feb	965300000	1228627080	2193927080	7792
Mar	266300000	1099121208	1365421208	4849
Apr	170400000	1104263092	1274663092	4527

Year One EUI for Stratford High School

	Gas (BTU)	Electric (BTU)	Total (Btu)	EUI
Jul	20600000	936208444	956808444	3398
Aug	127700000	1214409276	1342109276	4766
Sep	90600000	1729092416	1819692416	6463
Oct	132900000	1404024352	1536924352	5458
Nov	349400000	1345720096	1695120096	6020
Dec	663800000	920216400	1584016400	5626
Jan	869800000	786452352	1656252352	5882
Feb	736800000	1038756104	1775556104	6306
Mar	230700000	1050513856	1281213856	4550
Apr	144200000	913992912	1058192912	3758