Dome-Tech, Inc.

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MOUNTAIN LAKES BOARD OF EDUCATION
ENERGY AUDIT REPORT
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Window - OUT

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October 12, 2011

Mr. Daniel Borgo
School Business Administrator/Board Secretary
Mountain Lakes Public Schools
400 Boulevard
Mountain Lakes, NJ 07046

Re: EXECUTIVE SUMMARY FOR MOUNTAIN LAKES PUBLIC SCHOOLS
STATE OF NEW JERSEY LOCAL GOVERNMENT ENERGY AUDIT

Dear Mr. Borgo:

Dome-Tech was retained by Mountain Lakes Public Schools, as a pre-qualified participant in the Local Government Energy Audit Program, to perform an energy audit. The objective of the energy audit was to evaluate the District's energy consumption, establish baselines for energy efficiency and identify opportunities to reduce the amount of energy used and/or its cost.

The scope of the audit is standardized under the Program, and consisted of the following:

- Benchmarking historic energy consumption utilizing EPA Energy Star's Portfolio Manager
- Characterizing building use, occupancy, size, and construction
- Providing a detailed equipment list including estimated service life and efficiency
- Identifying and quantifying energy conservation measures (ECMs)
- Evaluating the economic viability of various renewable/distributed energy technologies
- Performing a utility tariff analysis and assessing savings potential from energy procurement strategies
- Providing the method of analyses

Based upon data received for the twelve (12) month period March 2010 – March 2011, for the facilities included in this study, the District had an annual expenditure of:

- Electricity: 2,352,700 kWh at a total cost of $ 360,527
- Natural Gas: 86,052 therms at a total cost of $ 127,894[1]

The following four (4) buildings were evaluated under this study:

- Mountain Lakes HS 96 Powerville Road, Mountain Lakes, NJ 07046 at 150,000 square feet
- Briarcliff Middle School 93 Briarcliff Road, Mountain Lakes, NJ 07046 at 21,500 square feet
- Wildwood Elementary School, 51 Glen Road, Mountain Lakes, NJ 07046 at 43,000 square feet
- Lake Drive School, 10 Lake Drive, Mountain Lakes, NJ 07046 at 14,500 square feet

Please refer to Section 2 of this report for a detailed list of identified Energy Conservation Measures (ECMs), along with a summary of their preliminary economics (estimated project cost, estimated annual energy savings, applicable rebate(s), etc.). In this report, all identified ECMs are ranked and presented

[1] Natural gas usage and costs are based on New Jersey Natural Gas summaries, which do not show monthly consumption. Annual consumption is derived from Pepco and Hess bill summaries. It is assumed that the NJ NG summaries include both supply and delivery charges.

according to their simple payback; however, please note that the master ECM table can also be sorted by building, by measure type, etc.

If all identified ECMs were implemented, they would provide the following estimated benefits to the District:

- Total annual electrical savings: 678,467 kilowatt-hours; 29%
- Total annual natural gas savings: 30,050 therms of natural gas usage; 41%
- Total annual cost savings: $147,393; 30%
- Total annual CO_2 emissions reduction: 394 tons
- Total net estimated implementation cost: $3,225,379
- Total average simple payback: 21.9 years

A summary of the projects that are recommended for implementation includes: addressing energy management system retro-commissioning issues and performing further detailed retro-commissioning studies; installing weatherization measures; upgrading energy management control systems at the Wildwood Elementary school and Mt. Lakes High School; equipment upgrades; programmable thermostats; installing a personal computer power management system; upgrading lighting; and implementing an energy awareness program. Please see the report for a full list of recommended ECM's.

Distributed/Renewable Energy Systems were also reviewed with the following conclusions:

- Dome-Tech considered three different types of wind turbine technologies that consisted of both building-mounted and traditional ground-mounted variety. The Building-mounted wind turbine project appears to be the only technically viable option but is not recommended due to long payback and high noise concerns.
- Roof-mounted photovoltaic systems ranging in size from 48 - 191 kW, which could provide approximately 4 - 17% per building of the schools' annual energy usage, were assessed for implementation at each site.
- CHP (Combined Heat and Power), Fuel Cells, and Micro-turbines were also considered and not recommended for any of the buildings, due to lack of summertime thermal loads.

The District's data was entered into the US EPA ENERGY STAR's Portfolio Manager database program. Buildings with scores of 75 or higher may qualify for the ENERGY STAR Building Label. Please see the report for individual facility information.

Regarding the retail energy procurement process, Dome-Tech understands that the Washington Township Board of Education currently participates in the Alliance for Competitive Energy Services ("ACES") and is under contract with a retail energy supplier for both electricity and natural gas. By securing a retail natural gas and electricity provider through this energy buying group, the District should be saving money versus the utility's "Price to Compare".

Dome-Tech understands that the Mountain Lakes Public Schools facilities in this study are served by four electric accounts behind Jersey Central Power and Light (JP&L), and five natural gas accounts behind New Jersey Natural Gas under a variety of rate classes.

During the development of this audit, Dome-Tech was assisted by facility personnel, who were both knowledgeable and very helpful to our efforts. We would like to acknowledge and thank those individuals.

Sincerely,

John Carioto
Energy Engineer

Mountain Lakes BOE Energy Audit

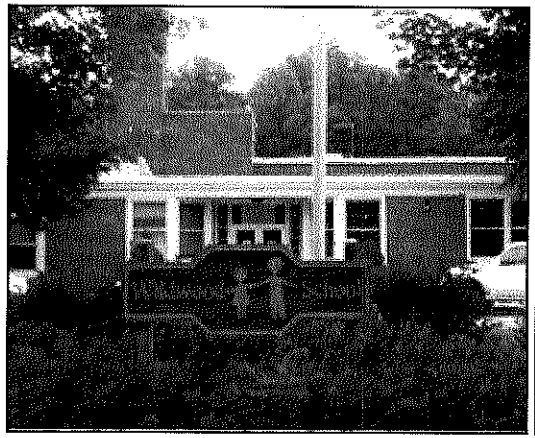
Prepared For:

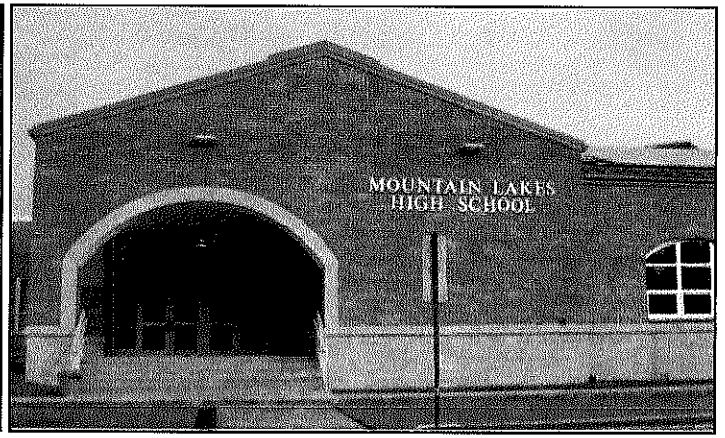
Mountain Lakes School District
Daniel Borgo
School Business Administrator
Board Secretary

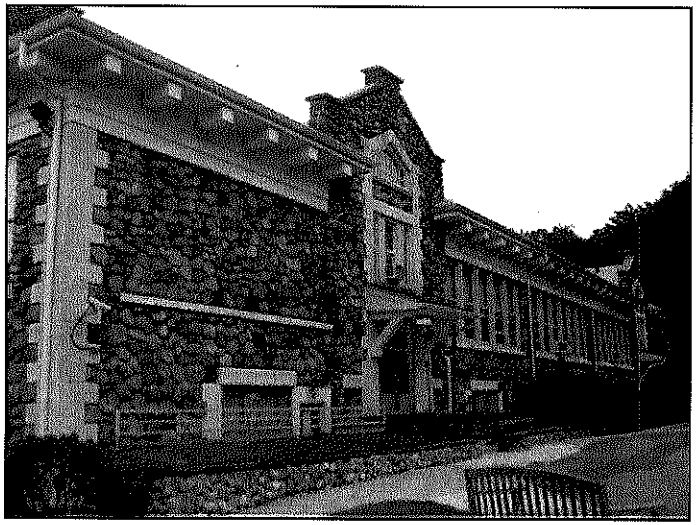
Prepared By:
Dome – Tech, Inc.

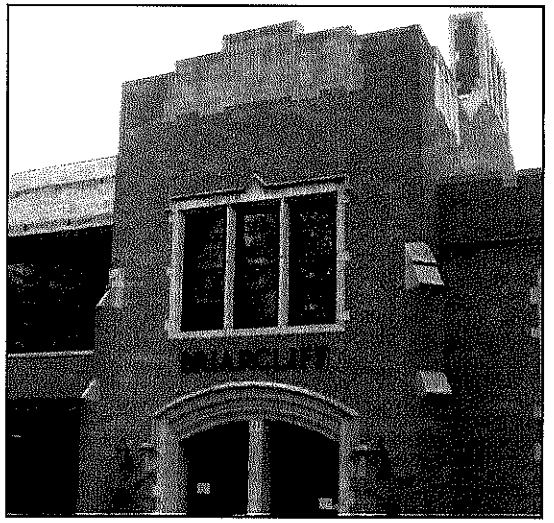
Prepared Under the
Guidelines of the State of NJ
Local Government Energy
Audit Program

October 2011









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Energy Audit Purpose & Scope

Purpose:

- The objectives of the energy audit are to evaluate each site's energy consumption, establish baselines for energy efficiency and identify opportunities to reduce the amount of energy used and/or its cost.

Scope:

I. Historic Energy Consumption: Benchmark energy use using Energy Star Portfolio Manager

II. Facility Description – characterize building usage, occupancy, size and construction.

III. Equipment Inventory – detailed equipment list including useful life and efficiency.

IV. Energy Conservation Measures: Identify and evaluate opportunities for cost savings and economic returns.

V. Renewable/Distributed Energy Measures: evaluate economic viability of various renewable/distributed energy technologies.

VI. Energy Purchasing and Procurement Strategies: perform utility tariff analysis and assess potential for savings from energy procurement strategies.

VII. Method of Analysis: Appendices

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Historic Energy Consumption

Utility Usage and Costs Summary Time-period: March 2010 – March 2011

Buildings	Electric - JCP&L				Natural Gas - NJNG			
	Account Number	Annual Consumption kWh	Annual Cost	$ / kWh	Account Number	Annual Consumption Therms	Annual Cost	$ / Therms
Mountain Lakes High School	100005847437	1,207,100	$177,989.70	$0.147	446647/447328	29,471	$ 43,382	$1.472
Briarcliff Middle School	100005849177	368,480	$54,105.65	$0.147	446647/447330	26,429	$ 29,433	$1.114
Wildwood Elementary School	1000005844632	452,160	$71,486.09	$0.158	446647/447329	20,823	$ 25,829	$1.240
Lake Drive School	100005706609	324,960	$56,946.21	$0.175	446647/447327	9,328	$ 29,252	$3.136
	TOTAL	**2,352,700**	**$ 360,527.65**	**$0.153**	**TOTAL**	**86,052**	**$ 127,894**	**$1.486**

Note that monthly natural gas usage was not provided for the schools. Rates are based on provided costs and annual usage.

Please see Appendix for full utility data and consumption profiles for all buildings.

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Historic Energy Consumption

ENERGY STAR SCORES

- Energy Star Score is calculated to establish a facility-specific energy intensity baseline.
- Energy Star can be used to compare energy consumption to other similar facilities and to gauge the success of energy conservation and cost containment efforts.
- Buildings with an Energy Star rating/score of 75, or above, are eligible to apply for an official Energy Star Building label. Due to inefficient design of the buildings and older outdated HVAC units, it will be difficult for these buildings, except for the High School, to achieve the Energy Star label.
- Note that the scores below are based on estimated usages for the natural gas bills. Two annual consumption numbers were provided for each school, but did not agree with each other. The lower usage was used for the calculations, so the EnergyStar score could decrease further if the natural gas consumption is higher than estimated.

Facility Name	Total Floor Area	Energy Star Score	Eligible to Apply for ENERGY STAR	Current Site Energy Intensity (kBtu/SF)	Current Source Energy Intensity (kBtu/SF)
Mountain Lakes High School	150,000	71	NA	45.0	110
Briarcliff Middle School	21,600	16	NA	171.0	313
Wildwood Elementary School	43,000	63	NA	80.0	166
Lake Drive School	14,500	25	NA	137.0	322

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Historic Energy Consumption (continued)

Portfolio Manager Sign - In

- An account has been created for Mountain Lakes Board of Education in Portfolio Manager. You will have received an email to notify you of the generation of this account and shared access with Dome-Tech. Please use this to read your facility information. Please feel free to alter this information when the report is finalized. We would ask that you leave the sign-in information alone until then. Your District's information is currently shared as read only.
- When the report is finalized the shared access will be changed so that you can use / edit the information and change as you wish.
- Website link to sign-in:
  https://www.energystar.gov/istar/pmpam/index.cfm?fuseaction=login.Login

- Username: ***MountainLakesBOE***
- Password: ***DTMountainLakes***
- Email for account: ***dborgo@mtnlakes.org***

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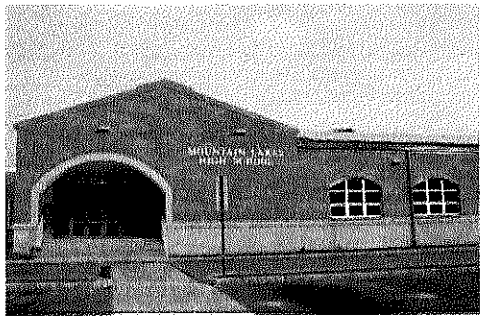
Facility Information

➢ Building Name: Mountain Lakes High School



Address:	93 Powerville Road Mountain Lakes, NJ 07046
Gross Floor Area:	150,000 square feet
Year Built:	1956 with renovations in 1977 and 2006
# Occupants:	700 students; 120 staff
Usage:	The building is a high school serving grades 9-12. It is occupied Monday to Friday from 7AM until 2:30PM with weekend usage for community activities and sports programs

➢ Construction Features:

Facade:	One story, brick façade, and 3 modular classrooms, in good condition
Roof Type:	Pitched and flat sections, blue and white with black tar, wood deck, built up ballasted river rock, in good condition
Windows:	Covering approximately 20% of façade, metal frame, dual pane, operable, in good condition
Exterior Doors:	Approximately 20, metal frame, fiberglass, in good condition

Facility Information

➢ Major Mechanical Systems – High School

Air Handlers / AC Systems / Ventilation Systems

The High School has a total of twenty-six (26) rooftop units (RTU) equipped with DX coils for cooling and a combination of natural gas and electric for heating. The are two (2) desiccant units that serve the gym and offices. There is one (1) split AC unit that serves an office. There are six (6) AC units equipped with DX coils for cooling and natural gas for heating and serves the modular classrooms. There are five (5) window air conditioning units which provide cooling to multiple areas. Approximately 43 exhaust fans exhaust air from various areas including mechanical/boiler rooms, toilets, and offices.

Boilers

There are two (2) Cleaver Brooks, fire-tube, natural gas fired, hot water boilers with 2,511 MBH capacity each which serve the annex and operate in a lead lag sequence. The hot water system is served by six (6) small sized (<1 HP) hot water circulating pumps.

There are two (2) Cleaver Brooks, fire-tube, natural gas fired, hot water boilers with 10,461 MBH capacity each which serve the main building and operate in a lead lag sequence. The hot water system is served by three (3) 7.5 HP hot water circulating pumps.

Domestic Hot Water

There is one (1) Parker, indirect natural gas fired domestic hot water heater that supplies a 10' x 5' diameter storage tank. There are two (2) small domestic hot water circulating pumps.

Controls

The Building Management System monitors the newer rooftop units. The remaining RTU's and heating system are controlled by manual thermostats.

Facility Information

Building Name:

Briar Cliff Middle School

Address:	93 Briarcliff Road Mountain Lakes, NJ 07046
Gross Floor Area:	21,600 square feet
Year Built:	1935, with an addition in 1999
# Occupants:	245 students; 30 staff
Usage:	The building is a school serving grades 6-8. It is occupied Monday to Friday from 8AM until 11PM with weekend usage for sporting events

Construction Features:

Facade:	Three story, brick façade, in good condition
Roof Type:	Pitched and flat sections, gray, wood deck, built up, ballasted river rock and slate, in good condition
Windows:	Covering approximately 20% of façade, metal frame, dual pane, in good condition
Exterior Doors:	Approximately seven (7), metal frame, in good condition

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Facility Information

➢ Major Mechanical Systems – Briarcliff Middle School

Air Handlers / AC Systems / Ventilation Systems

Briarcliff Middle School has a total of four (4) rooftop units (RTU) equipped with DX coils for cooling and steam coils for heating. There are ten (10) split AC units which serve offices and classrooms. Approximately three (3) exhaust fans serve the mechanical/boiler rooms, toilets, and offices.

Boilers

The building has three (3) steam boilers. There are two (2) HB Smith cast iron sectional steam boilers, rated at 5,525 MBH capacity and one (1) Weil-McLain, cast iron sectional steam boiler, rated at 1,703 MBH capacity. These boilers operate in a lead lag sequence.

Additionally, there is one (1) Parker natural gas fired heating hot water boiler rated at 1,900 MBH capacity. There are two (2) 1 HP heating hot water circulating pumps.

Domestic Hot Water

There is one (1) Parker, indirect natural gas, domestic hot water heater that supplies a 12' x 4' diameter storage tank . There is one (1) 1HP domestic hot water circulating pump.

Controls

The buildings cooling and heating systems are controlled by manual thermostats.

Facility Information

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➢ **Building Name:** **Wildwood Elementary School**

Address:	51 Glen Road Mountain Lakes, NJ 07046
Gross Floor Area:	43,000 square feet
Year Built:	1953, with renovations in 1974 and1999
# Occupants:	490 students; 71 staff
Usage:	The building is a school serving grades K-5. It is occupied Monday to Friday from 7AM until 7PM, closed on weekends

Construction Features:

Facade:	Two story, brick façade, in good condition
Roof Type:	Pitched, white, wood deck, built up, ballasted river rock, in good condition
Windows:	Covering approximately 20% of façade, metal frame, double hung, dual pane, shades, in fair condition (due to age)
Exterior Doors:	Approximately twenty (20), metal frame, fiberglass, in good condition

Facility Information

➢ Major Mechanical Systems – Wildwood Elementary School

Air Handlers / AC Systems / Ventilation Systems

Wildwood Elementary School has a total of seven (7) rooftop units (RTU) equipped with DX coils for cooling and a combination of either natural gas or electric heating. The are two (2) heating and ventilating units (H&V) that serve the classrooms. There are three (3) split AC unit which also serve classrooms. There are unit ventilators (UV) in each classroom that are equipped with heating hot water coils for heating. There are fourteen (14) window air conditioning units serving multiple areas. Approximately thirty-four (34) exhaust fans exhaust air from areas throughout the building, including mechanical/boiler rooms, toilets, and offices.

Boilers

There are two (2) Weil McLain cast iron sectional hot water boilers rated at 4,090 MBH capacity each. These boilers operate in a lead lag sequence. The hot water system is served by two (2) 5-HP hot water pumps.

Domestic Hot Water

There is one (1) 73-gallon Ruud, natural gas fired domestic hot water heater that serves the entire building.

Controls

The buildings cooling and heating system are controlled by manual thermostats and custodial staff.

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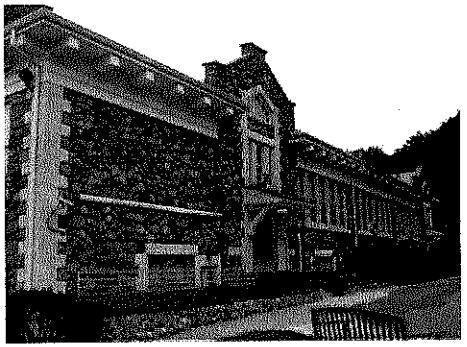
Facility Information



➢ Building Name:

Lake Drive School

Address:	10 Lake Drive Mountain Lakes, NJ 07046
Gross Floor Area:	14,500 square feet
Year Built:	1913
# Occupants:	120 students; 100 staff
Usage:	The building is a school serving the hearing impaired in grades 7-12. It is occupied Monday to Friday from 8:30AM until 2:45PM and it is closed weekends.

➢ Construction Features:

Facade:	Three story, stone façade, in good condition
Roof Type:	Pitched, gray, wood deck, built up, asphalt, in good condition
Windows:	Covering approximately 20% of façade, metal frame, double hung, in good condition
Exterior Doors:	Approximately six (6), metal frame, fiberglass, in good condition

Facility Information

➢ Major Mechanical Systems – Lake Drive School

Air Handlers / AC Systems / Ventilation Systems

Lake Drive School has one (1) rooftop unit (RTU) equipped with DX coils for cooling the auditorium. There are sixteen (16) split system AC units which serve classrooms and offices. Approximately three (3) exhaust fans exhaust air from various areas including mechanical/boiler rooms, toilets, and offices.

Boilers

There are two (2) HB Smith cast iron sectional heating hot water boilers rated at 2,076 MBH capacity each. These boilers operate in a lead lag sequence. The hot water system is served two (2) heating hot water circulating pumps.

Domestic Hot Water

There is one (1) 75 gallon Rheem natural gas fired domestic hot water heater rated for 70 kBTUH that serves the entire building. There are two (2) domestic hot water circulating pumps.

Controls

The buildings cooling and heating system are controlled by manual thermostats.

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Greenhouse Gas Emission Reduction

Implementation of all identified ECMs will yield:

- 678,467 kilowatt-hours of annual avoided electric usage.
- 30,050 therms of annual avoided natural gas usage.
- This equates to the following ***annual*** reductions:

- 394 tons of CO2;

  -OR-

- 68 Cars removed from road;

  -OR-

- 107 Acres of trees planted annually

The Energy Information Administration (EIA) estimates that power plants in the state of New Jersey emits 0.666 lbs CO2 per kWh generated.

The Environmental Protection Agency (EPA) estimates that one car emits 11,560 lbs CO2 per year.

The EPA estimates that reducing CO2 emissions by 7,333 pounds is equivalent to planting an acre of trees.

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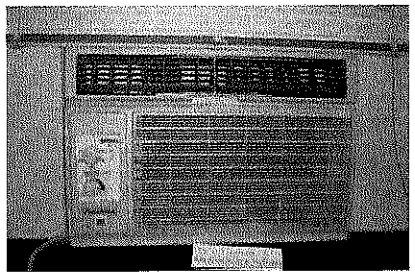
ECM #1: Disable Window AC Units

High School	
Estimated Annual Savings:	**$180**
Gross Estimated Implementation Cost:	**$20**
NJ Smart Start Rebate:	**$0**
Net Estimated Implementation Cost:	**$20**
Simple Payback (years):	**0.1**
Annual Avoided CO_2 Emissions (tons):	**0**

- All four buildings have window air conditioning units in windows and through-the-wall installations to provide localized cooling for classrooms, offices and other areas.
- Many classrooms and offices in the High School were completely vacant. The existing air condition (A/C) units were observed to be running regardless of occupancy during the audit.
- Dome-Tech recommends disabling window A/C units when their areas are not occupied.



High School Window AC Unit Running in Unoccupied Area

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ECM #2: Vending Machine Power Management

	Lake Drive School	High School	Wildwood Elementary	Briarcliff Middle School	Total
Estimated Annual Savings:	$210	$868	$190	$170	**$1,438**
Gross Estimated Implementation Cost:	$180	$895	$680	$680	**$2,435**
NJ Smart Start Rebate:	$0	$0	$0	$0	**$0**
Net Estimated Implementation Cost:	$180	$895	$680	$680	**$2,435**
Simple Payback (years):	0.9	1.0	3.6	4.0	**1.7**
Annual Avoided CO_2 Emissions (tons):	0	2	0	0	**3**

- Dome-Tech recommends installing a vending machine power management devices on all soda and snack vending machines throughout the district.

- The power management devices use passive infrared sensors to power down the machines when the area surrounding them is vacant. They monitor the room's temperature and automatically re-powers the cooling system at one to three hour intervals, independent of sales, to ensure that the product stays cold.
- The microcontroller will not power down the machine while the compressor is running, eliminating compressor short-cycling. In addition, when the machine is powered up, the cooling cycle is allowed to finish before again powering down (reduces compressor wear and tear).

Sensor Mat

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ECM #3: Computer Power Management System

	Briarcliff	High School	Wildwood	Total
Estimated Annual Savings:	$564	$490	$400	**$1,454**
Gross Estimated Implementation Cost:	$750	$1,150	$1,500	**$3,400**
NJ Smart Start Rebate:	$0	$0	$0	**$0**
Net Estimated Implementation Cost:	$750	$1,150	$1,500	**$3,400**
Simple Payback (years):	1.3	2.3	3.8	**2.3**
Annual Avoided CO_2 Emissions (tons):	1	1	1	**3**

- The majority of the facility's computers go to standby when not in use. Though this operation is better than running normally, standby still wastes unnecessary energy.
- Installing a computer power management system will allow IT administrators to reduce per-PC operating cost by reducing energy consumption via shutdown, standby and hibernate for PC's and sleep for monitors.
- Additionally, the software has the capability to set up profiles to optimize time of day schedules as well as enhance network security and improve the success rate of network maintenance task by ensuring that PC's are accessible when IT needs them to be.
- The capability of having an on-demand network-wide shutdown protects against virus outbreak or an imminent power outage. Similarly, shutting down unattended PCs (whether logged onto or not) after operating hours can help protect against unauthorized access to the PCs' data or to network resources.
- Approximate average annual electric consumption savings of computer components:
  - PC Only: 120 kWh
  - Monitor Only: 120 – 150 kWh
  - Combined PC and Monitor: 200 kWh

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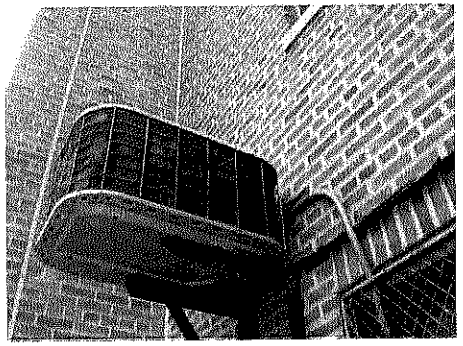
ECM #4: Heat Pump AC Unit Replacement (End of Life Replacement)

	Lake Drive	Briarcliff	High School	Wildwood	Total
Estimated Annual Savings:	$2,641	$1,089	$63	$183	**$3,975**
Gross Estimated Implementation Cost:	$53,250	$47,140	$8,590	$10,380	**$119,360**
NJ Smart Start Rebate:	$1,110	$1,260	$160	$550	**$3,080**
Avoided Costs (Like & Kind)[1]:	$50,450	$43,936	$8,190	$1,400	**$103,976**
Incremental Estimated Implementation Cost:	$1,690	$1,940	$240	$8,430	**$12,300**
Simple Payback (years) (w/Avoided Cost)/(w/o Avoided Cost):	0.6 / 19.7	1.8 / 42.1	3.8 / 133.8	46.1 / 53.7	**3.1 / 29.3**
Annual Avoided CO_2 Emissions (tons):	5	2	0	0	**7**

1. Like and Kind refers to the cost to replace the existing system with the same or similar grade of system.

- The existing 1 ton – 4 ton, 8 SEER Split System Heat Pump Units (HPs) are past their estimated equipment service life (EESL) per ASHRAE standards. (The EESL for heat pump units is 15 years.)
- Replacing these HPs with new, higher efficiency and fully controlled units will reduce annual energy costs.
- The New Jersey SmartStart Program offers rebates for installing heat pump systems with SEERs greater than 14 through its prescriptive rebate program.



Briarcliff MS Heat Pump AC Unit

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ECM #5: Steam Trap Maintenance Program

Briarcliff Middle School	
Estimated Annual Savings:	$1,850
Gross Estimated Implementation Cost:	$6,740
NJ Smart Start Rebate:	$0
Net Estimated Implementation Cost:	$6,740
Simple Payback (years):	3.6
Annual Avoided CO_2 Emissions (tons):	10

O+M Preventive ITEM

- Steam traps that have failed open or have leaking seats were located at the Briarcliff Middle School (as evidenced by condensate receiver temperatures above 212°F).
- Steam traps that leak or are failed open allow live steam to escape into the condensate system. Heat energy from the live steam is lost to the atmosphere at the condensate receiver.
- Staff indicate that steam traps are only checked when a cold complaint is received (when traps are "failed closed"). There is no ongoing preventative maintenance or survey program.
- A steam trap survey will identify the type, size, equipment served, and location of each steam trap; and indicate the operating status: failed closed, failed open, leaking seat, or normal. Traps identified as failed or leaking can be replaced. The survey should be performed as part of a preventative maintenance program on an annual basis.
- There are an estimated thirty-six (36) steam traps in Briarcliff Middle School with an approximate 10% failure rate.
- The costs above are for a full steam trap survey to identify failed traps and does not include replacement.

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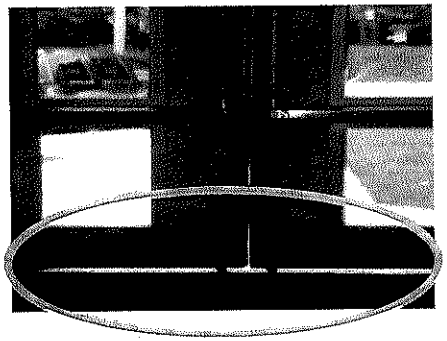
ECM #6: Upgrade Door Weather Stripping

	High School	Wildwood	TOTAL
Estimated Annual Savings:	$1,300	$250	**$1,550**
Gross Estimated Implementation Cost:	$4,200	$1,400	**$5,600**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$4,200	$1,400	**$5,600**
Simple Payback (years):	3.2	5.6	**3.6**
Annual Avoided CO_2 Emissions (tons):	5	1	**6**



Close up of door threshold at the Wildwood ES

- In review of each individual building's envelope, it was observed that weather stripping was missing on many of the doors.
- When doors are not properly sealed, unconditioned outside air freely infiltrates the conditioned spaces during the summer and heat escapes during the winter, driving up energy costs.
- Missing or degraded weather stripping should be replaced on doors at the following facilities:

Facility	Exterior Doors Qty:
High School	12
Wildwood Elementary School	4
Total	16

Dome-Tech, Inc.

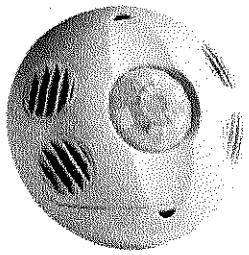
ECM #7: Lighting Upgrade

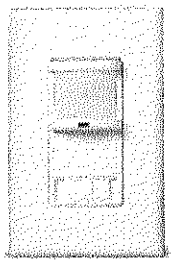
	Wildwood	Lake Drive	Briarcliff	High School	Total
Estimated Annual Savings:	$20,800	$13,350	$9,107	$18,180	**$61,437**
Gross Estimated Implementation Cost:	$66,100	$48,560	$40,200	$109,450	**$264,310**
NJ Smart Start Rebate:	$8,020	$7,280	$4,780	$9,300	**$29,380**
Net Estimated Implementation Cost:	$58,100	$41,280	$35,423	$100,150	**$234,953**
Simple Payback (years):	2.8	3.1	3.9	5.5	**3.8**
Annual Avoided CO_2 Emissions (tons):	43	25	20	41	**130**

- The Lake Drive School and Briarcliff MS utilize mainly T-12 lamps, while the High School and Wildwood ES's current light fixtures are a mix of T-12 and T-8 lamps and ballasts. In all cases, energy can be saved by retrofitting with lower wattage T-8 lamps.

- The upgrade will improve light fixture designs and reduce the total number of lamps, electrical consumption, and costs while maintaining the minimum lighting output as per state codes.

- See the Appendix for room by room breakdown of existing lighting inventory and recommended fixtures.





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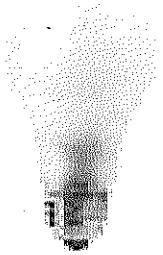
ECM #7: Lighting Upgrade (Cont)



- The school district's buildings are predominantly illuminated with linear fluorescent fixtures.
- During the walkthrough, many areas were observed to have lights on regardless of occupancy.
- Occupancy sensors should be installed in all areas that are not continuously in use, or not frequently used. Installing occupancy sensors in these areas will automatically turn lights on/off according to actual occupancy by sensing the presence of people in the room. Occupancy sensors will reduce lighting energy costs by approximately 30% [1].

[1] Source: Turner, Wayne, Energy Management Handbook, 1999.

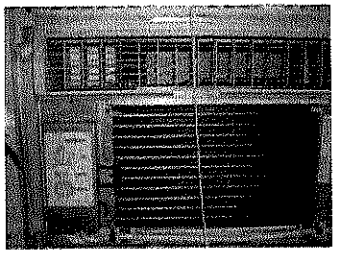
- Dome-Tech recommends installing Occupancy Sensors in, at a minimum, the following locations:
  - Library/ Media Centers
  - Conference Rooms
  - Gymnasiums
  - Locker Rooms
  - Multi-Purpose Rooms
  - Cafetoriums
  - Rest Rooms
  - Faculty Workrooms

Dome-Tech, Inc.

ECM #8: Replace Window AC Unit

	Lake Drive	Wildwood	High School	Total
Estimated Annual Savings:	$970	$540	$180	**$1,690**
Gross Estimated Implementation Cost:	$3,250	$3,500	$1,250	**$8,000**
NJ Smart Start Rebate:	$0	$0	$0	**$0**
Net Estimated Implementation Cost:	$3,250	$3,500	$1,250	**$8,000**
Simple Payback (years):	3.4	6.5	6.9	**4.7**
Annual Avoided CO_2 Emissions (tons):	2	1	0	**3**

- All four (4) buildings have window air conditioning units in windows and through-the-wall installations to provide localized cooling for libraries, offices and other areas. Of these, three (3) buildings are recommended to have the Window AC's replaced.
- Approximately 32 units across the district are in fair/average physical condition, yet inefficient compared to today's standards.
- Dome-Tech recommends replacing these units with new higher efficiency units. New 10.8 SEER (Seasonal Energy Efficiency Rating) units are estimated to be at least 14% more energy efficient at full and part loads than the existing equipment.
- Dome-Tech recommends replacing these units with new higher efficiency units.



Lake Drive School: Typical Window AC Unit

Location	Qty.
High School	5
Wildwood ES	14
Lake Drive School	13
Total	**32**

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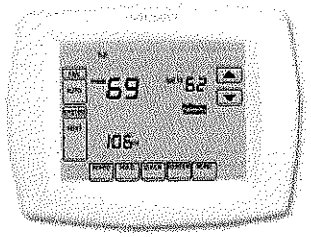
ECM #9: Programmable Thermostats

	Wildwood	Lake Drive	Briarcliff	TOTAL
Estimated Annual Savings:	$4,000	$4,470	$3,320	**$11,790**
Gross Estimated Implementation Cost:	$19,000	$23,200	$17,740	**$59,940**
NJ Smart Start Rebate:	$0	$0	$0	**$0**
Net Estimated Implementation Cost:	$19,000	$23,200	$17,736	**$59,936**
Simple Payback (years):	4.8	5.2	5.3	**5.1**
Annual Avoided CO_2 Emissions (tons):	8	8	7	**24**

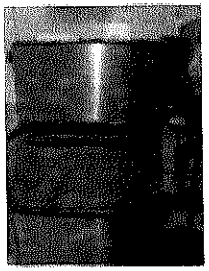


- A review of the HVAC operation throughout all three buildings showed that most rooftop units were controlled by non-programmable thermostats.
- Dome-Tech recommends replacing all non-programmable thermostats with programmable thermostats and implementing temperature setback.
- Installing programmable thermostats will provide scheduled temperature control to prevent overheating and unnecessary cooling when the building is unoccupied.
- Note this measure is mutually exclusive with the BMS installation recommendation for Wildwood Elementary.

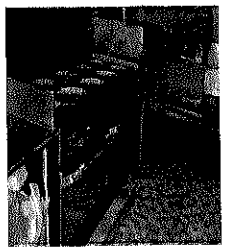
Dome-Tech, Inc.

ECM #10: Replace Kitchen Equipment with Energy Star Rated Equipment

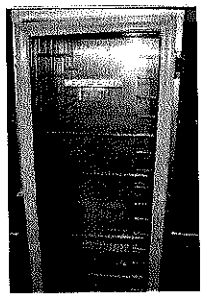
	Briarcliff	High School	Lake Drive	Total
Estimated Annual Savings:	$2,050	$3,750	$198	**$5,998**
Gross Estimated Implementation Cost:	$7,000	$24,800	$4,990	**$36,790**
NJ Smart Start Rebate:	$0	$0	$0	**$0**
Net Estimated Implementation Cost:	$7,000	$24,800	$4,990	**$36,790**
Simple Payback (years):	3.4	6.6	25.2	**6.1**
Annual Avoided CO_2 Emissions (tons):	5	8	0	**13**



Typical Ice Machine



Typical Stove



Typical Food Warmer

- Most of the kitchen equipment (reach-in coolers/freezers, food warmers, dishwashers) in the High School, Briarcliff MS, and Lake Drive School buildings are older and less efficient than newer, higher efficiency equipment.
- Replacing the electric equipment with higher efficiency Energy Star labeled equipment will provide annual savings.
- Improvements in kitchen equipment include lower idle rates, better insulation (reducing the amount of standby losses through sides and top), and premium efficient fan motors.

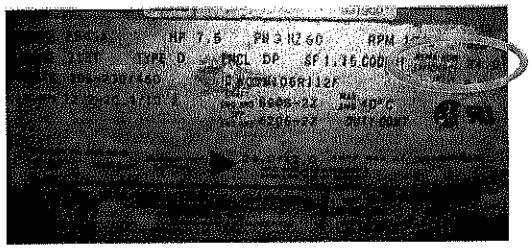
Dome-Tech, Inc.

ECM #11: Replace Existing Motors with Premium Efficiency Motors at End of Life

	High School	Wildwood	Total
Estimated Annual Savings:	$226	$20	**$246**
Gross Estimated Implementation Cost:	$3,260	$2,000	**$5,260**
NJ Smart Start Rebate:	$240	$100	**$340**
Avoided Costs (Like & Kind)[1]:	$2,025	$1,050	**$3,075**
Incremental Estimated Implementation Cost:	$990	$800	**$1,790**
Simple Payback (years) (w/Avoided Cost)/(w/o Avoided Cost):	4.4 / 14.24	40.0 / 100	**7.3 / 57.2**
Annual Avoided CO_2 Emissions (tons):	1	0	**1**

1. Like and Kind refers to the cost to replace the existing system with the same or similar grade of system.

- Most of the existing motors serving pumps at the High School and Wildwood ES are standard efficiency motors. Standard efficiency motors consume more power than their equivalent premium efficiency motors.
- Dome-Tech recommends replacing the recommended regularly operated standard efficiency motors with new premium efficiency motors at their end of life (EOL).
- The standard efficiency motors identified and recommended for replacement by this ECM are listed below:
  - **High School:** Three (3) 7.5HP motors on the hot water pumps.
  - **Wildwood ES:** Two (2) 5HP motors on the hot water pumps
- The New Jersey SmartStart Program offers rebates for installing premium efficiency motors through its prescriptive rebate program.



Standard Efficiency (84%) Motor at High School

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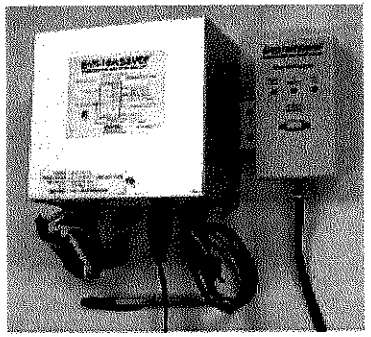
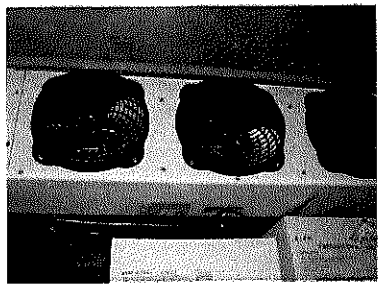
ECM #12: Walk-In Cooler Controllers

	High School
Estimated Annual Savings:	$220
Gross Estimated Implementation Cost:	$2,340
NJ Smart Start Rebate:	$0
Net Estimated Implementation Cost:	$2,340
Simple Payback (years):	10.6
Annual Avoided CO_2 Emissions (tons):	0





- The High School has walk-in coolers. Typically their evaporator fans run continuously, however, full airflow is only required 50% of the runtime.
- In the most common applications (those that use single-phase power), motors for the fans are typically shaded-pole or permanent-split-capacitor types, both of which are very inefficient.
- Inexpensive controllers are currently available that slow these fans when full-speed operation is unnecessary.
- Reducing the operating speed reduces the energy consumption of the fan. In addition, the motor produces less heat at slower speeds, which means that the compressor has less heat to remove from the refrigerated compartment.

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ECM #13: Replace Boilers with High Efficiency Modulating Condensing Boilers

- The High School, Wildwood ES, and Lake Drive School are equipped with fire-tube and cast iron sectional boilers.
- These boilers are between 12-24 years old and are nearing the end of the equipment service life (ASHRAE states the service life to be 25 years).
- The age and boiler system configuration does not lend itself to an efficient operation. As boilers approach the end of their service life, the efficiency degrades and the boiler must consume more fuel in order to produce the same rated output. In addition, there is a direct correlation between risk of equipment failure (tube breaks & meltdown, shell cracks, furnace surface area failure) and equipment age.
- Dome-Tech recommends replacing the existing hot water boilers with high efficiency, modulating or modular condensing boilers. Savings will be realized in two ways:
  - Modulating boilers, usually 1,000 MBH or smaller, employ multiple burners to meet the heating load. Each burner operates independently, eliminating the "all on/all off" operation of single burner boilers. As building load increases only those burners necessary to meet the load are fired. This allows each burner to run at optimal efficiency. Modular boilers operate under the same principal but for larger installations. In this case multiple boilers are used rather than multiple burners. Modular boilers usually are employed in 1,000, 2,000 or 3,000 MBH sizes.
  - Condensing boilers recover energy from the exhaust gas thus allowing high efficiencies of 90% and above.
- When a boiler is both a modulating/modular type and a condensing type, extremely high efficiencies can be realized.

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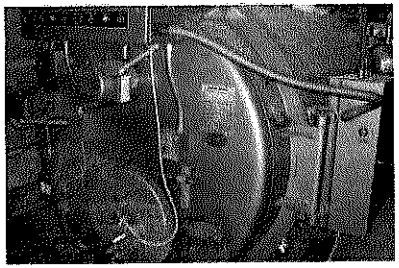
ECM #13: Replace Boilers w/ High Efficiency Modulating Condensing Boilers (continued)

	Lake Drive	Wildwood	High School	Total
Estimated Annual Savings:	$2,510	$4,960	$10,400	**$17,870**
Gross Estimated Implementation Cost:	$359,210	$396,340	$753,370	**$1,508,920**
NJ Smart Start Rebate:	$2,000	$6,000	$2,900	**$10,900**
Avoided Costs (Like & Kind)[1]:	$339,560	$338,340	$627,070	**$1,304,970**
Incremental Estimated Implementation Cost:	$17,650	$52,000	$123,400	**$193,050**
Simple Payback (years) (w/Avoided Cost)/(w/o Avoided Cost):	7.0 / 143.1	10.5 / 79.9	11.9 / 72.4	**10.8 / 98.5**
Annual Avoided CO_2 Emissions (tons):	5	23	41	**69**

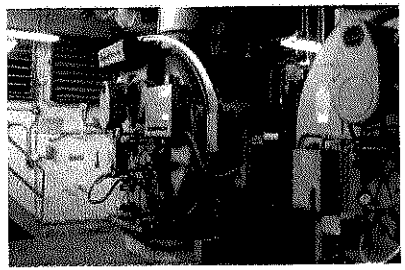
NOTE: The presented economics should be used for planning purposes only. If the client decides to proceed with any boiler replacement project, these economics should be refined with an investment grade analysis.

1. Like and Kind refers to the cost to replace the existing system with the same or similar grade of system.

- The high first cost of a new boiler system may preclude this ECM from being justified by economics alone. The ECM table details the economics at each site. However, reliability issues warrant consideration of these projects as part of a long-term capital improvement plan.



Fire-Tube Boiler at the High School



Fire-Tube Boiler at the High School

ECM #14: Rooftop Unit (RTU) Replacement (End of Life Replacement)

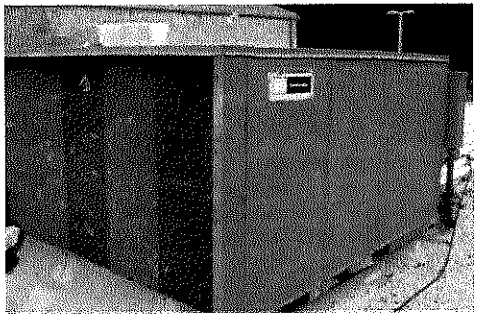
Dome-Tech, Inc.

	Lake Drive	High School	Wildwood	Total
Estimated Annual Savings:	$283	$579	$1,270	**$2,132**
Gross Estimated Implementation Cost:	$13,530	$204,980	$63,655	**$282,165**
NJ Smart Start Rebate:	$790	$2,370	$5,610	**$8,770**
Avoided Costs (Like & Kind)[1]:	$11,530	$198,980	$14,200	**$224,710**
Incremental Estimated Implementation Cost:	$1,210	$3,630	$43,845	**$48,685**
Simple Payback (years) (w/Avoided Cost)/(w/o Avoided Cost):	4.3 / 45.0	6.3 / 349.9	34.5 / 45.7	**22.8 / 128.2**
Annual Avoided CO_2 Emissions (tons):	1	1	3	**5**

*Savings do not include maintenance savings.

1. Like and Kind refers to the cost to replace the existing system with the same or similar grade of system.

- The High School, Wildwood ES and Lake Drive School were observed to have rooftop units (RTUs) between 15-25 years old and nearing/past their estimated end of equipment service life (EESL) per ASHRAE standards. (The EESL for package rooftop units is 15 years.)
- Replacing these RTU's with new, higher efficiency units with higher EER will significantly reduce annual energy and maintenance costs. Also when replacing units that have electric heating elements, Dome-Tech recommends replacing with a natural gas fired heating units.
- Energy Efficiency Ratios (EER) is the rating of cooling output (BTU) divided by the electrical energy input (Watts). The higher the EER, the more efficient the unit.
- The New Jersey SmartStart Program offers rebates that typically pay for the incremental cost to upgrade to higher efficient units.



High School Rooftop Unit

Energy Efficiency Ratios

Unit Capacity (tons)	Standard	Proposed
5	13	14.3
10	10.1	12.3

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ECM #15: Building Management System

	High School	Wildwood	Total
Estimated Annual Savings:	$9,300	$11,000	**$20,300**
Gross Estimated Implementation Cost:	$376,230	$190,213	**$566,443**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$376,230	$190,213	**$566,443**
Simple Payback (years):	17.3	40.5	**27.9**
Annual Avoided CO_2 Emissions (tons):	12	14	**26**

- A building management system (BMS) is a computer system designed specifically for the automated control and monitoring of the heating, ventilation, lighting, and needs of a single facility or group of buildings. The system can also be used for data collection and used to produce trend analysis and annual consumption forecasts.
- The high school has a centralized energy management system, with only a few rooftop units connected to it. Dome-Tech recommends tying the remaining HVAC units into the BMS system.
- Dome-Tech recommends installing a new BMS system at Wildwood Elementary School.
- The following strategies should be incorporated into the Building Management System:
  - Setpoint Optimization
  - Time of Day Optimization
  - Holiday Time of Day Optimization
  - Exhaust Fan TOD Optimization
  - Demand Control Ventilation
- Savings for this measure are an aggregation of the individual strategies. Costs are an aggregration of the labor and material required to implement the separate sequences, including a full BMS for Wildwood.

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ECM #15: Building Management System

- Setpoint Optimization- A review of the building management systems revealed room and supply temperature set point inconsistencies.

- Time of Day Optimization- Optimizing the HVAC equipment operating schedules to better reflect actual building occupancy will reduce heating, cooling and fan energy costs.

- Holiday Time of Day Optimization- Optimizing the HVAC equipment operating schedules to better reflect actual building occupancy will reduce heating, cooling and fan energy costs.

- Exhaust Fan Schedule Optimization - Optimizing the exhaust fan operating schedules to better reflect actual building occupancy will reduce fan energy costs.

- Demand Control Ventilation (DCV) - Building codes require that a minimum amount of fresh air be provided to a space in order to ensure adequate air quality. To comply, ventilation systems often operate at a fixed rate based on an assumed occupancy (e.g., 20 CFM per person multiplied by the maximum design occupancy). The result is excessive fresh air volumes for periods during which maximum occupancy isn't achieved, which requires costly (and unnecessary) conditioning. DCV modulates the amount of outside air based upon the CO2 levels generated by building occupants. DCV should be added to any return air system where space occupancy varies dramatically. By installing CO2 sensors and controlling CO2 to acceptable levels, the outside air flow is kept to a minimum while space conditions remain in compliance with building codes and standards such as the ASHRAE Indoor Air Quality Standard.

- Note that the following ECMs are dependent on the implementation of a full BMS. Costs for each sub-ECM are particular to that measure, but require a full installation as shown in above to be implemented correctly. Costs and savings for each individual measure are shown for reference.

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ECM #15-1: Setpoint Optimization

	High School	Wildwood	Total
Estimated Annual Savings:	$2,217	$4,168	**$6,385**
Gross Estimated Implementation Cost:	$3,200	$3,200	**$6,400**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$3,200	$3,200	**$6,400**
Simple Payback (years):	1.4	0.8	**1.0**
Annual Avoided CO_2 Emissions (tons):	7	18	**25**

- The High School's building management system's (BMS) space temperature setpoints were all set between 68°F-75°F.
- In reviewing the BMS, it was observed that the unit ventilators (UVs) and rooftop units (RTUs) were overheating their associated spaces, thus unnecessarily increasing HVAC conditioning costs.
- Dome-Tech recommends optimizing the BMS setpoints to 75°F in the Summer and 70°F in the Winter. Refer to the table on the following page for current BMS setpoints vs. proposed setpoints (cooling) analysis.
- Setpoint Optimization should be included and implemented into Wildwood ES's recommended BMS system installation (Existing Wildwood ES setpoints were assumed for savings calculations.)

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ECM #15-1: Setpoint Optimization (continued)

Current High School BMS vs. Proposed Setpoints - Cooling

Unit Manufacturer	Area Serving (High School)	Existing Summer Setpoint (˚F)	Proposed Summer Setpoint (˚F)	Temperature Difference (˚F)
MUNTERS	GYM AUDITORIUM	69	75	6
STERLING	GYM LOCKER ROOM	71	75	4
CARRIER	AUDITORIUM	71	75	4
LENNOX	MAIN OFFICE	71	75	4
MUNTERS	OFFICE	71	75	4
LENNOX	MAIN OFFICE	71	75	4
BOHN	MODULAR CLASSRM	71	75	4
LENNOX	GYM	71	75	4
LENNOX	CDDD, MATH, GUIDANCE	71	75	4
PERFORMANCE PLUS	OFFICE	71	75	4
RHEEM	OFFICE	71	75	4
TRANE	NE CLASSROOMS	71	75	4
TRANE	OFFICE	71	75	4
TRANE	OFFICE	71	75	4
LENNOX	PRACTICE RM	71	75	4
LENNOX	GUIDANCE	72	75	3
-	OFFICE	72	75	3
MITSUBISHI	OFFICE	71	75	4

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ECM #15-2: Time of Day Optimization

	High School	Wildwood	Total
Estimated Annual Savings:	$1,881	$3,368	**$5,249**
Gross Estimated Implementation Cost:	$3,200	$1,600	**$4,800**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$3,200	$1,600	**$4,800**
Simple Payback (years):	1.7	0.5	**0.9**
Annual Avoided CO_2 Emissions (tons):	5	8	**13**

- A review of the Building Management System's (BMS) time of day schedules for the High School revealed an opportunity to significantly reduce HVAC operating hours and costs. For Wildwood, the custodial staff manually operates the systems.
- Many of the High School's HVAC units currently operate from 5AM to 11PM (even through summer break); however, the classrooms are unoccupied for a large period of that time.
- Similarly, the elementary school's HVAC units also currently operate excessively from 7AM to 7PM.
- Optimizing the HVAC equipment schedules to better reflect actual building occupancy hours will reduce heating and cooling conditioning costs, electrical motor costs and have no impact on the indoor air quality during occupied hours.
- Implementation of this measure will be dependent on a total BMS upgrade as outlined in ECM #14.

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ECM #15-2: Time of Day Optimization (continued)

EXISTING BMS SCHEDULE	High School	Elementary School
Monday through Friday Occupied Time	5:00 AM – 11:00 PM	7:00 AM – 7:00 PM
Monday through Friday Unoccupied Time	11:00 PM – 5:00 AM	7:00 PM – 7:00 AM
Saturday Occupied Time	5:00 AM – 11:00 PM	7:00 AM – 7:00 PM
Saturday Unoccupied Time	11:00 PM – 5:00 AM	7:00 PM – 7:00 AM
Sunday Occupied Time	5:00 AM – 11:00 PM	7:00 AM – 7:00 PM
Sunday Unoccupied Time	11:00 PM – 5:00 AM	7:00 PM – 7:00 AM
PROPOSED BMS SCHEDULE	**High School**	**Elementary School**
Monday through Friday Occupied Time	6:00 AM – 8:00 PM	7:00 AM – 5:00 PM
Monday through Friday Unoccupied Time	8:00 PM – 6:00 AM	5:00 PM – 7:00 AM
Saturday Occupied Time	6:00 AM – 8:00 PM	-
Saturday Unoccupied Time	8:00 PM – 6:00 AM	-
Sunday Occupied Time	-	-
Sunday Unoccupied Time	-	-

Note: These schedules represent the general TOD schedules for the classroom areas within each school during the school year. The building should be optimized to shut down units during summer session. Schedules to be adjusted via BMS for the High School and by custodial staff for Wildwood Elementary.

Dome-Tech, Inc.

ECM #15-3: Holiday Time of Day Optimization

	High School	Wildwood	Total
Estimated Annual Savings:	$1,080	$1,800	**$2.880**
Gross Estimated Implementation Cost:	$1,600	$1,600	**$3,200**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$1,600	$1,600	**$3,200**
Simple Payback (years):	1.5	0.9	**1.1**
Annual Avoided CO_2 Emissions (tons):	3	4	**7**

- A review of the existing building management system's (BMS) time of day (TOD) schedules revealed that no holiday schedules are programmed for the High School. Equipment for Wildwood is manually operated by facility personnel.

- Operating under these conditions requires the facility's operators to manually shut down all the HVAC equipment during school holidays. If this action is not performed, all equipment will remain in operation unnecessarily during these days. This increases HVAC conditioning costs as well as electrical motor operating costs.

- Savings can be achieved by programming the BMS's "Holiday Schedules" to reflect actual operation. This will automatically force the HVAC equipment into unoccupied mode for all school holidays.

- Implementation of this measure will be dependent on a total BMS upgrade as outlined in ECM #14.

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ECM #15-4: Server Room Setpoint Optimization

	High School	Lake Drive	Total
Estimated Annual Savings:	$533	$104	**$547**
Gross Estimated Implementation Cost:	$200	$200	**$400**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$200	$200	**$400**
Simple Payback (years):	0.4	1.9	**0.6**
Annual Avoided CO_2 Emissions (tons):	1	0	**1**

- The High School's server rooms have a zone temperature setpoint of 70˚F. The space is conditioned by two (2) 5-ton Computer Room AC (CRAC) units.

- Recommended Class 1 and 2 Data Processing temperature levels (ASHRAE Applications 2007) can be up to 77˚F, much higher than the current setpoint of 70˚F, which is within typical manufacturer's recommendations and safe for the equipment operation.

- Dome-Tech recommends setting the space temperature setpoint to 77˚F, which will decrease the cooling load on the CRAC units and generate electric savings.

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ECM #15-5: Exhaust Fan Time of Day Optimization

	High School	Wildwood	Total
Estimated Annual Savings:	$1,640	$1,290	**$2,930**
Gross Estimated Implementation Cost:	$1,600	$1,600	**$3,200**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$1,600	$1,600	**$3,200**
Simple Payback (years):	1.0	1.2	**1.1**
Annual Avoided CO_2 Emissions (tons):	4	3	**7**

- Approximately 43 exhaust fans at the High School run 24/7.
- Operating these fans during unoccupied building hours unnecessarily increases motor electrical consumption as well as increases conditioning costs due to the fans exhausting already conditioned air from the building.
- Dome-Tech recommends programming these fans to turn off during building unoccupied hours.
- Energy will be saved due to reduced fan motor run hours.

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ECM #15-6: Demand Controlled Ventilation

High School	
Estimated Annual Savings:	$1,509
Gross Estimated Implementation Cost:	$12,700
NJ Smart Start Rebate:	$0
Net Estimated Implementation Cost:	$12,700
Simple Payback (years):	8.4
Annual Avoided CO_2 Emissions (tons):	11

- Building codes require that a minimum amount of fresh air be provided to ensure adequate air quality. To comply, ventilation systems often operate at a fixed rate based on an assumed occupancy (e.g., 20 CFM per person multiplied by the maximum design occupancy). Since maximum design occupancy is rarely achieved, this results in excessive fresh air volumes which require costly and unnecessary conditioning.
- Demand-controlled ventilation (DCV) controls the amount of outside air being supplied based upon the CO_2 levels generated by building occupants. DCV should be added to any space that is ventilated by a large quantity of outdoor air, and where occupancy varies dramatically (High School's Gymnasium and Auditorium).
- Because CO_2 levels correlate directly with the number of people in an occupied zone, CO_2 sensors will be used to control ventilation rate of outside air supplied to each zone. Reducing the amount of outdoor air supplied to a zone reduces the energy required to heat and cool that air, while space conditions are kept in compliance with building codes and standards such as the ASHRAE Indoor Air Quality Standard.
- The High School is currently utilizing Demand Control Ventilation in certain areas. Additional savings can be realized if DCV were to be implemented in the Gymnasium and Auditorium.

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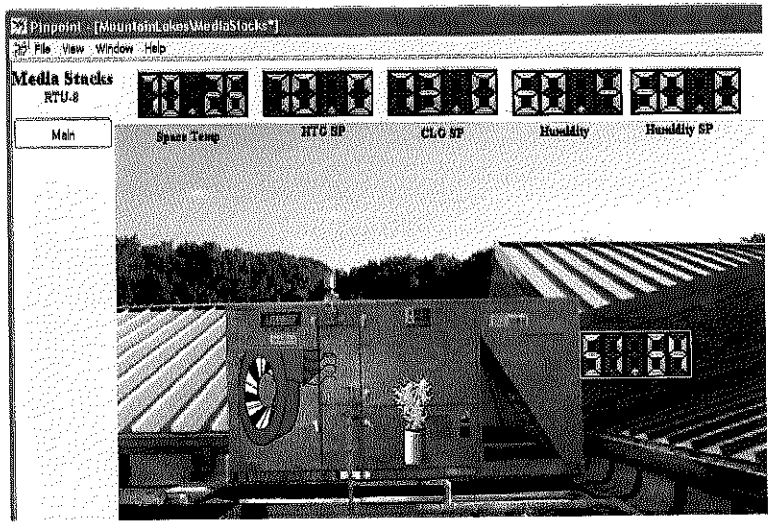
ECM #15-7: Prevent Simultaneous Heating and Cooling

High School	
Estimated Annual Savings:	**$474**
Gross Estimated Implementation Cost:	**$1,600**
NJ Smart Start Rebate:	**$0**
Net Estimated Implementation Cost:	**$1,600**
Simple Payback (years):	**3.4**
Annual Avoided CO_2 Emissions (tons):	**1**

- Two (2) rooftop units (RTU) at the High School were observed to be simultaneously heating and cooling their respective spaces.
- Many RTUs were identified, through the BMS, to be overheating their associated spaces, thus unnecessarily increasing HVAC conditioning costs.
- The BMS screenshot (next slide) of RTU-8 and RTU-Math shows that they were operating in heating mode during the summer months.
- Dome-Tech recommends reprogramming the BMS to prevent simultaneous heating and cooling.

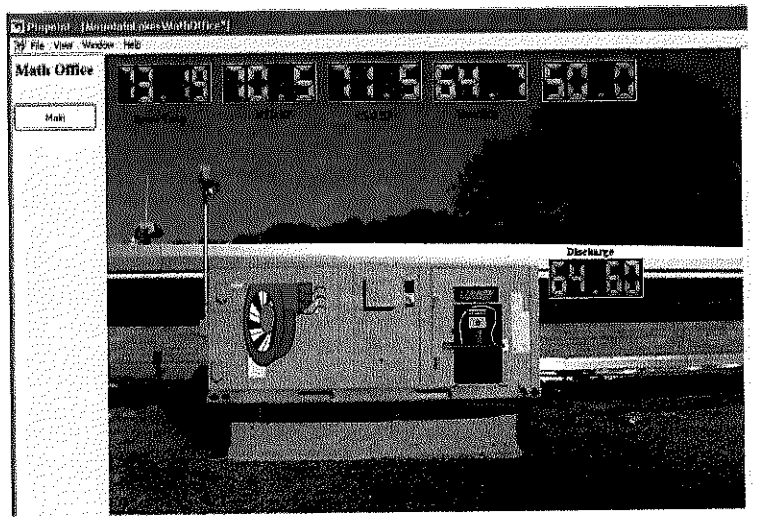
ECM #15-7: Prevent Simultaneous Heating and Cooling (continued)

Figure 1: RTU-8



Screen shot shows that the unit is heating during the cooling season.

Figure 2: RTU-Math



Though the screen shot does not show it, the burner was observed to be on at the time of audit (summer).

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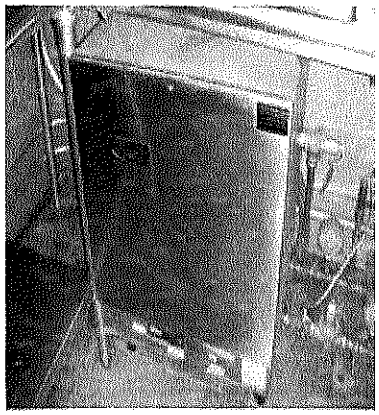
ECM #16: Replace Electric Kitchen Dishwasher Booster with Natural Gas Fired

	Briarcliff	High School	**Totals**
Estimated Annual Savings:	$180	$240	**$420**
Gross Estimated Implementation Cost:	$9,660	$11,040	**$20,070**
NJ Smart Start Rebate:	$1,260	$0	**$1,260**
Net Estimated Implementation Cost:	$8,400	$11,040	**$19,440**
Simple Payback (years):	46.7	46	**46.3**
Annual Avoided CO_2 Emissions (tons):	0	0	**0**



Electric hot water booster heater

- The High School and Briarcliff ES's kitchens are equipped with electric hot water booster heaters for dishwashing.
- The average building's electric cost is $0.147 per kilowatt hour; equivalent to approximately $43.08/MMBtu. The cost for natural gas is approximately $1.49 per therm; equivalent to $15.68/MMBtu of output (at 95% efficiency). In other words, heating with electric resistance is almost four times as expensive as gas, for the equivalent heat output.
- Replacing the electric heater with a natural gas unit will provide annual electric savings to offset the increase in natural gas usage cost.

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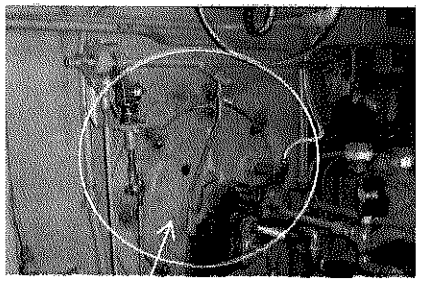
ECM #17: Boiler Combustion Controls Upgrade



High School – Mechanical Combustion Controls

Estimated Annual Energy Cost Savings:	$1,400
Gross Estimated Implementation Costs:	$90,000
NJ Smart Start Rebate:	$0
Net Estimated Implementation Costs:	$90,000
Simple Payback (years)	64.3
Annual Avoided CO_2 Emissions (tons):	5

- The High School's boilers have single point positioning combustion control systems with oxygen (O2) trim. Single point positioning systems are simple, typically reliable, and cost effective control systems. A jack shaft is rotated by an actuator. The forced draft fan flow control damper and the fuel valves are mechanically linked to the jack shaft. The fuel valves are characterized, over the burner firing range, to achieve the proper fuel to air ratio. These systems are mechanically controlled and prone to back-lash and hysteresis, causing inefficient operation. O2 trim is accomplished with a current to pneumatic (I/P) positioner mounted on the main gas pressure reducing valve (PRV). Maximum turndown with this control scheme is limited to 4 to 1.
- Upgrading the boilers with a fully metered combustion control system with variable speed fan control will provide significant annual fuel and electric cost savings. A fully metered combustion control system continuously measures the fuel and air streams, adjusting the fuel and air control devices to maintain the desired fuel to air ratio. Proportional/Integral/Derivative (PID) control is used for both fuel and air flow control. This type of control system provides extremely accurate control and compensates for flow variation.
- The annual fuel savings from a fully metered combustion control system is estimated at 3% of the annual fuel usage. The variable speed fan control will provide up to a 40% reduction in fan motor electric usage.
- Other added benefits to this scheme include tighter flue gas recirculation (FGR) control and improved turndown. In addition to traditional dampers, O2 would now also be monitored ensuring tighter control and an extra layer safety. The tighter control of fuel, air and FGR also means the radiant mixing box (RMB) burner turndown will increase to 6 to 1.
- The cost estimate assumes this upgrade will be applied to the larger of the High School's two boilers.

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ECM #18: Upgrade Windows

	High School	Wildwood	Total
Estimated Annual Savings:	$11,020	$2,422	**$13,442**
Gross Estimated Implementation Cost:	$1,307,590	$625,870	**$1,933,460**
NJ Smart Start Rebate:	$0	$0	**$0**
Net Estimated Implementation Cost:	$1,307,590	$625,870	**$1,933,460**
Simple Payback (years):	118.7	258.4	**143.8**
Annual Avoided CO_2 Emissions (tons):	42	11	**53**

NOTE: The presented economics should be used for planning purposes only. If the BOE decides to proceed with the window replacement project, these economics should be refined with an investment grade analysis.

- A survey of the High School and Wildwood Elementary School revealed a mixture of types and sizes of windows. Functionality and condition of the windows varied throughout the buildings.

- A window replacement project would result in a measurable improvement in heat retention. The rate of heat loss of a window assembly is indicated in terms of its "U-factor". U-Factor measures the rate of heat transfer through the window and indicates how well it insulates. U-factor values generally range from 0.25 to 1.25 and are measured in Btu/h·ft²·°F. The lower the U-factor, the better the window insulates and prevents heat from escaping.

- It should be noted that even an optimized window project can rarely be justified solely on economic payback. Occupant comfort and aesthetics should be the overriding considerations in moving forward with this project.

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ECM #19: Creation of an Energy Awareness & Education Program

Estimated Annual Savings:	$10,000 - $15,000*
Gross Estimated Implementation Cost:	$1500 each
Expected Rebate / Energy Efficiency Credit:	None
Net Estimated Implementation Costs:	$1500
Simple Payback (yrs):	Varies
Annual Avoided CO_2 Emissions (tons):	Varies
Cost per Ton CO_2 Reduction ($/ton):	Varies

- Mountain Lakes BOE currently has no observed program in place.
- Educational institutions are where our nation's youth spend a significant portion of their time. As such, educators can have a potentially large impact on promoting an energy conscious and conservation-minded society that starts at their school, leading to energy cost reductions, environmental benefits, and national energy independence.
- In addition, buildings can receive recognition for their efforts and possible media coverage, which can contribute to enhanced civic spirit, and individual feelings of accomplishment and connection.

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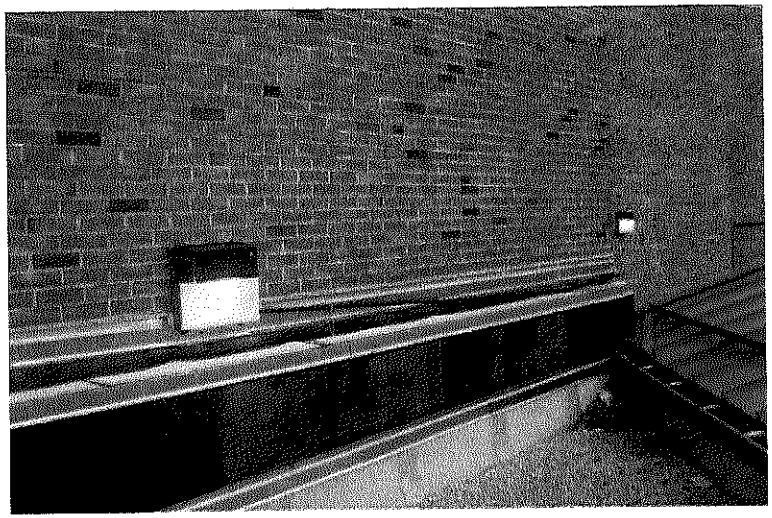
Operation and Maintenance (O&M):

➢ Broken Photocell on Exterior Light

- ➢ **Building:** High School
- ➢ **Issue:** Exterior lighting at the High School was observed to be ON at the time of survey (day time). Wall pack lighting's photocell appears to be broken.
- ➢ **Impact:** Operating these exterior lights unnecessarily during daylight wastes energy.
- ➢ **Recommendation:** Photocell should be repaired/replaced to achieve optimal operation of exterior lighting.



Exterior Fixtures Found "ON" During Day

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Renewable/Distributed Energy Measures

Distributed Generation & Renewable Energy

- Distributed Generation (on-site generation) generates electricity from many small energy sources. These sources can be renewable (solar, wind, geothermal) or can be small scale power generation technologies (CHP, fuel cells, microturbines).

- Renewable energy is energy generated from natural resources (sunlight, wind, and underground geothermal heat) which are naturally replenished.

Renewable Energy Technologies: Wind

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Wind turbines generate electricity by harnessing a wind stream's kinetic energy as it spins the turbine airfoils. As with most renewable energy sources, wind energy is subject to intermittent performance due to the unpredictability of wind resources.

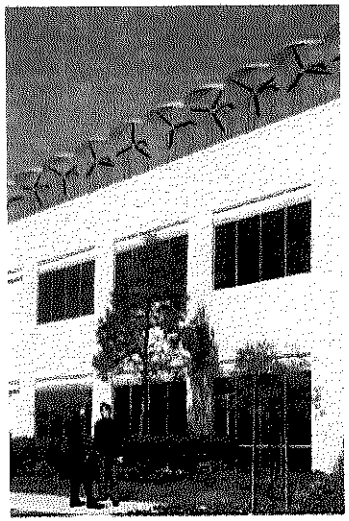
Mountain Lakes Wind Speed

As previously stated, wind speed is critical to the successful wind turbine installation. According to average wind data from NASA's Surface Meteorology and Solar Energy records, the average annual wind speed for the Mountain Lakes area is 6 meters per second for ground level and 7.02 meters per second for 50 feet above ground level. Ideal wind speeds for a successful project should average over 6 meters per second.

For Mountain Lakes BOE, Dome-Tech considered three (3) types of wind turbine technologies; building integrated wind turbines (1 kW each) and traditional ground mounted wind turbines (5 kW & 50 kW).

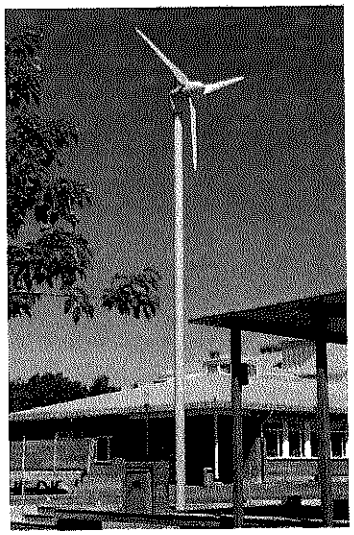
Building Integrated Wind Turbines

Model: AeroVironment AVX1000
Height: 8.5'
Rotor Diameter: 6'
Weight: 130 lbs.
Cut-In Wind Speed: 2.2 m/s
Maximum Generating Capacity: 1 kW



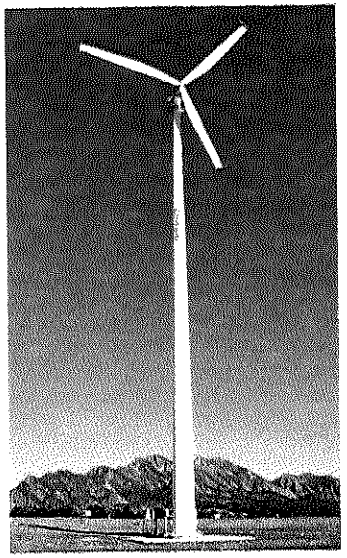
5 kW Ground Mount

Model: WES5 Tulipo
Height: 40'
Rotor Diameter: 16'
Weight: 1,900 lbs.
Cut-In Wind Speed: 3.0 m/s
Maximum Generating Capacity: 5.2 kW



50 kW Ground Mount

Model: Entegrity EW50
Height: 102'
Rotor Diameter: 50'
Weight: 21,000 lbs.
Cut-In Wind Speed: 4.0 m/s
Maximum Generating Capacity: 50 kW



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Renewable Energy Technologies: Wind

The project economics and wind turbine pros and cons are presented in the following tables:

Wind Turbine Economics: Mt Lakes High School

	Building Integrated - 1 kW	Ground Mount - 5.2 kW	Ground Mount - 50 kW
Number of Units	14	3	1
Gross Installation Cost Estimate	$91,000	$93,600	$250,000
NJ SSB Rebate	$53,958	$57,294	$127,752
Net Installation Cost Estimate	$37,042	$36,306	$122,248
Annual Energy Savings	$3,173	$4,156	$24,935
Simple Payback (yrs) with rebate**	12	9	5
Simple Payback (yrs) without rebate**	29	23	10
System Capacity (kW)	14	16	50
Annual Avoided Energy Use (kWh)	21,516	28,187	169,103
Annual Avoided CO2 Emmisions, Tons	8	10	59
% of Annual Electric Use*	1.8%	2.3%	14.0%

*Mt Lakes High School: 1207100 kWh/Year.

**The NJ Clean Energy Program temporary hold on all new wind applications (as of 3/8/11) is still in existence at the time of this report

Wind Turbine Pros & Cons

Pros	Cons
➢Annual reduction in energy spend and use can be potentially reduced by almost $24,935 (14% reduction). ➢Typical equipment life span is 15-30 years. ➢Reduction of annual greenhouse gas emissions by 59 tons per year. ➢A wind turbine project could be incorporated into science and other curriculums to raise student awareness of energy alternatives. ➢High visible "green" project.	➢Payback period is significant (over 10 years). ➢Average area wind speed is not ideal and impacts performance. ➢Prone to lighting strikes. ➢Bird collisions are likely, but may be reduced with avian guard (building integrate only). ➢Zoning may be an issue. Check with local zoning regulations. ➢Wind turbines do create noise, although below 50 dB (a typical car ride is over 80 dB).

Should the BOE decide to pursue a wind turbine project, Dome-Tech recommends commissioning a more detailed study.

Renewable Energy Technologies: Solar Photovoltaic

Solar Photovoltaic

- Sunlight can be converted into electricity using photovoltaic's (PV).
- A solar cell or photovoltaic cell is a device that converts sunlight directly into electricity.
- Photons in sunlight hit the solar panel and are absorbed by semiconducting materials, such as silicon. Electrons are knocked loose from their atoms, allowing them to flow through the material to produce electricity.
- Solar cells are often electrically connected and encapsulated as a module, in series, creating an additive voltage. The modules are connected in an array. The power output of an array is measured in watts or kilowatts, and typical energy needs are measured in kilowatt-hours.
- Can be recommended in this application for placement on additional buildings / areas.

Solar Photovoltaic

Install Roof Mount Solar Photovoltaic System(s)	
Briarcliff Middle School	
Assumptions	
System Capacity, kW-DC (maximum utilization of roof space)	48 kW DC
Estimated Annual AC Energy Produced by Proposed Solar PV System	50,981 kWh
Total Annual Facility Electric Use, kWh	1,184,895 kWh
Proposed % of Total Annual kWh supplied by Solar PV	4%
All-In Rate for Electric Year 1	$0.171 / kWh
Year 1 Electric Cost Savings	$8,718
Year 1 Maintenance Costs	$967
Estimated Year 1 SREC Value:	$349 / SREC
Estimated Year 1 SREC Revenue:	$17,789
Financial Results	
Actual Payback	**10.9 years**
IRR (25 Years)	**7.3%**
Net Present Value (25 yrs, 8% discount rate)	($12,912)
Cost and Rebate	
Cost per kW installed	$6,000
System Installed Cost	$241,845

Install Roof Mount Solar Photovoltaic System(s)	
Wildwood Elementary School	
Assumptions	
System Capacity, kw-dc (maximum utilization of roof space)	70 kw dc
Estimated Annual AC Energy Produced by Proposed Solar PV System	73,817 kwh
Total Annual Facility Electric Use, kwhrs	1,184,895 kwh
Proposed % of Total Annual kWh supplied by Solar PV	6%
All-In Rate for Electric Year 1	$0.171 / kwh
Year 1 Electric Cost Savings	$12,623
Year 1 Maintenance Costs	$1,401
Estimated Year 1 SREC Value:	$349 / SREC
Estimated Year 1 SREC Revenue:	$25,757
Financial Results	
Actual Payback	**13.3 years**
IRR (25 Years)	**5.2%**
Net Present Value (25 yrs, 8% discount rate)	($83,399)
Cost and Rebate	
Cost per kW installed	$6,000
System Installed Cost	$420,210

Solar Photovoltaic

Install Roof Mount Solar Photovoltaic System(s)	
High School	
Assumptions	
System Capacity, kw-dc (maximum utilization of roof space)	191 kw dc
Estimated Annual AC Energy Produced by Proposed Solar PV System	201,087 kwh
Total Annual Facility Electric Use, kwhrs	1,184,895 kwh
Proposed % of Total Annual kWh supplied by Solar PV	17%
All-In Rate for Electric Year 1	$0.171 / kwh
Year 1 Electric Cost Savings	$34,386
Year 1 Maintenance Costs	$3,816
Estimated Year 1 SREC Value:	$349 / SREC
Estimated Year 1 SREC Revenue:	$70,165
Financial Results	
Actual Payback	**13.3 years**
IRR (25 Years)	**5.2%**
Net Present Value (25 yrs, 8% discount rate)	($227,169)
Cost and Rebate	
Cost per kW installed	$6,000
System Installed Cost	$1,144,710

We Own

Mountain Lake High School

The school currently has solar panels on approximately 2/3 of the roof. This analysis is for the additional 1/3.

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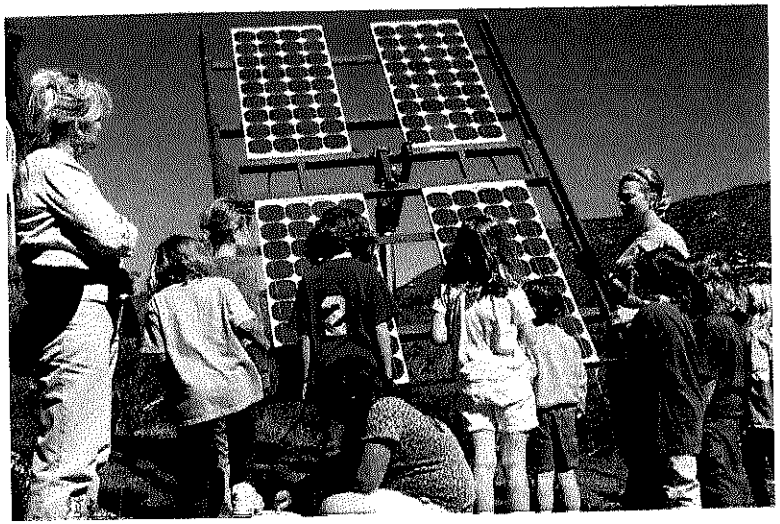
Solar Photo Voltaic System

Non-Financial Benefits of Solar PV

- There is a PV system currently installed at the High School. The implementation of additional solar PV projects at Mountain Lakes Board of Education would further place your facilities at the forefront of renewable energy utilization. This allows the district the opportunity to not only gain experience with this energy technology, but also to win recognition as an environmentally sensitive, socially conscience institution. Additionally, these projects could be incorporated into science education and additional curriculums to raise awareness of current energy alternatives to the younger generations.



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Renewable Energy Technologies: CHP/Cogeneration

- CHP (combined heat and power) or cogeneration is the use of a heat engine to simultaneously generate both electricity and useful heat.

- Fuel Cells are electrochemical conversion devices that operate by catalysis, separation the protons and the electrons of the reactant fuel, and forcing the electrons to travel through a circuit to produce electricity. The catalyst is typically a platinum group metal or alloy. Another catalytic process takes the electrons back in, combining them with the protons and oxidant, producing waste products (usually water and carbon dioxide).

- Microturbines are rotary engines that extract energy from a flow of combustion gas. They can be used with absorption chillers to provide cooling through waste heat rather than electricity. Microturbines are best suited for facilities with year-round thermal and/or cooling loads.

- **Not recommended for Mountain Lakes BOE due to the lack of thermal requirements in the summertime.**

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Retail Energy Purchasing: Recommendations

Electric

- For the period studied, Mountain Lakes BOE was utilizing South Jersey Energy as a Third Party Supplier for electricity at a fixed rate of $0.0891 per kWh. Individual supplier invoices and contracts were not provided for supplier information or length of contract. Supplier costs were included on JCP&L bill summaries.
- Dome-Tech recommends the BOE continue their procurement strategy because there is an opportunity to save money by switching to an electricity supplier versus paying the BGS default rate to the utility. Currently, typical savings are in the 10-15% range.

Natural Gas

- For the period studied, Mountain Lakes BOE was utilizing Hess, a Third Party Supplier for natural gas at a floating rate. Supplier invoices and contracts were not provided for supplier information or length of contract.
- If the BOE is seeking budget certainty or would like to reduce their market exposure for Natural Gas, the District should consider entering into a fixed price contract with a supplier or joining a purchasing co-operative and develop a procurement strategy.

Energy Purchasing Co-Operatives

- Many public entities participate in various energy aggregation buying groups. Sometimes, an entity will have multiple options to choose from. These might include purchasing through a County co-operative, or purchasing through a trade-type association like ACES. Mountain Lakes BOE is currently participating in ACES. Co-operative purchasing may not necessarily get you the lowest rates; however, there is often substantial volume, and it can represent a good alternative for entities with limited energy consumption who can have a difficult time getting energy suppliers to respond to them on a direct, singular basis.

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Utility Tariff and Rate Review: Electricity

- **Accounts and Rate Class:** Mountain Lakes BOE has four facilities with four electric accounts with service behind Jersey Central Power & Light under rate classes General Service Secondary (GSS).
- **Electric Consumption and Cost:** Based on the one-year period studied, the total annual electric expenditure for the BOE is about $360,000 and the total annual consumption is about 2,352,000 kilowatt-hours (kWh).
- **Average/Effective Rate per kWh:** For the one year period studied, the BOE's average monthly cost per kilowatt-hour ranged from 14.68 ¢/kWh to 17.52 ¢/kWh, inclusive of utility delivery charges. The BOE's overall, average cost per kilowatt-hour during this period was 15.32 ¢/kWh.
    - Note that these average electric rates are "all–inclusive"; that is, they include all supply service (generation and commodity-related) charges, as well as all delivery service charges. The supply service charges typically represent the majority (60-80%) of the total monthly bill. It is the supply portion of your bill that is deregulated, which is discussed on subsequent slides in this section.

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Utility Tariff and Rate Review: Natural Gas

- **Accounts and Rate Class:** Mountain Lakes BOE has four facilities with five natural gas accounts with service behind New Jersey Natural Gas under various rate classes.

- **Natural Gas Consumption and Cost:** Based on the one-year period studied, the total annual natural gas expenditure for the BOE is about $128,000 and the total annual consumption is about 86,000 therms (th). Natural gas is used predominantly throughout the winter period for heating purposes.

- **Average/Effective Rate per Therm:** For the one year period studied, the BOE's overall, average cost per therm during this period was $1.486 per therm. Note that bills were not provided, only two annual summaries of costs, and one annual summary of usage.
  - Note that these average natural gas rates are "all–inclusive"; that is, they include all supply service (interstate transportation and commodity-related) charges, as well as all delivery service charges. The supply service charges typically represent the majority (60-80%) of the total monthly bill. It is the supply portion of your bill that is deregulated, which is discussed on subsequent slides in this section.

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Utility Deregulation in New Jersey: Background and Retail Energy Purchasing

- In August 2003, per the Electric Discount and Energy Competition Act [N.J.S.A 48:3-49], the State of New Jersey deregulated its electric marketplace thus making it possible for customers to shop for a third-party (someone other than the utility) supplier of retail electricity.
- Per this process, every single electric account for every customer in New Jersey was placed into one of two categories: BGS-FP or BGS-CIEP. BGS-FP stands for Basic Generation Service-Fixed Price; BGS-CIEP stands for Basic Generation Service-Commercial and Industrial Energy Pricing.
- At its first pass, this categorization of accounts was based on rate class. The largest electric accounts in the State (those served under a Primary or a Transmission-level rate class) were moved into BGS-CIEP pricing. All other accounts (the vast majority of accounts in the State of New Jersey, including residential) were placed in the BGS-FP category, receiving default electric supply service from the utility.
- The New Jersey Board of Public Utilities (NJBPU) has continued to move new large energy users from the BGS-FP category into the BGS-CIEP category by lowering the demand (kW) threshold for electric accounts receiving Secondary service. Several years ago, this threshold started at 1,500kW; now, it has come down to 1,000 kW. So, if an account's "peak load share" (as assigned by the utility) is less than 1,000 kW, then that facility/account is in the BGS-FP category. If you are unsure, you may contact Dome-tech for assistance.

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Utility Deregulation in New Jersey: Background and Retail Energy Purchasing

- There are at least 3 important differentiating factors to note about each rate category:
  1. The rate structure for BGS-FP accounts and for BGS-CIEP accounts varies.
  2. The "do-nothing" option (ie, what happens when you don't shop for retail energy) varies.
  3. The decision about whether, and why, to shop for a retail provider varies.

- **Secondary (small to medium) Electric Accounts**:
  - BGS-FP rate schedules for all utilities are set, and re-set, each year. Per the results of our State's BGS Auction process, held each February, new utility default rates go into effect every year on June 1st. The BGS-FP rates become each customer's default rates, and they dictate a customer's "Price to Compare" (benchmark) for shopping purposes. To learn more about the BGS Auction process, please go to www.bgs-auction.com.
  - A customer's decision about whether to buy energy from a retail energy supplier is, therefore, dependent upon whether a supplier can offer rates that are lower than the utility's (default) Price to Compare. Recently, for the first time in several years, many BGS-FP customers have "switched" from the utility to a retail energy supplier because there have been savings. This may be the same case in 2011 and 2012.

- **Primary (large) Electric Accounts:**
  - The BGS-CIEP category is quite different. There are two main features to note about BGS-CIEP accounts that do not switch to a retail supplier for service. The first is that they pay an hourly market rate for energy; the second is that these accounts also pay a "retail margin adder" of $0.0053/kWh. For these large accounts, this retail adder can amount to tens of thousands of dollars. The adder is eliminated when a customer switches to a retail supplier for service.
  - For BGS-CIEP accounts, the retail adder makes a customer's decision about *whether* to switch relatively simple. However, the process of setting forth a buying strategy can be complex, which is why many public entities seek professional assistance when shopping for energy.
  - For more information concerning hourly electric market prices for our region, please refer to www.pjm.com.

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Utility Deregulation in New Jersey: Background and Retail Energy Purchasing

- **Natural Gas Accounts:**

  - The natural gas market in New Jersey is also deregulated. Unlike the electric market, there are no "penalties", or "adders", for not shopping for natural gas. Most customers that remain with the utility for natural gas service pay rates that are market-based and that fluctuate on a monthly basis. While natural gas is a commodity that is exceptionally volatile and that is traded minute-by-minute during open trading sessions, market rates are "settled" each month, 3 business days prior to the subsequent month (this is called the "prompt month"). Customers that do not shop for a natural gas supplier will typically pay this monthly settlement rate to the utility, plus other costs that are necessary to bring gas from Louisiana up to New Jersey and ultimately to your facility.

  - For additional information about natural gas trading and current market futures rates for various commodities, you can refer to www.nymex.com.

  - A customer's decision about whether to buy natural gas from a retail supplier is typically dependent upon whether a customer seeks budget certainty and/or longer-term rate stability. Customers can secure longer-term fixed prices by enlisting a retail natural gas supplier. Many larger natural gas customers also seek the assistance of a professional consultant to assist in their procurement process.

Dome-Tech, Inc.

Retail Energy Suppliers

- To learn more about energy deregulation, visit the New Jersey Board of Public Utilities website: www.bpu.state.nj.us
- For more information about the retail energy supply companies that are licensed and registered to serve customers in New Jersey, visit the following website for more information: http://www.bpu.state.nj.us/bpu/commercial/shopping.html
- Provided below is a list of NJ BPU-licensed retail energy suppliers:

Company	Electricity	Natural Gas	Website
Hess	X	X	hess.com
Sprague	X	X	spragueenergy.com
UGI	X	X	ugienergyservices.com
South Jersey Energy	X	X	southjerseyenergy.com
Direct	X	X	directenergy.com
Global	X	X	globalp.com
Liberty	X		libertpowercorp.com
Reliant	X		reliant.com
First Energy	X		fes.com
ConEd Solutions	X		conedsolutions.com
Constellation	X		newenergy.com
Glacial	X		glacialenergy.com
Integrys	X		integrysenergy.com
Suez	X		suezenergyresources.com
Sempra	X		semprasolutions.com
Woodruff		X	woodruffenergy.com
Mx Energy		X	mxenergy.com
Hudson		X	hudsonenergyservices.com
Great Eastern		X	greateasterngas.com

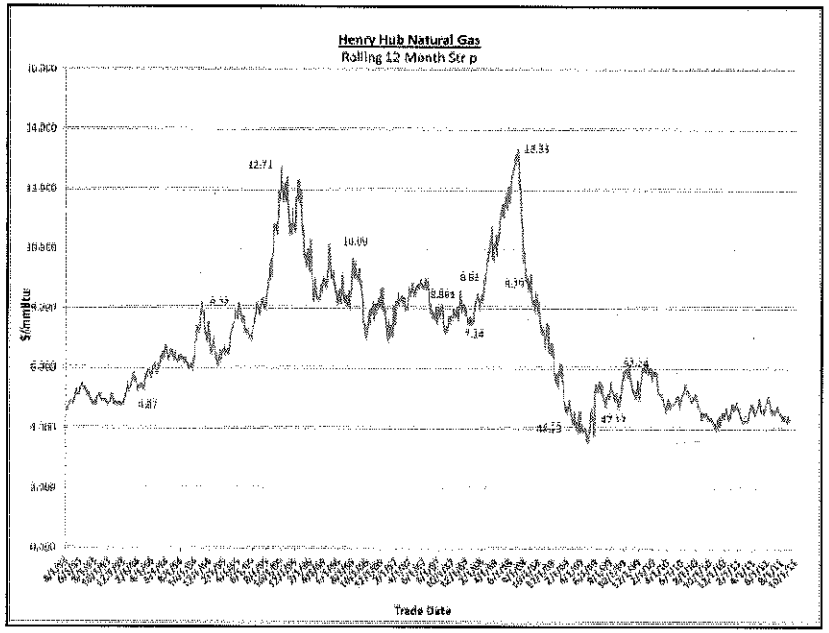
**Note: Not every Supplier serves customers in all utility territories within New Jersey.*

Dome-Tech, Inc.

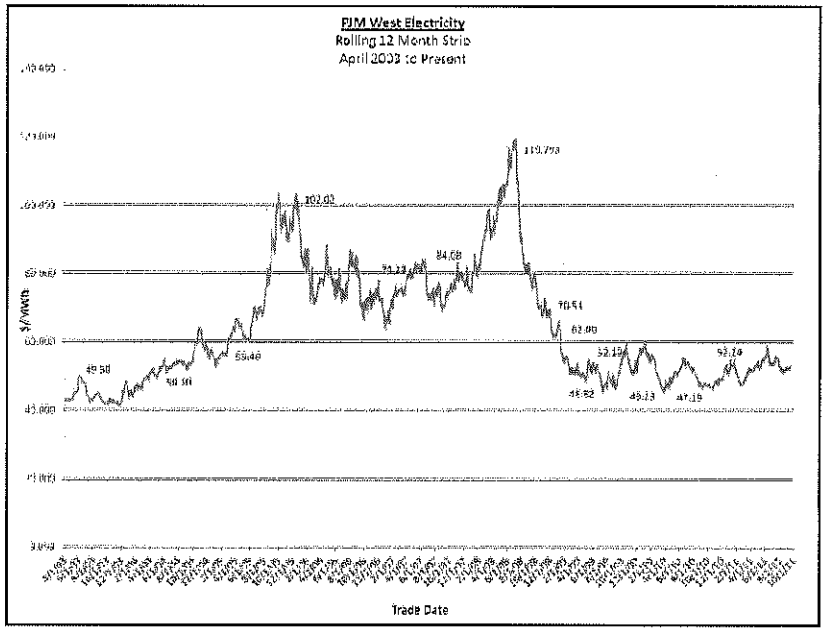
Historical Energy Futures Settlement Prices

- Below please find graphs that show the last several years' worth of market settlement prices for both natural gas and electricity. Each of these graphs shows the average closing prices of a rolling 12-month period of energy futures prices. The graphs are representative of the commodity, alone; they do not include any of the additional components (capacity, transmission, ancillary services, etc.) that comprise a retail energy price. They are meant to provide an indication of the level of pricing that a particular customer might expect to see, but the graphs do not account for the specific load profile of any individual energy user.

Henry Hub 12 month strip



PJM West 12 month strip



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Potential Project Funding Sources

Through the NJ Clean Energy program, the New Jersey Board of Public Utilities currently offers a variety of subsidies or rebates for many of the project types outlined in this report. More detailed information can be found at:

- www.njcleanenergy.com

NJ Smart Start Buildings – Equipment Rebates noted in ECMs where available.
Equipment Rebates - Water Heaters, Lighting, Lighting Controls/Sensors, Chillers, Boilers, Heat pumps, Air conditioners, Energy Mgmt. Systems/Building Controls, Motors, Motor-ASDs/VSDs, Custom/Others

- http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/nj-smartstart-buildings

Pay for Performance Program – Performance-Based Incentives for installations. Provides up to 50% of total project costs. ***Based on findings in this study, up to $247,000 in incentives for project implementation could be provided under this program.*** A minimum reduction target of 15% compared to baseline must be achieved. Energy modeling of building and systems and energy reduction plan is required (incentives provided to pay for part of study costs.)

Energy Savings Improvement Program (ESIP) – Public entities can contract with energy services companies in up to 20-year lease purchases enabling public entities to implement energy conservation measures to their facilities and pay for the costs using the value of energy savings that result from the improvements. The Energy Services Companies (ESCO) would assist in bypassing large upfront costs to the entity.

- www.nj.gov/dca/lgs/lfns/09lfns/2009-11.doc

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Potential Project Funding Sources (continued)

Clean Energy Solutions Capital Investment Loan/Grant

The EDA offers up to $5 million in interest-free loans and grants to promote the concept of "going green" in New Jersey. Under this program, scoring criteria based on the project's environmental and economic development impact determines the percentage split of loan and grant awarded. Funding can be used to purchase fixed assets, including real estate and equipment, for an end-use energy efficiency project, combined heat and power (CHP or cogen) production facility, or new state-of-the-art efficient electric generation facility, including Class I and Class II renewable Energy.

- http://www.njeda.com/web/Aspx_pg/Templates/Npic_Text.aspx?Doc_Id=1078&menuid=1360&topid=722&levelid=6&midid=1357

Clean Renewable Energy Bonds (CREBs) – For Renewable Energy Projects

Federal Loan Program for Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Municipal Solid Waste, Hydrokinetic Power, Anaerobic Digestion, Tidal Energy, Wave Energy, Ocean Thermal

- http://www.irs.gov/irb/2007-14_IRB/ar17.html

Renewable funding for PV & wind, plus federal credits currently available:

- http://www.njcleanenergy.com/renewable-energy/programs/renewable-energy-incentive-program/applications-and-e-forms-renewable-ener

Potential Project Funding Sources (continued)

Direct Install Program – NJ Clean Energy makes the investment in energy efficiency upgrades by initially covering 60% of the cost to install the recommended energy efficiency measures. If eligible, the entity will pay ONLY 40% of the total cost to install the energy efficiency measures. There is a $50,000 incentive cap on each project. The 100 kW peak demand threshold has been waived for local government entities who receive and utilize their Energy Efficiency and Conservation Block Grant in conjunction with Direct Install.

- http://www.njcleanenergy.com/commercial-industrial/programs/direct-install

We encourage you to contact the program directly for further information on this particular program for all buildings.

Steps to Participate for Buildings

1. CONTACT THE PARTICIPATING CONTRACTOR IN YOUR AREA
   Identify the contractor assigned and trained to provide Direct Install services in the county where your project is located. Using the contact information provided, call or email the Participating Contractor to discuss your project. The contractor will schedule an Energy Assessment and work with you to complete the Program Application and Participation Agreement. If you're unable to contact the Participating Contractor or have questions, you may contact us at 866-NJSMART or send an e-mail to DirectInstall@trcsolutions.com..

2. REVIEW RESULTS
   After the Energy Assessment, the contractor will review results with you, including what measures qualify and your share of the project cost.

3. DECIDE TO MOVE FORWARD
   You will sign a Scope of Work document to proceed with implementation of qualifying measures.

4. ARRANGE INSTALLATION
   You and the Participating Contractor will set a convenient start date for the installation.

5. CONFIRM INSTALLATION
   Once the Participating Contractor completes the installation, you accept the work by signing a Project Completion Form. A program representative will approve the project as complete.

6. COMPLETE TRANSACTION
   You pay the Participating Contractor your share of the project cost and the program pays its share.

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Next Steps

- **The following projects should be considered for implementation:**
  - Controls Upgrades
    - Time of Day Optimization
    - Temperature Setpoint Optimization
    - Demand Control Ventilation
  - Lighting upgrades
  - Weatherstripping
  - Programmable Thermostats
  - Vending machine power management
  - Start Energy Awareness Program

  Note that additional "Phase 2" engineering may be required to further develop these projects, to bring them to bidding and implementation.

- **Consider applying for Energy Savings Improvement Program (ESIP)**

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Notes and Assumptions

- Project cost estimates were based upon industry accepted published cost data, rough order of magnitude cost estimates from contractors, and regional prevailing wage rates. The cost estimates presented in this report should be used to select projects for investment grade development. The cost estimates presented in this report should not be used for budget development or acquisition requests.

- Some ECM's proposed in this report are mutually exclusive (e.g. Building Management Systems). ECM savings are not cumulative.

- Interactive effects between ECM's have not been accounted for in all cases.

- The average CO2 emission rate from power plants serving the facilities within this report was obtained from the Environmental Protection Agency's (EPA) eGRID2007 report. It is stated that power plants within the state of NJ emit 0.66 lbs of CO2 per kWh generated.
  - *The EPA estimates that burning one therm of natural gas emits 11.708 lbs CO2.*
  - *The EPA estimates that one car emits 11,560 lbs CO2 per year.*
  - *The EPA estimates that reducing CO2 emissions by 7,333 pounds is equivalent to planting an acre of trees.*

- The following utility prices provided were used within this study:

Building	$ / kWh	$ / Therms
Mountain Lakes High School	$0.147	$1.472
Briarcliff Middle School	$0.147	$1.114
Wildwood Elementary School	$0.158	$1.240
Lake Drive School	$0.175	$3.136

OMB No. 2060-0347

STATEMENT OF ENERGY PERFORMANCE
Mountain Lakes BOE - Mountain Lakes High School

Building ID: 2772823
For 12-month Period Ending: February 28, 2011[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: September 02, 2011

Facility
Mountain Lakes BOE - Mountain Lakes High School
96 Powerville Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

Year Built: 1953
Gross Floor Area (ft²): 150,000

Energy Performance Rating[2] (1-100) 71

Site Energy Use Summary[3]	
Electricity - Grid Purchase(kBtu)	4,075,479
Natural Gas (kBtu)[4]	2,727,600
Total Energy (kBtu)	6,803,079

Energy Intensity[5]	
Site (kBtu/ft²/yr)	45
Source (kBtu/ft²/yr)	110

Emissions (based on site energy use)	
Greenhouse Gas Emissions ($MtCO_2e$/year)	722

Electric Distribution Utility
Jersey Central Power & Light Co [FirstEnergy Corp]

National Average Comparison	
National Average Site EUI	56
National Average Source EUI	135
% Difference from National Average Source EUI	-19%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Certifying Professional
N/A

Meets Industry Standards[6] **for Indoor Environmental Conditions:**	
Ventilation for Acceptable Indoor Air Quality	**N/A**
Acceptable Thermal Environmental Conditions	**N/A**
Adequate Illumination	**N/A**

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

In order for a building to qualify for the ENERGY STAR, a Professional Engineer (PE) or a Registered Architect (RA) must validate the accuracy of the data underlying the building's energy performance rating. This checklist is designed to provide an at-a-glance summary of a property's physical and operating characteristics, as well as its total energy consumption, to assist the PE or RA in double-checking the information that the building owner or operator has entered into Portfolio Manager.

Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.
NOTE: You must check each box to indicate that each value is correct, OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☑
Building Name	Mountain Lakes BOE - Mountain Lakes High School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	K-12 School	Is this an accurate description of the space in question?		☐
Location	96 Powerville Road, Mountain Lakes, NJ 07046	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		☐
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		☐
HS (K-12 School)				
CRITERION	**VALUE AS ENTERED IN PORTFOLIO MANAGER**	**VERIFICATION QUESTIONS**	**NOTES**	☑
Gross Floor Area	150,000 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		☐
Open Weekends?	No	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		☐
Number of PCs	125	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		☐
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		☐
Percent Cooled	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐
Months	9(Optional)	Is this school in operation for at least 8 months of the year?		☐

High School?	Yes	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Light Co [FirstEnergy Corp]

Fuel Type: Electricity

Meter: G28408073/new G28225840 100005847437 HS elect (kWh (thousand Watt-hours))
Space(s): Entire Facility
Generation Method: Grid Purchase

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
01/14/2011	02/18/2011	125,000.00
12/14/2010	01/14/2011	126,000.00
11/15/2010	12/14/2010	109,800.00
10/15/2010	11/15/2010	102,600.00
09/16/2010	10/15/2010	71,700.00
08/19/2010	09/16/2010	99,600.00
07/19/2010	08/18/2010	85,200.00
06/16/2010	07/19/2010	84,900.00
05/18/2010	06/16/2010	87,300.00
04/19/2010	05/18/2010	102,300.00
03/19/2010	04/19/2010	101,400.00
G28408073/new G28225840 100005847437 HS elect Consumption (kWh (thousand Watt-hours))		**1,095,800.00**
G28408073/new G28225840 100005847437 HS elect Consumption (kBtu (thousand Btu))		**3,738,869.60**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		**3,738,869.60**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐

Fuel Type: Natural Gas

Meter: Natural Gas (therms)
Space(s): Entire Facility

Start Date	End Date	Energy Use (therms)
02/01/2011	02/28/2011	2,195.40
01/01/2011	01/31/2011	3,293.10
12/01/2010	12/31/2010	3,293.10
11/01/2010	11/30/2010	2,195.40
10/01/2010	10/31/2010	2,195.40
09/01/2010	09/30/2010	1,097.70
08/01/2010	08/31/2010	1,097.70
07/01/2010	07/31/2010	1,097.70
06/01/2010	06/30/2010	1,097.70
05/01/2010	05/31/2010	1,942.56

04/01/2010	04/30/2010	3,885.12
03/01/2010	03/31/2010	3,885.12
Natural Gas Consumption (therms)		**27,276.00**
Natural Gas Consumption (kBtu (thousand Btu))		**2,727,600.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**2,727,600.00**
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		☐

Additional Fuels	
Do the fuel consumption totals shown above represent the total energy use of this building? Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.	☐

On-Site Solar and Wind Energy	
Do the fuel consumption totals shown above include all on-site solar and/or wind power located at your facility? Please confirm that no on-site solar or wind installations have been omitted from this list. All on-site systems must be reported.	☐

Certifying Professional

(When applying for the ENERGY STAR, the Certifying Professional must be the same PE or RA that signed and stamped the SEP.)

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
Mountain Lakes BOE - Mountain Lakes High School
96 Powerville Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

Mountain Lakes BOE - Mountain Lakes High School	
Gross Floor Area Excluding Parking: (ft²)	150,000
Year Built	1953
For 12-month Evaluation Period Ending Date:	February 28, 2011

Facility Space Use Summary

HS	
Space Type	K-12 School
Gross Floor Area(ft²)	150,000
Open Weekends?	No
Number of PCs	125
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	90
Percent Heated	100
Months°	9
High School?	Yes
School District°	N/A

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 02/28/2011)	**Baseline** (Ending Date 02/28/2011)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	71	71	75	N/A	50
Energy Intensity					
Site (kBtu/ft²)	45	45	44	N/A	56
Source (kBtu/ft²)	110	110	105	N/A	135
Energy Cost					
$/year	$ 173,185.69	$ 173,185.69	$ 166,388.10	N/A	$ 212,787.36
$/ft²/year	$ 1.15	$ 1.15	$ 1.10	N/A	$ 1.41
Greenhouse Gas Emissions					
$MtCO_2e$/year	722	722	694	N/A	887
$kgCO_2e/ft^2$/year	5	5	5	N/A	6

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:
o - This attribute is optional.
d - A default value has been supplied by Portfolio Manager.

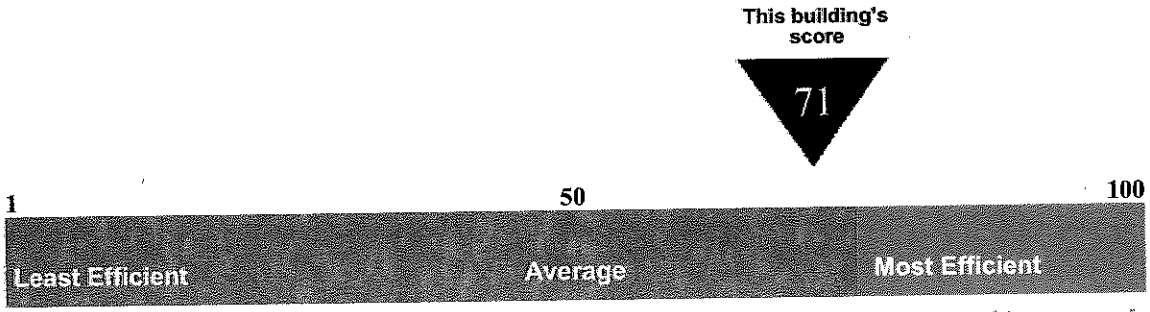
Statement of Energy Performance

2011

Mountain Lakes BOE - Mountain Lakes High School
96 Powerville Road
Mountain Lakes, NJ 07046

Portfolio Manager Building ID: 2772823

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.



This building uses 110 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending February 2011

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification

EPA United States Environmental Protection Agency

Date Generated: 09/02/2011

OMB No. 2060-0347

STATEMENT OF ENERGY PERFORMANCE
Mountain Lakes BOE - Briarcliff Middle School

Building ID: 2772799
For 12-month Period Ending: February 28, 2011[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: September 02, 2011

Facility
Mountain Lakes BOE - Briarcliff Middle School
93 Briarcliff Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

Year Built: 1935
Gross Floor Area (ft²): 21,600

Energy Performance Rating[2] (1-100) 16

Site Energy Use Summary[3]

Electricity - Grid Purchase(kBtu)	1,266,196
Natural Gas (kBtu)[4]	2,416,934
Total Energy (kBtu)	3,683,130

Energy Intensity[5]

Site (kBtu/ft²/yr)	171
Source (kBtu/ft²/yr)	313

Emissions (based on site energy use)

Greenhouse Gas Emissions ($MtCO_2e$/year)	308

Electric Distribution Utility
Jersey Central Power & Light Co [FirstEnergy Corp]

National Average Comparison

National Average Site EUI	123
National Average Source EUI	226
% Difference from National Average Source EUI	39%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Certifying Professional
N/A

Meets Industry Standards[6] **for Indoor Environmental Conditions:**

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
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5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

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Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.
NOTE: You must check each box to indicate that each value is correct, OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☑
Building Name	Mountain Lakes BOE - Briarcliff Middle School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	K-12 School	Is this an accurate description of the space in question?		☐
Location	93 Briarcliff Road, Mountain Lakes, NJ 07046	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		☐
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		☐
MS (K-12 School)				
CRITERION	**VALUE AS ENTERED IN PORTFOLIO MANAGER**	**VERIFICATION QUESTIONS**	**NOTES**	☑
Gross Floor Area	21,600 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		☐
Open Weekends?	Yes	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		☐
Number of PCs	75	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		☐
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		☐
Percent Cooled	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐
Months	9(Optional)	Is this school in operation for at least 8 months of the year?		☐

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Light Co [FirstEnergy Corp]

Fuel Type: Electricity

Meter: 100005849177 Briarcliff MS elect (kWh (thousand Watt-hours))
Space(s): Entire Facility
Generation Method: Grid Purchase

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
01/14/2011	02/14/2011	28,480.00
12/14/2010	01/14/2011	29,600.00
11/15/2010	12/14/2010	29,920.00
10/14/2010	11/15/2010	34,240.00
09/16/2010	10/14/2010	27,360.00
08/19/2010	09/16/2010	32,800.00
07/19/2010	08/19/2010	29,600.00
06/16/2010	07/19/2010	29,440.00
05/18/2010	06/16/2010	34,400.00
04/19/2010	05/18/2010	29,120.00
03/19/2010	04/19/2010	32,160.00
100005849177 Briarcliff MS elect Consumption (kWh (thousand Watt-hours))		**337,120.00**
100005849177 Briarcliff MS elect Consumption (kBtu (thousand Btu))		**1,150,253.44**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		**1,150,253.44**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐

Fuel Type: Natural Gas

Meter: Natural Gas (therms)
Space(s): Entire Facility

Start Date	End Date	Energy Use (therms)
02/01/2011	02/28/2011	2,259.82
01/01/2011	01/31/2011	3,389.73
12/01/2010	12/31/2010	3,389.73
11/01/2010	11/30/2010	2,259.82
10/01/2010	10/31/2010	2,259.82
09/01/2010	09/30/2010	1,129.91
08/01/2010	08/31/2010	1,129.91
07/01/2010	07/31/2010	1,129.91
06/01/2010	06/30/2010	1,129.91
05/01/2010	05/31/2010	1,218.16
04/01/2010	04/30/2010	2,436.31

03/01/2010	03/31/2010	2,436.31
Natural Gas Consumption (therms)		**24,169.34**
Natural Gas Consumption (kBtu (thousand Btu))		**2,416,934.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**2,416,934.00**
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		☐

Additional Fuels	
Do the fuel consumption totals shown above represent the total energy use of this building? Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.	☐

On-Site Solar and Wind Energy	
Do the fuel consumption totals shown above include all on-site solar and/or wind power located at your facility? Please confirm that no on-site solar or wind installations have been omitted from this list. All on-site systems must be reported.	☐

Certifying Professional

(When applying for the ENERGY STAR, the Certifying Professional must be the same PE or RA that signed and stamped the SEP.)

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
Mountain Lakes BOE - Briarcliff Middle School
93 Briarcliff Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

Mountain Lakes BOE - Briarcliff Middle School	
Gross Floor Area Excluding Parking: (ft²)	21,600
Year Built	1935
For 12-month Evaluation Period Ending Date:	February 28, 2011

Facility Space Use Summary

MS	
Space Type	K-12 School
Gross Floor Area(ft²)	21,600
Open Weekends?	Yes
Number of PCs	75
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	90
Percent Heated	100
Months[o]	9
High School?	No
School District[o]	N/A

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 02/28/2011)	**Baseline** (Ending Date 02/28/2011)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	16	16	75	N/A	50
Energy Intensity					
Site (kBtu/ft²)	171	171	96	N/A	123
Source (kBtu/ft²)	313	313	176	N/A	226
Energy Cost					
$/year	$ 25,997.58	$ 25,997.58	$ 14,657.56	N/A	$ 18,743.51
$/ft²/year	$ 1.20	$ 1.20	$ 0.68	N/A	$ 0.87
Greenhouse Gas Emissions					
$MtCO_2e$/year	308	308	174	N/A	222
$kgCO_2e/ft^2$/year	14	14	8	N/A	10

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:
o - This attribute is optional.
d - A default value has been supplied by Portfolio Manager.

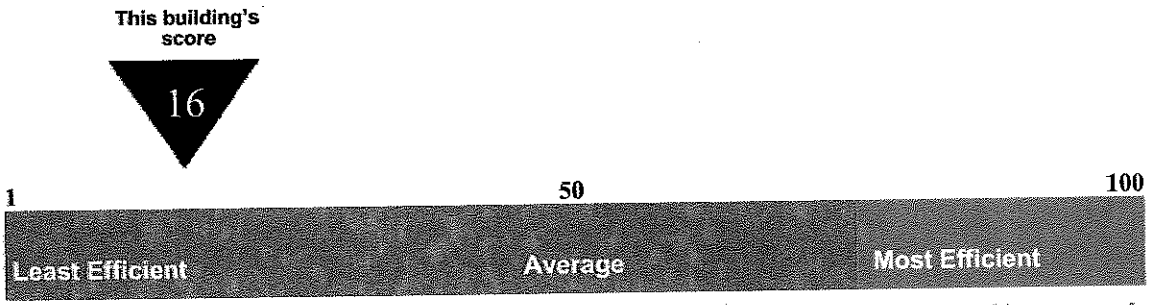
Statement of Energy Performance

2011

Mountain Lakes BOE - Briarcliff Middle School
93 Briarcliff Road
Mountain Lakes, NJ 07046

Portfolio Manager Building ID: 2772799

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.



This building uses 313 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending February 2011

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification

EPA United States Environmental Protection Agency

Date Generated: 09/02/2011

OMB No. 2060-0347

STATEMENT OF ENERGY PERFORMANCE
Mountain Lakes BOE -Lake Drive School

Building ID: 2773297
For 12-month Period Ending: February 28, 2011[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: September 02, 2011

Facility
Mountain Lakes BOE -Lake Drive School
10 Lake Drive
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

Year Built: 1914
Gross Floor Area (ft²): 14,500

Energy Performance Rating[2] (1-100) 25

Site Energy Use Summary[3]	
Electricity - Grid Purchase(kBtu)	1,126,212
Natural Gas (kBtu)[4]	866,181
Total Energy (kBtu)	1,992,393
Energy Intensity[5]	
Site (kBtu/ft²/yr)	137
Source (kBtu/ft²/yr)	322
Emissions (based on site energy use)	
Greenhouse Gas Emissions ($MtCO_2e$/year)	206
Electric Distribution Utility	
Jersey Central Power & Light Co [FirstEnergy Corp]	
National Average Comparison	
National Average Site EUI	109
National Average Source EUI	256
% Difference from National Average Source EUI	26%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Certifying Professional
N/A

Meets Industry Standards[6] **for Indoor Environmental Conditions:**

Ventilation for Acceptable Indoor Air Quality	**N/A**
Acceptable Thermal Environmental Conditions	**N/A**
Adequate Illumination	**N/A**

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

In order for a building to qualify for the ENERGY STAR, a Professional Engineer (PE) or a Registered Architect (RA) must validate the accuracy of the data underlying the building's energy performance rating. This checklist is designed to provide an at-a-glance summary of a property's physical and operating characteristics, as well as its total energy consumption, to assist the PE or RA in double-checking the information that the building owner or operator has entered into Portfolio Manager.

Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.
NOTE: You must check each box to indicate that each value is correct, OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☑
Building Name	Mountain Lakes BOE -Lake Drive School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	K-12 School	Is this an accurate description of the space in question?		☐
Location	10 Lake Drive, Mountain Lakes, NJ 07046	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		☐
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		☐
Lake Drive School (K-12 School)				
CRITERION	**VALUE AS ENTERED IN PORTFOLIO MANAGER**	**VERIFICATION QUESTIONS**	**NOTES**	☑
Gross Floor Area	14,500 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		☐
Open Weekends?	No	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		☐
Number of PCs	94	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		☐
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		☐
Percent Cooled	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐
Months	N/A(Optional)	Is this school in operation for at least 8 months of the year?		☐

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Light Co [FirstEnergy Corp]

Fuel Type: Electricity

Meter: 100005706609 Lake Drrive Elect (kWh (thousand Watt-hours))
Space(s): Entire Facility
Generation Method: Grid Purchase

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
01/13/2011	02/12/2011	23,960.00
12/14/2010	01/13/2011	24,080.00
11/13/2010	12/14/2010	29,360.00
10/13/2010	11/13/2010	25,200.00
09/13/2010	10/13/2010	26,800.00
08/16/2010	09/13/2010	23,560.00
07/17/2010	08/16/2010	37,760.00
06/16/2010	07/17/2010	25,920.00
05/18/2010	06/16/2010	32,720.00
04/19/2010	05/18/2010	25,360.00
03/19/2010	04/19/2010	25,520.00
100005706609 Lake Drrive Elect Consumption (kWh (thousand Watt-hours))		**300,240.00**
100005706609 Lake Drrive Elect Consumption (kBtu (thousand Btu))		**1,024,418.88**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		**1,024,418.88**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐

Fuel Type: Natural Gas

Meter: Natural Gas (therms)
Space(s): Entire Facility

Start Date	End Date	Energy Use (therms)
02/01/2011	02/28/2011	666.59
01/01/2011	01/31/2011	999.88
12/01/2010	12/31/2010	999.88
11/01/2010	11/30/2010	666.59
10/01/2010	10/31/2010	666.59
09/01/2010	09/30/2010	333.29
08/01/2010	08/31/2010	333.29
07/01/2010	07/31/2010	333.29
06/01/2010	06/30/2010	333.29
05/01/2010	05/31/2010	665.82
04/01/2010	04/30/2010	1,331.65

03/01/2010	03/31/2010	1,331.65
Natural Gas Consumption (therms)		**8,661.81**
Natural Gas Consumption (kBtu (thousand Btu))		**866,181.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**866,181.00**
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		☐

Additional Fuels	
Do the fuel consumption totals shown above represent the total energy use of this building? Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.	☐

On-Site Solar and Wind Energy	
Do the fuel consumption totals shown above include all on-site solar and/or wind power located at your facility? Please confirm that no on-site solar or wind installations have been omitted from this list. All on-site systems must be reported.	☐

Certifying Professional

(When applying for the ENERGY STAR, the Certifying Professional must be the same PE or RA that signed and stamped the SEP.)

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
Mountain Lakes BOE -Lake Drive School
10 Lake Drive
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

Mountain Lakes BOE -Lake Drive School	
Gross Floor Area Excluding Parking: (ft²)	14,500
Year Built	1914
For 12-month Evaluation Period Ending Date:	February 28, 2011

Facility Space Use Summary

Lake Drive School	
Space Type	K-12 School
Gross Floor Area(ft²)	14,500
Open Weekends?	No
Number of PCs	94
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	90
Percent Heated	100
Months[o]	N/A
High School?	No
School District[o]	N/A

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 02/28/2011)	**Baseline** (Ending Date 02/28/2011)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	25	25	75	N/A	50
Energy Intensity					
Site (kBtu/ft²)	137	137	85	N/A	109
Source (kBtu/ft²)	322	322	200	N/A	256
Energy Cost					
$/year	$ 55,117.37	$ 55,117.37	$ 34,247.30	N/A	$ 43,797.87
$/ft²/year	$ 3.80	$ 3.80	$ 2.36	N/A	$ 3.02
Greenhouse Gas Emissions					
$MtCO_2e$/year	206	206	128	N/A	164
$kgCO_2e/ft^2$/year	14	14	9	N/A	11

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:
o - This attribute is optional.
d - A default value has been supplied by Portfolio Manager.

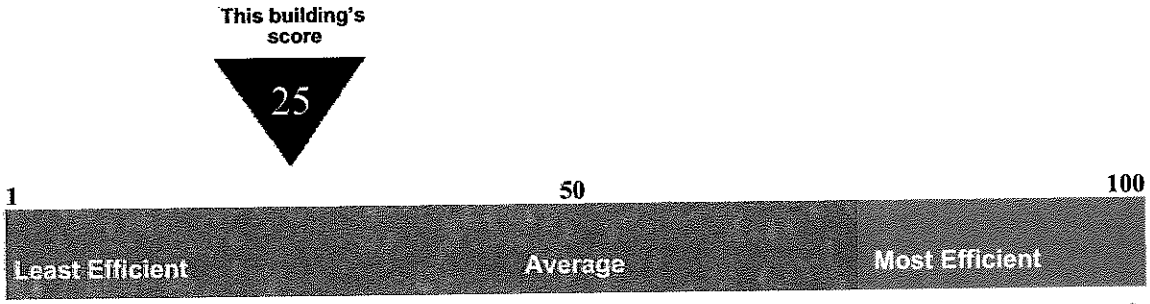
Statement of Energy Performance

2011

Mountain Lakes BOE -Lake Drive School
10 Lake Drive
Mountain Lakes, NJ 07046

Portfolio Manager Building ID: 2773297

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.



This building uses 322 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending February 2011

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification

EPA United States Environmental Protection Agency

Date Generated: 09/02/2011

OMB No. 2060-0347

STATEMENT OF ENERGY PERFORMANCE
Mountain Lakes BOE - Wildwood Elementary School

Building ID: 2773018
For 12-month Period Ending: February 28, 2011[1]
Date SEP becomes ineligible: N/A

Date SEP Generated: September 02, 2011

Facility
Mountain Lakes BOE - Wildwood Elementary School
51 Glen Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

Year Built: 1950
Gross Floor Area (ft²): 43,000

Energy Performance Rating[2] (1-100) 52

Site Energy Use Summary[3]	
Electricity - Grid Purchase(kBtu)	1,548,722
Natural Gas (kBtu)[4]	1,889,846
Total Energy (kBtu)	3,438,568

Energy Intensity[5]	
Site (kBtu/ft²/yr)	80
Source (kBtu/ft²/yr)	166

Emissions (based on site energy use)	
Greenhouse Gas Emissions ($MtCO_2e$/year)	320

Electric Distribution Utility
Jersey Central Power & Light Co [FirstEnergy Corp]

National Average Comparison	
National Average Site EUI	82
National Average Source EUI	170
% Difference from National Average Source EUI	-2%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Certifying Professional
N/A

Meets Industry Standards[6] **for Indoor Environmental Conditions:**	
Ventilation for Acceptable Indoor Air Quality	**N/A**
Acceptable Thermal Environmental Conditions	**N/A**
Adequate Illumination	**N/A**

Notes:
1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

ENERGY STAR® Data Checklist for Commercial Buildings

In order for a building to qualify for the ENERGY STAR, a Professional Engineer (PE) or a Registered Architect (RA) must validate the accuracy of the data underlying the building's energy performance rating. This checklist is designed to provide an at-a-glance summary of a property's physical and operating characteristics, as well as its total energy consumption, to assist the PE or RA in double-checking the information that the building owner or operator has entered into Portfolio Manager.

Please complete and sign this checklist and include it with the stamped, signed Statement of Energy Performance.
NOTE: You must check each box to indicate that each value is correct, OR include a note.

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☑
Building Name	Mountain Lakes BOE - Wildwood Elementary School	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	K-12 School	Is this an accurate description of the space in question?		☐
Location	51 Glen Road, Mountain Lakes, NJ 07046	Is this address accurate and complete? Correct weather normalization requires an accurate zip code.		☐
Single Structure	Single Facility	Does this SEP represent a single structure? SEPs cannot be submitted for multiple-building campuses (with the exception of acute care or children's hospitals) nor can they be submitted as representing only a portion of a building		☐

Wildwood Elementary (K-12 School)

CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☑
Gross Floor Area	43,000 Sq. Ft.	Does this square footage include all supporting functions such as kitchens and break rooms used by staff, storage areas, administrative areas, elevators, stairwells, atria, vent shafts, etc. Also note that existing atriums should only include the base floor area that it occupies. Interstitial (plenum) space between floors should not be included in the total. Finally gross floor area is not the same as leasable space. Leasable space is a subset of gross floor area.		☐
Open Weekends?	No	Is this building normally open at all on the weekends? This includes activities beyond the work conducted by maintenance, cleaning, and security personnel. Weekend activity could include any time when the space is used for classes, performances or other school or community activities. If the building is open on the weekend as part of the standard schedule during one or more seasons, the building should select ?yes? for open weekends. The ?yes? response should apply whether the building is open for one or both of the weekend days.		☐
Number of PCs	95	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1	Is this the total number of commercial walk-in type freezers and coolers? These units are typically found in storage and receiving areas.		☐
Presence of cooking facilities	Yes	Does this school have a dedicated space in which food is prepared and served to students? If the school has space in which food for students is only kept warm and/or served to students, or has only a galley that is used by teachers and staff then the answer is "no".		☐
Percent Cooled	90 %	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	100 %	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐
Months	N/A(Optional)	Is this school in operation for at least 8 months of the year?		☐

High School?	No	Is this building a high school (teaching grades 10, 11, and/or 12)? If the building teaches to high school students at all, the user should check 'yes' to 'high school'. For example, if the school teaches to grades K-12 (elementary/middle and high school), the user should check 'yes' to 'high school'.		☐

ENERGY STAR® Data Checklist for Commercial Buildings

Energy Consumption

Power Generation Plant or Distribution Utility: Jersey Central Power & Light Co [FirstEnergy Corp]

Fuel Type: Electricity

Meter: 1000005844632 Wilwood ES Elect (kWh (thousand Watt-hours))
Space(s): Entire Facility
Generation Method: Grid Purchase

Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
01/14/2011	02/14/2011	40,960.00
12/14/2010	01/14/2011	37,760.00
11/15/2010	12/14/2010	36,800.00
10/15/2010	11/15/2010	45,440.00
09/16/2010	10/15/2010	28,160.00
08/17/2010	09/16/2010	37,760.00
07/19/2010	08/17/2010	29,440.00
06/16/2010	07/19/2010	25,600.00
05/18/2010	06/16/2010	35,840.00
04/19/2010	05/18/2010	46,080.00
03/19/2010	04/19/2010	47,040.00
1000005844632 Wilwood ES Elect Consumption (kWh (thousand Watt-hours))		**410,880.00**
1000005844632 Wilwood ES Elect Consumption (kBtu (thousand Btu))		**1,401,922.56**
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		**1,401,922.56**
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐

Fuel Type: Natural Gas

Meter: Natural Gas (therms)
Space(s): Entire Facility

Start Date	End Date	Energy Use (therms)
02/01/2011	02/28/2011	1,924.56
01/01/2011	01/31/2011	2,886.83
12/01/2010	12/31/2010	2,886.83
11/01/2010	11/30/2010	1,924.56
10/01/2010	10/31/2010	1,924.56
09/01/2010	09/30/2010	962.28
08/01/2010	08/31/2010	962.28
07/01/2010	07/31/2010	962.28
06/01/2010	06/30/2010	962.28
05/01/2010	05/31/2010	700.40
04/01/2010	04/30/2010	1,400.80

03/01/2010	03/31/2010	1,400.80
Natural Gas Consumption (therms)		**18,898.46**
Natural Gas Consumption (kBtu (thousand Btu))		**1,889,846.00**
Total Natural Gas Consumption (kBtu (thousand Btu))		**1,889,846.00**
Is this the total Natural Gas consumption at this building including all Natural Gas meters?		☐

Additional Fuels	
Do the fuel consumption totals shown above represent the total energy use of this building? Please confirm there are no additional fuels (district energy, generator fuel oil) used in this facility.	☐

On-Site Solar and Wind Energy	
Do the fuel consumption totals shown above include all on-site solar and/or wind power located at your facility? Please confirm that no on-site solar or wind installations have been omitted from this list. All on-site systems must be reported.	☐

Certifying Professional

(When applying for the ENERGY STAR, the Certifying Professional must be the same PE or RA that signed and stamped the SEP.)

Name: _____ Date: _____

Signature: _____

Signature is required when applying for the ENERGY STAR.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
Mountain Lakes BOE - Wildwood Elementary School
51 Glen Road
Mountain Lakes, NJ 07046

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

Mountain Lakes BOE - Wildwood Elementary School	
Gross Floor Area Excluding Parking: (ft^2)	43,000
Year Built	1950
For 12-month Evaluation Period Ending Date:	February 28, 2011

Facility Space Use Summary

Wildwood Elementary	
Space Type	K-12 School
Gross Floor Area(ft^2)	43,000
Open Weekends?	No
Number of PCs	95
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	90
Percent Heated	100
Months[o]	N/A
High School?	No
School District[o]	N/A

Energy Performance Comparison

	Evaluation Periods		Comparisons		
Performance Metrics	**Current** (Ending Date 02/28/2011)	**Baseline** (Ending Date 02/28/2011)	**Rating of 75**	**Target**	**National Average**
Energy Performance Rating	52	52	75	N/A	50
Energy Intensity					
Site (kBtu/ft²)	80	80	64	N/A	82
Source (kBtu/ft²)	166	166	133	N/A	170
Energy Cost					
$/year	$ 38,398.92	$ 38,398.92	$ 30,730.66	N/A	$ 39,296.83
$/ft²/year	$ 0.89	$ 0.89	$ 0.71	N/A	$ 0.91
Greenhouse Gas Emissions					
$MtCO_2e$/year	320	320	256	N/A	327
$kgCO_2e/ft^2$/year	7	7	6	N/A	7

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:
o - This attribute is optional.
d - A default value has been supplied by Portfolio Manager.

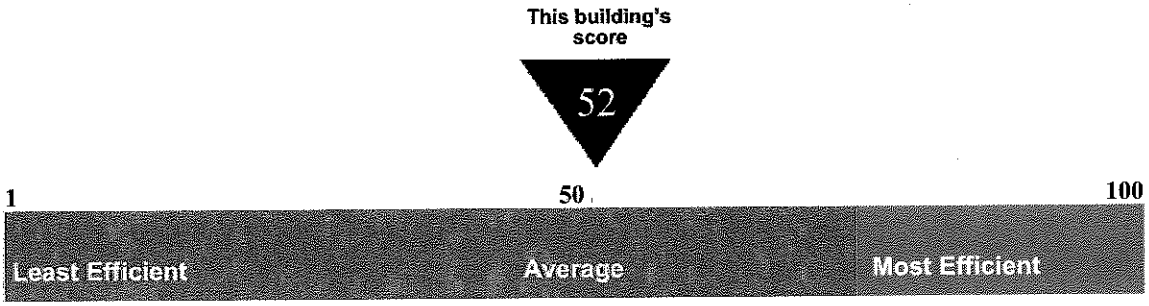
Statement of Energy Performance

2011

Mountain Lakes BOE - Wildwood Elementary School
51 Glen Road
Mountain Lakes, NJ 07046

Portfolio Manager Building ID: 2773018

The energy use of this building has been measured and compared to other similar buildings using the Environmental Protection Agency's (EPA's) Energy Performance Scale of 1–100, with 1 being the least energy efficient and 100 the most energy efficient. For more information, visit energystar.gov/benchmark.



This building uses 166 kBtu per square foot per year.*

*Based on source energy intensity for the 12 month period ending February 2011

Buildings with a score of 75 or higher may qualify for EPA's ENERGY STAR.

I certify that the information contained within this statement is accurate and in accordance with U.S. Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification

EPA United States Environmental Protection Agency

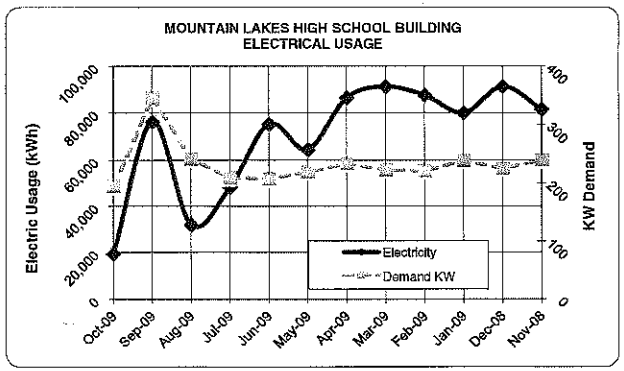
Date Generated: 09/02/2011

Buildings	Electric - JCP&L				Natural Gas - NJNG			
	Account Number	Annual Consumption kWh	Annual Cost	$ / kWh	Account Number	Annual Consumption Therms	Annual Cost	$ / Therms
Mountain Lakes High School	100005847437	1,207,100	$177,989.70	$0.147	446647/447328	29,471	$ 43,382	$1.472
Briarcliff Middle School	100005849177	368,480	$54,105.65	$0.147	446647/447330	26,429	$ 29,433	$1.114
Wildwood Elementary School	1000005844632	452,160	$71,486.09	$0.158	446647/447329	20,823	$ 25,829	$1.240
Lake Drive School	100005706609	324,960	$56,946.21	$0.175	446647/447327	9,328	$ 29,252	$3.136
	TOTAL	**2,352,700**	**$ 360,527.65**	**$0.153**	**TOTAL**	**86,052**	**$ 127,894**	**$1.486**

Note that monthly natural gas usage was not provided for the schools. Rates are based on provided costs and annual usage.

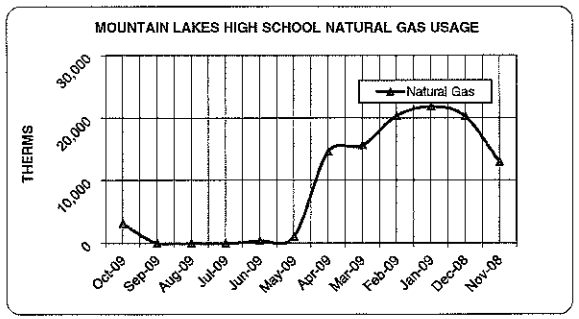
Facility Name Mountain Lakes High School
Company JCP&L
Account# 100005847437
Meter# G28408073/new G28225840
Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	kWh	Cost	Supply + Cost	$/kWh
Electricity	kWh	2/19/2011	3/18/2011	307.8	111,300	$5,375.67	$9,914.60	$0.137
Electricity	kWh	1/14/2011	2/18/2011	354.6	125,000	$6,492.49	$11,224.08	$0.142
Electricity	kWh	12/14/2010	1/14/2011	366.6	126,000	$6,570.13	$11,224.08	$0.141
Electricity	kWh	11/15/2010	12/14/2010	354.3	109,800	$5,981.70	$9,780.98	$0.144
Electricity	kWh	10/15/2010	11/15/2010	316.2	102,600	$5,501.40	$9,139.61	$0.143
Electricity	kWh	9/16/2010	10/15/2010	375.3	71,700	$4,909.90	$6,387.04	$0.158
Electricity	kWh	8/19/2010	9/16/2010	380.7	99,600	$5,998.03	$6,872.37	$0.129
Electricity	kWh	7/19/2010	8/18/2010	280.8	85,200	$4,852.50	$7,589.62	$0.146
Electricity	kWh	6/16/2010	7/19/2010	329.4	84,900	$4,843.11	$7,749.96	$0.148
Electricity	kWh	5/18/2010	6/16/2010	422.1	87,300	$5,900.08	$7,776.68	$0.157
Electricity	kWh	4/19/2010	5/18/2010	337.2	102,300	$17,143.78		$0.168
Electricity	kWh	3/19/2010	4/19/2010	298.2	101,400	$16,761.89		$0.165
		TOTALS/AVERAGE		343.8	1,207,100	$90,330.68	$87,659.02	$0.147



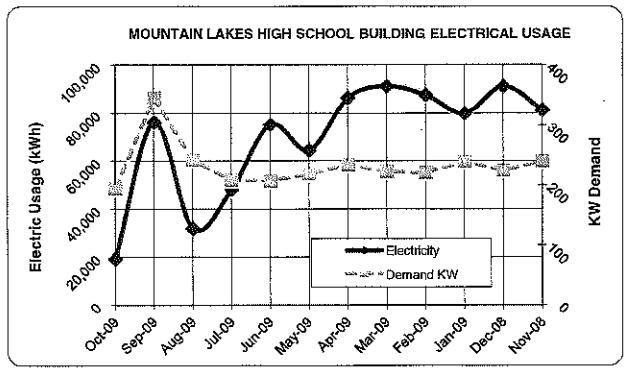
Facility Name
Company
Account#
Meter#
Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	$/Therm
Natural Gas	Therms	7/14/2010	8/11/2010			$ 923	
Natural Gas	Therms	8/11/2010	9/13/2010			$ 1,606	
Natural Gas	Therms	9/13/2010	10/12/2010			$ 1,232	
Natural Gas	Therms	10/12/2010	11/10/2010			$ 2,582	
Natural Gas	Therms	11/10/2010	12/13/2010			$ 5,623	
Natural Gas	Therms	12/13/2010	1/13/2011			$ 7,639	
Natural Gas	Therms	1/13/2011	2/11/2011			$ 8,079	
Natural Gas	Therms	2/11/2011	3/15/2011			$ 7,319	
Natural Gas	Therms	3/15/2011	4/13/2011			$ 5,749	
Natural Gas	Therms	4/13/2011	5/13/2011			$ 1,474	
Natural Gas	Therms	5/13/2011	6/14/2011			$ 1,154	
Natural Gas	Therms						
Natural Gas	Therms						
		TOTALS/AVERAGE		#DIV/0!	0	$43,381.51	#DIV/0!



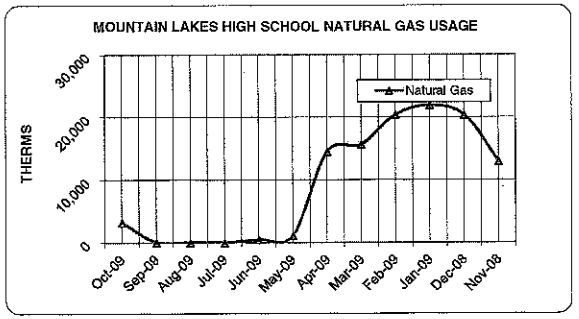
Facility Name Briarcliff Middle School
Company JCP&L
Account# 100005849177
Meter#
Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	kWh	Cost	Supply + Cost	$/kWh
Electricity	kWh	2/14/2011	3/15/2011	96.0	31,360	$1,485.39	$2,793.55	$0.136
Electricity	kWh	1/14/2011	2/14/2011	95.4	28,480	$1,512.99	$2,537.00	$0.142
Electricity	kWh	12/14/2010	1/14/2011	101.3	29,600	$1,586.41	$2,636.77	$0.143
Electricity	kWh	11/15/2010	12/14/2010	109.6	29,920	$1,650.17	$2,665.27	$0.144
Electricity	kWh	10/14/2010	11/15/2010	103.0	34,240	$1,740.82	$3,050.10	$0.140
Electricity	kWh	9/16/2010	10/14/2010	121.0	27,360	$1,639.89	$2,437.23	$0.149
Electricity	kWh	8/19/2010	9/16/2010	112.5	32,800	$1,808.22	$2,921.82	$0.144
Electricity	kWh	7/19/2010	8/19/2010	102.6	29,600	$1,638.21	$2,636.77	$0.144
Electricity	kWh	6/16/2010	7/19/2010	102.5	29,440	$1,634.19	$2,622.52	$0.145
Electricity	kWh	5/18/2010	6/16/2010	117.8	34,400	$1,895.16	$3,064.35	$0.144
Electricity	kWh	4/19/2010	5/18/2010	106.6	29,120	$4,881.15		$0.168
Electricity	kWh	3/19/2010	4/19/2010	98.7	32,160	$5,267.67		$0.164
		TOTALS/AVERAGE		105.6	368,480	$26,740.27	$27,365.38	$0.147



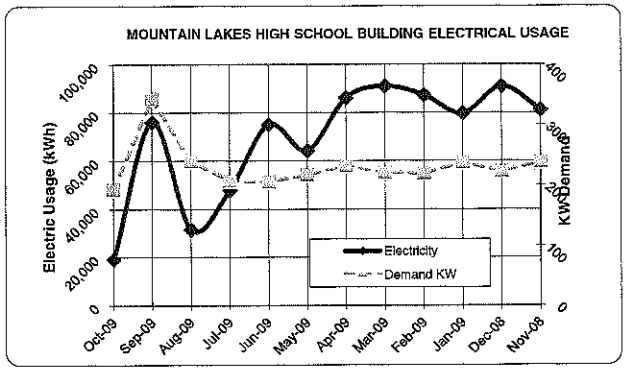
Facility Name
Company
Account#
Meter#
Tariff/Rate

Energy Type	Energy Units	Start Date	End Date	Demand	Therms	Cost	$/kWh
Natural Gas	Therms	7/14/2010	8/11/2010			654.07	
Natural Gas	Therms	8/11/2010	9/13/2010			752.99	
Natural Gas	Therms	9/13/2010	10/12/2010			860.54	
Natural Gas	Therms	10/12/2010	11/10/2010			2266.84	
Natural Gas	Therms	11/10/2010	12/13/2010			3816.78	
Natural Gas	Therms	12/13/2010	1/13/2011			5663.08	
Natural Gas	Therms	1/13/2011	2/11/2011			5267.2	
Natural Gas	Therms	2/11/2011	3/15/2011			4475.58	
Natural Gas	Therms	3/15/2011	4/13/2011			3332.81	
Natural Gas	Therms	4/13/2011	5/13/2011			1527.61	
Natural Gas	Therms	5/13/2011	6/14/2011			815.11	
Natural Gas	Therms						
Natural Gas	Therms						
		TOTALS/AVERAGE		#DIV/0!	0	$29,432.61	#DIV/0!



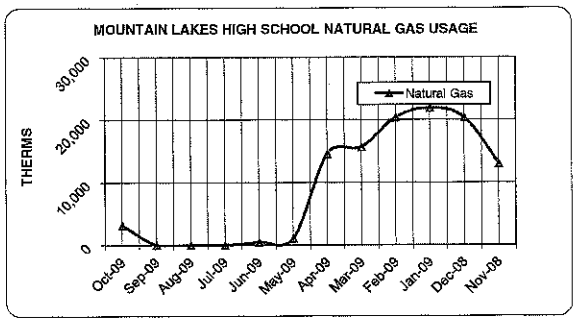
Facility Name Wildwood Elementary School
Company JCP&L
Account# 1000005844632
Meter#
Tariff/Rate

Energy Type	Energy Units	Start Date	End Date	Demand kW	kWh	Cost	Supplier Cost	$/kWh
Electricity	kWh	2/14/2011	3/15/2011	159.7	41,280	$2,207.76	$3,677.22	$0.143
Electricity	kWh	1/14/2011	2/14/2011	150.7	40,960	$2,301.95	$3,648.72	$0.145
Electricity	kWh	12/14/2010	1/14/2011	149.1	37,760	$2,190.88	$3,363.66	$0.147
Electricity	kWh	11/15/2010	12/14/2010	202.6	36,800	$2,506.97	$3,278.14	$0.157
Electricity	kWh	10/15/2010	11/15/2010	153.9	45,440	$2,460.44	$4,047.80	$0.143
Electricity	kWh	9/16/2010	10/15/2010	214.7	28,160	$2,309.83	$2,508.49	$0.171
Electricity	kWh	8/17/2010	9/16/2010	220.5	37,760	$2,751.82	$3,363.66	$0.162
Electricity	kWh	7/19/2010	8/17/2010	189.8	29,440	$2,277.82	$2,622.52	$0.166
Electricity	kWh	6/16/2010	7/19/2010	187.2	25,600	$2,139.41	$2,280.45	$0.173
Electricity	kWh	5/18/2010	6/16/2010	212.5	35,840	$2,636.16	$3,192.63	$0.163
Electricity	kWh	4/19/2010	5/18/2010	171.5	46,080	$7,781.40		$0.169
Electricity	kWh	3/19/2010	4/19/2010	174.4	47,040	$7,938.36		$0.169
		TOTALS/AVERAGE		182.2	452,160	$39,502.80	$31,983.29	$0.158



Facility Name
Company
Account#
Meter#
Tariff/Rate

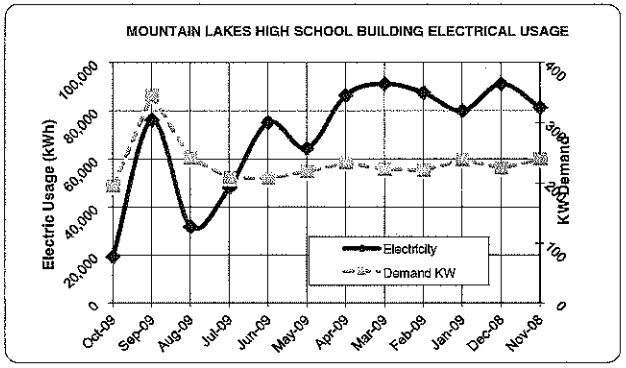
Energy Type	Energy Units	Start Date	End Date	Demand	Therms	Cost	$/kWh
Natural Gas	Therms	7/14/2010	8/11/2010			517.02	
Natural Gas	Therms	8/11/2010	9/13/2010			635.34	
Natural Gas	Therms	9/13/2010	10/12/2010			649.83	
Natural Gas	Therms	10/12/2010	11/10/2010			2061.17	
Natural Gas	Therms	11/10/2010	12/13/2010			3947.29	
Natural Gas	Therms	12/13/2010	1/13/2011			4588.98	
Natural Gas	Therms	1/13/2011	2/11/2011			4682.29	
Natural Gas	Therms	2/11/2011	3/15/2011			3975.8	
Natural Gas	Therms	3/15/2011	4/13/2011			2895.93	
Natural Gas	Therms	4/13/2011	5/13/2011			1212.33	
Natural Gas	Therms	5/13/2011	6/14/2011			662.67	
Natural Gas	Therms						
Natural Gas	Therms						



	TOTALS/AVERAGE	#DIV/0!	0	$25,828.55	#DIV/0!

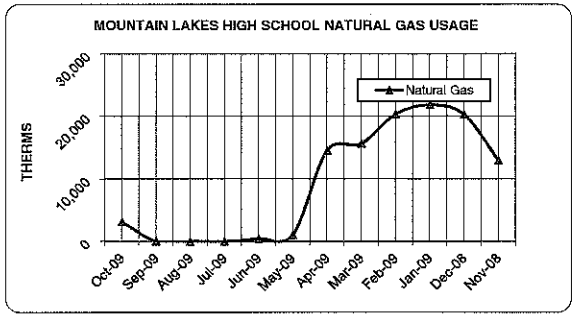
Facility Name Lake Drive School
Company JCP&L
Account# 100005706609
Meter#
Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	Kwh	Cost	$/kWh
Electricity	kWh	2/12/2011	3/14/2011	89.9	24,720	$4,049.18	$0.164
Electricity	kWh	1/13/2011	2/12/2011	89.9	23,960	$4,059.88	$0.169
Electricity	kWh	12/14/2010	1/13/2011	86	24,080	$4,052.08	$0.168
Electricity	kWh	11/13/2010	12/14/2010	102.6	29,360	$4,813.93	$0.164
Electricity	kWh	10/13/2010	11/13/2010	87.8	25,200	$4,295.51	$0.170
Electricity	kWh	9/13/2010	10/13/2010	119.2	26,800	$4,682.80	$0.175
Electricity	kWh	8/16/2010	9/13/2010	153.5	23,560	$4,631.67	$0.197
Electricity	kWh	7/17/2010	8/16/2010	152.6	37,760	$6,735.55	$0.178
Electricity	kWh	6/16/2010	7/17/2010	122.4	25,920	$4,745.82	$0.183
Electricity	kWh	5/18/2010	6/16/2010	142.1	32,720	$5,980.16	$0.183
Electricity	kWh	4/19/2010	5/18/2010	147.7	25,360	$4,605.79	$0.182
Electricity	kWh	3/19/2010	4/19/2010	95.9	25,520	$4,293.66	$0.168
	TOTALS/AVERAGE			115.8	324,960	$56,946.03	$0.175



Facility Name Lake Drive School
Company
Account#
Meter#
Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand	Therms	Cost	$/Therm
Natural Gas	Therms	7/14/2010	8/11/2010			467.23	
Natural Gas	Therms	8/11/2010	9/13/2010			434.91	
Natural Gas	Therms	9/13/2010	10/12/2010			691.47	
Natural Gas	Therms	10/12/2010	11/10/2010			2507.58	
Natural Gas	Therms	11/10/2010	12/13/2010			3795.89	
Natural Gas	Therms	12/13/2010	1/13/2011			6068.84	
Natural Gas	Therms	1/13/2011	2/11/2011			5920.83	
Natural Gas	Therms	2/11/2011	3/15/2011			4437.59	
Natural Gas	Therms	3/15/2011	4/13/2011			2909.52	
Natural Gas	Therms	4/13/2011	5/13/2011			1428.72	
Natural Gas	Therms	5/13/2011	6/14/2011			588.97	
Natural Gas	Therms						
Natural Gas	Therms						
	TOTALS/AVERAGE			#DIV/0!	0	$29,251.55	#DIV/0!



Boilers

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
LAKE DRIVE SCHOOL	B-1,2	MER	BUILDING HHW	CAST IRON SECTIONAL	HB SMITH	28A-11	2	NATURAL GAS	2,076		24	25		

Heating Hot Water Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
LAKE DRIVE SCHOOL		MER	BUILDING HHW	HOT WATER PUMP	NO ACCESS	NO ACCESS	2	N/A	N/A	N/A	N/A	N/A		20+	20
															20

DOMESTIC HOT WATER

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
LAKE DRIVE SCHOOL		MER	BUILDING DHW	DHW	1	RHEEM	22VR75-70N	NATURAL GAS	75			4	12	70KBTUH
													12	

DOMESTIC HOT WATER PUMPS

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
LAKE DRIVE SCHOOL		MER	BUILDING DHW	RECIRC PUMP	NA		2			NA					20

Air Handling Units - AHUs

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency	Controls	Notes:
LAKE DRIVE SCHOOL		ROOF	LIBRARY	HEAT PUMP	TRANE	INV-706	1	DX	1200			3	N/A			15+	15	10.1		
LAKE DRIVE SCHOOL		ROOF	CLASSRM	HEAT PUMP	TRANE	TTA030C300AD	1	DX	1200			3	N/A			18	15	10.1		
LAKE DRIVE SCHOOL		ROOF	CLASSRM	HEAT PUMP	RHEEM	RAKB-048CAZ	1	DX	1600			4	N/A			7	15	10.1		
LAKE DRIVE SCHOOL		ROOF	AUDITORIUM	PACKAGED ROOFTOP UNIT	TRANE	YTA120GSC00BA	1	DX	7200			10	N/A			17	15	10.1		
LAKE DRIVE SCHOOL		ROOF	PRACTICE RM	HEAT PUMP	LENNOX	LGA036H2	1	DX	1200			3	NATURAL GAS	72 Kbsh		6	15	11.4		
LAKE DRIVE SCHOOL		ROOF	CLASSRM	HEAT PUMP	NO ACCESS	NO ACCESS	1	DX	NO ACCESS			NO ACCESS	NO ACCESS			NO ACCESS	15	NO ACCESS		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	RHEEM	RAKB-030CA	2	DX	1200			3	N/A			5	15	10.1		
LAKE DRIVE SCHOOL		ROOF	COMPUTER RM, COPY	HEAT PUMP	RHEEM	RAKB-024JAZ	2	DX	1000			2	N/A			8	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	EMI	3SHC0060CAA03AOA	2	DX	800			1	N/A			15	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	AIR COOLED CONDENSING UNIT	NO ACCESS	NO ACCESS	1	DX	1200			3	N/A			10+	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	RHEEM	RAKB-030JAZ	1	DX	1000			2	N/A			5	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	TRANE	B1A030	1	DX	1200			2	N/A			10+	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	TRANE	2TTA3042A300BA	1	DX	1200			3	N/A			4	15	10.1		
LAKE DRIVE SCHOOL		ROOF	OFFICE	HEAT PUMP	TRANE	4A6A-T036G3	1	DX	1200			3	N/A			5+	15	10.1		

AHU Associated Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Motor RPM	VFD?	Age	Head ft	HP	Efficiency		Estimated Service Life

Other Mechanical Equipment

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
LAKE DRIVE SCHOOL	WINDOW AC	MER			13	VARIOUS BRANDS						15		
LAKE DRIVE SCHOOL	EF	MER		EXHAUST FANS	3	VARIOUS BRANDS						15		

Misc Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life

Kitchen Equipment Inventory List

EQUIPMENT	TAG #	MODEL #	MANUFACTURER	QUANTITY	AREA SERVING	CAPACITY	ESTIMATED SERVICE LIFE	AGE	EFFICIENCY	CFM (SA/OA)
Walk-in Refrigerator		NA					NA			
Walk-in Freezer		BALLY					NA			
Dishwasher		HOBART					15			
Dishwasher Booster Heater		HATCO					15			
Ice Machine							8			
Electric Convection Oven							12			
Kitchen Hood							NA			
Kitchen Hood							NA			
Ice Machine		MANOTEC					NA			
Electric Food Warmer							12			
Electric Food Warmer							12			
Gas RANGE		GARLAND					12			
Gas FRYER		GARLAND					12			
DISPLAY CASE							12			
Refrigerator				1			12			
Freezer				1			12			
Refrigerator - OPEN GLASS										
Soda Machine		VARIOUS BRANDS		1						
Snack Machine		VARIOUS BRANDS								

NOTES

Boilers

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
HIGH SCHOOL	B-1,2	MER-AUDITORIUM	STAGE AUDITORIUM	FIRETUBE HOT WATER BOILER	CLEAVER BROOKS	CB-100-60	2	NATURAL GAS	2,511,000		24	25		
HIGH SCHOOL	B-1,2	MER	MER	FIRETUBE HOT WATER BOILER	CLEAVER BROOKS	CB-200-250	2	NATURAL GAS	10,461,000		18	25		

Heating Hot Water Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
HIGH SCHOOL		MER-AUDITORIUM	STAGE	HOT WATER PUMP	BALDOR	VL3458	1	N/A	N/A	1/2	64.0%	1800		20+	20
HIGH SCHOOL	P-3	MER-AUDITORIUM	MUSIC	HOT WATER PUMP	BALDOR	VL3458	1	N/A	N/A	1/2	64.0%	1800		20+	20
HIGH SCHOOL	P-2	MER-AUDITORIUM	BASEMENT	HOT WATER PUMP	BALDOR	VL245A	1	N/A	N/A	1/3	59.5%	1800		20+	20
HIGH SCHOOL	P-5	MER-AUDITORIUM	AUD	HOT WATER PUMP	BALDOR	VL3458	1	N/A	N/A	1/2	64.0%	1800		20+	20
HIGH SCHOOL	P-1	MER-AUDITORIUM	AUD	HOT WATER PUMP	BALDOR	M301	1	N/A	N/A	1		1800		20+	20
HIGH SCHOOL	P-6	MER-AUDITORIUM	AUD	HOT WATER PUMP	BALDOR	VL445A	1	N/A	N/A	3/4	68.0%	1800		20+	20
HIGH SCHOOL	P-6	MER	BUILDING HHW	HOT WATER PUMP	US MOTORS	2006V3	1	N/A	N/A	7 1/2	N/A	1800		20+	20
HIGH SCHOOL	P-7	MER	BUILDING HHW	HOT WATER PUMP	US MOTORS	E80AD	1	N/A	N/A	7 1/2	64.0%	1800		20+	20
HIGH SCHOOL	P-8	MER	BUILDING HHW	HOT WATER PUMP	US MOTORS	E805A	1	136	90	7 1/2	84.0%	1800		20+	20
															20
															20
															20
															20

Air Handling Units - AHUs

Bldg	Tag	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency	Controls	Notes
High School		ROOF	NE CLASSROOMS	PACKAGED ROOFTOP UNIT	TRANE	[illegible]	1	DX	2000			5	ELECTRIC	5 KW		5	15	10.1		
High School	RTU-7	ROOF	GYM LOCKER ROOM	PACKAGED ROOFTOP UNIT	STERLING	[illegible]	2	NA	7000			NA	NATURAL GAS	240 KBTUH		8	15	NA		
High School		ROOF	GYM AUDITORIUM	DESICCANT UNIT	MUNTERS	[illegible]	2	DX	15000			NA	NATURAL GAS			8	15	NA		
High School		ROOF	GYM	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	3	DX	2100			5	NATURAL GAS	[illegible] Kbtuh		8	15	10.5		
High School		ROOF	PRACTICE GYM	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	3	DX	1500			3	NATURAL GAS	78 Kbtuh		8	15	11.4		
High School		ROOF	AUDITORIUM	PACKAGED ROOFTOP UNIT	CARRIER	[illegible]	6	DX	12000			37	ELECTRIC	18 KW		24	15	10.1		
High School		ROOF	OFFICE	HEAT PUMP	MITSUBISHI	[illegible]	1	DX	1000			2	NA			15+	15	10.1		
High School		ROOF	OFFICE	PACKAGED ROOFTOP UNIT	TRANE	[illegible]	2	DX	2000			5	ELECTRIC	5 KW		5	15	10.1		
High School		ROOF	OFFICE	PACKAGED ROOFTOP UNIT	NO ACCESS	NO ACCESS	2	DX	1000			3	NA			10+	15	10.1		
High School	RTU-12	ROOF	CODO, MAIN, GUIDANCE	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	5	DX	2000			5	NATURAL GAS	125 Kbtuh		6	16	10.5		
High School	RTU-15 & 16	ROOF	GUIDANCE	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	2	DX	1500			3	NATURAL GAS	70 Kbtuh		5	15	11.4		
High School	RTU-31	ROOF	MAIN OFFICE	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	1	DX	2250			11	NATURAL GAS	125 Kbtuh		5	15	10.4		
High School	RTU-10	ROOF	MAIN OFFICE	PACKAGED ROOFTOP UNIT	LENNOX	[illegible]	1	DX	3600			14	NATURAL GAS	240 Kbtuh		5	15	13		
High School		ROOF	OFFICE	DESICCANT UNIT	[illegible]	[illegible]	1	DX	3600			[illegible]	NATURAL GAS			11	15	NA		
High School		ROOF	OFFICE	PACKAGED ROOFTOP UNIT	[illegible]	[illegible]	1	DX	2000			5	NA			7	15	10.1		
High School		ROOF	OFFICE	PACKAGED ROOFTOP UNIT	TRANE	[illegible]	1	DX	1000			4	NA			10	15	10.1		
High School		ROOF	OFFICE	PACKAGED ROOFTOP UNIT	RHEEM	[illegible]	1	DX	2000			6	NA			11	15	10.1		
High School		MODULAR CLASSRM	MODULAR CLASSRM	PACKAGED ROOFTOP UNIT	[illegible]	NA	6	DX	2000			5	NATURAL GAS			10+	16	10.1		

AHU Associated Pumps

Bldg	Tag	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Motor RPM	VFD?	Age	Head ft	HP	Efficiency		Estimated Service Life

DOMESTIC HOT WATER

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
HIGH SCHOOL		MER	BUILDING DHW	INDIRECT FIRED WATER HEATER	1	PARKER	T-1460	NATURAL GAS				10+	12	
HIGH SCHOOL		MER	BUILDING DHW	STORAGE TANK	1				10' x 5' DIA			10+	12	
													12	

DOMESTIC HOT WATER PUMPS

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age
HIGH SCHOOL		MER	BUILDING DHW	RECIRC PUMP	NA		2			NA				

Estimated Service Life
20
20

Other Mechanical Equipment

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
HIGH SCHOOL	EXHAUST FAN - LARGE	ROOF			18							20		
HIGH SCHOOL	EXHAUST FAN - SMALL /MED	ROOF			25							20		
HIGH SCHOOL	PNUEMATIC AIR COMPRESSOR	MER			2	JENNY						15		
HIGH SCHOOL	WINDOW AC	MER			5	VARIOUS BRANDS						15		

Misc Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life

Kitchen Equipment Inventory List											
EQUIPMENT	TAG #	MODEL #	MANUFACTURER	QUANTITY	AREA SERVING	CAPACITY	ESTIMATED SERVICE LIFE	AGE	EFFICIENCY	CFM (SA/OA)	NOTES
Walk-in Refrigerator		NA		1		2 EVAP	NA				
Walk-in Freezer		BALLY		1		3 EVAP	NA				
Dishwasher		HOBART		1			15				
Dishwasher Booster Heater		HATCO		1			15				
Ice Machine							8				
Electric Convection Oven				1		11 kW	12				
Kitchen Hood							NA				
Kitchen Hood							NA				
Ice Machine		MANOTEC		1			NA				
Electric Food Warmer							12				
Electric Food Warmer							12				
Gas RANGE		GARLAND		1		4 BURNERS	12				
Gas FRYER		GARLAND		1			12				
DISPLAY CASE				4		4 BIN	12				
Refrigerator				1			12				
Refrigerator - OPEN GLASS				3		6 CU FT	12				
Refrigerator - OPEN GLASS				1		12 CU FT	12				
Soda Machine		VARIOUS BRANDS		5							
Snack Machine		VARIOUS BRANDS		2							

Boilers

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
BRAIRCLIFF MS	B-1,2	MER	BUILDING STEAM	CAST IRON SECTIONAL	HB SMITH	28A-17-5525	2	NATURAL GAS	5,525		12	25		
BRAIRCLIFF MS	B-3	MER	BUILDING STEAM	CAST IRON SECTIONAL	WEIL MCLAIN	88 BOILER 688	1	NATURAL GAS	1,703	1,026	12	25		
BRAIRCLIFF MS	B-	MER	BUILDING HHW	HOT WATER BOILER	PARKER	WH-1900	1	NATURAL GAS	1,900		26	25		

Heating Hot Water Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
BRAIRCLIFF MS		MER ANNEX	Building HHW	Hot Water Pumps	Marathon Electric	NOM302	2	NA	NA	1	STD	1800		12	

Air Handling Units - AHUs

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency	Controls	Notes
BRIARCLIFF MS		ATTIC SPACE	CLASSRM	PACKAGED ROOFTOP UNIT	N/A	24HHC3	1	DX	1000			3	STEAM			6	15	10:1		
BRIARCLIFF MS		ATTIC SPACE	CLASSRM	PACKAGED ROOFTOP UNIT	N/A	N/A	1	DX	1200			3	STEAM			6	15	10:1		
BRIARCLIFF MS		ATTIC SPACE	CLASSRM	PACKAGED ROOFTOP UNIT	[illegible]	[illegible]	1	DX	1000			3	NA			10	15	10:1		
BRIARCLIFF MS		ATTIC SPACE	CLASSRM	PACKAGED ROOFTOP UNIT	[illegible]	[illegible]	1	DX	2000			5	NA			19	15	10:1		
BRIARCLIFF MS		ROOF	CLASSRM	AIR COOLED CONDENSING UNIT	GUARDIAN	AC[illegible]	1	DX	2000			5	NA			0	15	10:1		OVERHEATING, SHORT CYCLING
BRIARCLIFF MS		ROOF	OFFICE	AIR COOLED CONDENSING UNIT	TRANE	[illegible]	1	DX	1000			2	NA			0	15	10:1		
BRIARCLIFF MS		ROOF	OFFICE	AIR COOLED CONDENSING UNIT	TRANE	HABA[illegible]	1	DX	1000			2	NA			15+	15	10:1		
BRIARCLIFF MS		ROOF	LIBRARY	AIR COOLED CONDENSING UNIT	TRANE	[illegible]	1	DX	1000			2	NA			0	15	10:1		
BRIARCLIFF MS		ROOF	1H	AIR COOLED CONDENSING UNIT	RHEEM	[illegible]	1	DX	1000			4	NA			8	15	10:1		
BRIARCLIFF MS		ROOF	OFFICE/ANNEX	AIR COOLED CONDENSING UNIT	RHEEM	RAKA[illegible]	2	DX	[illegible]			2	NA			8	15	10:1		
BRIARCLIFF MS		ROOF	OFFICE	AIR COOLED CONDENSING UNIT	N/A	N/A	1	DX	2500			3	NA			0	15	10:1		
BRIARCLIFF MS		ROOF	COMPUTER RM	AIR COOLED CONDENSING UNIT	TRANE	TTR[illegible]	1	DX	2000			4	NA			10	15	10:1		
BRIARCLIFF MS		ROOF	TECH OFFICE	AIR COOLED CONDENSING UNIT	NO ACCESS	NO ACCESS	1	DX	1000			2	NA			15+	15	10:1		

AHU Associated Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Motor RPM	VFD?	Age	Head ft	HP	Efficiency		Estimated Service Life

DOMESTIC HOT WATER

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
BRAIRCLIFF MS		MER	BUILDING DHW	INDIRECT FIRED WATER HEATER	1	PARKER	WH-1900	NATURAL GAS	NATURAL GAS			26	12	
BRAIRCLIFF MS		MER	BUILDING DHW	STORAGE TANK	1				12' x 4' DIA			26	12	
													12	

DOMESTIC HOT WATER PUMPS

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft.	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
BRAIRCLIFF MS		MER	BUILDING DHW	RECIRC PUMP	B&G		1			1					20
															20

Other Mechanical Equipment

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
HIGH SCHOOL	EXHAUST FAN - SMALL /MED	ROOF			3							20		
HIGH SCHOOL	WINDOW AC	MER			1	VARIOUS BRANDS						15		

Misc Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life

Kitchen Equipment Inventory List											
EQUIPMENT	TAG #	MODEL #	MANUFACTURER	QUANTITY	AREA SERVING	CAPACITY	ESTIMATED SERVICE LIFE	AGE	EFFICIENCY	CFM (SA/OA)	NOTES
Walk-In Refrigerator		NA				2 EVAP	NA				
Walk-In Freezer		BALLY				3 EVAP	NA				
Dishwasher		HOBART		1			15				
Dishwasher Booster Heater		HATCO					15				
Ice Machine				1			8				
Electric Convection Oven				1		11 kW	12				
Kitchen Hood							NA				
Kitchen Hood							NA				
Ice Machine		MANOTEC					NA				
Electric Food Warmer							12				
Electric Food Warmer							12				
Gas RANGE		GARLAND		1		4 BURNERS	12				
Gas FRYER		GARLAND					12				
DISPLAY CASE				3		4 BIN	12				
Refrigerator -1 DOOR		TRAULSEN		1			12				
Freezer - 1 DOOR		TRAULSEN		1			12				
Refrigerator -2 DOOR		TRAULSEN		1			12				
Freezer - 2 DOOR		TRAULSEN		1			12				
Refrigerator - OPEN GLASS						6 CU FT	12				
Refrigerator - OPEN GLASS				1		12 CU FT	12				
Soda Machine		VARIOUS BRANDS									
Snack Machine		VARIOUS BRANDS									

Boilers

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
WILDWOOD ES	B-1,2	MER	BUILDING HHW	CAST IRON SECTIONAL	WEIL MCLAIN	88 BOILER 688	2	NATURAL GAS	5,124	4,090	12	25		

Heating Hot Water Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
WILDWOOD ES	P-1,2	MER	BUILDING HHW	HOT WATER PUMP	BALDOR	M3318T	2	N/A	N/A	5	87.5%	1800		10+	20

DOMESTIC HOT WATER

Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
WILDWOOD ES		MER	BUILDING DHW	DHW	1	RUUD	G75-125	NATURAL GAS	73			8	12	
													12	

DOMESTIC HOT WATER PUMPS

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life

Air Handling Units - AHUs

Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency	Controls	Notes:
WILDWOOD ES		ROOF	CLASSRM	PACKAGED ROOFTOP UNIT	TRANE	4TCC3018A10000AA	1	DX	2000			5	ELECTRIC	5 KW		5	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	PACKAGED ROOFTOP UNIT	CARRIER	48HJE007	1	DX	2300			6	NATURAL GAS	82 KBTUH		12	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	HEAT PUMP	CARRIER	CAC042HAC	1	DX	1600			4	N/A			10+	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	HEAT PUMP	CARRIER	38HD6024	1	DX	1600			2	N/A			8	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	PACKAGED ROOFTOP UNIT	LENNOX	GCS16-311-75-5P	2	DX	2000			5	NATURAL GAS	75 Kbtuh		6	15	11.4		
WILDWOOD ES		ROOF	CLASSRM	HEAT PUMP	TRANE	YCD036	1	DX	1300			3	NATURAL GAS	60 KBTUH		16	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	PACKAGED ROOFTOP UNIT	CARRIER	48HJD005	2	DX	1600			4	NATURAL GAS	72 KBTUH		12	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	PACKAGED ROOFTOP UNIT	CARRIER	48HJD012	1	DX	3600			10	NATURAL GAS	180 KBTUH		12	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	HEATING VENTILATOR UNIT	NESBITT	PSA3403BN08FFM00	2	DX	7200			20	HHW	N/A		20+	15	10.1		
WILDWOOD ES		ROOF	CLASSRM	UNIT VENTILATOR	AFF							20	HHW	N/A		20+	15	10.1		

AHU Associated Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Motor RPM	VFD?	Age	Head ft	HP	Efficiency		Estimated Service Life

Other Mechanical Equipment														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
WILDWOOD ES	EXHAUST FAN - LARGE	ROOF			6							20		
WILDWOOD ES	EXHAUST FAN - SMALL /MED	ROOF			28							20		
WILDWOOD ES	WINDOW AC	MER			14	VARIOUS BRANDS						15		

Misc Pumps

Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life

Kitchen Equipment Inventory List											
EQUIPMENT	TAG #	MODEL #	MANUFACTURER	QUANTITY	AREA SERVING	CAPACITY	ESTIMATED SERVICE LIFE	AGE	EFFICIENCY	CFM (SA/OA)	NOTES
Walk-in Refrigerator							NA				
Walk-in Freezer							NA				
Dishwasher							15				
Dishwasher Booster Heater							15				
Ice Machine							8				
Electric Convection Oven							12				
Kitchen Hood							NA				
Kitchen Hood							NA				
Ice Machine							NA				
Electric Food Warmer							12				
Electric Food Warmer							12				
Gas RANGE							12				
Gas FRYER							12				
DISPLAY CASE							12				
Refrigerator							12				
Refrigerator - OPEN GLASS							12				
Refrigerator - OPEN GLASS							12				
Soda Machine											
Snack Machine											

UHS Lighting Services

"Your Lighting is in Good Hands"

Mountain Lakes
51 Glen Road
Mountain Lakes, NJ 07046

New Jersey

Accu-Audit SM

UTILITY ACCOUNT NUMBER	
BUILDING NAME	Wildwood Elementary School
SQUARE FOOTAGE	43,000

Line	Floor	Section/ Building	ROOM #	Room Description	Existing Fixture Description																	
1	2	Wildwood Elementary		Main Office	2x4 3L F34 T12		6	102		612	Relamp and Reballast 3L F32T8 25w	10	$ 60.00	6	75	450	3500	162	567	89.64219088	$ 89.64	
2	2	Wildwood Elementary		Nurse	2x4 4L F32 T8		3	128		384	Relamp 4L F32T8 25w		$ -	3	100	300	2500	84	210	33.20081144	$ 33.20	
3	2	Wildwood Elementary		Nurse Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79	
4	2	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.78
5	2	Wildwood Elementary		Supply Room	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	1500	45	67.5	10.67168939	$ 10.67	
6	2	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.07
7	2	Wildwood Elementary		Principals Office	2x4 3L F34 T12		3	102		306	Relamp and Reballast 3L F32T8 25w	10	$ 30.00	3	75	225	3000	81	243	38.41908181	$ 38.42	
8	2	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 32.02
9	2	Wildwood Elementary	207	Kindergarten Hammer	2x4 4L F32 T8		16	128		2048	Relamp 4L F32T8 25w		$ -	16	100	1600	2500	448	1120	177.0709943	$ 177.07	
10	2	Wildwood Elementary	207	Kindergarten Hammer	2x2 2L F17 T8		6	34		204	No Measure		$ -	6	34	204	2500	0	0	0	$ -	
11	2	Wildwood Elementary	207	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 213.91
12	2	Wildwood Elementary	207	Kindergarten Hammer/Bathroom	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2500	14	35	5.533468573	$ 5.53	
13	2	Wildwood Elementary	207	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 5.93
14	2	Wildwood Elementary	231	Kindergarten Berardi	2x4 4L F32 T8		16	128		2048	Relamp 4L F32T8 25w		$ -	16	100	1600	2500	448	1120	177.0709943	$ 177.07	
15	2	Wildwood Elementary	231	Kindergarten Berardi	2x2 2L F17 T8		6	34		204	No Measure		$ -	6	34	204	2500	0	0	0	$ -	
16	2	Wildwood Elementary	231	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 213.91
17	2	Wildwood Elementary	206	Classroom Martin	2x4 4L F32 T8		12	128	61	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80	
18	2	Wildwood Elementary	206	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29
19	2	Wildwood Elementary	205	Speech	2x2 2L F17 T8		8	34		272	No Measure		$ -	8	34	272	2500	0	0	0	$ -	
20	2	Wildwood Elementary	205	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 32.25
21	2	Wildwood Elementary	204	Resource	2x2 2L F17 T8		8	34		272	No Measure		$ -	8	34	272	2500	0	0	0	$ -	
22	2	Wildwood Elementary	204	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 32.25
23	2	Wildwood Elementary	201	Classroom Mason	2x4 4L F32 T8		12	128	58	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80	
24	2	Wildwood Elementary	201	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29
25	2	Wildwood Elementary	202	Classroom Johnson	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80	
26	2	Wildwood Elementary	202	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29
27	2	Wildwood Elementary	203	Classroom Munday	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80	
28	2	Wildwood Elementary	203	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29
29	2	Wildwood Elementary		Hallway	2x4 4L F32 T8		10	128		1280	Relamp 4L F32T8 25w		$ -	10	100	1000	4000	280	1120	177.0709943	$ 177.07	
30	2	Wildwood Elementary		Hallway	2x4 2L F32 T8		2	64		128	Relamp 2L F32T8 25w		$ -	2	50	100	4000	28	112	17.70709943	$ 17.71	
31	2	Wildwood Elementary	230	G and T Siddron	2x4 3L F34 T12		7	102		714	Relamp and Reballast 3L F32T8 25w	10	$ 70.00	7	75	525	2500	189	472.5	74.70182574	$ 74.70	
32	2	Wildwood Elementary	230	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 62.25
33	2	Wildwood Elementary	230	Office Kiely	2x4 3L F32 T12		4	96		384	Relamp 3L F32T8 25w		$ -	4	75	300	3000	84	252	39.84097373	$ 39.84	
34	2	Wildwood Elementary	230	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 42.69
35	2	Wildwood Elementary	230	CST	2x4 3L F34 T12		3	102		306	Relamp and Reballast 3L F32T8 25w	10	$ 30.00	3	75	225	2500	81	202.5	32.01506817	$ 32.02	
36	2	Wildwood Elementary	230	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 26.68
37	2	Wildwood Elementary	229	Classroom Corn	2x4 4L F34 T12		12	136		1632	Retrofit 2L F32T8 25w/Electronic Ballast & Reflector	20	$ 240.00	12	50	600	2500	1032	2580	407.8956834	$ 407.90	
38	2	Wildwood Elementary	229	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 71.14
39	2	Wildwood Elementary		Boys Room	Wrap 4L F34 T12		2	136		272	Retrofit 2L F32T8 25w/Electronic Ballast & Reflector	20	$ 40.00	2	50	100	2000	172	344	54.38609112	$ 54.39	
40	2	Wildwood Elementary		Slop Sink	23w CFL		1	23		23	No Measure		$ -	1	23	23	1000	0	0	0	$ -	
41	2	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.09
42	2	Wildwood Elementary		Girls Room	Wrap 4L F34 T12		2	136		272	Retrofit 2L F32T8 25w/Electronic Ballast & Reflector	20	$ 40.00	2	50	100	2000	172	344	54.38609112	$ 54.39	
43	2	Wildwood Elementary	228	Classroom Dietrick	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80	
44	2	Wildwood Elementary	228	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29
45	2	Wildwood Elementary	210	Resource	2x4 4L F34 T12		12	136		1632	Retrofit 2L F32T8 25w/Electronic Ballast & Reflector	20	$ 240.00	12	50	600	2500	1032	2580	407.8956834	$ 407.90	
46	2	Wildwood Elementary	210	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 71.14
47	2	Wildwood Elementary	227	Conference	2x4 4L F32 T8		5	128		640	Relamp 4L F32T8 25w		$ -	5	100	500	2500	140	350	55.33468573	$ 55.33	
48	2	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 59.29
49	2	Wildwood Elementary	226	Guidance	2x4 4L F32 T8		4	128		512	Relamp 4L F32T8 25w		$ -	4	100	400	2500	112	280	44.26774858	$ 44.27	
50	2	Wildwood Elementary	226	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 47.43
51	2	Wildwood Elementary	225	Computer Lab	2x4 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94	
			225	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 166.00
				Boys Room	Wrap 2L F34 T12		14	68		952	Relamp and Reballast 2L F32T8 25w	10	$ 140.00	14	50	700	2000	252	504	79.68194745	$ 79.68	
				Boys Room	Wrap 1L F34 T12		1	34		34	Relamp and Reballast 1L F32T8 25w	10	$ 10.00	1	25	25	2000	9	18	2.845783838	$ 2.85	
				Boys Room	100w A		1	100		100	20w Spring CFL		$ -	1	20	20	2000	80	160	25.29585633	$ 25.30	
			224	Classroom Lederman	Wrap 4L F32 T8		19	128		2432	Relamp 4L F32T8 25w		$ -	19	100	1900	2500	532	1330	210.2718058	$ 210.27	
			224	Classroom Lederman	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79	
			224	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 225.29
			223	Classroom Presuto	Wrap 4L F32 T8		18	128		2304	Relamp 4L F32T8 25w		$ -	18	100	1800	2500	504	1260	199.2048686	$ 199.20	
			223	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 213.43
			222	Classroom Murphy	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94	
			222	Classroom Murphy	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79	
			222	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 166.00
			222	Classroom Murphy Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79	
			222	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.78
			221	Classroom Klein	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94	
			221	Classroom Klein	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23	

68	2	Wildwood Elementary	221	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
69	2	Wildwood Elementary	221	Classroom Klein Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
70	2	Wildwood Elementary	221	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
71	2	Wildwood Elementary	220	Classroom Santana	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
72	2	Wildwood Elementary	220	Classroom Santana	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
73	2	Wildwood Elementary	220	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
74	2	Wildwood Elementary	220	Classroom Santana Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
75	2	Wildwood Elementary	220	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
76	2	Wildwood Elementary	219	Classroom Palazzi	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
77	2	Wildwood Elementary	219	Classroom Palazzi	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
78	2	Wildwood Elementary	219	Classroom Palazzi Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
79	2	Wildwood Elementary	218	Classroom Lorber	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
80	2	Wildwood Elementary	218	Classroom Lorber	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
81	2	Wildwood Elementary	218	Classroom Lorber Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
82	2	Wildwood Elementary	218	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 166.00
83	2	Wildwood Elementary	217	Classroom Remmler	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
84	2	Wildwood Elementary	217	Classroom Remmler	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
85	2	Wildwood Elementary	217	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
86	2	Wildwood Elementary	217	Classroom Remmler Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
87	2	Wildwood Elementary	217	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
88	2	Wildwood Elementary	216	Classroom O'Boyle	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
89	2	Wildwood Elementary	216	Classroom O'Boyle	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
90	2	Wildwood Elementary	216	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
91	2	Wildwood Elementary	216	Classroom O'Boyle Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
92	2	Wildwood Elementary	216	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
93	2	Wildwood Elementary	215	Classroom Cetta	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
94	2	Wildwood Elementary	215	Classroom Cetta	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
95	2	Wildwood Elementary	215	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
96	2	Wildwood Elementary	215	Classroom Cetta Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
97	2	Wildwood Elementary	215	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
98	2	Wildwood Elementary	214	Classroom Gorzelnik	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
99	2	Wildwood Elementary	214	Classroom Gorzelnik	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
100	2	Wildwood Elementary	214	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
101	2	Wildwood Elementary	214	Classroom Gorzelnik Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
102	2	Wildwood Elementary	214	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
103	2	Wildwood Elementary	213	Classroom Brown	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
104	2	Wildwood Elementary	213	Classroom Brown	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
105	2	Wildwood Elementary	213	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
106	2	Wildwood Elementary	213	Classroom Brown Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
107	2	Wildwood Elementary	213	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
108	2	Wildwood Elementary	212	Classroom Jones	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
109	2	Wildwood Elementary	212	Classroom Jones	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
110	2	Wildwood Elementary	212	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
111	2	Wildwood Elementary	212	Classroom Jones Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
112	2	Wildwood Elementary	212	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
113	2	Wildwood Elementary	211	Classroom Marangi	Wrap 4L F32 T8		14	128		1792	Relamp 4L F32T8 25w		$ -	14	100	1400	2500	392	980	154.93712	$ 154.94		
114	2	Wildwood Elementary	211	Classroom Marangi	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
115	2	Wildwood Elementary	211	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 166.00
116	2	Wildwood Elementary	211	Classroom Marangi Bathroom	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	2500	45	112.5	17.78614898	$ 17.79		
117	2	Wildwood Elementary	211	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 1.78
118	2	Wildwood Elementary		Media Center Open Area	1x4 2L F34 T12		64	68		4352	Relamp and Reballast 2L F32T8 25w	10	$ 640.00	64	50	3200	9000	1152	3456	546.3904968	$ 546.39		
119	2	Wildwood Elementary		Media Center Open Area	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
120	2	Wildwood Elementary		Copy Room	Wrap 2L F34 T12		4	68		272	Relamp and Reballast 2L F32T8 25w	10	$ 40.00	4	50	200	2500	72	180	28.45783888	$ 28.46		
121	2	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 23.71
122	2	Wildwood Elementary		Hallway	Wrap 2L F34 T12		1	68		68	Relamp and Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	4000	18	72	11.38313535	$ 11.38		
123	2	Wildwood Elementary		Hallway	Wrap 4L F34 T12		1	136		136	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 20.00	1	50	50	4000	86	344	54.39609112	$ 54.39		
124	2	Wildwood Elementary		Hallway	2x4 4L F34 T12		10	136		1360	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 200.00	10	50	500	4000	860	3440	543.8609112	$ 543.86		
125	2	Wildwood Elementary		Hallway	2x4 4L F32 T8		16	128		2048	Relamp 4L F32T8 25w		$ -	16	100	1600	4000	448	1792	283.3135909	$ 283.31		
126	2	Wildwood Elementary		Hallway	Exit Sign 1L PL13		5	13		65	New LED Exit Sign	10	$ 50.00	5	2	10	8760	55	461.8	76.17214739	$ 76.17		
127	1	Wildwood Elementary	114	Classroom	2x4 3L F34 T12		12	102		1224	Relamp and Reballast 3L F32T8 25w	10	$ 120.00	12	75	900	2500	324	810	128.0502727	$ 128.06		
128	1	Wildwood Elementary	114	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 106.72
129	1	Wildwood Elementary	114	Bathroom	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	1500	55	82.5	13.04917592	$ 13.04		
130	1	Wildwood Elementary	113	Classroom	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80		
131	1	Wildwood Elementary	113	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 142.29
132	1	Wildwood Elementary		Special Services	2x4 3L F34 T12		8	102		816	Relamp and Reballast 3L F32T8 25w	10	$ 80.00	8	75	600	2500	216	540	85.37351513	$ 85.37		
133	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 71.14
134	1	Wildwood Elementary		Special Services Office 1	2x4 3L F34 T12		2	102		204	Relamp and Reballast 3L F32T8 25w	10	$ 20.00	2	75	150	2500	54	135	21.34337878	$ 21.34		
135	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 17.79
136	1	Wildwood Elementary		Special Services Office 2	2x4 3L F34 T12		2	102		204	Relamp and Reballast 3L F32T8 25w	10	$ 20.00	2	75	150	2500	54	135	21.34337878	$ 21.34		
137	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 17.79
138	1	Wildwood Elementary		Boys Room	Wrap 4L F34 T12		2	136		272	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 40.00	2	50	100	2000	172	344	54.39609112	$ 54.39		
139	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 9.49
140	1	Wildwood Elementary		Slop Sink	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	1000	45	45	7.114459594	$ 7.11		
141	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 0.71
142	1	Wildwood Elementary	112	Art Room	Wrap 4L F34 T12		16	136		2175	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 320.00	16	50	800	2500	1376	3440	543.8609112	$ 543.86		
143	1	Wildwood Elementary	112	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 94.86
144	1	Wildwood Elementary		Girls Room	Wrap 4L F34 T12		2	136		272	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 40.00	2	50	100	2000	172	344	54.39609112	$ 54.39		
145	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 9.49
146	1	Wildwood Elementary		Storage	Wrap 4L F34 T12		4	136		544	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 80.00	4	50	200	1500	344	516	81.57913668	$ 81.58		
147	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 14.23
148	1	Wildwood Elementary	105	Teachers Work Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32T8 25w		$ -	3	75	225	2500	63	157.5	24.90060859	$ 24.90		
149	1	Wildwood Elementary	108	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1									$ 26.68
150	1	Wildwood Elementary	111	Music 1	2x4 3L F32 T8		12	96		1152	Relamp 3L F32T8 25w		$ -	12	75	900	2500	252	630	99.60243432	$ 99.60		
151	1	Wildwood Elementary	111	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1									$ 106.72

152	1	Wildwood Elementary	107	Music 2	2x4 4L F32 T8		11	128		1408	Relamp 4L F32T8 25w		$ -	11	100	1100	2500	308	770	121.7963066	$ 121.74		
153	1	Wildwood Elementary	107	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 130.43	
154	1	Wildwood Elementary		Girls Room	2x4 2L F32 T8		2	64		128	Relamp 2L F32T8 25w		$ -	2	50	100	2000	28	56	8.853549717	$ 8.85		
155	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 9.49	
156	1	Wildwood Elementary		Boys Room	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2000	14	28	4.428774858	$ 4.43		
157	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 4.74	
158	1	Wildwood Elementary		Multi-Purpose/Cafeteria	2x2 HID 400w		15	455		6825	New 2x2 6L F17T8	100	$ 1,500.00	15	102	1530	3000	5285	15885	2511.404237	$ 2,511.40		
159	1	Wildwood Elementary		Storage 1	Industrial 4L F32 T8		1	128		128	Relamp 4L F32T8 25w		$ -	1	100	100	1500	28	42	6.640162288	$ 6.64		
160	1	Wildwood Elementary		Storage 2	Industrial 4L F32 T8		9	128		1152	Relamp 4L F32T8 25w		$ -	9	100	900	1500	252	378	59.76146059	$ 59.76		
161	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 64.03	
162	1	Wildwood Elementary		Kitchen	2x4 4L F32 T8		10	128		1280	Relamp 4L F32T8 25w		$ -	10	100	1000	2500	280	700	110.6693715	$ 110.67		
163	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 116.57	
164	1	Wildwood Elementary		Back Stairs	2x4 4L F34 T12		2	136		272	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 40.00	2	50	100	8760	172	1506.72	238.2110791	$ 238.21		
165	1	Wildwood Elementary		Back Stairs	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	8760	55	481.8	76.17214739	$ 76.17		
166	1	Wildwood Elementary		Back Stairs	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
167	1	Wildwood Elementary		Common Hall	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	4000	336	1344	212.4851932	$ 212.49		
168	1	Wildwood Elementary		Common Hall	2x4 4L F34 T12		12	136		1632	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 240.00	12	50	600	4000	1032	4128	652.6330934	$ 652.63		
169	1	Wildwood Elementary		Common Hall	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
170	1	Wildwood Elementary		Teachers Room	2x4 4L F34 T12		4	136		544	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 80.00	4	50	200	8000	344	1032	163.1582734	$ 163.16		
171	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 28.46	
172	1	Wildwood Elementary		Mechanical Closet	Wrap 2L F34 T12		1	68		68	Relamp and Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	1500	18	27	4.266875758	$ 4.27		
173	1	Wildwood Elementary		Book Room	2x4 2L F34 T12		1	68		68	Relamp and Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	2500	18	45	7.114459594	$ 7.11		
174	1	Wildwood Elementary		Custodial Office	Wrap 2L F34 T12		2	68		136	Relamp and Reballast 2L F32T8 25w	10	$ 20.00	2	50	100	1500	36	54	8.537351513	$ 8.54		
175	1	Wildwood Elementary		Tool Room	Wrap 1L F34 T12		1	34		34	Relamp and Reballast 1L F32T8 25w	10	$ 10.00	1	25	25	2500	9	22.5	3.557229797	$ 3.56		
176	1	Wildwood Elementary		Janitor Bathroom	Wrap 1L F34 T12		1	34		34	Relamp and Reballast 1L F32T8 25w	10	$ 10.00	1	25	25	1500	9	13.5	2.134337878	$ 2.13		
177	1	Wildwood Elementary		Boiler Room	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
178	1	Wildwood Elementary		Boiler Room	Wrap 2L F34 T12		8	68		544	Relamp and Reballast 2L F32T8 25w	10	$ 80.00	8	50	400	4000	144	576	91.0650829	$ 91.07		
179	1	Wildwood Elementary		Supply Room	2x4 4L F32 T8		3	128		384	Relamp 4L F32T8 25w		$ -	3	100	300	1500	84	126	19.92048686	$ 19.92		
180	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 21.34	
181	1	Wildwood Elementary		Girls Room	2x4 2L F32 T8		3	64		192	Relamp 2L F32T8 25w		$ -	3	50	150	2000	42	84	13.28032458	$ 13.28		
182	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 14.23	
183	1	Wildwood Elementary		Slop Sink	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	1000	14	14	2.213397429	$ 2.21		
184	1	Wildwood Elementary		Boys Room	2x4 2L F32 T8		3	64		192	Relamp 2L F32T8 25w		$ -	3	50	150	2000	42	84	13.28032458	$ 13.28		
185	1	Wildwood Elementary		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 14.23	
186	1	Wildwood Elementary	101	Gym	250w 2x2 Lay In		24	288		6912	New 2x2 6L F17T8	59	$ 1,200.00	24	102	2448	2000	4464	8928	1411.508783	$ 1,411.51		
187	1	Wildwood Elementary	101	Gym	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	30.46895895	$ 30.47		
188	1	Wildwood Elementary		Stage	Wrap 2L F32 T8		30	64		1920	Relamp 2L F32T8 25w		$ -	30	50	1500	1500	420	630	99.60243432	$ 99.60		
189	1	Wildwood Elementary		Storage	2x4 4L F32 T8		4	128		512	Relamp 4L F32T8 25w		$ -	4	100	400	1500	112	168	26.56064915	$ 26.56		
190	1	Wildwood Elementary		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 26.46	
191	1	Wildwood Elementary		Office	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	3000	14	42	6.640162288	$ 6.64		
192	1	Wildwood Elementary		Office	2x4 2L F34 T12		1	68		68	Relamp and Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	3000	18	54	8.537351513	$ 8.54		
193	1	Wildwood Elementary	104	Classroom	2x4 4L F32 T8		12	128	56	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80		
194	1	Wildwood Elementary	104	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29	
195	1	Wildwood Elementary	103	Classroom	2x4 4L F32 T8		12	128	56	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	132.8032458	$ 132.80		
196	1	Wildwood Elementary	103	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 142.29	
197	1	Wildwood Elementary		Stairs 1	2x2 2L F32 T8		4	64		256	Relamp 2L F32T8 25w		$ -	4	50	200	8760	56	490.56	77.55709552	$ 77.56		
198	1	Wildwood Elementary		Stairs 1	2x2 2L F17 T8		1	34		34	No Measure		$ -	1	34	34	8760	0	0	0	$ -		
199	1	Wildwood Elementary		Common Hall	2x4 4L F32 T8		11	128		1408	Relamp 4L F32T8 25w		$ -	11	100	1100	4000	308	1232	194.7780936	$ 194.78		
200	1	Wildwood Elementary		Common Hall	2x4 2L F32 T8		2	64		128	Relamp 2L F32T8 25w		$ -	2	50	100	4000	28	112	17.70709943	$ 17.71		
201		Wildwood Elementary		Stairs 2	Wrap 4L F34 T12		3	136		408	Retrofit 2L F32T8 25w Electronic Ballast & Reflector	20	$ 60.00	3	50	150	8760	259	2260.08	357.3186186	$ 357.32		
202		Wildwood Elementary		Stairs 2	60w A		1	60		60	15w Spring CFL		$ -	1	15	15	8760	45	394.2	62.32266604	$ 62.32		
203		Wildwood Elementary		Stairs 2	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	15.23442948	$ 15.23		
204		Wildwood Elementary		Elevator	Strip 2L F34 T12		1	68		68	Relamp and Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	8760	18	157.68	24.92906642	$ 24.93		
205		Wildwood Elementary		Elevator	Strip 2L F20 T12		1	40		40	Relamp and Reballast 2L F17T8 17w	10	$ 10.00	1	34	34	8760	6	52.56	8.309688806	$ 8.31		
206										0			$ -	0									
										101,035			$ 9,020.00										

KW SAVED >>>> 34.76 97016.88 15338.28 $ 15,338.28 $ 5,435.00

Total Cost Savings $ 20,773.28

Total kWh Savings 131,394.03

Electric Rate:	$0.158

$0.15 is used as an average when actual rate is not provided

UHS Lighting Services

"Your Lighting is in Good Hands"

Mountain Lakes - School for the Deaf
10 Lake Drive
Mountain Lakes, NJ 07046

New Jersey

Accu-Audit SM

UTILITY ACCOUNT NUMBER	
BUILDING NAME	Lake Drive School for the Deaf
SQUARE FOOTAGE	14,500

Line #	Floor #	Building	ROOM #	Room Description	Existing Fixture Description																	
1	B	Lake Drive School		Main Office	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	3000	216	648	113.5559484	$ 113.56	
2	B	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 94.63
3	B	Lake Drive School		Office	2x4 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	3000	81	243	42.58348065	$ 42.58	
4	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 35.49
5	B	Lake Drive School		Copy Room	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	3000	18	54	9.462995701	$ 9.46	
6	B	Lake Drive School		Mail Area	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	3000	72	216	37.8519828	$ 37.85	
7	B	Lake Drive School		Kitchen	2x4 4L F34 T12		1	136		136	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	100	100	3000	36	108	18.9259914	$ 18.93	
8	B	Lake Drive School		Nurse	2x2 2L FB34U6 T12		2	68		136	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 40.00	2	34	68	3000	68	204	35.74909487	$ 35.75	
9	B	Lake Drive School		Bathroom	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	2000	34	68	11.91636496	$ 11.92	
10	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 3.57
11	B	Lake Drive School		Hallway	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	4000	72	288	50.4693104	$ 50.47	
12	B	Lake Drive School		Hallway	2x4 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	4000	81	324	56.77797421	$ 56.78	
13	B	Lake Drive School		Hallway	Exit Sign 1L PL13		3	13		39	New LED Exit Sign	10	$ 30.00	3	2	6	8760	33	289.08	50.65857032	$ 50.66	
14	B	Lake Drive School		Supply Closet	Wrap 1L F34 T12		1	34		34	Relamp & Reballast 1L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	25	25	1000	9	9	1.57716595	$ 1.58	
15	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.31
16	B	Lake Drive School		Boys Room	Wrap 1L F34 T12		1	34		34	Relamp & Reballast 1L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	25	25	2000	9	18	3.1543319	$ 3.15	
17	B	Lake Drive School		Boys Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	22.0803233	$ 22.08	
18	B	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 26.29
19	B	Lake Drive School		Closet	Wrap 1L F34 T12		1	34		34	Relamp & Reballast 1L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	25	25	1500	9	13.5	2.365748925	$ 2.37	
20	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.97
21	B	Lake Drive School		Physical Education	Wrap 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	2500	72	180	31.543319	$ 31.54	
22	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 26.29
23	B	Lake Drive School		Boiler Room	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	4000	34	136	23.83272991	$ 23.83	
24	B	Lake Drive School		Boiler Room	Industrial 2L F34 T12		5	68		340	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 50.00	5	50	250	4000	90	360	63.08663801	$ 63.09	
25	B	Lake Drive School		Boiler Room	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	33.77238021	$ 33.77	
26	B	Lake Drive School		Gym	2x2 400w MH Surface Mt		15	455		6825	New 2x2 6L F17 T8/Electronic Ballast & Reflector	100	$ 1,500.00	15	102	1530	3000	5295	15885	2783.697902	$ 2,783.70	
27	B	Lake Drive School		Gym	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	33.77238021	$ 33.77	
28	B	Lake Drive School		Chungs Supply	Wrap 1L F34 T12		2	34		68	Relamp & Reballast 1L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	25	50	4000	18	72	12.6173276	$ 12.62	
29	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 10.51
30	B	Lake Drive School		Chungs Office	Wrap 4L F34 T12		3	136		408	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	100	300	4000	108	432	75.70396561	$ 75.70	
31	B	Lake Drive School		Audiological Open Area	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	3000	216	648	113.5559484	$ 113.56	
32	B	Lake Drive School		Audiological Open Area	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
33	B	Lake Drive School		Audiological Office	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	3000	72	216	37.8519828	$ 37.85	
34	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 31.54
35	B	Lake Drive School		Mechanical	Wrap 1L F34 T12		2	34		68	Relamp & Reballast 1L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	25	50	4000	18	72	12.6173276	$ 12.62	
36	B	Lake Drive School		Library	2x4 4L F34 T12		5	136		680	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 50.00	5	100	500	3000	180	540	94.62995701	$ 94.63	
37	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 78.86
38	B	Lake Drive School		Art Room	Wrap 4L F34 T12		10	136		1360	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 100.00	10	100	1000	2500	360	900	157.716595	$ 157.72	
39	B	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 131.43
40	B	Lake Drive School	14	Classroom	2x4 4L F32 T8		10	128	65	1280	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 100.00	10	100	1000	2500	280	700	122.6684628	$ 122.67	
41	B	Lake Drive School	14	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 131.43
42	B	Lake Drive School		Microwave	Wrap 4L F32 T8		1	128		128	Relamp 4L F32 T8 25w		$ -	1	75	75	3000	53	159	27.86326512	$ 27.86	
43	B	Lake Drive School	17	Classroom	Wrap 4L F32 T8		6	128	63	768	Relamp 4L F32 T8 25w		$ -	6	75	450	2500	318	795	139.3163256	$ 139.32	
44	B	Lake Drive School	17	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 59.14
45	B	Lake Drive School		EIP 1	2x2 2L FB32U6 T8		4	64		256	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 80.00	4	34	136	2500	120	300	52.57219834	$ 52.57	
46	B	Lake Drive School		EIP 1	65w R30 Dimming		8	65		520	15w PAR30 CFL Dimming	7	$ 56.00	8	15	120	2500	400	1000	175.2406611	$ 175.24	
47	B	Lake Drive School		EIP 2	2x2 2L FB34U6 T12		2	68		136	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 40.00	2	34	68	2500	68	170	29.79091239	$ 29.79	
48	B	Lake Drive School		EIP 2	65w R30 Dimming		4	65		260	15w PAR30 CFL Dimming	7	$ 28.00	4	15	60	2500	200	500	87.62033056	$ 87.62	
49	B	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 16.82
50	B	Lake Drive School	11	Classroom	2x4 4L F32 T8		10	128	78	1280	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 100.00	10	100	1000	2500	280	700	122.6684628	$ 122.67	
51	B	Lake Drive School	11	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 131.43
52	B	Lake Drive School	11	Classroom Bath	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	1500	18	27	4.73149785	$ 4.73	
53	B	Lake Drive School	11	Classroom Bath	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	1500	34	51	8.937273716	$ 8.94	
54	B	Lake Drive School	11	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 6.62
55	B	Lake Drive School		Hallway	2x4 3L F34 T12		4	102		408	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 40.00	4	75	300	4000	108	432	75.70396561	$ 75.70	
56	B	Lake Drive School		Girls Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	22.0803233	$ 22.08	
57	S	Lake Drive School		Stairs	Wrap 3L F34 T12		2	102		204	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	75	150	8760	54	473.04	82.89584234	$ 82.90	
58	S	Lake Drive School		Stairs	Wrap 2L F34 T12		3	68		204	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	50	150	8760	54	473.04	82.89584234	$ 82.90	
59	S	Lake Drive School		Stairs	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
60	1	Lake Drive School		Trailer	Wrap 2L F34 T12		16	68		1088	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 160.00	16	50	800	2000	288	576	100.9386208	$ 100.94	
61	1	Lake Drive School	6	Classroom	2x4 4L F34 T12		9	136	45	1224	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 90.00	9	100	900	2500	324	810	141.9449355	$ 141.94	
62	1	Lake Drive School	6	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 118.29
63	1	Lake Drive School		Hallway	2x4 4L F34 T12		13	136		1768	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 130.00	13	100	1300	4000	468	1872	328.0505176	$ 328.05	
64	1	Lake Drive School		Hallway	Exit Sign 1L PL13		3	13		39	New LED Exit Sign	10	$ 30.00	3	2	6	8760	33	289.08	50.65857032	$ 50.66	
65	1	Lake Drive School	6A	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	2500	216	540	94.62995701	$ 94.63	
66	1	Lake Drive School	7	Classroom	2x4 4L F34 T12		12	136	36	1632	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 120.00	12	100	1200	2500	432	1080	189.259914	$ 189.26	
67	1	Lake Drive School	7	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 236.57

68	1	Lake Drive School	5	Classroom	2x4 4L F34 T12		12	136	42	1632	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 120.00	12	100	1200	2500	432	1080	189.259914	$ 189.26	
69	1	Lake Drive School	5	Classroom	Wrap 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	2500	36	90	15.7716595	$ 15.77	
70	1	Lake Drive School	5	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 170.86
71	1	Lake Drive School	4C	Speech	2x4 3L F34 T12		3	102	39	306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	2500	81	202.5	35.48623388	$ 35.49	
72	1	Lake Drive School	4C	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 29.57
73	1	Lake Drive School	4B	Classroom	2x4 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	2500	81	202.5	35.48623388	$ 35.49	
74	1	Lake Drive School	4B	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 29.57
75	1	Lake Drive School	4A	Classroom	2x4 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	2500	81	202.5	35.48623388	$ 35.49	
76	1	Lake Drive School	4A	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 29.57
77	1	Lake Drive School	4D	Classroom	2x4 4L F32 T8		3	128		384	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	100	300	2500	84	210	36.80053884	$ 36.80	
78	1	Lake Drive School	4D	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 39.43
79	1	Lake Drive School		Hallway	2x4 2L F34 T12		3	68		204	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	50	150	4000	54	216	37.8519828	$ 37.85	
80	1	Lake Drive School		Hallway	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	33.77238021	$ 33.77	
81	1	Lake Drive School	4E	CST	2x4 4L F32 T8		1	128		128	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	100	100	3000	28	84	14.72021553	$ 14.72	
82	1	Lake Drive School	4E	CST	65w R30 Dimming		4	65		260	15w PAR30 CFL Dimming	7	$ 28.00	4	15	60	3000	200	600	105.1443967	$ 105.14	
83	1	Lake Drive School	4E	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 25.23
84	1	Lake Drive School	7A	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	2500	216	540	94.62995701	$ 94.63	
85	1	Lake Drive School	7A	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 78.86
86	1	Lake Drive School	8	Classroom	2x4 4L F34 T12		13	136	51	1768	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 130.00	13	100	1300	2500	468	1170	205.0315735	$ 205.03	
87	1	Lake Drive School	8	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 170.86
88	1	Lake Drive School	8A	Vice Principal Office	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	3000	216	648	113.5559484	$ 113.56	
89	1	Lake Drive School	8A	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 94.63
90	1	Lake Drive School	3B	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	2500	216	540	94.62995701	$ 94.63	
91	1	Lake Drive School	3B	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 78.86
92	1	Lake Drive School	3A	Classroom	2x4 4L F34 T12		8	136		1088	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 80.00	8	100	800	2500	288	720	126.173276	$ 126.17	
93	1	Lake Drive School	3A	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 105.14
94	11	Lake Drive School	2	Classroom	2x4 4L F34 T12		10	136		1360	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 100.00	10	100	1000	2500	360	900	157.716595	$ 157.72	
95	1	Lake Drive School	2	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 131.43
96	1	Lake Drive School		Slop sink	90w PAR38		1	90		90	20w PAR38 CFL Dimming	7	$ 7.00	1	20	20	1000	70	70	12.26684628	$ 12.27	
97	1	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.05
98	1	Lake Drive School	1A	Social Work 1	2x4 4L F34 T12		1	136		136	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	100	100	2500	36	90	15.7716595	$ 15.77	
99	1	Lake Drive School	1A	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 13.14
100	1	Lake Drive School	1A	Social Work 2	2x4 4L F34 T12		1	136		136	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	100	100	2500	36	90	15.7716595	$ 15.77	
101		Lake Drive School	1A	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 13.14
102	1	Lake Drive School	1A	Classroom	2x4 4L F34 T12		12	136		1632	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 120.00	12	100	1200	2500	432	1080	189.259914	$ 189.26	
103	1	Lake Drive School	1A	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 157.72
104	1	Lake Drive School	1	Classroom Closet	2x4 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	1500	36	54	9.462995701	$ 9.46	
105	1	Lake Drive School	1	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 7.89
106	1	Lake Drive School	9	Classroom	2x4 4L F32 T8		12	128	67	1536	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 120.00	12	100	1200	2500	336	840	147.2021553	$ 147.20	
107	1	Lake Drive School	9	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 157.72
108	1	Lake Drive School	9	Office	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	3000	72	216	37.8519828	$ 37.85	
109	1	Lake Drive School	10	Classroom	2x4 4L F34 T12		12	136		1632	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 120.00	12	100	1200	2500	432	1080	189.259914	$ 189.26	
110	1	Lake Drive School	10	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 85.00	1								$ 157.72
111	1	Lake Drive School	10	Cubbies	2x4 4L F34 T12		3	136		408	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	100	300	2500	108	270	47.3149785	$ 47.31	
112	1	Lake Drive School	10	Bathroom	2x4 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	2000	18	36	6.308663801	$ 6.31	
113	1	Lake Drive School	10	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 5.26
114	1	Lake Drive School		Speech	Wrap 4L F34 T12		2	136		272	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	2500	72	180	31.543319	$ 31.54	
115	1	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 26.29
116	2	Lake Drive School		Girls Room	2x4 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	2000	18	36	6.308663801	$ 6.31	
117	2	Lake Drive School		Girls Room	2x2 2L FB34U6 T12		2	68		136	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 40.00	2	34	68	2000	68	136	23.83272991	$ 23.83	
118	2	Lake Drive School	13	Tech Lab	2x4 3L F34 T12		4	102		408	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 40.00	4	75	300	2500	108	270	47.3149785	$ 47.31	
119	2	Lake Drive School	13	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 39.43
120	2	Lake Drive School		Teachers Lounge	2x4 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	2500	18	45	7.885829751	$ 7.89	
121	2	Lake Drive School		Teachers Lounge	2x4 3L F34 T12		2	102		204	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	75	150	2500	54	135	23.65748926	$ 23.66	
122	2	Lake Drive School		Teachers Lounge	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	100	600	2500	216	540	94.62995701	$ 94.63	
123	2	Lake Drive School		Book Storage	2x4 2L F34 T12		7	68		476	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 70.00	7	50	350	1500	126	189	33.12048495	$ 33.12	
124	2	Lake Drive School		Auditorium	2x2 250w MH Lay-in		7	288		2016	New 2x2 4L F17 T8/Electronic Ballast & Reflector	50	$ 350.00	7	68	476	3000	1540	4620	809.6116544	$ 809.61	
125	2	Lake Drive School		Auditorium	90w PAR38		10	90		900	20w PAR38 CFL Dimming	7	$ 70.00	10	20	200	1500	700	1050	184.0026942	$ 184.00	
126	2	Lake Drive School		Auditorium	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	33.77238021	$ 33.77	
127	2	Lake Drive School		Office 1	2x4 4L F32 T8		2	128		256	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	100	200	3000	56	168	29.44043107	$ 29.44	
128	2	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 31.54
129	2	Lake Drive School		Physical Therapy	2x4 4L F34 T12		14	136		1904	Relamp & Reballast 4L F32 T8 25w/Electronic Ballast	10	$ 140.00	14	100	1400	2500	504	1260	220.803233	$ 220.80	
130	2	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 184.00
131	2	Lake Drive School		Physical Therapy Bathroom	Wrap 4L F20 T12		1	80		80	Retrofit 2L F17 T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	1000	46	46	8.061070412	$ 8.06	
132	2	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.79
133	2	Lake Drive School		Attic 1	Wrap 2L F34 T12		3	68		204	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	50	150	1000	54	54	9.462995701	$ 9.46	
134	2	Lake Drive School		Office 2	90w PAR38		2	90		180	20w PAR38 CFL Dimming	7	$ 14.00	2	20	40	3000	140	420	73.60107767	$ 73.60	
135	2	Lake Drive School		Office 2	Wrap 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	3000	36	108	18.9259914	$ 18.93	
136	2	Lake Drive School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 22.08
137	2	Lake Drive School		Attic 2	Wrap 2L F34 T12		6	68		408	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	50	300	1000	108	108	18.9259914	$ 18.93	
138	2	Lake Drive School		Lake Side Café	2x4 3L F34 T12		7	102		714	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 70.00	7	75	525	3000	189	567	99.36145486	$ 99.36	
139	2	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 82.80
140	2	Lake Drive School		Mens room	2x4 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	2000	36	72	12.6173276	$ 12.62	
141	2	Lake Drive School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 10.51
142	2	Lake Drive School	33	Room	2x4 3L F34 T12		6	102		612	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 60.00	6	75	450	2500	162	405	70.97246776	$ 70.97	
143	2	Lake Drive School	33	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 59.14
144	2	Lake Drive School		Stair 1	Wrap 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	8760	36	315.36	55.26389489	$ 55.26	
145	2	Lake Drive School		Stair 1	Wrap 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	8760	81	709.56	124.3437635	$ 124.34	
146	2	Lake Drive School		Stair 1	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
147	2	Lake Drive School		Stair 2	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	8760	18	157.68	27.63194745	$ 27.63	
148	2	Lake Drive School		Stair 2	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
149	2	Lake Drive School		Stair 3	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 10.00	1	50	50	8760	18	157.68	27.63194745	$ 27.63	
150	2	Lake Drive School		Stair 3	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
151	2	Lake Drive School		Stair 4	Wrap 2L F34 T12		2	68		136	Relamp & Reballast 2L F32 T8 25w/Electronic Ballast	10	$ 20.00	2	50	100	8760	36	315.36	55.26389489	$ 55.26	
152	2	Lake Drive School		Stair 4	Wrap 3L F34 T12		3	102		306	Relamp & Reballast 3L F32 T8 25w/Electronic Ballast	10	$ 30.00	3	75	225	8760	81	709.56	124.3437635	$ 124.34	
153	2	Lake Drive School		Stair 4	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	16.88619011	$ 16.89	
154										0			$ -	0								
										53,989			$ 7,278.00			KW SAVED >>>>		20.17	58477.48	10247.632	$ 10,247.63	$ 3,097.45

Electric Rate:	$0.175

$0.15 is used as an average when actual rate is not provided

53322

Total Cost Savings $ 13,345.08

Total kWh Savings 76,152.88

UHS Lighting Services

"Your Lighting is in Good Hands"

Mountain Lakes High School
93 Powerville Road
Mountain Lakes, NJ 07046

New Jersey

Accu-Audit SM

UTILITY ACCOUNT NUMBER	
BUILDING NAME	Mountain Lakes High School
SQUARE FOOTAGE	150,000

Line #	Floor #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Energy Conservation Measure	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	1	Mt Lakes High School		Main Office	2x4 3L F32 T8		9	96		864	Relamp 3L F32 T8 25w		$ -	9	75	675	4000	189	756	111.132	$ 111.13	
2	1	Mt Lakes High School	152	Copy Room	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2500	42	105	15.435	$ 15.44	
3	1	Mt Lakes High School	152	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 16.54
4	1	Mt Lakes High School		Bathroom	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2000	21	42	6.174	$ 6.17	
5	1	Mt Lakes High School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 6.62
6	1	Mt Lakes High School	156	Office	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52	
7	1	Mt Lakes High School	156	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 19.85
8	1	Mt Lakes High School	158	Office	2x4 3L F32 T8		4	96	21	384	Relamp 3L F32 T8 25w		$ -	4	75	300	3000	84	252	37.044	$ 37.04	
9	1	Mt Lakes High School	158	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 39.69
10	1	Mt Lakes High School	159	Supply Room	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	1000	21	21	3.087	$ 3.09	
11	1	Mt Lakes High School	159	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 3.31
12	1	Mt Lakes High School	160	VP Office	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52	
13	1	Mt Lakes High School	160	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 19.85
14	1	Mt Lakes High School	164	Class Room	Wrap 4L F32 T8		18	128	90	2304	Relamp 4L F32 T8 25w		$ -	18	100	1800	2500	504	1260	185.22	$ 185.22	
15	1	Mt Lakes High School	164	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 198.45
16	1	Mt Lakes High School	166	Class Room	Wrap 2L F34 T12		18	64	17	1152	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 450.00	18	75	1350	2500	-198	-495	-72.765	$ (72.77)	
17	1	Mt Lakes High School	166	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 148.84
18	1	Mt Lakes High School	168	Class Room	Wrap 2L F34 T12		21	64	18	1344	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 525.00	21	75	1575	2500	-231	-577.5	-84.8925	$ (84.89)	
19	1	Mt Lakes High School	168	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 173.64
20	1	Mt Lakes High School	170	Class Room	Wrap 2L F32 T8		18	64	37	1152	Relamp 2L F32 T8 25w		$ -	18	50	900	2500	252	630	92.61	$ 92.61	
21	1	Mt Lakes High School	170	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 99.23
22	1	Mt Lakes High School	172	YBK	2x4 4L F32 T8		6	128		768	Relamp 4L F32 T8 25w		$ -	6	100	600	2500	168	420	61.74	$ 61.74	
23	1	Mt Lakes High School	172	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 66.15
24	1	Mt Lakes High School	174	Class Room	Wrap 2L F32 T8		27	64		1728	Relamp 2L F32 T8 25w		$ -	27	50	1350	2300	378	945	138.915	$ 138.92	
25	1	Mt Lakes High School	174	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 148.84
26	1	Mt Lakes High School	175	Class Room	Wrap 2L F32 T8		24	64		1536	Relamp 2L F32 T8 25w		$ -	24	50	1200	2500	336	840	123.48	$ 123.48	
27	1	Mt Lakes High School	175	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 132.30
28	1	Mt Lakes High School	171	Class Room	Wrap 2L F32 T8		30	64		1920	Relamp 2L F32 T8 25w		$ -	30	50	1500	2500	420	1050	154.35	$ 154.35	
29	1	Mt Lakes High School	171	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 165.38
30	1	Mt Lakes High School	173	Prep Room	Wrap 2L F32 T8		3	64		192	Relamp 2L F32 T8 25w		$ -	3	50	150	2500	42	105	15.435	$ 15.44	
31	1	Mt Lakes High School	173	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 16.54
32	1	Mt Lakes High School	169	Class Room	Wrap 2L F34 T12		21	64		1344	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 525.00	21	75	1575	2500	-231	-577.5	-84.8925	$ (84.89)	
33	1	Mt Lakes High School	169	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 173.64
34	1	Mt Lakes High School		Mens Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	18.522	$ 18.52	
35	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 19.85
36	1	Mt Lakes High School	165	Slop Sink	100w A		1	100		100	20w Spring CFL		$ -	1	20	20	1000	80	80	11.76	$ 11.76	
37	1	Mt Lakes High School	165	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 0.88
38	1	Mt Lakes High School		Womens Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	18.522	$ 18.52	
39	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 19.85
40	1	Mt Lakes High School		"100" Hall	2x4 3L F32 T8		16	96		1536	Relamp 3L F32 T8 25w		$ -	16	75	1200	4000	336	1344	197.568	$ 197.57	
41	1	Mt Lakes High School	220	Class Room	Indirect 3L F32 T8		14	96	28	1344	Relamp 3L F32 T8 25w		$ -	14	75	1050	2500	294	735	108.045	$ 108.05	
42	1	Mt Lakes High School	220	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 115.76
43	1	Mt Lakes High School	222	Class Room	Indirect 3L F32 T8		14	96		1344	Relamp 3L F32 T8 25w		$ -	14	75	1050	2500	294	735	108.045	$ 108.05	
44	1	Mt Lakes High School	222	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 115.76
45	1	Mt Lakes High School	218	Class Room	Wrap 2L F32 T8		30	64		1920	Relamp 2L F32 T8 25w		$ -	30	50	1500	2500	420	1050	154.35	$ 154.35	
46	1	Mt Lakes High School	218	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 165.38
47	1	Mt Lakes High School	216	Prep Room	Wrap 2L F32 T8		6	64		384	Relamp 2L F32 T8 25w		$ -	6	50	300	2500	84	210	30.87	$ 30.87	
48	1	Mt Lakes High School	214	Prep Room	Wrap 2L F32 T8		3	64		192	Relamp 2L F32 T8 25w		$ -	3	50	150	2500	42	105	15.435	$ 15.44	
49	1	Mt Lakes High School	212	Class Room	Wrap 2L F32 T8		30	64		1920	Relamp 2L F32 T8 25w		$ -	30	50	1500	2500	420	1050	154.35	$ 154.35	
50	1	Mt Lakes High School	212	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 165.38
51	1	Mt Lakes High School		Mens Faculty Bathroom	2x2 2L FB32 T8		1	64		64	Relamp 2L FB32 T8 U6 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06	
52	1	Mt Lakes High School		Womens Room	2x2 2L FB32 T8		1	64		64	Relamp 2L FB32 T8 U6 25w		$ -	1	50	50	2000	14	28	4.116	$ 4.12	
53	1	Mt Lakes High School	206	Class Room	Wrap 2L F32 T8		29	64		1856	Relamp 2L F32 T8 25w		$ -	29	50	1450	2500	406	1015	149.205	$ 149.21	
54	1	Mt Lakes High School	202	CST	Wrap 2L F32 T8		10	64	37	640	Relamp 2L F32 T8 25w		$ -	10	50	500	2500	140	350	51.45	$ 51.45	
55	1	Mt Lakes High School	202	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 55.13
56	1	Mt Lakes High School		Office	Recessed Can 15w R30 CFL		8	15		120	No Measure		$ -	8	15	120	3000	0	0	0	$ -	
57	1	Mt Lakes High School		"200" Hall	2x4 3L F32 T8		30	96		2880	Relamp 3L F32 T8 25w		$ -	30	75	2250	4000	630	2520	370.44	$ 370.44	
58	1	Mt Lakes High School		"200" Hall	Recessed Can 15w R30 CFL		2	15		30	No Measure		$ -	2	15	30	4000	0	0	0	$ -	
59	1	Mt Lakes High School	372	Electrical Room	Open Socket 20w CFL		1	20		20	No Measure		$ -	1	20	20	1000	0	0	0	$ -	
60	1	Mt Lakes High School	370	Special Education Office	Wrap 4L F34 T12		9	128		1152	Relamp & Reballast 4L F32 T8 25w	10	$ 90.00	9	100	900	2500	252	630	92.61	$ 92.61	
61	1	Mt Lakes High School	370	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 99.23
62	1	Mt Lakes High School	369	Office	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	3000	63	189	27.783	$ 27.78	
63	1	Mt Lakes High School	368	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 29.77
64	1	Mt Lakes High School	367	Class Room	Wrap 2L F34 T12		18	64		1152	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 450.00	18	75	1350	2500	-198	-495	-72.765	$ (72.77)	
65	1	Mt Lakes High School	366	FL Office	2x4 4L F34 T12		3	128		384	Relamp & Reballast 4L F32 T8 25w	10	$ 30.00	3	100	600	3000	84	252	37.044	$ 37.04	
66	1	Mt Lakes High School	366	Sensor Savings	Wall Mount		3			0	O/S Wall	20	$ 60.00	3								$ 39.69
67	1	Mt Lakes High School	364	Class Room	Wrap 2L F34 T12		18	64		1152	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 450.00	18	75	1350	2500	-198	-495	-72.765	$ (72.77)	

Line #	Floor #	School Building	ROOM #	Room Description	Existing Fixture Description		Exist Qty															
68	1	Mt Lakes High School	364	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 148.84
69	1	Mt Lakes High School	365	Class Room	Wrap 2L F34 T12		18	64		1152	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 450.00	18	75	1350	2500	-198	-495	-72.765	$ (72.77)	
70	1	Mt Lakes High School	365	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 148.84
71	1	Mt Lakes High School	363	Home Economics	Wrap 2L F32 T8		36	64		2304	Relamp 2L F32 T8 25w		$ -	36	50	1800	2500	504	1260	185.22	$ 185.22	
72	1	Mt Lakes High School	363	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 198.45
73	1	Mt Lakes High School	360	Computer Lab	Wrap 2L F34 T12		24	64		1536	New Wrap 3L F32T8 25w / Electronic Ballast*	25	$ 600.00	24	75	1800	2500	-264	-660	-97.02	$ (97.02)	
74	1	Mt Lakes High School	360	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 198.45
75	1	Mt Lakes High School	360	Office	1x4 2L F32 T8		7	64		448	Relamp 2L F32 T8 25w		$ -	7	50	350	3000	98	294	43.218	$ 43.22	
76	1	Mt Lakes High School	360	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 48.31
77	1	Mt Lakes High School	355	Resource Room 1	Wrap 2L F32 T8		8	64		512	Relamp 2L F32 T8 25w		$ -	8	50	400	2500	112	280	41.16	$ 41.16	
78	1	Mt Lakes High School	355	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 44.10
79	1	Mt Lakes High School	351	Resource Room 2	Wrap 2L F32 T8		8	64		512	Relamp 2L F32 T8 25w		$ -	8	50	400	2500	112	280	41.16	$ 41.16	
80	1	Mt Lakes High School		Mens Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	18.522	$ 18.52	
81	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 19.85
82	1	Mt Lakes High School		Slop Sink	100w A		1	100		100	20w Spring CFL		$ -	1	20	20	1000	80	80	11.76	$ 11.76	
83	1	Mt Lakes High School		Womens Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	18.522	$ 18.52	
84	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 19.85
85	1	Mt Lakes High School	350	Locked						0			$ -	0								
86	1	Mt Lakes High School	341	Art	Indirect 3L F32 T8		24	96		2304	Relamp 3L F32 T8 25w		$ -	24	75	1800	2500	504	1260	185.22	$ 185.22	
87	1	Mt Lakes High School	343	Storage	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	1000	42	42	6.174	$ 6.17	
88	1	Mt Lakes High School		Viewing Room	Wrap 2L F34 T12		1	64		64	Relamp & Reballast 2L F32 T8 25w	10	$ 10.00	1	50	50	2500	14	35	5.145	$ 5.15	
89	1	Mt Lakes High School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 5.51
90	1	Mt Lakes High School		Boys Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2500	63	157.5	23.1525	$ 23.15	
91	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 24.81
92	1	Mt Lakes High School	340	Slop Sink	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	1000	21	21	3.087	$ 3.09	
93	1	Mt Lakes High School	340	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 3.31
94	1	Mt Lakes High School		Girls Room	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2000	63	126	18.522	$ 18.52	
95	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 19.85
96	1	Mt Lakes High School	334	Class Room	Indirect 3L F32 T8		6	96		576	Relamp 3L F32 T8 25w		$ -	6	75	450	2500	126	315	46.305	$ 46.31	
97	1	Mt Lakes High School	334	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 49.61
98	1	Mt Lakes High School	333	Class Room	Indirect 3L F32 T8		8	96		768	Relamp 3L F32 T8 25w		$ -	8	75	600	2500	168	420	61.74	$ 61.74	
99	1	Mt Lakes High School	333	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
100	1	Mt Lakes High School	332	Class Room	Indirect 3L F32 T8		8	96		768	Relamp 3L F32 T8 25w		$ -	8	75	600	2500	168	420	61.74	$ 61.74	
101	1	Mt Lakes High School	332	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
102	1	Mt Lakes High School	330	Class Room	Indirect 3L F32 T8		8	96		768	Relamp 3L F32 T8 25w		$ -	8	75	600	2500	168	420	61.74	$ 61.74	
103	1	Mt Lakes High School	330	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
104	1	Mt Lakes High School	331	Class Room	Indirect 3L F32 T8		12	96	42	1152	Relamp 3L F32 T8 25w		$ -	12	75	900	2500	252	630	92.61	$ 92.61	
105	1	Mt Lakes High School	331	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 99.23
106	1	Mt Lakes High School	301	Band Room	Indirect 3L F32 T8		22	96		2112	Relamp 3L F32 T8 25w		$ -	22	75	1650	2000	462	924	135.828	$ 135.83	
107	1	Mt Lakes High School	301	Band Room	Recessed Can 2L 26w CFL		15	52		780	No Measure		$ -	15	52	780	2000	0	0	0	$ -	
108	1	Mt Lakes High School	301	Office 1	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26	
109	1	Mt Lakes High School	301	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 9.92
110	1	Mt Lakes High School	311	Office 2	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26	
111	1	Mt Lakes High School	311	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 9.92
112	1	Mt Lakes High School	309	Files	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2500	21	52.5	7.7175	$ 7.72	
113	1	Mt Lakes High School	309	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 8.27
114	1	Mt Lakes High School	303	Practice Room 1	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2500	21	52.5	7.7175	$ 7.72	
115	1	Mt Lakes High School	303	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 8.27
116	1	Mt Lakes High School	305	Practice Room 2	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2500	21	52.5	7.7175	$ 7.72	
117	1	Mt Lakes High School	305	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 8.27
118	1	Mt Lakes High School	307	Practice Room 3	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2500	42	105	15.435	$ 15.44	
119	1	Mt Lakes High School	307	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 16.54
120	1	Mt Lakes High School	302	Music	Indirect 3L F32 T8		18	96		1728	Relamp 3L F32 T8 25w		$ -	18	75	1350	2000	378	756	111.132	$ 111.13	
121	1	Mt Lakes High School	302	Music	2x2 2L FB32 T8		4	64		256	Relamp 2L FB32 T8 U6 25w		$ -	4	50	200	2000	56	112	16.464	$ 16.46	
122	1	Mt Lakes High School	324	Storage	2x4 3L F32 T8		4	96		384	Relamp 3L F32 T8 25w		$ -	4	75	300	1000	84	84	12.348	$ 12.35	
123	1	Mt Lakes High School		"300" Hall	2x4 3L F32 T8		29	96		2784	Relamp 3L F32 T8 25w		$ -	29	75	2175	4000	609	2436	358.092	$ 358.09	
124	1	Mt Lakes High School		"300" Hall	Exit Sign 1L PL13		3	13		39	New LED 2w Exit Sign	10	$ 30.00	3	2	6	8760	33	289.08	42.49476	$ 42.49	
125	1	Mt Lakes High School	403	Wood Shop	2x4 3L F32 T8		21	96		2016	Relamp 3L F32 T8 25w		$ -	21	75	1575	2500	441	1102.5	162.0675	$ 162.07	
126	1	Mt Lakes High School	401	Wood Shop	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2500	42	105	15.435	$ 15.44	
127	1	Mt Lakes High School	412	Cafeteria	2x4 4L F34 T12		6	128		768	Relamp & Reballast 4L F32 T8 25w	10	$ 60.00	6	100	600	2500	168	420	61.74	$ 61.74	
128	1	Mt Lakes High School	412	Cafeteria	2x2 HID 250w MH		20	288		5760	2x2 8L F17T8 Low Bay	50	$ 1,000.00	20	102	2040	2500	3720	9300	1367.1	$ 1,367.10	
129	1	Mt Lakes High School	412	Cafeteria	Exit Sign 1L PL13		4	13		52	New LED 2w Exit Sign	10	$ 40.00	4	2	8	8760	44	385.44	56.65968	$ 56.66	
130	1	Mt Lakes High School	404	Kitchen	Wrap 2L F34 T12		20	64		1280	Relamp & Reballast 2L F32 T8 25w	10	$ 200.00	20	50	1000	2500	280	700	102.9	$ 102.90	
131	1	Mt Lakes High School	404	Kitchen	Jelly Jar 100w A		4	100		400	20w Spring CFL		$ -	4	20	80	2500	320	800	117.6	$ 117.60	
132	1	Mt Lakes High School		Dishwash	2x4 4L F34 T12		4	128		512	Relamp & Reballast 4L F32 T8 25w	10	$ 40.00	4	100	400	2500	112	280	41.16	$ 41.16	
133	1	Mt Lakes High School		Office	2x4 4L F34 T12		1	128		128	Relamp & Reballast 4L F32 T8 25w	10	$ 10.00	1	100	100	3000	28	84	12.348	$ 12.35	
134	1	Mt Lakes High School		Pantry	Wrap 2L F34 T12		2	64		128	Relamp & Reballast 2L F32 T8 25w	10	$ 20.00	2	50	100	2500	28	70	10.29	$ 10.29	
135	1	Mt Lakes High School		Receiving	Wrap 4L F32 T8		6	128		768	Relamp 4L F32 T8 25w		$ -	6	100	600	4000	168	672	98.784	$ 98.78	
136	1	Mt Lakes High School		Receiving	Exit Sign 1L PL13		1	13		13	New LED 2w Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	14.16492	$ 14.16	
137	1	Mt Lakes High School		Slop Sink	90w PAR38		1	90		90	20w PAR38 CFL	7	$ 7.00	1	20	20	1000	70	70	10.29	$ 10.29	
138	1	Mt Lakes High School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 0.88
139	1	Mt Lakes High School		Mens Room	Jelly Jar 100w A		1	100		100	20w Spring CFL		$ -	1	20	20	2000	80	160	23.52	$ 23.52	
140	1	Mt Lakes High School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 1.76
141	1	Mt Lakes High School	557	Storage	Wrap 2L F34 T12		1	64		64	Relamp & Reballast 2L F32 T8 25w	10	$ 10.00	1	50	50	1000	14	14	2.058	$ 2.06	
142	1	Mt Lakes High School	557	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.21
143	1	Mt Lakes High School		Boiler Room	Wrap 2L F34 T12		14	64		896	Relamp & Reballast 2L F32 T8 25w	10	$ 140.00	14	50	700	4000	196	784	115.248	$ 115.25	
144	1	Mt Lakes High School		Boiler Room	Exit Sign 1L PL13		2	13		26	New LED 2w Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	28.32984	$ 28.33	
145	1	Mt Lakes High School		Teachers Lounge	Open Socket 20w CFL		6	20		120	No Measure		$ -	6	20	120	4000	0	0	0	$ -	
146	1	Mt Lakes High School		Maintenance	Wrap 2L F34 T12		2	64		128	Relamp & Reballast 2L F32 T8 25w	10	$ 20.00	2	50	100	4000	28	112	16.464	$ 16.46	
147	1	Mt Lakes High School	457	Storage	2x4 3L F34 T12		2	96		192	Relamp & Reballast 3L F32 T8 25w	10	$ 20.00	2	75	150	1000	42	42	6.174	$ 6.17	
148	1	Mt Lakes High School	455	CAD	Indirect 3L F32 T8		20	96		1920	Relamp 3L F32 T8 25w		$ -	20	75	1500	2500	420	1050	154.35	$ 154.35	
149	1	Mt Lakes High School	460	Office	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52	
150	1	Mt Lakes High School	460	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 19.85
151	1	Mt Lakes High School		Guidance Open Area	2x4 3L F32 T8		9	96		864	Relamp 3L F32 T8 25w		$ -	9	75	675	3000	189	567	83.349	$ 83.35	

152	1	Mt Lakes High School		Fax Room	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2500	42	105	15.435	$ 15.44		
153	1	Mt Lakes High School	452	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
154	1	Mt Lakes High School	452	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 19.95
155	1	Mt Lakes High School	452	Bathroom	Vanity 60w A	2	60		120	13w Spring CFL		$ -	2	15	30	2000	90	180	26.46	$ 26.46		
156	1	Mt Lakes High School	452	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 2.85
157	1	Mt Lakes High School	450	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
158	1	Mt Lakes High School	450	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
159	1	Mt Lakes High School	448	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
160	1	Mt Lakes High School	448	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
161	1	Mt Lakes High School	444	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
162	1	Mt Lakes High School	444	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
163	1	Mt Lakes High School	438	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
164	1	Mt Lakes High School	438	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
165	1	Mt Lakes High School	436	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
166	1	Mt Lakes High School	436	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
167	1	Mt Lakes High School	432	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
168	1	Mt Lakes High School	432	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
169	1	Mt Lakes High School	430	Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
170	1	Mt Lakes High School	430	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
171	1	Mt Lakes High School	428	Store	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	1000	21	21	3.087	$ 3.09		
172	1	Mt Lakes High School	428	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 3.31
173	1	Mt Lakes High School	440	Conference Room	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2500	42	105	15.435	$ 15.44		
174	1	Mt Lakes High School	440	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 16.54
175	1	Mt Lakes High School	445	Class Room	Indirect 9L F32 T8	20	96		1920	Relamp 3L F32 T8 25w		$ -	20	75	1500	2500	420	1050	154.35	$ 154.35		
176	1	Mt Lakes High School	445	Sensor Savings	Ceiling Mount	1			0	O/S Ceiling	35	$ 35.00	1									$ 165.38
177	1	Mt Lakes High School	435	Class Room	Indirect 3L F32 T8	20	96	45	1920	Relamp 3L F32 T8 25w		$ -	20	75	1500	2500	420	1050	154.35	$ 154.35		
178	1	Mt Lakes High School	435	Sensor Savings	Ceiling Mount	1			0	O/S Ceiling	35	$ 35.00	1									$ 165.38
179	1	Mt Lakes High School		Main Office	Indirect 3L F32 T8	14	96		1344	Relamp 3L F32 T8 25w		$ -	14	75	1050	3000	294	882	129.654	$ 129.65		
180	1	Mt Lakes High School		Sensor Savings	Ceiling Mount	1			0	O/S Ceiling	35	$ 35.00	1									$ 138.92
181	1	Mt Lakes High School		Office	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26		
182	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 9.92
183	1	Mt Lakes High School	421	Supply Room	2x4 2L F32 T8	2	64		128	Relamp 2L F32 T8 25w		$ -	2	50	100	1000	28	28	4.116	$ 4.12		
184	1	Mt Lakes High School	421	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 4.41
185	1	Mt Lakes High School	419	Copy Area	2x4 3L F32 T8	3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2500	63	157.5	23.1525	$ 23.15		
186	1	Mt Lakes High School	419	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 24.81
187	1	Mt Lakes High School	415	Mechanical Room	Wrap 2L F34 T12	2	64		128	Relamp & Reballast 2L F32 T8 25w	10	$ 20.00	2	50	100	4000	28	112	16.464	$ 16.46		
188	1	Mt Lakes High School		"400" Hall	2x4 3L F32 T8	23	96		2208	Relamp 3L F32 T8 25w		$ -	23	75	1725	4000	483	1932	284.004	$ 284.00		
189	1	Mt Lakes High School	552	Weight Room	2x4 3L F32 T8	9	96		864	Relamp 3L F32 T8 25w		$ -	9	75	675	3000	189	567	83.349	$ 83.35		
190	1	Mt Lakes High School	552	Sensor Savings	Ceiling Mount	1			0	O/S Ceiling	35	$ 35.00	1									$ 89.30
191	1	Mt Lakes High School	551	Maintenance Office	Wrap 2L F34 T12	2	64		128	Relamp & Reballast 2L F32 T8 25w	10	$ 20.00	2	50	100	4000	28	112	16.464	$ 16.46		
192	1	Mt Lakes High School		Gym 1	High Bay 8L 32w PL-T	25	256		6400	No Measure		$ -	25	256	6400	2500	0	0	0	$ -		
193	1	Mt Lakes High School		Gym 1	Exit Sign 1L PL13	4	13		52	New LED 2w Exit Sign	10	$ 40.00	4	2	8	8750	44	385.44	56.85988	$ 56.86		
194	1	Mt Lakes High School	540	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
195	1	Mt Lakes High School	540	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 19.95
196	1	Mt Lakes High School	542	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
197	1	Mt Lakes High School	542	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 19.95
198	1	Mt Lakes High School		Bathroom	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2000	21	42	6.174	$ 6.17		
199	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 6.62
200	1	Mt Lakes High School	546	Boys Locker/Bathroom	2x4 3L F32 T8	20	96		1920	Relamp 3L F32 T8 25w		$ -	20	75	1500	2500	420	1050	154.35	$ 154.35		
201	1	Mt Lakes High School	545	Storage	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	1000	21	21	3.087	$ 3.09		
202	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 3.31
203	1	Mt Lakes High School	544	Boys Team Room	Wrap 4L F32 T8	2	128		256	Relamp 4L F32 T8 25w		$ -	2	100	200	2500	56	140	20.58	$ 20.58		
204	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 22.05
205	1	Mt Lakes High School	543	Passthrough 1	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	4000	21	84	12.348	$ 12.35		
206	1	Mt Lakes High School		Passthrough 2	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	4000	21	84	12.348	$ 12.35		
207	1	Mt Lakes High School		Slop Sink	Wrap 2L F32 T8	1	64		64	Relamp 2L F32 T8 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06		
208	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 2.21
209	1	Mt Lakes High School	552	Girls Lockers/Bathroom	2x4 3L F32 T8	19	96		1824	Relamp 3L F32 T8 25w		$ -	19	75	1425	2500	399	997.5	146.6325	$ 146.63		
210	1	Mt Lakes High School		Girls Team Room	Wrap 4L F32 T8	2	128		256	Relamp 4L F32 T8 25w		$ -	2	100	200	2500	56	140	20.58	$ 20.58		
211	1	Mt Lakes High School		Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 22.05
212	1	Mt Lakes High School		Passthrough 1	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	4000	21	84	12.348	$ 12.35		
213	1	Mt Lakes High School		Passthrough 2	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	4000	21	84	12.348	$ 12.35		
214	1	Mt Lakes High School	529	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
215	1	Mt Lakes High School	529	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 19.95
216	1	Mt Lakes High School	531	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
217	1	Mt Lakes High School	531	Sensor Savings	Wall Mount	1			0	O/S Wall	20	$ 20.00	1									$ 19.95
218	1	Mt Lakes High School		Mens Room	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	2000	42	84	12.348	$ 12.35		
219	1	Mt Lakes High School		Sensor Savings	Ceiling Mount	1			0	O/S Ceiling	35	$ 35.00	1									$ 13.23
220	1	Mt Lakes High School		"500" Hall	2x4 3L F32 T8	20	96		1920	Relamp 3L F32 T8 25w		$ -	20	75	1500	4000	420	1680	248.96	$ 248.96		
221	1	Mt Lakes High School		"500" Hall	Recessed Can 1L 26w CFL	6	26		156	No Measure		$ -	6	26	156	4000	0	0	0	$ -		
222	1	Mt Lakes High School	510	Electrical Room	Wrap 2L F32 T8	2	64		128	Relamp 2L F32 T8 25w		$ -	2	50	100	1000	28	28	4.116	$ 4.12		
223	1	Mt Lakes High School		Gym 2	High Bay 6L 32w PL-T	24	256		6144	No Measure		$ -	24	256	6144	2500	0	0	0	$ -		
224	1	Mt Lakes High School	502	Supply Room	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	1000	42	42	6.174	$ 6.17		
225	1	Mt Lakes High School	504	Treatment Facility	2x4 3L F32 T8	10	96		960	Relamp 3L F32 T8 25w		$ -	10	75	750	2500	210	525	77.175	$ 77.18		
226	1	Mt Lakes High School	508	Office	2x4 3L F32 T8	2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52		
227	1	Mt Lakes High School		Athletic Entrance	Recessed Can 2L 26w CFL	16	52		832	No Measure		$ -	16	52	832	4000	0	0	0	$ -		
228	1	Mt Lakes High School		Athletic Entrance	75w PAR30	5	75		375	15w PAR30 CFL	7	$ 35.00	5	15	75	4000	300	1200	176.4	$ 176.40		
229	1	Mt Lakes High School		Athletic Entrance	Recessed Can 1L 26w CFL	4	26		104	No Measure		$ -	4	26	104	4000	0	0	0	$ -		
230	1	Mt Lakes High School		Hall	Recessed Can 2L 26w CFL	4	52		208	No Measure		$ -	4	52	208	4000	0	0	0	$ -		
231	1	Mt Lakes High School		Hall	Wall Wash 1L F32 T8	9	32		288	Relamp 1L F32 T8 25w		$ -	9	25	225	4000	63	252	37.044	$ 37.04		
232	1	Mt Lakes High School	601	Mechanical Room	Wrap 2L F32 T8	1	64		64	Relamp 2L F32 T8 25w		$ -	1	50	50	4000	14	56	8.232	$ 8.23		
233	1	Mt Lakes High School		Auditorium	2x4 3L F32 T8	1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	2000	21	42	6.174	$ 6.17		
234	1	Mt Lakes High School		Auditorium	90w PAR38	128	90		11520	20w PAR38 CFL	7	$ 895.00	128	20	2560	2000	8960	17920	2634.24	$ 2,634.24		
235	1	Mt Lakes High School		Auditorium	2x4 4L F34 T12	4	128		512	Relamp & Reballast 4L F32 T8 25w	10	$ 40.00	4	100	400	2000	112	224	32.928	$ 32.93		

236	1	Mt Lakes High School		Auditorium	Exit Sign 1L PL13		4	13		52	New LED 2w Exit Sign	10	$ 40.00	4	2	8	8760	44	385.44	56.65968	$ 56.66	
237	1	Mt Lakes High School		Stage	High Bay 250w Metal Halide		8	288		2304	2x4 4L F32T8 32w/Electr. High Bay Fixture	50	$ 400.00	8	128	1024	1000	1280	1280	188.16	$ 188.16	
238	1	Mt Lakes High School		Stage	Exit Sign 1L PL13		1	13		13	New LED 2w Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	14.16492	$ 14.16	
239	1	Mt Lakes High School		Stage	Jelly Jar 100w A		1	100		100	20w Spring CFL		$ -	1	20	20	1000	80	80	11.76	$ 11.76	
240	1	Mt Lakes High School		Stage	Industrial 4L F32 T8		2	128		256	Relamp 4L F32 T8 25w		$ -	2	100	200	1000	56	56	8.232	$ 8.23	
241	1	Mt Lakes High School		Hall/Stairs	2x4 3L F32 T8		10	96		960	Relamp 3L F32 T8 25w		$ -	10	75	750	4000	210	840	123.48	$ 123.48	
242	1	Mt Lakes High School		Upstairs Open Area	2x4 3L F32 T8		3	96		288	Relamp 3L F32 T8 25w		$ -	3	75	225	2500	63	157.5	23.1525	$ 23.15	
243	1	Mt Lakes High School		Stairs	2x2 2L FB32 T8		6	64		384	Relamp 2L FB32 T8 U6 25w		$ -	6	50	300	1000	84	84	12.348	$ 12.35	
244	1	Mt Lakes High School		Upstairs Office	2x4 4L F32 T8		4	128		512	Relamp 4L F32 T8 25w		$ -	4	100	400	2500	112	280	41.16	$ 41.16	
245	1	Mt Lakes High School		Wardrobe	Jelly Jar 100w A		2	100		200	20w Spring CFL		$ -	2	20	40	1000	160	160	23.52	$ 23.52	
246	1	Mt Lakes High School		Main Entrance	2x4 3L F32 T8		10	96		960	Relamp 3L F32 T8 25w		$ -	10	75	750	4000	210	840	123.48	$ 123.48	
247	1	Mt Lakes High School		Main Entrance	1L F32 T8		15	32		480	Relamp 1L F32 T8 25w		$ -	15	25	375	4000	105	420	61.74	$ 61.74	
248	1	Mt Lakes High School		Main Entrance	Indirect 1L F54HO T5		6	54		324	No Measure		$ -	6	54	324	4000	0	0	0	$ -	
249	1	Mt Lakes High School		Main Entrance	Recessed Can 1L 23w CFL		28	23		644	No Measure		$ -	28	23	644	4000	0	0	0	$ -	
250	1	Mt Lakes High School	136	Social Studies	Indirect 3L F32 T8		25	96		2400	Relamp 3L F32 T8 25w		$ -	25	75	1875	2500	525	1312.5	192.9375	$ 192.94	
251	1	Mt Lakes High School	136	Office	2x4 3L F32 T8		1	96		96	Relamp 3L F32 T8 25w		$ -	1	75	75	3000	21	63	9.261	$ 9.26	
252	1	Mt Lakes High School	136	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 9.92
253	1	Mt Lakes High School		Media Center Entrance	90w PAR38		12	90		1080	20w PAR38 CFL	7	$ 84.00	12	20	240	3500	840	2940	432.18	$ 432.18	
254	1	Mt Lakes High School		Media Center Entrance	Recessed Can 2L 26w CFL		4	52		208	No Measure		$ -	4	52	208	3500	0	0	0	$ -	
255	1	Mt Lakes High School		Sitting Area	Recessed Can 2L 26w CFL		16	52		832	No Measure		$ -	16	52	832	2500	0	0	0	$ -	
256	1	Mt Lakes High School		Sitting Area	Indirect 3L F32 T8		40	96		3840	Relamp 3L F32 T8 25w		$ -	40	75	3000	2500	840	2100	308.7	$ 308.70	
257	1	Mt Lakes High School		Counter	100w A		4	100		400	20w Spring CFL		$ -	4	20	80	2500	320	800	117.6	$ 117.60	
258	1	Mt Lakes High School	133	Office	2x2 2L BIAX 40w		3	80		240	Relamp 2L BIAX 26w		$ -	3	52	156	3000	84	252	37.044	$ 37.04	
259	1	Mt Lakes High School	133	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 20.64
260	1	Mt Lakes High School	132	Office	2x2 2L Biax 40w		2	80		160	Relamp 2L FB32 T8 U6 25w		$ -	2	50	100	3000	60	180	26.46	$ 26.46	
261	1	Mt Lakes High School	132	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 13.23
262	1	Mt Lakes High School	131	Office	2x4 3L F32 T8		5	96		480	Relamp 3L F32 T8 25w		$ -	5	75	375	3000	105	315	46.305	$ 46.31	
263	1	Mt Lakes High School	131	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 49.61
264	1	Mt Lakes High School		Reference	Indirect 2L F54HO T5		44	108		4752	No Measure		$ -	44	108	4752	2500	0	0	0	$ -	
265	1	Mt Lakes High School		Lecture Area	Indirect 3L F32 T8		24	96		2304	Relamp 3L F32 T8 25w		$ -	24	75	1800	2500	504	1260	185.22	$ 185.22	
266	1	Mt Lakes High School	135	IT Closet	Wrap 2L F32 T8		1	64		64	Relamp 2L F32 T8 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06	
267	1	Mt Lakes High School	135	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.21
268	1	Mt Lakes High School	137	Supplies	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	1000	42	42	6.174	$ 6.17	
269	1	Mt Lakes High School	137	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 6.62
270	1	Mt Lakes High School	138	Office	2x4 3L F32 T8		2	96		192	Relamp 3L F32 T8 25w		$ -	2	75	150	3000	42	126	18.522	$ 18.52	
271	1	Mt Lakes High School	138	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 19.85
272	1	Mt Lakes High School	139	Conference Room	90w PAR38		23	90		2070	20w PAR38 CFL	7	$ 161.00	23	20	460	2500	1610	4025	591.675	$ 591.68	
273										0			$ -	0								
										147,616			$ 9,298.00		KW SAVED >>>>			36.89	92706.34	13627.83	$ 13,627.83	$ 4,547.61

110722

Electric Rate: $0.147

$0.15 is used as an average when actual rate is not provided

*New fixture w/additional lamp recommended to increase light levels

Total Cost Savings $ 18,175.45

Total kWh Savings 123,642.49

UHS Lighting Services

"Your Lighting is in Good Hands"

Mountain Lakes
93 Briarcliff Road
Mountain Lakes, NJ 07046

New Jersey

Accu-Audit SM

UTILITY ACCOUNT NUMBER	
BUILDING NAME	Briarcliff Middle School
SQUARE FOOTAGE	21,600

Line #	Floor	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exist Fix Watts	[illegible]	Total Watts	Energy Conservation Measure	Measure Code	Amount	Retro Qty	Retro Watts	Total Retro Watts	Hours	Watts Saved	KWH Saved	[illegible]	Annual $ Savings	Sensor $ Savings
1	1	Briarcliff Middle School		Main Office	2x4 4L F34 T12		5	136		680	Relamp & Reballast 4L F32T8 25w	10	$ 50.00	5	100	500	3500	180	630	92.61	$ 92.61	
2	1	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 77.18
3	1	Briarcliff Middle School		Copy Room	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	3000	18	54	7.938	$ 7.94	
4	1	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 6.62
5	1	Briarcliff Middle School		Office	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	3500	72	252	37.044	$ 37.04	
6	1	Briarcliff Middle School		Nurse	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	3500	72	252	37.044	$ 37.04	
7	1	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 30.87
8	1	Briarcliff Middle School		Nurse Bathroom	23w CFL		1	23		23	No Measure		$ -	1	23	23	1500	0	0	0	$ -	
9	1	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.52
10	1	Briarcliff Middle School	101	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38	
11	1	Briarcliff Middle School	101	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
12	1	Briarcliff Middle School		Girls Room	2x4 3L F34 T12		2	102		204	Relamp & Reballast 3L F32T8 25w	10	$ 20.00	2	75	150	2000	54	108	15.876	$ 15.88	
13	1	Briarcliff Middle School	102	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38	
14	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
15	1	Briarcliff Middle School		Dr. DeMuth	Locked					0			$ -	0								
16	1	Briarcliff Middle School	103	Classroom	2x4 4L F34 T12		8	136		1088	Relamp & Reballast 4L F32T8 25w	10	$ 80.00	8	100	800	2500	288	720	105.84	$ 105.84	
17	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 88.20
18	1	Briarcliff Middle School		Slop Sink	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	1000	18	18	2.646	$ 2.65	
19	1	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.21
20	1	Briarcliff Middle School		Boys Room	2x4 3L F34 T12		2	102		204	Relamp & Reballast 3L F32T8 25w	10	$ 20.00	2	75	150	2000	54	108	15.876	$ 15.88	
21	1	Briarcliff Middle School		Boys Room	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	2000	34	68	9.996	$ 10.00	
22	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 16.23
23	1	Briarcliff Middle School	104	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38	
24	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
25	1	Briarcliff Middle School	106	Classroom	2x4 4L F34 T12		8	136		1088	Relamp & Reballast 4L F32T8 25w	10	$ 80.00	8	100	800	2500	288	720	105.84	$ 105.84	
26	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 88.20
27	1	Briarcliff Middle School	107	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38	
28	1	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15
29	1	Briarcliff Middle School		Common Hall	2x4 3L F34 T12		12	102		1224	Relamp & Reballast 3L F32T8 25w	10	$ 120.00	12	75	900	4000	324	1296	190.512	$ 190.51	
30	1	Briarcliff Middle School		Common Hall	Exit Sign 1L PL13		3	13		39	New LED Exit Sign	10	$ 30.00	3	2	6	8760	33	289.08	42.49476	$ 42.49	
31	1	Briarcliff Middle School		Entrance	2x2 4L F20 T12		1	80		80	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	4000	46	184	27.048	$ 27.05	
32	1	Briarcliff Middle School		Entrance	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	14.16492	$ 14.16	
33	1	Briarcliff Middle School		Entrance	23w CFL		6	23		138	No Measure		$ -	6	23	138	4000	0	0	0	$ -	
34	1	Briarcliff Middle School		Gym	2x2 HID 250w Surface Mount		12	288		3456	New 2x2 6L F17T8/Electronic Pendent Mt	50	$ 600.00	12	102	1224	3000	2232	6696	984.312	$ 984.31	
35	1	Briarcliff Middle School		Gym	Exit Sign 1L PL13		4	13		52	New LED Exit Sign	10	$ 40.00	4	2	8	8760	44	385.44	56.65968	$ 56.66	
36	1	Briarcliff Middle School		Girls Room/Locker	Wrap 2L F34 T12		6	68		408	Relamp & Reballast 2L F32T8 25w	10	$ 60.00	6	50	300	2000	108	216	31.752	$ 31.75	
37	1	Briarcliff Middle School		Girls Room/Locker	2x2 4L F20 T12		3	80		240	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 60.00	3	34	102	2000	138	276	40.572	$ 40.57	
38	1	Briarcliff Middle School		Girls Room/Locker	Exit Sign 1L PL13		1	13		13	New LED Exit Sign	10	$ 10.00	1	2	2	8760	11	96.36	14.16492	$ 14.16	
39	1	Briarcliff Middle School		Stage	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	28.32984	$ 28.33	
40	1	Briarcliff Middle School		Stage	23w CFL		2	23		46	No Measure		$ -	2	23	46	1500	0	0	0	$ -	
41	1	Briarcliff Middle School		Stage Stairs	23w CFL		3	23	14	69	No Measure		$ -	3	23	69	1500	0	0	0	$ -	
42	1	Briarcliff Middle School		Sports Office	2x2 4L F20 T12		1	80		80	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	2000	46	92	13.524	$ 13.52	
43	1	Briarcliff Middle School		Sports Bathroom	23w CFL		2	23		46	No Measure		$ -	2	23	46	2000	0	0	0	$ -	
44	1	Briarcliff Middle School		Stairs 1	Wrap 2L F34 T12		2	68		136	Relamp & Reballast 2L F32T8 25w	10	$ 20.00	2	50	100	8760	36	315.36	46.35792	$ 46.36	
45	1	Briarcliff Middle School		Stairs 1	Wrap 4L F34 T12		1	136		136	Relamp & Reballast 4L F32T8 25w	10	$ 10.00	1	100	100	8760	36	315.36	46.35792	$ 46.36	
46	1	Briarcliff Middle School		Stairs 1	Wrap 2L F96T12		2	192		384	Relamp & Reballast 2L F96T8 59w	10	$ 20.00	2	118	236	8760	148	1296.48	190.58256	$ 190.58	
47	1	Briarcliff Middle School		Stairs 1	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	8760	55	481.8	70.8246	$ 70.82	
48	2	Briarcliff Middle School		Girls Room	2x4 3L F34 T12		2	102		204	Relamp & Reballast 3L F32T8 25w	10	$ 20.00	2	75	150	2000	54	108	15.876	$ 15.88	
49	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 13.23
50	2	Briarcliff Middle School	202A	Classroom	2x4 3L F34 T12		4	102		408	Relamp & Reballast 3L F32T8 25w	10	$ 40.00	4	75	300	2500	108	270	39.69	$ 39.69	
51	2	Briarcliff Middle School	202A	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 33.08
52	2	Briarcliff Middle School	201	Classroom	2x4 3L F34 T12		6	102		612	Relamp & Reballast 3L F32T8 25w	10	$ 60.00	6	75	450	2500	162	405	59.535	$ 59.54	
53	2	Briarcliff Middle School	201	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 49.61
54	2	Briarcliff Middle School	202B	Classroom	2x4 3L F34 T12		4	102		408	Relamp & Reballast 3L F32T8 25w	10	$ 40.00	4	75	300	2500	108	270	39.69	$ 39.69	
55	2	Briarcliff Middle School	202	Library	Wrap 4L F34 T12		24	136	26	3264	Relamp & Reballast 4L F32T8 25w	10	$ 240.00	24	100	2400	3000	864	2592	381.024	$ 381.02	
56	2	Briarcliff Middle School		Conference	2x4 4L F32 T8		12	128	62	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	3000	336	1008	148.176	$ 148.18	
57	2	Briarcliff Middle School	203B	Copy/Fax Room	2x4 3L F34 T12		3	102		306	Relamp & Reballast 3L F32T8 25w	10	$ 30.00	3	75	225	3000	81	243	35.721	$ 35.72	
58	2	Briarcliff Middle School	203B	Copy/Fax Room	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	3000	34	102	14.994	$ 14.99	
59	2	Briarcliff Middle School	203B	Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 34.27
60	2	Briarcliff Middle School	203A	Room	2x4 3L F34 T12		7	102		714	Relamp & Reballast 3L F32T8 25w	10	$ 70.00	7	75	525	2500	189	472.5	69.4575	$ 69.46	
61	2	Briarcliff Middle School	221	Classroom	2x4 4L F32 T8		6	128	65	768	Relamp 4L F32T8 25w		$ -	6	100	600	2500	168	420	61.74	$ 61.74	
62	2	Briarcliff Middle School		Slop Sink	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	1000	18	18	2.646	$ 2.65	
63	2	Briarcliff Middle School		Boys Room	2x4 3L F34 T12		1	102		102	Relamp & Reballast 3L F32T8 25w	10	$ 10.00	1	75	75	2000	27	54	7.938	$ 7.94	
64	2	Briarcliff Middle School		Boys Room	2x2 2L FB34U6 T12		2	68		136	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 40.00	2	34	68	2000	68	136	19.992	$ 19.99	
65	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 12.61
66	2	Briarcliff Middle School	205	Classroom	2x4 4L F32 T8		12	128	66	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	123.48	$ 123.48	
67	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 132.30

68	2	Briarcliff Middle School	204	Classroom	2x4 4L F34 T12		6	136	43	816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38		
69	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15	
70	2	Briarcliff Middle School	206	Classroom	2x4 4L F34 T12		8	136		1088	Relamp & Reballast 4L F32T8 25w	10	$ 80.00	8	100	800	2500	288	720	105.84	$ 105.84		
71	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 88.20	
72	2	Briarcliff Middle School	207	Classroom	2x4 4L F34 T12		6	136		816	Relamp & Reballast 4L F32T8 25w	10	$ 60.00	6	100	600	2500	216	540	79.38	$ 79.38		
73	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 66.15	
74	2	Briarcliff Middle School	208	Classroom	2x4 4L F32 T8		15	128	71	1920	Relamp 4L F32T8 25w		$ -	15	100	1500	2500	420	1050	154.35	$ 154.35		
75	2	Briarcliff Middle School		Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 165.38	
76	2	Briarcliff Middle School	209	Classroom & Prep	2x4 4L F32 T8		12	128		1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	123.48	$ 123.48		
77	2	Briarcliff Middle School	209	Classroom & Prep	2x2 2L FB34U6 T12		3	68		204	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 60.00	3	34	102	2500	102	255	37.485	$ 37.49		
78	2	Briarcliff Middle School	209	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 143.55	
79	2	Briarcliff Middle School		Mens Faculty Bathroom	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06		
80	2	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.21	
81	2	Briarcliff Middle School		Womens Faculty Bath	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06		
82	2	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.21	
83	2	Briarcliff Middle School		Office	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	3500	14	49	7.203	$ 7.20		
84	2	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 7.72	
85	2	Briarcliff Middle School		Elevator	Strip 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	8760	18	157.68	23.17896	$ 23.18		
86	2	Briarcliff Middle School		Elevator	Strip 2L F20 T12		1	40		40	Relamp & Reballast 2L F17T8	10	$ 10.00	1	34	34	8760	8	52.56	7.72632	$ 7.73		
87	2	Briarcliff Middle School		Common Hall	2x4 4L F32 T8		6	128		768	Relamp 4L F32T8 25w		$ -	6	100	600	4000	168	672	98.784	$ 99.78		
88	2	Briarcliff Middle School		Common Hall	Exit Sign 1L PL13		3	13		39	New LED Exit Sign	10	$ 30.00	3	2	6	8760	33	289.08	42.49476	$ 42.49		
89	2	Briarcliff Middle School	200	Resource Room	2x2 2L FB34U6 T12		1	68		68	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 20.00	1	34	34	2500	34	85	12.495	$ 12.50		
90	2	Briarcliff Middle School	200	Resource Room	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	2500	72	180	26.46	$ 26.46		
91	2	Briarcliff Middle School	200	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 25.80	
92	2	Briarcliff Middle School	217	Closet	100w A		1	100		100	20w Spring CFL		$ -	1	20	20	1000	80	80	11.76	$ 11.76		
93	2	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 0.88	
94	2	Briarcliff Middle School		TV Storage	100w A		2	100		200	20w Spring CFL		$ -	2	20	40	1500	160	240	35.28	$ 35.28		
95	2	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 2.65	
96	B	Briarcliff Middle School		Music Office	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	2500	72	180	26.46	$ 26.46		
97	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 22.05	
98	B	Briarcliff Middle School		Kitchen	2x4 4L F32 T8		8	128		1024	Relamp 4L F32T8 25w		$ -	8	100	800	2000	224	448	65.856	$ 65.86		
99	B	Briarcliff Middle School		Cafeteria	2x4 4L F32 T8		20	128		2560	Relamp 4L F32T8 25w		$ -	20	100	2000	8500	560	1960	288.12	$ 288.12		
100	B	Briarcliff Middle School		Hall	2x4 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	4000	72	288	42.336	$ 42.34		
101	B	Briarcliff Middle School		Hall	2x4 2L F34 T12		12	102		1224	Relamp & Reballast 3L F32T8 25w	10	$ 120.00	12	75	900	4000	324	1296	190.512	$ 190.51		
102	B	Briarcliff Middle School		Hall	Wrap 4L F34 T12		3	136		408	Relamp & Reballast 4L F32T8 25w	10	$ 30.00	3	100	300	4000	108	432	63.504	$ 63.50		
103	B	Briarcliff Middle School		Hall	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	4000	18	72	10.584	$ 10.58		
104	B	Briarcliff Middle School		Hall	Exit Sign 1L PL13		4	13		52	New LED Exit Sign	10	$ 40.00	4	2	8	8760	44	385.44	56.65968	$ 56.66		
105	B	Briarcliff Middle School		Janitor Supplies	Industrial 4L F84 T12		1	136		136	Relamp & Reballast 4L F32T8 25w	10	$ 10.00	1	100	100	1000	36	36	5.292	$ 5.29		
106	B	Briarcliff Middle School		Faculty Bathroom	2x4 4L F32 T8		1	128		128	Relamp 4L F32T8 25w		$ -	1	100	100	1500	28	42	6.174	$ 6.17		
107	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 6.62	
108	B	Briarcliff Middle School		Locker Room	Wrap 4L F34 T12		15	136		2040	Relamp & Reballast 4L F32T8 25w	10	$ 150.00	15	100	1500	2000	540	1080	158.76	$ 158.76		
109	B	Briarcliff Middle School		Locker Room	Wrap 2L F96T12		3	192		576	Relamp & Reballast 2L F96T8 59w	10	$ 30.00	3	118	354	2000	222	444	65.268	$ 65.27		
110	B	Briarcliff Middle School		Locker Room	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	28.32984	$ 28.33		
111	B	Briarcliff Middle School		Locker Room Bath	Wrap 4L F20 T12		1	80		80	Relamp & Reballast 4L F17T8	10	$ 10.00	1	68	68	2000	12	24	3.528	$ 3.53		
112	B	Briarcliff Middle School		Trainer Office	Wrap 4L F34 T12		2	136		272	Relamp & Reballast 4L F32T8 25w	10	$ 20.00	2	100	200	2500	72	180	26.46	$ 26.46		
113	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 22.05	
114	B	Briarcliff Middle School		Trainer Office/Bath	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	2000	55	110	16.17	$ 16.17		
115	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 1.76	
116	B	Briarcliff Middle School		Trainer Office/Closet	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	2000	55	110	16.17	$ 16.17		
117	B	Briarcliff Middle School		Trainer Office/Storage	75w A		1	75		75	20w Spring CFL		$ -	1	20	20	2000	55	110	16.17	$ 16.17		
118	B	Briarcliff Middle School		Stairs 2	Wrap 4L F20 T12		2	80		160	Relamp & Reballast 4L F17T8	10	$ 20.00	2	68	136	8760	24	210.24	30.90528	$ 30.91		
119	B	Briarcliff Middle School		Stairs 2	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	8760	18	157.68	23.17896	$ 23.18		
120	B	Briarcliff Middle School		Stairs 2	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	28.32984	$ 28.33		
121	B	Briarcliff Middle School		Stairs 3	Exit Sign 1L PL13		2	13		26	New LED Exit Sign	10	$ 20.00	2	2	4	8760	22	192.72	28.32984	$ 28.33		
122	B	Briarcliff Middle School		Stairs 3	75w A		2	75		150	20w Spring CFL		$ -	2	20	40	8760	110	963.6	141.6492	$ 141.65		
123	B	Briarcliff Middle School	5	Art Room	2x4 4L F34 T12		9	136	36	1224	Relamp & Reballast 4L F32T8 25w	10	$ 90.00	9	100	900	2500	324	810	119.07	$ 119.07		
124	B	Briarcliff Middle School	5	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 99.23	
125	B	Briarcliff Middle School		Tech Office	2x4 4L F34 T12		3	136		408	Relamp & Reballast 4L F32T8 25w	10	$ 30.00	3	100	300	2500	108	270	39.69	$ 39.69		
126	B	Briarcliff Middle School	7	Tech Room	2x4 4L F34 T12		8	136		1088	Relamp & Reballast 4L F32T8 25w	10	$ 80.00	8	100	800	2500	288	720	105.84	$ 105.84		
127	B	Briarcliff Middle School	7	Tech Room	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	2500	18	45	6.615	$ 6.62		
128	B	Briarcliff Middle School		Hall	2x4 4L F32 T8		6	128		768	Relamp 4L F32T8 25w		$ -	6	100	600	4000	168	672	98.784	$ 98.78		
129	B	Briarcliff Middle School		Slop Sink	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	1000	14	14	2.058	$ 2.06		
130	B	Briarcliff Middle School		Boiler Room	Wrap 2L F34 T12		7	68		476	Relamp & Reballast 2L F32T8 25w	10	$ 70.00	7	50	350	4000	126	504	74.088	$ 74.09		
131	B	Briarcliff Middle School		Boiler Room	250w Low Bay		5	288		1440	New 2x2 6L F17T8/Electronic Pendant Mt	50	$ 250.00	5	102	510	4000	930	3720	546.84	$ 546.84		
132	B	Briarcliff Middle School		Supply Room	Wrap 2L F34 T12		1	68		68	Relamp & Reballast 2L F32T8 25w	10	$ 10.00	1	50	50	1500	18	27	3.969	$ 3.97		
133	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 3.31	
134	B	Briarcliff Middle School	9	Kindergarten	2x4 4L F32 T8		12	128	63	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	123.48	$ 123.48		
135	B	Briarcliff Middle School	9	Kindergarten	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2500	14	35	5.145	$ 5.15		
136	B	Briarcliff Middle School	9	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 197.81	
137	B	Briarcliff Middle School	8	1st Grade	2x4 4L F32 T8		12	128	61	1536	Relamp 4L F32T8 25w		$ -	12	100	1200	2500	336	840	123.48	$ 123.48		
138	B	Briarcliff Middle School	8	Sensor Savings	Ceiling Mount		1			0	O/S Ceiling	35	$ 35.00	1								$ 132.30	
139	B	Briarcliff Middle School		Mens Room	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2000	14	28	4.116	$ 4.12		
140	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 4.41	
141	B	Briarcliff Middle School		Womens Room	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2000	14	28	4.116	$ 4.12		
142	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 4.41	
143	B	Briarcliff Middle School		GE	2x4 2L F32 T8		1	64		64	Relamp 2L F32T8 25w		$ -	1	50	50	2000	14	28	4.116	$ 4.12		
144	B	Briarcliff Middle School		Sensor Savings	Wall Mount		1			0	O/S Wall	20	$ 20.00	1								$ 4.41	
145	B	Briarcliff Middle School		Stairs 4	2x4 4L F34 T12		1	136		136	Relamp & Reballast 4L F32T8 25w	10	$ 10.00	1	100	100	8760	36	315.36	46.55792	$ 46.56		
146	B	Briarcliff Middle School		Stairs 4	2x4 4L F32 T8		1	128		128	Relamp 4L F32T8 25w		$ -	1	100	100	8760	28	245.28	36.05616	$ 36.06		
147	B	Briarcliff Middle School		Stairs 4	2x2 2L FB32U6 T8		2	64		128	Retrofit 2L F17T8/Electronic Ballast & Reflector	20	$ 40.00	2	34	68	8760	60	525.6	77.2632	$ 77.26		
148	B	Briarcliff Middle School		Stairs 4	2x4 2L F32 T8		4	64		256	Relamp 2L F32T8 25w		$ -	4	50	200	8760	56	490.56	72.11232	$ 72.11		
149										0			$ -	0									
										51,590			$ 4,780.00		KW SAVED >>>>			15.59	49300.7	7247.203	$ 7,247.20	$ 1,859.94	

Electric Rate: $0.147

35997

Total Cost Savings $ 9,107.14

$0.15 is used as an average when actual rate is not provided

Total kWh Savings 61,953.35

MOUNTAIN LAKES BOE - ECM Summary by payback

Prepared by Dome-Tech, Inc.

Energy Conservation Measures (ECM)	Buildings	Energy Savings			Gross Installation Costs*	Rebates/ Incentive	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	CO2 Savings (lbs)
		kWh	kW	Therms								
Shut Down Window AC units	Mountain Lakes High School	1,220	0.00	0	$20	$0	$20	$180	$0	$180	0.1	0
Shut Down Window AC units							$20	$180			0.1	
Server Room - Temperature Setpoint Optimization	Mountain Lakes High School	3,616	0.00	0	$200	$0	$200	$533	$0	$533	0.4	1
Server Room - Temperature Setpoint Optimization	Lake Drive School	593	0.00	0	$200	$0	$200	$104	$0	$104	1.9	0
Server Room - Temperature Setpoint Optimization							$400	$637			0.6	
Time of Day Optimization	Wildwood Elementary School	17,900	0.00	433	$1,600	$0	$1,600	$3,368	$0	$3,368	0.5	8
Time of Day Optimization	Mountain Lakes High School	9,489	0.00	327	$3,200	$0	$3,200	$1,881	$0	$1,881	1.7	5
Time of Day Optimization							$4,800	$5,249			0.9	
Temperature Setpoint Optimization	Wildwood Elementary School	5,200	0.00	2,700	$3,200	$0	$3,200	$4,168	$0	$4,168	0.8	18
Temperature Setpoint Optimization	Mountain Lakes High School	5,907	0.00	910	$3,200	$0	$3,200	$2,217	$0	$2,217	1.4	7
Temperature Setpoint Optimization							$6,400	$6,385			1.0	
Holiday Time of Day Optimization	Wildwood Elementary School	10,500	0.00	110	$1,600	$0	$1,600	$1,800	$0	$1,800	0.9	4
Holiday Time of Day Optimization	Mountain Lakes High School	5,431	0.00	187	$1,600	$0	$1,600	$1,080	$0	$1,080	1.5	3
Holiday Time of Day Optimization							$3,200	$2,880			1.1	
Exhaust Fan Time of Day Optimization	Mountain Lakes High School	11,100	0.00	0	$1,600	$0	$1,600	$1,640	$0	$1,640	1.0	4
Exhaust Fan Time of Day Optimization	Wildwood Elementary School	8,160	0.00	0	$1,600	$0	$1,600	$1,290	$0	$1,290	1.2	3
Exhaust Fan Time of Day Optimization							$3,200	$2,930			1.1	
Install Vending Machine Power Management System	Lake Drive School	1,180	0.00	0	$180	$0	$180	$210	$0	$210	0.9	0
Install Vending Machine Power Management System	Mountain Lakes High School	5,890	0.00	0	$895	$0	$895	$868	$0	$868	1.0	2
Install Vending Machine Power Management System	Wildwood Elementary School	1,180	0.00	0	$680	$0	$680	$190	$0	$190	3.6	0
Install Vending Machine Power Management System	Briarcliff Middle School	1,180	0.00	0	$680	$0	$680	$170	$0	$170	4.0	0
Install Vending Machine Power Management System							$2,435	$1,438			1.7	
Install Computer Power Management System	Briarcliff Middle School	3,840	0.00	0	$750	$0	$750	$564	$0	$564	1.3	1
Install Computer Power Management System	Mountain Lakes High School	3,330	0.00	0	$1,150	$0	$1,150	$490	$0	$490	2.3	1
Install Computer Power Management System	Wildwood Elementary School	2,560	0.00	0	$1,500	$0	$1,500	$400	$0	$400	3.8	1
Install Computer Power Management System							$3,400	$1,454			2.3	
Upgrade Heat Pumps SEER	Lake Drive School	15,070	0.00	0	$53,250	$1,110	$1,690	$2,641	$0	$2,641	0.6	5
Upgrade Heat Pumps SEER	Briarcliff Middle School	7,419	0.00	0	$47,136	$1,260	$1,940	$1,089	$0	$1,089	1.8	2
Upgrade Heat Pumps SEER	Mountain Lakes High School	425	0.00	0	$8,590	$160	$240	$63	$0	$63	3.8	0
Upgrade Heat Pumps SEER	Wildwood Elementary School	1,156	0.00	0	$10,380	$550	$8,430	$183	$0	$183	46.1	0
Upgrade Heat Pumps SEER							$12,300	$3,975			3.1	
Prevent Simultaneous Heating and Cooling	Mountain Lakes High School	2,100	0.00	112	$1,600	$0	$1,600	$474	$0	$474	3.4	1
Prevent Simultaneous Heating and Cooling							$1,600	$474			3.4	
Steam Trap Survey	Briarcliff Middle School	0	0.00	1,660	$6,740	$0	$6,740	$1,850	$0	$1,850	3.6	10
Steam Trap Survey							$6,740	$1,850			3.6	
Install Weatherstripping on Exterior Doors	Mountain Lakes High School	961	0.00	780	$4,200	$0	$4,200	$1,300	$0	$1,300	3.2	5

MOUNTAIN LAKES BOE - ECM Summary by payback

Energy Conservation Measures (ECM)	Buildings	Energy Savings			Gross Installation Costs*	Rebates/ Incentive	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	CO2 Savings (lbs)
		kWh	kW	Therms								
Install Weatherstripping on Exterior Doors	Wildwood Elementary School	820	0.00	99	$1,400	$0	$1,400	$250	$0	$250	5.6	1
Install Weatherstripping on Exterior Doors							$5,600	$1,550			3.6	
Lighting Upgrades	Wildwood Elementary School	131,400	0.00	0	$66,100	$8,020	$58,100	$20,800	$0	$20,800	2.8	43
Lighting Upgrades	Lake Drive School	76,153	0.00	0	$48,560	$7,280	$41,280	$13,350	$0	$13,350	3.1	25
Lighting Upgrades	Briarcliff Middle School	61,953	0.00	0	$40,203	$4,780	$35,423	$9,107	$0	$9,107	3.9	20
Lighting Upgrades	Mountain Lakes High School	123,640	0.00	0	$109,450	$9,300	$100,150	$18,180	$0	$18,180	5.5	41
Lighting Upgrades							$234,953	$61,437			3.8	
Replacing Window AC units	Lake Drive School	5,550	0.00	0	$3,250	$0	$3,250	$970	$0	$970	3.4	2
Replacing Window AC units	Wildwood Elementary School	3,416	0.00	0	$3,500	$0	$3,500	$540	$0	$540	6.5	1
Replacing Window AC units	Mountain Lakes High School	1,200	0.00	0	$1,250	$0	$1,250	$180	$0	$180	6.9	0
Replacing Window AC units							$8,000	$1,690			4.7	
Programmable Thermostats	Wildwood Elementary School	25,400	0.00	0	$19,000	$0	$19,000	$4,000	$0	$4,000	4.8	8
Programmable Thermostats	Lake Drive School	25,530	0.00	0	$23,200	$0	$23,200	$4,470	$0	$4,470	5.2	8
Programmable Thermostats	Briarcliff Middle School	22,580	0.00	0	$17,736	$0	$17,736	$3,320	$0	$3,320	5.3	7
Programmable Thermostats							$59,936	$11,790			5.1	
Upgrade Kitchen Appliances to Energy Star Equipment	Briarcliff Middle School	13,950	0.00	0	$7,000	$0	$7,000	$2,050	$0	$2,050	3.4	5
Upgrade Kitchen Appliances to Energy Star Equipment	Mountain Lakes High School	25,460	0.00	0	$24,800	$0	$24,800	$3,750	$0	$3,750	6.6	8
Upgrade Kitchen Appliances to Energy Star Equipment	Lake Drive School	1,130	0.00	0	$4,990	$0	$4,990	$198	$0	$198	25.2	0
Upgrade Kitchen Appliances to Energy Star Equipment							$36,790	$5,996			6.1	
Premium Efficiency Motors	Mountain Lakes High School	1,530	0.00	0	$3,260	$240	$990	$226	$0	$226	4.4	1
Premium Efficiency Motors	Wildwood Elementary School	110	0.00	0	$2,000	$100	$800	$20	$0	$20	40.0	0
Premium Efficiency Motors							$1,790	$246			7.3	
Demand Control Ventilation	Mountain Lakes High School	2,305	0.00	794	$12,700	$0	$12,700	$1,509	$0	$1,509	8.4	5
Demand Control Ventilation							$12,700	$1,509			8.4	
Walk-in Cooler / Freezer Fan Controls	Mountain Lakes High School	1,510	0.00	0	$2,340	$0	$2,340	$220	$0	$220	10.6	0
Walk-in Cooler / Freezer Fan Controls							$2,340	$220			10.6	
Upgrade to Condensing Boiler	Lake Drive School	0	0.00	800	$359,210	$2,000	$17,650	$2,510	$0	$2,510	7.0	5
Upgrade to Condensing Boiler	Wildwood Elementary School	0	0.00	4,000	$396,340	$6,000	$52,000	$4,960	$0	$4,960	10.5	23
Upgrade to Condensing Boiler	Mountain Lakes High School	0	0.00	7,070	$753,370	$2,900	$123,400	$10,400	$0	$10,400	11.9	41
Upgrade to Condensing Boiler							$193,050	$17,870			10.8	
Upgrade Air Handling Units (AHUs) SEER	Lake Drive School	1,620	0.00	0	$13,530	$790	$1,210	$283	$0	$283	4.3	1
Upgrade Air Handling Units (AHUs) SEER	Mountain Lakes High School	3,930	0.00	0	$204,980	$2,370	$3,630	$579	$0	$579	6.3	1
Upgrade Air Handling Units (AHUs) SEER	Wildwood Elementary School	8,009	0.00	0	$63,655	$5,610	$43,845	$1,270	$0	$1,270	34.5	3
Upgrade Air Handling Units (AHUs) SEER							$48,685	$2,132			22.8	
Install Building Management System	Wildwood Elementary School	41,760	0.00	0	$190,213	$0	$190,210	$11,000	$0	$11,000	17.3	
Install Building Management System	Mountain Lakes High School	36,333	0.00	0	$376,230	$0	$376,230	$9,300	$0	$9,300	40.5	
Install Building Management System							$566,440	$20,300			27.9	
Booster Pump Fuel switch on Kitchen Dishwasher	Briarcliff Middle School	1,780	0.00	-70	$9,660	$1,260	$8,400	$180	$0	$180	46.7	0
Booster Pump Fuel switch on Kitchen Dishwasher	Mountain Lakes High School	2,700	0.00	-108	$11,040	$0	$11,040	$240	$0	$240	46.0	0
Booster Pump Fuel switch on Kitchen Dishwasher							$19,440	$420			46.3	
Install Boiler Controls	Mountain Lakes High School	671	0.00	880	$90,000	$0	$90,000	$1,400	$0	$1,400	64.3	5

MOUNTAIN LAKES BOE - ECM Summary by payback

Prepared by Dome-Tech, Inc.

Energy Conservation Measures (ECM)	Buildings	Energy Savings			Gross Installation Costs*	Rebates/ Incentive	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	CO2 Savings (lbs)
		kWh	kW	Therms								
Install Boiler Controls							$90,000	$1,400			64.3	
Upgrade Windows	Mountain Lakes High School	8,552	0.00	6,680	$1,307,590	$0	$1,307,590	$11,020	$0	$11,020	118.7	42
Upgrade Windows	Wildwood Elementary School	2,160	0.00	1,680	$625,870	$0	$625,870	$2,422	$0	$2,422	258.4	11
Upgrade Windows							$1,933,460	$13,442			143.8	
Totals	**TOTALS**	**678,467**	**0**	**29,044**	**4,915,878**	**53,730**	**3,225,379**	**147,393**	**0**	**147,393**	**21.9**	**394**

Replace Firetube or Cast Iron Boilers with high efficiency modular condensing boilers

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$0.000
Price of Electricity, $/kWh	$0.175
4. Price of the Demand of Electricity, $/kW/mon	$0.000
Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU	4,000	4,000	
Hours of Operation	4,048	4,048	
Seasonal Efficiency	81%	88%	8%
Annual Gas Consumption, therms	2,000	1,201	**799**
Annual Cost and Savings, $	$6,272	$3,766	**$ 2,506**

1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.

SAVINGS FROM REPLACING WINDOW AC UNITS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Number of Units	13	13	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	10	10	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	636	636	
Cooling Load Factor	100%	100%	
Annual Cooling Production, ton-hours	6,614	6,614	
Annual Cooling Load, kBTU	79,373	79,373	
Annual Peak Demand Reduction (kW)	15.6	12.4	**3.24**
Annual Electrical Consumption, kWh	14,882	9,337	**5,545**
Annual Cost and Savings, $	$ 2,608	$ 1,636	**$ 972**

1. Assume existing systems runs all occupied hours when outside air temperature (OAT) is above 65F from Monday through Friday.
2. Both conditions are simulated with non-programmable thermostats.
3. Load factor calculation represents the percentage of time when the unit operates at full load.
4. It is assumed that the old systems have a derated efficiency of 8 SEER.
5. Assume the new units have an efficiency of 10.1 EER.
6. No rebates or other finanical incentives were available for this measure

VENDING MACHINE POWER MANAGEMENT SYSTEM

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Energy Consumption (kWh)	2,102	925	**1,177**
Annual Cost and Savings, $	$ 368	$ 162	**$ 206**

1. Run hours based on fan motors being run 8760 hrs

2. Sample Calculations Below

Vending Machine Count	1
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Annual Savings %	56%
Annual Energy Savings	$206

3. No rebates or other finanical incentives were available for this measure

Set Point Optimization - Server Room

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	70	77	
Annual Electric Savings (kWh)	593	0	**593**
Annual Cost and Savings, $	$ 104	$ -	**104**

1. Daily run hours are based on 180 days, 9 hour days

2. See Sample Calculations below

Estimated Current Average Zone Summer Setpoint	Proposed Zone Summer Setpoint	Summer Bin Hours	Occupied Hours Load Factor	CC Load (Ton-Hrs/year)	CC Load (DX kWh)
70	77	1620	75%	765	593

3.There is no demand reduction for this measure

4. No rebates or other financial incentives were available for this measure

Replace aging AHUs with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/mo	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Total Tons	10	10	
SEER	10.1	12.3	
Annual Run Hours	760	760	
Annual kWh	9,030	7,415	**1,615**
Annual Cost and Savings, $	$ 1,582	$ 1,299	**$ 300**

1. Run hours based on bin data and time of day factor.
2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
AUDITORIUM	10	760	10.1	12.3	1615	$ 300	$ 2,000

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER
4. Proposed SEER/EER Ratings taken from Lennox Strategos Series

Replace aging Heat Pumps with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rat	$0.175
4. Price of the Demand of Electricity, $/k\	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed System	Savings
Total Tons	14	14	
SEER	13.0	17.0	
Annual Run Hours	760	760	
Annual kWh	64,055	48,983	**15,072**
Annual Cost and Savings, $	$ 11,225	$ 8,584	**$ 2,600**

1. Run hours based on bin data and time of day factor.

2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
Library	3	4,956	13.0	17.0	3229	$ 566	$ 600
Office	3	4,956	13.0	17.0	3229	$ 566	$ 600
Office	3	4,956	13.0	17.0	3229	$ 566	$ 600

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER

4. Proposed SEER/EER Ratings taken from Carrier Air Cooled Heat Pumps

ENERGY STAR/ CEE TIER I - REFRIGERATOR/FREEZER UPGRADE

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$3.136

		Existing Condition	Proposed System
Single Door Refrigerator (24 cu ft)	Total Annual Energy Consumption (kWh)	2,102	971
Quantity		1	1
Single Door Freezer (24 cu ft)	Total Annual Energy Consumption (kWh)	4,519	4,008
Quantity		1	1
Single Door Refrigerator (24 cu ft)	Total Annual Energy Consumption (kWh)	-	-
Quantity		0	0
Double Door Freezer (44 cu ft)	Total Annual Energy Consumption (kWh)	-	-
Quantity		0	0
Total Annual Energy Savings		2,102	971
Annual Cost and Savings, $		$ 368	$ 170

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may va and other factors.

2. No rebates or other finanical incentives were available for this measure

Savings
1,132
$ 200

ry based on use

SAVINGS FROM PROGRAMMABLE THERMOSTATS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
1. Price of Electricity, $/kWh (blended rate)	$0.175
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$3.136

	Existing Condition	Proposed	Savings
Cooling Capacity, Tons	44	44	
Average Efficiency, EER	10.2	10.2	
Estimated Total Supply Fan Volume, cfm	22,300	22,300	
Estimated Total Supply Fan Power, bhp	11	11	
Wkday Occupied Run Hours when OAT > 65F, hrs	1,025	1,025	
Total Hours of Normal Operation, hrs	1,417	636	
Cooling Load Factor (OAT >65F)	80%	80%	
Unoccupied Setback Run Hours when OAT > 75F, hrs		228	
Total Hours of Setback Operation, hrs	-	228	
Cooling Load Factor (OAT >75F)		80%	
Total Run Hours	1,417	864	
Annual Cooling Production, ton-hours	49,595	30,240	
Annual Cooling Load, kBTU per Unit	595,140	362,880	
Annual Fan Electrical Consumption, kWh	7,080	4,317	
Annual Cooling Electrical Consumption, kWh	58,347	35,576	
Total Annual Electrical Demand, kW	512	512	-
Total Annual Electrical Consumption, kWh	65,427	39,894	**25,534**
Annual Cost and Savings for All Units, $	$ 11,466	$ 6,991	**$ 4,475**

1. Assume existing systems run all hours when outside air temperature is above 65F.
2. Assume the proposed systems operate during occupied hours when the outside air temperature (OAT) is above 65F and during unoccupied hours when the OAT is above 75F.
3. Load factor calculation represents the percentage of time when the units operate at full load during the operation schedule.
4. It is assumed that all heatpump units run at a combined derated efficieny of 8 EER.
5. There is no demand reduction for this measure
6. No rebates or other finanical incentives were available for this measure

VENDING MACHINE POWER MANAGEMENT SYSTEM

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Energy Consumption (kWh)	2,102	925	**1,177**
Annual Cost and Savings, $	$ 332	$ 146	**$ 186**

1. Run hours based on fan motors being run 8760 hrs

2. Sample Calculations Below

Vending Machine Count	1
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Soda Machine Power Consumption, kw	0.40
Annual Savings %	56%
Annual Energy Savings	$186

3. No rebates or other finanical incentives were available for this measure

Replace Firetube or Cast Iron Boilers with high efficiency modular condensing boilers

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
Price of Electricity, $/kWh	$0.158
4. Price of the Demand of Electricity, $/kW/mo	$0.000
Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU	10,248	6,000	
Hours of Operation	4,048	4,048	
Seasonal Efficiency	81%	88%	8%
Annual Gas Consumption, therms	10,000	5,998	**4,002**
Annual Cost and Savings, $	$12,404	$7,439	**$ 4,964**

1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.

SAVINGS FROM PREMIUM EFFICIENCY MOTORS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

					ESTIMATED RUN TIME		FULL LOAD NOMINAL EFFICIENCY (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		Avoided Cost	NJCE REBATE	Peak Demand Reduction
TAG	LOCATION	SERVICES	HP	RPM	AVG HRS	LOAD FACTOR	EXISTING	PROPOSED	EXISTING	PROPOSED	kWh	$	$	$	kW
HW-1	BOILER MER	PERIM HOT WATER	5	1,800	1,469	50%	87.5%	89.5%	2,505	2,449	56	$ 9	$ 525	$ 54	0.1
HW-1	BOILER MER	PERIM HOT WATER	5	1,800	1,469	50%	87.5%	89.5%	2,505	2,449	56	$ 9	$ 525	$ 54	0.1
										TOTAL	112	$ 18	$ 1,050	$ 108	0.2

1. It is assumed that the breakhorse power of all motors is 80% of the nameplate horsepower.
2. Only the major motors were sampled for this calculation.
3. Run hours base on occupied hours below 55F.

SAVINGS FROM REPLACING WINDOW AC UNITS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Number of Units	14	14	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	11	11	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	978	978	
Cooling Load Factor	100%	100%	
Annual Cooling Production, ton-hours	10,954	10,954	
Annual Cooling Load, kBTU	131,443	131,443	
Annual Peak Demand (kW)	16.80	13.31	**3.49**
Annual Electrical Consumption, kWh	16,430	13,014	**3,416**
Annual Cost and Savings, $	$ 2,598	$ 2,058	**$ 540**

1. Assume existing systems runs all year when outside air temperature (OAT) is above 65F from Monday through Friday.
2. Both conditions are simulated with non-programmable thermostats.
3. Load factor calculation represents the percentage of time when the unit operates at full load.
4. It is assumed that the old systems have a derated efficiency of 8 SEER.
5. Assume the new units have an efficiency of 10.1 EER.
6. No rebates or other finanical incentives were available for this measure

Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Annual Run Hours	2,160	1,440	720
Annual Electric Use (kWh)	53,706	35,804	**17,902**
Annual Natural Gas Use (therms)	1,300	866	**433**
			-
Annual Cost and Savings, $	$ 10,103	$ 6,735	**$ 3,400**

1. Daily run hours are reduced from 12 hours to 8 hours.

3. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
Trane	4TCC3018A10000AA	2000	0.75	0.25	0.16	$ 198
Carrier	48HJE007	2300	0.75	0.25	0.16	$ 228
Carrier	CAC042HAC	1600	0.75	0.25	0.16	$ 158
Carrier	38HD6024	1600	0.75	0.25	0.16	$ 158
Lennox	GCS16-311-75-5P	4000	0.75	0.25	0.16	$ 396
Trane	YCD036	1300	0.75	0.25	0.16	$ 129

Hours of Operation	On	Off	Hrs/Day
Existing	7	19	12
Proposed	7	15	8

3.There is no demand reduction for this measure

4. No rebates or other finanical incentives were available for this measure

Set Point Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	70	75	$800
Space Heating Temperature Setting	75	70	$3,600
Annual Electric Savings (kWh)	5,204		**5,204**
Annual Gas Savings (Therms)	2,697		**2,697**
Annual Cost and Savings, $			**$ 4,400**

1. Daily run hours are based on 180 days, 9 hour days

2.There is no demand reduction for this measure

3. No rebates or other finanical incentives were available for this measure

Holiday Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Annual Holiday Run Hours	204	20	184
Annual Electrical Use (kWh)	11,542	1,049	**10,492**
Annual Natural Gas Use (therms)	123	11	**112**
Annual Cost and Savings, $	$ 1,977	$ 180	**$ 1,797**

Notes:

1) Savings based on observation of no Holiday schedule programmed into the BMS.
2) Savings represents shutting down the units during 17 observed holidays.

Exhaust Fan Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Annual Run Hours	4,320	2,700	1,620
Annual Electric Use (kWh)	17,399	10,874	**8,156**
			-
Annual Cost and Savings, $	$ 2,751	$ 1,719	**$ 1,032**

1. Daily run hours are reduced from 24 hours to 1 hours.

2. Assumed Fans are equipped with 3/4 HP Motors

3. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
6 @ EF - 1	General Exhaust	1.998	0.75	4320	2700	$ 286
28 @ EF - 2	General Exhaust	7	0.75	4320	2700	$ 1,003

1. Daily run hours are reduced from 24 hours to 15 hours.

Hours of Operation	On	Off	Hrs/Day	Days/Year
Existing	12 Noon	12 Midnight	24	180
Proposed	6 AM	9 PM	15	180

2.There is no demand reduction for this measure

3. No rebates or other finanical incentives were available for this measure

SAVINGS FROM WEATHERSTRIPPING DOORS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Number of Doors	4	4	
Estimated Infiltration Rate per Door, CFM	106	21	
Annual Cooling Infiltration Hours, OAT > 80F	800	800	
Annual Heating Infiltration Hours, OAT < 55F	500	500	
Annual Cooling Load, kBTU	9,513	1,903	
Annual Cooling Electrical Consumption, kWh	1,023	205	**818**
Annual Heating Load, kBTU	10,291	1,875	
Annual Heating Natural Gas Consumption, therms	121.07	22.06	**99**
Annual Cost and Savings, $	$ 312	$ 60	**$ 252**

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.
3. It is assumed that each door has a leakage area of 54 square inches (18 linear feet by 0.25 in). Vestibule doors are not included.
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature above 80F during the year is81. The average outside air temperature below 55F is 35.
7. Assume the cooling plant has an efficiency of 1.29 kw/ton and the natural gas fired heating units have an efficiency of 0.85.
8. New weatherstripping is assumed to reduce infiltration by 80%.
9. There is no demand reduction for this measure
10. No rebates or other finanical incentives were available for this measure

Replace aging AHUs with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate	$0.158
4. Price of the Demand of Electricity, $/kW	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Total Tons	47	47	
SEER	11.5	13.4	
Annual Run Hours	760	760	
Annual kWh	41,364	33,355	**8,009**
Annual Cost and Savings, $	$ 6,540	$ 5,273	**$ 1,300**

1. Run hours based on bin data and time of day factor.

2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
Nesbitt	20	760	9.5	12.6	4724	$ 1,494	$ 8,000
Carrier	4	760	13.0	14.3	255	$ 40	$ 800
Trane	3	760	13.0	14.3	191	$ 30	$ 600
Carrier	6	760	10.1	12.3	969	$ 153	$ 1,200
Carrier	4	760	13.0	14.3	255	$ 81	$ 1,600
Carrier	10	760	10.1	12.3	1615	$ 255	$ 2,000

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER

4. Proposed SEER/EER Ratings taken from Lennox Strategos Series

Replace aging Heat Pumps with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended ra	$0.158
4. Price of the Demand of Electricity, $/k	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Total Tons	7	7	
SEER	13.0	17.0	
Annual Run Hours	760	760	
Annual Peak Demand (kW)	6.5	4.9	**1.52**
Annual kWh	4,911	3,755	**1,155**
Annual Cost and Savings, $	$ 776	$ 594	**$ 200**

1. Run hours based on bin data and time of day factor.
2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
HP 1	4	760	13.0	17.0	660	$ 104	$ 800
HP 2	3	760	13.0	17.0	495	$ 78	$ 600

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER
4. Proposed SEER/EER Ratings taken from Carrier Air Cooled Heat Pumps

Verdiem Computer Plug Load Management

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/montl	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Number of WS/PCs	20	20	**0**
Annual Electric Savings (kWh)	2,560	0	**2,560**
Annual Cost and Savings, $	$ 405	$ -	**$ 405**

1. Estimated 25 workstations
2. Estimated 128 kWh savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other finanical incentives were available for this measure

HEATING FUEL SWITCH

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed System	Savings
Annual Op Cost	$ 686	$ 216	
Run Hours	3,470	3,470	
Annual Electric Consumption (kWh)	4,338		**4,338**
Annual Gas Consumption (therms)		174	**(174)**
Annual Cost and Savings, $	$ 686	$ 216	**$ 470**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

3. No rebates or other finanical incentives were available for this measure

4. Combined Electric Kettle and Steamer Capacity estimated 45 kW

SAVINGS FROM PROGRAMMABLE THERMOSTATS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
1. Price of Electricity, $/kWh (blended rate)	$0.158
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.240

	Existing Condition	Proposed	Savings
Cooling Capacity, Tons	50	50	
Average Efficiency, EER	10.3	10.3	
Estimated Total Supply Fan Volume, cfm	18,700	18,700	
Estimated Total Supply Fan Power, bhp	9	9	
Wkday Occupied Run Hours when OAT > 65F, hrs	1,025	1,025	
Total Hours of Normal Operation, hrs	1,417	636	
Cooling Load Factor (OAT >65F)	80%	80%	
Unoccupied Setback Run Hours when OAT > 75F, hrs		228	
Total Hours of Setback Operation, hrs		228	
Cooling Load Factor (OAT >75F)		100%	
Total Run Hours	1,417	864	
Annual Cooling Production, ton-hours	56,680	36,840	
Annual Cooling Load, kBTU per Unit	680,160	442,080	
Annual Fan Electrical Consumption, kWh	5,937	3,620	
Annual Cooling Electrical Consumption, kWh	65,928	42,851	
Total Annual Electrical Demand, kW	549	549	-
Total Annual Electrical Consumption, kWh	71,866	46,471	**25,394**
Annual Cost and Savings for All Units, $	$ 11,362	$ 7,347	**$ 4,015**

1. Assume existing systems run all hours when outside air temperature is above 65F.
2. Assume the proposed systems operate during occupied hours when the outside air temperature (OAT) is above 65F and during unoccupied hours when the OAT is above 75F.
3. Load factor calculation represents the percentage of time when the units operate at full load during the operation schedule.
4. It is assumed that all heatpump units run at a combined derated efficieny of 8 EER.
5. There is no demand reduction for this measure
6. No rebates or other finanical incentives were available for this measure

Replace Firetube or Cast Iron Boilers with high efficiency modular condensing boilers

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Boiler Plant Capacity (kBTU)	26,000	18,000	
Hours of Operation	1,956	1,956	
Seasonal Efficiency	81%	88%	8%
Annual Gas Consumption (Therms)	29,471	22,406	7,065
Annual Cost and Savings, $	43,382	32,982	**$ 10,400**

1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.

Upgrade Boiler Controls, Install fully metered control system, install VFD on FD Fan Motor

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Boiler Plant Capacity (Therms)	26,000	18,000	
Hours of Operation	1,956	1,956	
Average Position (Vortex - Existing, VFD - Proposed)	58%	35%	23%
Annual Electrical Consumption (kWh)	1,693	1,021	671
Annual Natural Gas Consumption (Therms)	29,471	28,587	884
Annual Cost and Savings, $	$43,631	$42,231	**$ 1,400**

SAVINGS FROM PREMIUM EFFICIENCY

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

					ESTIMATED RUN TIME		FULL LOAD NOMINAL EFFICIENCY (%)	
TAG	LOCATION	SERVICES	HP	RPM	AVG HRS	LOAD FACTOR	EXISTING	PROPOSED
P-6	BOILER MER	PERIM HOT WATER	7.5	1,800	1,659	100%	84.0%	91.0%
P-7	BOILER MER	PERIM HOT WATER	7.5	1,800	1,659	100%	84.0%	91.0%
P-8	BOILER MER	PERIM HOT WATER	7.5	1,800	1,659	25%	*84.0%*	91.0%

1. Existing equipment data listed in italics were estimated due to unavailable information.
2. It is assumed that the breakhorse power of all motors is 80% of the nameplate horsepower.
3. Only the major motors were sampled for this calculations.
4. Run hours base on winter bin hours

MOTORS

ELECTRIC CONSUMPTION (kWh)		SAVINGS		Avoided Cost	NJCE REBATE	Peak Demand Reduction
EXISTING	PROPOSED	kWh	$	$	$	kW
8,840	8,160	680	$ 100	$ 675	$ 81	0.41
8,840	8,160	680	$ 100	$ 675	$ 81	0.41
2,210	2,040	170	$ 25	$ 675	$ 81	0.41
	TOTAL	**1,530**	**$ 226**	**$ 2,025**	**$ 243**	**1.2**

SAVINGS FROM REPLACING WINDOW AC UNITS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Number of Units	5	5	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	4	4	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	978	978	
Cooling Load Factor	100%	100%	
Annual Cooling Production, ton-hours	3,912	3,912	
Annual Cooling Load, kBTU	46,944	46,944	
Annual Peak Demand Reduction (kW)	6	5	**1.25**
Annual Electrical Consumption, kWh	5,868	4,648	**1,220**
Annual Cost and Savings, $	$ 865	$ 685	**$ 180**

1. Assume existing systems runs all occupied hours when outside air temperature (OAT) is above 65F from Monday through Friday
2. Both conditions are simulated with non-programmable thermostats.
3. Load factor calculation represents the percentage of time when the unit operates at full load.
4. It is assumed that the old systems have a derated efficiency of 8 SEER.
5. Assume the new units have an efficiency of 10.1 EER.
6. No rebates or other finanical incentives were available for this measure

Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Annual Run Hours	3,240	2,520	**720**
Annual Electric Use (kWh)	42,701	33,212	**9,489**
Annual Natural Gas Use (therms)	1,473	1,146	**327**
			-
Annual Cost and Savings, $	$ 8,465	$ 6,584	**$ 1,900**

1. Daily run hours are reduced from 18 hours to 14 hours.

2. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
NE CLASSROOMS	ACKAGED ROOFTOP UN	2000	0.75	0.37	0.29	$ 99
GYM LOCKER ROOM	ACKAGED ROOFTOP UN	7500	0.75	0.37	0.29	$ 371
GYM	ACKAGED ROOFTOP UN	2000	0.75	0.37	0.29	$ 99
PRACTICE RM	ACKAGED ROOFTOP UN	1300	0.75	0.37	0.29	$ 64
AUDITORIUM	ACKAGED ROOFTOP UN	5200	0.75	0.37	0.29	$ 257
OFFICE	ACKAGED ROOFTOP UN	2000	0.75	0.37	0.29	$ 99

Hours of Operation	On	Off	Hrs/Day
Existing	5:00 AM	11:00 PM	18
Proposed	6:00 AM	8:00 PM	14

3.There is no demand reduction for this measure

4. No rebates or other finanical incentives were available for this measure

High School
Energy Audit, January 2011
Dome-Tech Energy Advisors
Holiday Time of Day Optimization

Holiday Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Annual Holiday Run Hours	204	20	184
Annual Electrical Use (kWh)	5,975	543	**5,431**
Annual Natural Gas Use (therms)	206	19	**187**
Annual Cost and Savings, $	$ 1,184	$ 108	**$ 1,077**

Set Point Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	69-71	75	**$900**
Space Heating Temperature Setting	72	70	**$1,300**
Annual Electric Savings (kWh)		5,907	**5,907**
Annual Gas Savings (Therms)		915	**915**
Annual Cost and Savings, $			**$ 2,200**

1. Daily run hours are based on 180 days, 12 hour days

2.There is no demand reduction for this measure

3. No rebates or other finanical incentives were available for this measure

Simultanous Heating Cooling

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	70-75	75	$300
Space Heating Temperature Setting	70-75	70	$200
Annual Electric Savings (kWh)	2,099		**2,099**
Annual Gas Savings (Therms)	112		**112**
Annual Cost and Savings, $			**$ 500**

1. Daily run hours are based on 180 days, 12 hour days

2.There is no demand reduction for this measure

3. No rebates or other finanical incentives were available for this measure

Demand Control Ventilation

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Total (CFM)	17,000	17,000	
Average Cost Per CFM	$0.802	$0.620	
Estimated Electric Use (kWh)	10,141	7,836	**2,305**
Estimated Natural Gas Use (therms)	3,493	2,699	**794**
			-
Annual Cost and Savings, $	$ 13,634	$ 10,534	**$ 3,100**

1. Assumes 100% OA and a recirculating AHU for bin ranges >70
2. Assumes 20% OA and a recirculating AHU for bin range >70
3. Run hours based on bin data and time of day factor.
4. See Sample Calculation below

Unit	Serves	Total CFM	Current $/CFM1	DCV $/CFM2	Estimated Savings
AHU	Auditorium	15,000	$ 0.80	$ 0.62	$ 2,735
AHU	Gym	2,000	$ 0.80	$ 0.62	$ 365
Total		17,000			$ 3,100

5.There is no demand reduction for this measure
6. No rebates or other financial incentives were available for this measure

Exhaust Fan Time of Day Optimization

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Annual Run Hours	4,320	2,700	**1,620**
Annual Electric Use (kWh)	29,594	18,496	**11,098**
Annual Cost and Savings, $	$ 4,364	$ 2,727	**$ 1,636**

1. Daily run hours are reduced from 24 hours to 15 hours.

2. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
18 - EF - 1	General Exhaust	5.994	0.75	4320	2700	$ 801
25 - EF - 2	General Exhaust	6.25	0.75	4320	2700	$ 835

Hours of Operation	On	Off	Hrs/Day
Existing	5	23.5	18.5
Proposed	6	21	15

3.There is no demand reduction for this measure

4. No rebates or other finanical incentives were available for this measure

SAVINGS FROM REPLACING WINDOW AC UNITS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Number of Units	5	5	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	4	4	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	978	978	
Cooling Load Factor	100%	100%	
Annual Cooling Production, ton-hours	3,912	3,912	
Annual Electrical Consumption, kWh	5,868	4,648	**1,220**
Annual Cost and Savings, $	$ 865	$ 685	**$ 180**

1. Assume existing systems runs all year when outside air temperature (OAT) is above 65F from Monday through Friday.
2. Both conditions are simulated with non-programmable thermostats.
3. Load factor calculation represents the percentage of time when the unit operates at full load.
4. It is assumed that the old systems have a derated efficiency of 8 SEER.
5. Assume the new units have an efficiecy of 10.1 EER.
7. No rebates or other finanical incentives were available for this measure

Replace aging AHUs with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/m	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Total Tons	30	30	
Average SEER	12.3	13.9	
Annual Run Hours	760	760	
Annual Peak Demand Reduction (kW)	32.1	26.9	**5.16**
Annual kWh	24,406	20,481	**3,925**
Annual Cost and Savings, $	$ 3,599	$ 3,020	**$ 600**

1. Run hours based on bin data and time of day factor.

2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings
Modular Clsrm	5	760	13.0	14.3	319	$ 47
Office	3	760	13.0	14.3	191	$ 28
Auditorium	13	760	9.5	12.3	2841	$ 419
Office	4	760	13.0	14.3	255	$ 38
Office	5	760	13.0	14.3	319	$ 47

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER

4. Proposed SEER/EER Ratings taken from Lennox Strategos Series

Replace aging Heat Pumps with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Total Tons	2	2	
SEER	13.0	17.0	
Annual Run Hours	574	574	
Annual Peak Demand Reduction (kW)	1.8	1.4	**0.43**
Annual kWh	1,806	1,381	**425**
Annual Cost and Savings, $	$ 266	$ 204	**$ 60**

1. Cost per kWh and therm prices taken from "# Constants" sheet.
2. Run hours based on bin data and time of day factor.
3. Assumed 2 - 3 Ton Heat Pumps thorughout building
4. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
HP 1	2	978	13.0	17.0	425	$ 63	$ 400

5.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER
6. Proposed SEER/EER Ratings taken from Carrier Air Cooled Heat Pumps

DISHWASHER BOOSTER HEATER FUEL SWITCH

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System
Annual Op Cost	$ 398	$ 159
Run Hours	240	240
Annual Peak Demand Reduction (kW)	45.00	0.0
Annual Electric Consumption (kWh)	2,697	
Annual Gas Consumption (therms)		108
Annual Cost and Savings, $	$ 398	$ 159

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may use and other factors.

2. No rebates or other finanical incentives were available for this measure

3. Existing heating capacity of the system is assumed to be 45 kW.

Savings
45.00
2,697
(108)
$ 238

vary based on

ENERGY STAR/ CEE TIER I - REFRIGERATOR/FREEZER UPGRADE

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System
Glass Door Reach-in Refrigerator (24 cu ft) Total Annual Energy Consumption (kWh)	12,992	6,500
Quantity	4	4
Total Annual Energy Savings	12,992	6,500
Annual Cost and Savings, $	$ 1,916	$ 958

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may v and other factors.

2. No rebates or other finanical incentives were available for this measure

Savings
6,492
$ 960

ary based on use

ENERGY STAR / CEE TIER II - DISHWASHER

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Quantity	1	1	
Annual Peak Demand Reduction (kW)	4.7	3.2	**1.53**
Single Tank Conveyor, High Temp Annual Energy Consumption (kWh	58,563	39,591	**18,972**
Annual Cost and Savings, $	$ 8,635	$ 5,838	**$ 2,797**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commision: Appendix A Measure Analysis Spreadsheet

3. No rebates or other finanical incentives were available for this measure

VENDING MACHINE POWER MANAGEMENT SYSTEM

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Peak Demand Reduction (kW)	2.00	2.00	-
Annual Energy Consumption (kWh)	10,512	4,625	**5,887**
Annual Cost and Savings, $	#######	$ 682.01	**$868.01**

1. Run hours based on fan motors being run 8760 hrs
2. Sample Calculations Below

Vending Machine Count	5
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Soda Machine Power Consumption, kw	0.40
Annual Savings %	56%
Annual Energy Savings	$868

3. No rebates or other financial incentives were available for this measure

WALK-IN FREEZER & COOLER EVAPORATOR FAN CONTROL

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Evaporator Fan Savings	100%	35%	
Compressor Operations Savings	100%	80%	
Cost to Remove Evap Fan Heat Load	$ 137	$ 110	
Annual Op Cost	$ 321	$ 112	
Run Hours	8,760	8,760	
Annual Peak Demand Reduction (kW)	10.5	10.5	-
Annual Energy Consumption (kWh)	2,178	673	**1,506**
Annual Cost and Savings, $	$ 458	$ 222	**$ 240**

1. Run hours based on fan motors being run 8,760 hrs
2. See Sample Calculation Below

Box #	1	2	
Evap Coil MFR	Bally	Bally	
Evap Coil Mod #	0	0	
Evap Coil Fan Qty	2	3	
Evap Coil Fan HP	0.1	0.1	
Compressor RLA	7.4	7.4	
Voltage	480	480	
Kw	5.2	5.2	
Run Hours	8760	8760	Total
Total kW	0.1	0.1	
Total kWh	871.3	1307.0	2178.32
Annual Op Cost	$ 128.48	$ 192.72	$ 321.20
Heat Load, BTUH	339	509	Total
Compressor Efficiency, kw/ton	1.5	1.5	
Cost to Remove Evap Fan Heat Loa	$ 54.80	$ 82.19	$ 136.99
Annual Savings %, Evap Fans	35%	35%	Total
Annual Savings %, Compressor	80%	80%	
Annual Savings	89	133	222
Annual kWh Savings	602	903	1,506

SAVINGS FROM WEATHERSTRIPPING DOORS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Number of Doors	12	12	
Estimated Infiltration Rate per Door, CFM	106	21	
Annual Cooling Infiltration Hours, OAT > 80F	272	272	
Annual Heating Infiltration Hours, OAT < 55F	1,469	1,469	
Annual Cooling Load, kBTU	10,881	1,941	
Annual Cooling Electrical Consumption, kWh	1,170	209	**961**
Annual Heating Load, kBTU	82,550	16,528	
Annual Heating Natural Gas Consumption, therms	971.17	194.45	**777**
Annual Cost and Savings, $	$ 1,602	$ 317	**$ 1,285**

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 5
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of
8. New weatherstripping is assumed to reduce infiltration by 80%.
9. There is no demand reduction for this measure
10. No rebates or other finanical incentives were available for this measure

Verdiem Computer Plug Load Management

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/mont	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Number of WS/PCs	26	26	**0**
Annual Electric Savings (kWh)	3,328	0	**3,328**
Annual Cost and Savings, $	$ 491		**$ 491**

1. Estimated 26 workstations
2. Estimated 128 kWh savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other finanical incentives were available for this measure

Set Point Optimization - Server Room

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/mo	$0.000
5. Price of Natural Gas, $/therm	$1.472

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	70	77	$0
Annual Electric Savings (kWh)	3,616		**3,616**
Annual Cost and Savings, $			**$ 533**

1. Daily run hours are based on 180 days, 9 hour days
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.
3. Assumed 20 CFM/Student
4. See Sample Calculations below

Estimated Current Average Zone Summer Setpoint	Proposed Zone Summer Setpoint	Summer Bin Hours	Occupied Hours Load Factor	CC Load (Ton-Hrs/year)	CC Load (DX kWh)	% Airflow Load Factor	CC Load ($ / Annually)
70	77	2806	100%	4,861	3616	100%	$ 533

5.There is no demand reduction for this measure
6. No rebates or other finanical incentives were available for this measure

VENDING MACHINE POWER MANAGEMENT SYSTEM

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Energy Consumption (kWh)	2,102	925	**1,177**
Annual Cost and Savings, $	$ 309	$ 136	**$ 173**

1. Run hours based on fan motors being run 8760 hrs

2. Sample Calculations Below

Vending Machine Count	1
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Soda Machine Power Consumption, kw	0.40
Annual Savings %	56%
Annual Energy Savings	$173

Analysis Spreadsheet

3. No rebates or other finanical incentives were available for this measure

4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commision: Appendix A Measure Analysis Spreadsheet

Steam Trap Survey and Replacement

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Annual steam trap loss, therms	1,665	0	**1,665**
Annual Natural Gas Cost and Savings, $	$ 1,854	$ -	**$ 1,854**

SAVINGS FROM REPLACING WINDOW AC UNITS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Number of Units	1	1	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	1	1	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	251	251	
Cooling Load Factor	100%	100%	
Annual Cooling Production, ton-hours	201	201	
Annual Cooling Load, kBTU	2,410	2,410	
Annual Peak Demand (kW)	1.20	0.95	**0.25**
Annual Electrical Consumption, kWh	301	239	**63**
Annual Cost and Savings, $	$ 44	$ 35	$ **9**

1. Assume existing systems runs all year when outside air temperature (OAT) is above 65F from Monday through Friday.
2. Both conditions are simulated with non-programmable thermostats.
3. Load factor calculation represents the percentage of time when the unit operates at full load.
4. It is assumed that the old systems have a derated efficiency of 8 SEER.
5. Assume the new units have an efficiecy of 10.1 EER.
6. No rebates or other finanical incentives were available for this measure

Replace aging Heat Pumps with higher efficiency units

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended ra	$0.147
4. Price of the Demand of Electricity, $/k	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Total Tons	16	16	
SEER	13.0	17.0	
Annual Run Hours	2,135	2,135	
Annual Peak Demand Reduction (kW)	14.8	11.3	**3.48**
Annual kWh	31,532	24,113	**7,419**
Annual Cost and Savings, $	$ 4,630	$ 3,541	**$ 1,100**

1. Run hours based on bin data and time of day factor. Operation is for full year based on temperature above 70F.

2. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
HP 1	2	2,135	13.0	17.0	927	$ 136	$ 400
HP 2	3	2,135	13.0	17.0	1391	$ 204	$ 600
HP 3	2	2,135	13.0	17.0	927	$ 136	$ 400

3.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER

4. Proposed SEER/EER Ratings taken from Carrier Air Cooled Heat Pumps

Verdiem Computer Plug Load Management

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/montl	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Number of WS/PCs	30	30	0
Annual Electric Savings (kWh)	3,840	0	**3,840**
Annual Cost and Savings, $	$ 564		**$ 564**

1. Estimated 25 workstations
2. Estimated 128 kWh savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other finanical incentives were available for this measure

SAVINGS FROM PROGRAMMABLE THERMOSTATS

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
1. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing	Proposed	Savings
Cooling Capacity, Tons	39	39	
Average Efficiency, EER	10.1	10.1	
Estimated Total Supply Fan Volume, cfm	16,800	16,800	
Estimated Total Supply Fan Power, bhp	8	8	
Wkday Occupied Run Hours when OAT > 65F, hrs	1,025	1,025	
Wkday Unoccupied Run Hours when OAT > 65F, hrs	979		
Wkend Unoccupied Run Hours when OAT > 65F, hrs	802		
Total Hours of Normal Operation, hrs	1,417	636	
Cooling Load Factor (OAT >65F)	80%	80%	
Unoccupied Setback Run Hours when OAT > 75F, hrs		228	
Total Hours of Setback Operation, hrs	-	228	
Cooling Load Factor (OAT >75F)		80%	
Total Run Hours	1,417	864	
Annual Cooling Production, ton-hours	44,210	26,957	
Annual Cooling Load, kBTU per Unit	530,525	323,482	
Annual Fan Electrical Consumption, kWh	5,334	3,252	
Annual Cooling Electrical Consumption, kWh	52,527	32,028	
Total Annual Electrical Demand, kW	446	446	-
Total Annual Electrical Consumption, kWh	57,861	35,280	**22,581**
Annual Cost and Savings for All Units, $	$ 8,496	$ 5,180	**$ 3,316**

1. Assume existing systems run all hours when outside air temperature is above 65F.
2. Assume the proposed systems operate during occupied hours when the outside air temperature (OAT) is above 65F and during unoccupied hours when the OAT is above 75F.
3. Load factor calculation represents the percentage of time when the units operate at full load during the operation schedule.
4. It is assumed that all heatpump units run at a combined derated efficieny of 8 EER.
5. There is no demand reduction for this measure
6. No rebates or other finanical incentives were available for this measure

DISHWASHER BOOSTER HEATER FUEL SWITCH

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Annual Op Cost	$ 262	$ 80	
Run Hours	475	475	
Annual Electric Consumption (kWh)	1,782		**1,782**
Annual Gas Consumption (therms)		72	**(72)**
Annual Cost and Savings, $	$ 262	$ 80	**$ 182**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

2. No rebates or other finanical incentives were available for this measure

ENERGY STAR/ CEE TIER I - REFRIGERATOR/FREEZER UPGRADE

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

		Existing Condition	Proposed System	Savings
Double Door Refrigerator (44 cu ft)	Total Annual Energy Consumption (kWh)	3,548	2,351	
Quantity		1	1	
Double Door Freezer (44 cu ft)	Total Annual Energy Consumption (kWh)	7,482	6,680	
Quantity		1	1	
Single Door Refrigerator (24 cu ft)	Total Annual Energy Consumption (kWh)	4,205	1,942	
Quantity		2	2	
Single Door Freezer (24 cu ft)	Total Annual Energy Consumption (kWh)	4,519	4,008	
Quantity		1	1	
Total Annual Energy Savings		12,272	8,300	**3,972**
Annual Cost and Savings, $		$ 1,802	$ 1,219	**$ 580**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and
2. No rebates or other finanical incentives were available for this measure

ENERGY STAR / CEE TIER I - ICE MACHINE

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/montl	$0.000
5. Price of Natural Gas, $/therm	$1.114

	Existing Condition	Proposed System	Savings
Quantity	1	1	
Ice Machine Annual Energy Consumption (kWh	5,925	5,364	**561**
Annual Cost and Savings, $	$ 870	$ 788	**$ 80**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

2. No rebates or other finanical incentives were available for this measure

ENERGY STAR / CEE TIER II - DISHWASHER

1. Price of #2 Fuel Oil, $/gal	$0.000
2. Price of City Water, $/1000 gallons	$4.000
3. Price of Electricity, $/kWh (blended rate)	$0.147
4. Price of the Demand of Electricity, $/kW/month	$0.000
5. Price of Natural Gas, $/therm	$1.114

		Existing Condition	Proposed System	Savings
Quantity		1	1	
Door Type, High Temp	Annual Energy Consumption (kWh)	42,817	28,867	**13,950**
Annual Cost and Savings, $		$ 6,287	$ 4,239	**$2,048**

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

2. No rebates or other finanical incentives were available for this measure

WILDWOOD ELEMENTARY SCHOOL

VENDINGMISERS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	1	179	179	500	500	679

TOTAL			**$ 679**
SUB-TOTAL			679
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			679
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			679
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			679
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			679
INTEREST DURING CONSTRUCTION	0%		-
TOTAL		**$**	**679**

Premium Efficiency Motors

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	5 HP Premium Eff. Motor	EA	2	510	1,020	126	252	1,272
2								
3								
4								
5								
6								
	Other Estimated Implementation Costs							773

TOTAL		**$**	**2,045**
SUB-TOTAL			1,272
O&P	15%		191
ASBESTOS ABATEMENT			-
DIRECT COST			1,463
PAYMENT & PERFORMANCE BOND	2%		29
SUB-TOTAL			1,492
CONTINGENCY	20%		298
ASBESTOS CONTINGENCY	10%		-
SUB-TOTAL			1,790
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	10.0%		176
SUB-TOTAL			1,967
INTEREST DURING CONSTRUCTION	4%		79
TOTAL		**$**	**2,045**
NJ Smart Start Rebate		**$**	**108**

Heat Pump SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton Heat Pump	ea	1	2,650	2,650	840	840	3,490
2	4-ton Heat Pump	ea	1	3,200	3,200	1,260	1,260	4,460
3	Assumes all interconnections can be reused							
4								
5								
6								
7								
8								
								7,950
	Other Estimated Implementation Costs							3,828
	TOTAL INCREMENTAL COST							$ 11,778
	SUB-TOTAL							7,950
	O&P						15%	1,193
	ASBESTOS ABATEMENT							-
	DIRECT COST							9,143
	PAYMENT & PERFORMANCE BOND						2%	183
	SUB-TOTAL							9,325
	CONTINGENCY						15%	1,399
	ASBESTOS CONTINGENCY						10%	-
	SUB-TOTAL							10,724
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	1,054
	SUB-TOTAL							11,778
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 11,778**
	New Jersey Smart Start Rebate							**$ 553**
	Total Avoided Cost							**$ 10,378**

AHU SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	1	3075	3,075	690	690	3,765
2	4-ton PRTU w/ Gas Heat & Econ	ea	2	4,100	8,200	795	1,590	9,790
3	5-ton PRTU w/ Gas Heat & Econ	ea	-	6,262	-	795	-	-
1	6-ton PRTU w/ Gas Heat & Econ	ea	1	7,150	7,150	970	970	8,120
2	10-ton PRTU w/ Gas Heat & Econ	ea	1	9,175	9,175	1,050	1,050	10,225
6	15-ton PRTU w/ Gas Heat & Econ	ea	-	12,500	-	1,225	-	-
7	20-ton PRTU w/ Gas Heat & Econ	ea	1	19,200	19,200	1,450	1,450	20,650
8	25-ton PRTU w/ Gas Heat & Econ	ea	-	23,500	-	1,725	-	-
	Other Estimated Implementation Costs							25,305
	TOTAL INCREMENTAL COST							$ 77,855
	SUB-TOTAL							52,550
	O&P						15%	7,883
	ASBESTOS ABATEMENT							-
	DIRECT COST							60,433
	PAYMENT & PERFORMANCE BOND						2%	1,209
	SUB-TOTAL							61,641
	CONTINGENCY						15%	9,246
	ASBESTOS CONTINGENCY						10%	-
	SUB-TOTAL							70,887
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	6,968
	SUB-TOTAL							77,855
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 77,855**
	New Jersey Smart Start Rebate							**$ 5,609**
	Total Avoided Cost							**$ 63,655**

Weatherstripping

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	4	200	800	150	600	1,400
2			-		-		-	-
3			-		-		-	-
4			-		-		-	-
5			-		-		-	-
6			-		-		-	-
	Other Estimated Implementation Costs							#REF!
	TOTAL							$ 1,400

REPLACING WINDOW AC UNITS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	14	200	2,800	50	700	3,500
	Other Estimated Implementation Costs							-
	TOTAL							$ 3,500
	NJ Smart Start Rebate							
	SUB-TOTAL							3,500
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							3,500
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							3,500
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							3,500
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							3,500
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ 3,500

Computer Management System

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer Management System	Unit	20	25	500	50	1,000	1,500
	Other Estimated Implementation Costs							-
	TOTAL							$ 1,500
	NJ Smart Start Rebate							
	SUB-TOTAL							1,500
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,500
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,500
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,500
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							1,500
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ 1,500

BUILDING MANAGEMENT SYSTEM

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Host Computer, Materials and Labor	ea	1	9,363	9,363		-	9,363
1								
2	TOD Optimization - BMS Programming - See TOD Optimization Below	ea	1	1,600	1,600		-	1,600
3	Exhaust Fan TOD - See Exhaust Fan TOD Below	ea	1	1,600	1,600		-	1,600
4	Setpoint Optimization - BMS Programming - See Setpoint TOD Optimization Below	ea	1	3,200	3,200	-	-	3,200
4	Holiday TOD Optimization - BMS Programming - See Holiday TOD Optimization Below	ea	1	1,600	1,600	-	-	1,600
5	BMS Setup: Install sensors and controllers for RTU's - 6 points per RTU	ea	54	256	13,824	891	48,114	61,938
5	BMS Setup: Install sensors and controllers for Exhaust Fan TOD	ea	34	256	8,704	891	30,294	38,998
5								
5								
	Other Estimated Implementation Costs							71,914

	TOTAL		**$ 190,213**
	SUB-TOTAL		118,299
	O&P	15%	17,745
	ASBESTOS ABATEMENT		-
	DIRECT COST		136,044
	PAYMENT & PERFORMANCE BOND	2%	2,721
	SUB-TOTAL		138,765
	CONTINGENCY	20%	27,753
	ASBESTOS CONTINGENCY	10%	-
	SUB-TOTAL		166,518
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	10.0%	16,380
	SUB-TOTAL		182,897
	INTEREST DURING CONSTRUCTION	4%	7,316
	TOTAL		**$ 190,213**

Temperature Setpoint Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming (assumes incorporated	Hrs	16		-	200	3,200	3,200
	Other Estimated Implementation Costs							-

	TOTAL		**$ 3,200**
	SUB-TOTAL		3,200
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		3,200
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		3,200
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		3,200
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		3,200
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 3,200**

TOD Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming - See Setpoint Opt		8		-	200	1,600	1,600
2			-					-
3			-		-		-	-
4			-		-		-	-
5			-		-		-	-
6			-		-		-	-
	Other Estimated Implementation Costs				-		-	-

TOTAL			**$ 1,600**
SUB-TOTAL			1,600
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			1,600
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			1,600
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			1,600
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			1,600
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 1,600**

Holiday TOD Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming	hrs	8		-	200	1,600	1,600
2			-					-
3			-		-		-	-
4			-		-		-	-
5			-		-		-	-
6			-		-		-	-
	Other Estimated Implementation Costs				-		-	-

TOTAL			**$ 1,600**
SUB-TOTAL			1,600
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			1,600
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			1,600
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			1,600
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			1,600
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 1,600**

Exhaust Fan TOD Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming - See Setpoint Opt	hrs	8		-	200	1,600	1,600
2			-					-
3			-		-		-	-
4			-		-		-	-
5			-		-		-	-
6			-		-		-	-
	Other Estimated Implementation Costs				-		-	-

	TOTAL		**$ 1,600**
	SUB-TOTAL		1,600
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		1,600
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		1,600
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		1,600
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		1,600
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 1,600**

Upgrade Windows

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	1,216			1.25	1,520	1,520
2	Install dbl glazed, alum dbl hung windows	sf	1,216	400	486,400	19	23,043	509,443
3	Demolition/removal old doors	ea	-		-	130	-	-
4	Install dbl glazed, alum doors	ea	-	3,125	-	19	-	-
5					-		-	-
6					-		-	-
7					-		-	-
8					-		-	-
	Other Estimated Implementation Costs							114,904

	TOTAL			**$ 625,867**
		Std Amounts for larger projects	Enter appropriate amounts for this project	
	SUB-TOTAL			510,963
	O&P	20%	10%	51,096
	ASBESTOS ABATEMENT			-
	DIRECT COST			562,060
	PAYMENT & PERFORMANCE BOND	2%	0%	-
	SUB-TOTAL			562,060
	CONTINGENCY	20%	5%	28,103
	ASBESTOS CONTINGENCY	10%	0%	-
	SUB-TOTAL			590,162
	ASBESTOS DESIGN & AIR MONITORING, TESTING			-
	IC FEE	12%	5%	29,508
	SUB-TOTAL			619,671
	INTEREST DURING CONSTRUCTION	4%	1%	6,197
	TOTAL			**$ 625,867**
	NJ SmartStart Rebate			$ -

PROGRAMMABLE THERMOSTATS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programmable Thermostats	EA	12	225	2,700	960	11,520	14,220
	Other Estimated Implementation Costs							4,707
	TOTAL							$ **18,927**
	SUB-TOTAL							14,220
	O&P						10%	1,422
	ASBESTOS ABATEMENT							-
	DIRECT COST							15,642
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							15,642
	CONTINGENCY						10%	1,564
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							17,206
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	1,721
	SUB-TOTAL							18,927
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ **18,927**

Condensing Boiler

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3 MBTU High Eff Gas Boiler	ea	2	50,400	100,800	15,000	30,000	130,800
2	Demo Existing Boilers	ls	2	4,000	8,000	12,000	24,000	32,000
3	Piping Modifications	ls	2	4,000	8,000	6,000	12,000	20,000
4	Electric/Controls	ls	2	10,000	20,000	7,500	15,000	35,000
5								
6					-		-	-
	Other Estimated Implementation Costs							178,536
	TOTAL							$ **396,340**
	SUB-TOTAL							217,800
	O&P						30%	65,340
	ASBESTOS ABATEMENT							-
	DIRECT COST							283,140
	PAYMENT & PERFORMANCE BOND						2%	5,663
	SUB-TOTAL							288,803
	CONTINGENCY						15%	43,320
	ASBESTOS CONTINGENCY						10%	-
	SUB-TOTAL							332,123
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						15.0%	48,969
	SUB-TOTAL							381,092
	INTEREST DURING CONSTRUCTION						4%	15,244
	TOTAL							$ **396,336**
	NJ Smart Start Rebate							$ **6,000**
	Total Avoided Cost							$ **338,336**

Server Room - Temperature Setpoint Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming	Hrs	1		-	47	47	47
	Other Estimated Implementation Costs							-
	TOTAL							$ **47**
	SUB-TOTAL							47
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							47
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							47
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							47
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							47
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ 47

Heating Fuel Switch

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Unit	Ea	1	800	800	400	400	1,200
2								-
3					-		-	-
4					-		-	-
5					-		-	-
6					-		-	-
	Other Estimated Implementation Costs							-

TOTAL			$ 1,200
SUB-TOTAL			1,200
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			1,200
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			1,200
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			1,200
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			1,200
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			$ 1,200

BRIARCLIFF MIDDLE SCHOOL

VENDINGMISERS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	1	179	179	500	500	679

TOTAL			**$ 679**
SUB-TOTAL			679
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			679
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			679
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			679
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			679
INTEREST DURING CONSTRUCTION	0%		-
TOTAL		**$**	**679**

KITCHEN DISHWASHER BOOSTER PUMP

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation Booster Water Heaters *Includes demolition of existing, installation of gas, electrical and pipe work.	LF	50	33	1,650	-	-	1,650
2	Water Heater Booster	PMG-100	1	5,292	5,292		-	5,292
	Other Estimated Implementation Costs							2,718
	TOTAL							$ 9,660
	SUB-TOTAL							6,942
	O&P						15%	1,041
	ASBESTOS ABATEMENT							-
	DIRECT COST							7,983
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							7,983
	CONTINGENCY						10%	798
	ASBESTOS CONTINGENCY						10%	-
	SUB-TOTAL							8,782
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	878
	SUB-TOTAL							9,660
	INTEREST DURING CONSTRUCTION						0%	-
	New Jersey Smart Start Rebate							-
	TOTAL							$ 9,660

KITCHEN DISHWASHER

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation Energy Star Kitchen Dishwasher *Includes demolition of existing dishwasher, installation of gas, electrical and pipe work.		1		-	-	-	-
2	Energy Star Dishwasher	See on the right	1	7,000	7,000		-	7,000
	Other Estimated Implementation Costs							-

TOTAL			**$ 7,000**
SUB-TOTAL			7,000
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			7,000
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			7,000
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			7,000
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			7,000
INTEREST DURING CONSTRUCTION	0%		-
New Jersey Smart Start Rebate			-
TOTAL			**$ 7,000**

SOLID DOOR COMMERCIAL ICE MACHINE

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Commercial Ice Machine		1		-	50	50	50
2	Energy Star Rated Commercial Ice Machine	See on the right	1	2,360	2,360		-	2,360
	Other Estimated Implementation Costs							-

TOTAL			**$ 2,410**
SUB-TOTAL			2,410
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			2,410
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			2,410
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			2,410
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			2,410
INTEREST DURING CONSTRUCTION	0%		-
New Jersey Smart Start Rebate			-
TOTAL		**$**	**2,410**

SOLID DOOR COMMERCIAL FREEZERS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Solid Door Commercial Freezer		-		-	50	-	-
2	Energy Star Rated Commercial Freezer	See on the right	2	2,537	5,074		-	5,074
	Other Estimated Implementation Costs							-

TOTAL			**$ 5,074**
SUB-TOTAL			5,074
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			5,074
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			5,074
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			5,074
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			5,074
INTEREST DURING CONSTRUCTION	0%		-
New Jersey Smart Start Rebate			-
TOTAL		**$**	**5,074**

SOLID DOOR COMMERCIAL REFRIGERATORS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Solid Door Commercial Refrigerator		-		-	50	-	-
2	Energy Star Rated Commercial Refrigerator	See on the right	3	2,450	7,350		-	7,350
	Other Estimated Implementation Costs							-

TOTAL			**$ 7,350**
SUB-TOTAL			7,350
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			7,350
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			7,350
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			7,350
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			7,350
INTEREST DURING CONSTRUCTION	0%		-
New Jersey Smart Start Rebate			-
TOTAL		**$**	**7,350**

Heat Pump SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2-ton Heat Pump	ea	2	4,500	9,000	795	1,590	10,590
2	3-ton Heat Pump	ea	1	5,648	5,648	690	690	6,338
3	4-ton Heat Pump	ea	1	6,294	6,294	795	795	7,089
4	5-ton Heat Pump	ea	1	6,939	6,939	860	860	7,799
5								
6								
7								
8								
								31,816
	Other Estimated Implementation Costs							15,321

TOTAL COST		**$**	**47,136**
SUB-TOTAL			31,816
O&P	15%		4,772
ASBESTOS ABATEMENT			-
DIRECT COST			36,588
PAYMENT & PERFORMANCE BOND	2%		732
SUB-TOTAL			37,320
CONTINGENCY	15%		5,598
ASBESTOS CONTINGENCY	10%		-
SUB-TOTAL			42,918
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	10.0%		4,219
SUB-TOTAL			47,136
INTEREST DURING CONSTRUCTION	0%		-
TOTAL		**$**	**47,136**
New Jersey Smart Start Rebate			**1,264**
Total Avoided Cost		**$**	**43,936**

REPLACING WINDOW AC UNITS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	1	200	200	50	50	250
	Other Estimated Implementation Costs							-

TOTAL			**$ 250**
NJ Smart Start Rebate			
SUB-TOTAL			250
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			250
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			250
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			250
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			250
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 250**

Verdiem Computer Management System

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer TOD	EA	30	25	750	-	-	750
2	Central system	Ea	1	500	500		-	500
3								
4								
5					-		-	-
					-		-	-
	Other Estimated Implementation Costs							-

TOTAL			**$ 1,250**
NJ Smart Start Rebate			
SUB-TOTAL			1,250
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			1,250
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			1,250
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			1,250
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			1,250
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 1,250**

PROGRAMMABLE THERMOSTATS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programmable Thermostats	EA	13	225	2,925	800	10,400	13,325
	Other Estimated Implementation Costs							4,411

TOTAL			**$ 17,736**
SUB-TOTAL			13,325
O&P	10%		1,333
ASBESTOS ABATEMENT			-
DIRECT COST			14,658
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			14,658
CONTINGENCY	10%		1,466
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			16,123
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	10.0%		1,612
SUB-TOTAL			17,736
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 17,736**

Steam Trap Survey

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Steam Trap Survey	ea	1	0	-	4,439	4,439	4,439
2					-		-	-
	Other Estimated Implementation Costs							2,299

TOTAL		**$**	**6,738**
SUB-TOTAL			4,439
O&P	15%		666
ASBESTOS ABATEMENT			-
DIRECT COST			5,104
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			5,104
CONTINGENCY	20%		1,021
ASBESTOS CONTINGENCY	10%		-
SUB-TOTAL			6,125
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	10.0%		613
SUB-TOTAL			6,738
INTEREST DURING CONSTRUCTION	0%		-
New Jersey Smart Start Rebate			-
TOTAL		**$**	**6,738**

SOLID DOOR COMMERCIAL REFRIGERATORS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Solid Door Commercial Refrigerator		-		-	50	-	-
2	Energy Star Rated Commercial Refrigerator	Ea	1	2,450	2,450		-	2,450
	Other Estimated Implementation Costs							-

	TOTAL		**$ 2,450**
	SUB-TOTAL		2,450
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		2,450
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		2,450
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		2,450
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		2,450
	INTEREST DURING CONSTRUCTION	0%	-
	New Jersey Smart Start Rebate		-
	TOTAL		**$ 2,450**

Heat Pump SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	1-ton Heat Pump	ea	2	4,500	9,000	795	1,590	10,590
2	3-ton Heat Pump	ea	4	5,648	22,592	690	2,760	25,352
3	4-ton Heat Pump	ea	-	6,294	0	795	0	-
4	5-ton Heat Pump	ea	-	6,939	0	860	0	-
5								
6								
7								
8								
								35,942
	Other Estimated Implementation Costs							17,308

	TOTAL COST		**$ 53,250**
	SUB-TOTAL		35,942
	O&P	15%	5,391
	ASBESTOS ABATEMENT		-
	DIRECT COST		41,333
	PAYMENT & PERFORMANCE BOND	2%	827
	SUB-TOTAL		42,160
	CONTINGENCY	15%	6,324
	ASBESTOS CONTINGENCY	10%	-
	SUB-TOTAL		48,484
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	10.0%	4,766
	SUB-TOTAL		53,250
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 53,250**
	New Jersey Smart Start Rebate		**$ 1,106**
	Total Avoided Cost		**$ 50,450**

AHU SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	-	3500	-	1,000	-	-
2	4-ton PRTU w/ Gas Heat & Econ	ea	-	3,805	-	1,255	-	-
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	-	5,305	-	1,740	-	-
1	10-ton PRTU w/ Gas Heat & Econ	ea	1	7,010	7,010	2,125	2,125	9,135
2	15-ton PRTU w/ Gas Heat & Econ	ea	-	9,800	-	2,200	-	-
6	20-ton PRTU w/ Gas Heat & Econ	ea	-	19,200	-	1,450	-	-
7	25-ton PRTU w/ Gas Heat & Econ	ea	-	23,500	-	1,725	-	-
8	30-ton PRTU w/ Gas Heat & Econ	ea	-	28,300	-	2,050	-	-
	Other Estimated Implementation Costs							4,399

	TOTAL INCREMENTAL COST		**$ 13,534**
	SUB-TOTAL		9,135
	O&P	15%	1,370
	ASBESTOS ABATEMENT		-
	DIRECT COST		10,505
	PAYMENT & PERFORMANCE BOND	2%	210
	SUB-TOTAL		10,715
	CONTINGENCY	15%	1,607
	ASBESTOS CONTINGENCY	10%	-
	SUB-TOTAL		12,323
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	10.0%	1,211
	SUB-TOTAL		13,534
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 13,534**
	New Jersey Smart Start Rebate		**$ 790**
	Total Avoided Cost		**$ 11,534**

Replacing Window Units

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	13	200	2,600	50	650	3,250
	Other Estimated Implementation Costs							-

	TOTAL		**$ 3,250**
	NJ Smart Start Rebate		
	SUB-TOTAL		3,250
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		3,250
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		3,250
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		3,250
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		3,250
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 3,250**

Programmable Thermostats

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programmable Thermostats	EA	17	225	3,825	800	13,600	17,425
	Other Estimated Implementation Costs							5,768
	TOTAL							**$ 23,193**
	SUB-TOTAL							17,425
	O&P						10%	1,743
	ASBESTOS ABATEMENT							-
	DIRECT COST							19,168
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							19,168
	CONTINGENCY						10%	1,917
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							21,084
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	2,108
	SUB-TOTAL							23,193
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 23,193**

Condensing Boiler

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2 MBTU High Eff Gas Boiler	ea	2	40,200	80,400	15,000	30,000	110,400
2	Demo Existing Boilers	ls	2	4,000	8,000	12,000	24,000	32,000
3	Piping Modifications	ls	2	4,000	8,000	6,000	12,000	20,000
4	Electric/Controls	ls	2	10,000	20,000	7,500	15,000	35,000
5								
6					-		-	-
	Other Estimated Implementation Costs							161,814
	TOTAL							**$ 359,210**
	SUB-TOTAL							197,400
	O&P						30%	59,220
	ASBESTOS ABATEMENT							-
	DIRECT COST							256,620
	PAYMENT & PERFORMANCE BOND						2%	5,132
	SUB-TOTAL							261,752
	CONTINGENCY						15%	39,263
	ASBESTOS CONTINGENCY						10%	-
	SUB-TOTAL							301,015
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						15.0%	44,382
	SUB-TOTAL							345,398
	INTEREST DURING CONSTRUCTION						4%	13,816
	TOTAL							**$ 359,214**
	NJ Smart Start Rebate							**$ 2,000**
	Total Avoided Cost							**$ 339,560**

Server Room - Temperature Setpoint Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming	Hrs	1		-	200	200	200
	Other Estimated Implementation Costs							-
	TOTAL							**$ 200**
	SUB-TOTAL							200
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							200
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							200
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							200
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							200
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 200**

HIGH SCHOOL

VENDINGMISERS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	5	179	895	-	-	895

TOTAL			**$ 895**
SUB-TOTAL			895
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			895
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			895
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			895
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			895
INTEREST DURING CONSTRUCTION	0%		-
TOTAL			**$ 895**

Premium Efficiency Motors

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	7 1/2	HP Prem Eff Mot	1	865	865	150	150	1,015
2	7 1/2	HP Prem Eff Mot	1	865	865	150	150	1,015
	Other Estimated Implementation Costs							1,234

TOTAL	**$ 3,264**
NJ Smart Start Rebate	**$ 243**

KITCHEN DISHWASHER BOOSTER PUMP

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation Booster Water Heaters *Includes demolition of storage tank, installation of gas, electrical and pipe work.	LF	50	33	1,650	-	-	1,650
2	Water Heater Booster	PMG-200	1	6,281	6,281		-	6,281
	Other Estimated Implementation Costs							3,105

TOTAL	**$ 11,036**

KITCHEN DISHWASHER

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation Energy Star Kitchen Dishwasher *Includes demolition of existing dishwasher, installation of gas, electrical and pipe work.		1		-	-	-	-
2	Energy Star Dishwasher	See on the right	1	15,000	15,000		-	15,000
	Other Estimated Implementation Costs							-

TOTAL	**$ 15,000**

SOLID DOOR COMMERCIAL REFRIGERATORS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Solid Door Commercial Refrigerator		-		-	50	-	-
2	Energy Star Rated Commercial Refrigerator	See on the right	4	2,450	9,800		-	9,800
	Other Estimated Implementation Costs							-

TOTAL		**$ 9,800**
SUB-TOTAL		9,800
O&P	0%	-
ASBESTOS ABATEMENT		-
DIRECT COST		9,800
PAYMENT & PERFORMANCE BOND	0%	-
SUB-TOTAL		9,800
CONTINGENCY	0%	-
ASBESTOS CONTINGENCY	0%	-
SUB-TOTAL		9,800
ASBESTOS DESIGN & AIR MONITORING, TESTING		-
IC FEE	0.0%	-
SUB-TOTAL		9,800
INTEREST DURING CONSTRUCTION	0%	-
New Jersey Smart Start Rebate		-
TOTAL		**$ 9,800**

Heat Pump SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2-ton Heat Pump	ea	1	5,003	5,003	795	795	5,798
2	3-ton Heat Pump	ea	-	5,648	0	690	0	-
3	4-ton Heat Pump	ea	-	6,294	0	795	0	-
4	5-ton Heat Pump	ea	-	6,939	0	860	0	-
	Other Estimated Implementation Costs							2,792
	TOTAL							**$ 8,589**
	New Jersey Smart Start Rebate							**158**
	Total Avoided Cost							**8,189**

AHU SEER Upgrade

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	2	3500	7,000	690	1,380	8,380
2	4-ton PRTU w/ Gas Heat & Econ	ea	1	4,100	4,100	795	795	4,895
2	5-ton PRTU w/ Gas Heat & Econ	ea	8	6,262	50,096	795	6,360	56,456
3	7.5-ton PRTU w/ Gas Heat & Econ	ea	-	7,150	-	970	-	-
1	10-ton PRTU w/ Gas Heat & Econ	ea	-	9,175	-	1,050	-	-
2	15-ton PRTU w/ Gas Heat & Econ	ea	5	12,500	62,500	1,225	6,125	68,625
6	20-ton PRTU w/ Gas Heat & Econ	ea	-	19,200	-	1,450	-	-
7	25-ton PRTU w/ Gas Heat & Econ	ea	-	23,500	-	1,725	-	-
8	30-ton PRTU w/ Gas Heat & Econ	ea	-	28,300	-	2,050	-	-
	Other Estimated Implementation Costs							66,625
	TOTAL							**$ 204,981**
	New Jersey Smart Start Rebate							**2,370**
	Total Avoided Cost							**198,981**

Weatherstripping

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	12	200	2,400	150	1,800	4,200
	TOTAL							**$ 4,200**

WALK-IN FREEZER & COOLER EVAPORATOR FAN CONTROL

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Install Controls for Walk-In Cooler	Kitchen	1	604	604	320	320	924
2	Install Controls for Walk-In Freezer	Kitchen	1	604	604	320	320	924
	Other Estimated Implementation Costs							492
	TOTAL							**$ 2,340**
	SUB-TOTAL							1,848
	O&P						15%	277
	ASBESTOS ABATEMENT							-
	DIRECT COST							2,125
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							2,125
	CONTINGENCY						10%	213
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							2,338
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							2,338
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 2,340**

REPLACING WINDOW AC UNITS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	5	200	1,000	50	250	1,250
	Other Estimated Implementation Costs							-
	TOTAL							**$ 1,250**
	NJ Smart Start Rebate							
	SUB-TOTAL							1,250
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,250
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,250
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,250
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							1,250
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 1,250**

SHUTDOWN WINDOW AC UNITS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Shutdown Window AC Unit	hr	1	0	-	20	20	20
	Other Estimated Implementation Costs							-

	TOTAL		**$ 20**
	NJ Smart Start Rebate		
	SUB-TOTAL		20
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		20
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		20
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		20
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		20
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 20**

Computer Management System

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer Management System	Per Computer	26	25	650	-	-	650
2	Computer Management System	Ea	1	500	500		-	500
3								
4								
5					-		-	-
					-		-	-
	Other Estimated Implementation Costs							-

	TOTAL		**$ 1,150**
	NJ Smart Start Rebate		
	SUB-TOTAL		1,150
	O&P	0%	-
	ASBESTOS ABATEMENT		-
	DIRECT COST		1,150
	PAYMENT & PERFORMANCE BOND	0%	-
	SUB-TOTAL		1,150
	CONTINGENCY	0%	-
	ASBESTOS CONTINGENCY	0%	-
	SUB-TOTAL		1,150
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	0.0%	-
	SUB-TOTAL		1,150
	INTEREST DURING CONSTRUCTION	0%	-
	TOTAL		**$ 1,150**

BUILDING MANAGEMENT SYSTEM

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Host Computer, Materials and Labor	ea	1	9,363	9,363		-	9,363
2	DCV - See DCV Below	ea	1	12,700	12,700		-	12,700
3	TOD Optimization - BMS Programming - See TOD Optimization Below	ea	1	3,200	3,200		-	3,200
4	Setpoint Optimization - BMS Programming - See TOD Optimization Below	ea	1	3,200	3,200		-	3,200
5	Holiday TOD Optimization - BMS Programming - See TOD Optimization Below	ea	1	1,600	1,600		-	1,600
6	Simultaneous Heating and Cooling Optimization - BMS Programming - See TOD Optimization Below	ea	1	1,600	1,600		-	1,600
7	Exhaust Fan TOD - See Exhaust Fan TOD Below	ea	1	1,600	1,600		-	1,600
8	BMS Setup: Install sensors and controllers for RTU's - 6 points per RTU	ea	132	256	33,792	891	117,612	151,404
9	BMS Setup: Install sensors and controllers for Exhaust Fan TOD	ea	43	256	11,008	891	38,313	49,321
	Other Estimated Implementation Costs							142,242

	TOTAL		**$ 376,230**
	SUB-TOTAL		233,988
	O&P	15%	35,098
	ASBESTOS ABATEMENT		-
	DIRECT COST		269,086
	PAYMENT & PERFORMANCE BOND	2%	5,382
	SUB-TOTAL		274,468
	CONTINGENCY	20%	54,894
	ASBESTOS CONTINGENCY	10%	-
	SUB-TOTAL		329,362
	ASBESTOS DESIGN & AIR MONITORING, TESTING		-
	IC FEE	10.0%	32,398
	SUB-TOTAL		361,759
	INTEREST DURING CONSTRUCTION	4%	14,470
	TOTAL		**$ 376,230**

Temperature Setpoint Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming	Hrs	16		-	200	3,200	3,200
	TOTAL							$ **3,200**
	SUB-TOTAL							3,200
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							3,200
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							3,200
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							3,200
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							3,200
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ **3,200**

TOD Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming		16		-	200	3,200	3,200
	TOTAL							$ **3,200**
	SUB-TOTAL							3,200
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							3,200
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							3,200
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							3,200
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							3,200
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ **3,200**

Holiday TOD Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming		8		-	200	1,600	1,600
	TOTAL							$ **1,600**
	SUB-TOTAL							1,600
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,600
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,600
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,600
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							1,600
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ **1,600**

Prevent Simultaneous Heating and Cooling

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming		8		-	200	1,600	1,600
	TOTAL							$ **1,600**
	SUB-TOTAL							1,600
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,600
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,600
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,600
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							1,600
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							$ **1,600**

Demand Controlled Ventilation								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	CO2 Sensors & Control Wiring	EA	2	375	750	625	1,250	2,000
2	RA / OA Dampers & Actuators	EA (avg)	2	1,250	2,500	750	1,500	4,000
3	Controllers	EA	2	1,500	3,000	600.0	1,200	4,200
4	Electrical Work	EA	2	750	1,500	500.0	1,000	2,500
	Other Estimated Implementation Costs							-
	TOTAL							**$ 12,700**
	SUB-TOTAL							12,700
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							12,700
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							12,700
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							12,700
	DISPOSAL							-
	MATERIAL HANDLING FEE						0.0%	-
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	SUB-TOTAL							12,700
	IC FEE						0.0%	-
	SUB-TOTAL							12,700
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 12,700**

Exhaust Fan TOD Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming		8		-	200	1,600	1,600
	TOTAL							**$ 1,600**
	SUB-TOTAL							1,600
	O&P						0%	-
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,600
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,600
	CONTINGENCY						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,600
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							1,600
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 1,600**

Upgrade Windows								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	4,848			1.25	6,060	6,060
2	Install dbl glazed, alum dbl hung window	sf	4,848	200	969,600	19	91,870	1,061,470
3	Demolition/removal old doors	ea	-		-	130	-	-
4	Install dbl glazed, alum doors	ea	-	3,125	-	19	-	-
	Other Estimated Implementation Costs							240,063
	TOTAL							**$ 1,307,593**
	NJ SmartStart Rebate							**$ -**

PROGRAMMABLE THERMOSTATS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programmable Thermostats	EA	1	225	225	800	800	1,025
	Other Estimated Implementation Costs							339
	TOTAL							**$ 1,364**
	SUB-TOTAL							1,025
	O&P						10%	103
	ASBESTOS ABATEMENT							-
	DIRECT COST							1,128
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							1,128
	CONTINGENCY						10%	113
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							1,240
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						10.0%	124
	SUB-TOTAL							1,364
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							**$ 1,364**

Condensing Boiler

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3 MBTU High Eff Gas Boiler	ea	5	50,400	252,000	15,000	75,000	327,000
1	2 MBTU High Eff Gas Boiler	ea	-	40,200	-	15,000	-	-
2	Demo Existing Boilers	ls	2	4,000	8,000	12,000	24,000	32,000
3	Piping Modifications	ls	2	4,000	8,000	6,000	12,000	20,000
4	Electric/Controls	ls	2	10,000	20,000	7,500	15,000	35,000
5								
6					-		-	-
	Other Estimated Implementation Costs							339,366

TOTAL			**$ 753,370**
SUB-TOTAL			414,000
O&P	30%		124,200
ASBESTOS ABATEMENT			-
DIRECT COST			538,200
PAYMENT & PERFORMANCE BOND	2%		10,764
SUB-TOTAL			548,964
CONTINGENCY	15%		82,345
ASBESTOS CONTINGENCY	10%		-
SUB-TOTAL			631,309
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	15.0%		93,082
SUB-TOTAL			724,390
INTEREST DURING CONSTRUCTION	4%		28,976
TOTAL		**$**	**753,366**
NJ Smartstart Rebate		**$**	**2,900**
Total Avoided Cost		**$**	**627,070**

Server Room - Temperature Setpoint Optimization

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming	Hrs	1		-	200	200	200
	Other Estimated Implementation Costs							-

TOTAL		**$**	**200**
SUB-TOTAL			200
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			200
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			200
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			200
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			200
INTEREST DURING CONSTRUCTION	0%		-
TOTAL		**$**	**200**

Boiler Controls

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	1 - Dual PLC panel for combustion control and BMS duties	ea	1	90,000	90,000		-	90,000
2	2 - Flame scanners				-		-	-
3	1 - VFD				-		-	-
4	1 - Fuel gas pneumatic style control valve				-		-	-
5	1 - Fuel gas flow meter				-		-	-
6	1 - Fuel oil pneumatic style control valve				-		-	-
5	1 - Fuel oil flow meter				-		-	-
5	1 - Air flow meter				-		-	-
6	1 - Stack oxygen analyzer				-		-	-
5	1 - Windbox oxygen analyzer				-		-	-
5	1 - Lot of additional programming for feedwater and draft control				-		-	-
6	2 - Weeks of commissioning services				-		-	-

TOTAL		**$**	**90,000**
SUB-TOTAL			90,000
O&P	0%		-
ASBESTOS ABATEMENT			-
DIRECT COST			90,000
PAYMENT & PERFORMANCE BOND	0%		-
SUB-TOTAL			90,000
CONTINGENCY	0%		-
ASBESTOS CONTINGENCY	0%		-
SUB-TOTAL			90,000
ASBESTOS DESIGN & AIR MONITORING, TESTING			-
IC FEE	0.0%		-
SUB-TOTAL			90,000
INTEREST DURING CONSTRUCTION	0%		-
TOTAL		**$**	**90,000**

Wind Analysis - Mt Lakes High School

Performed By Dome-Tech Energy Advisors

Note: Only input to cells filled YELLOW

INPUTS	
Building Name	Mt Lakes High School
Address	93 Powerville Road, Mt. Lakes NJ
Annual Electric Use, kW	1,207,100
Electric Cost, $/kWh	$ 0.147

Latitude	38.56
Longitude	-74.550

Longitude & Latitude Finder: iTouchMap.com
http://itouchmap.com/latlong.html

NASA Surface meteorology and Solar Energy: Data Subset **Log In:** k_mccarthy@dom
http://eosweb.larc.nasa.gov/cgi-bin/sse/subset.cgi?email=k_mccarthy@dome-tech **Password:** dometech

Monthly Averaged Wind Speed At 10 m Above The Surface O							
Latitude	Longitude	January	February	March	April	May	June
38.56	-74.55	7.12	7.18	7.05	6.37	5.51	5.12

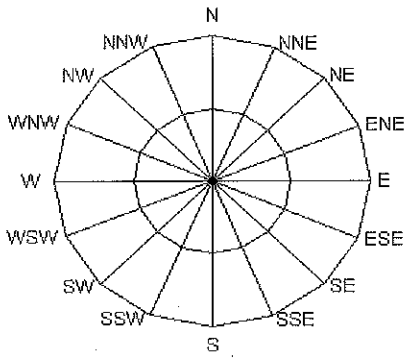
Monthly Averaged Wind Speed At 50 m Abov							
Latitude	Longitude	January	February	March	April	May	June
38.56	-74.55	8.33	8.4	8.25	7.45	6.45	5.99

WIND DIRECTION ANALYSI

Monthly Averaged Wind Direction At 50 m Above							
Latitude	Longitude	January	February	March	April	May	June
38.56	-74.55	323	325	325	324	320	310

Wind Direction and Degrees		
Degree Direction		Cardinal
Min Deg	Max Deg	Direction
0	11.25	N
11.25	33.75	NNE
33.75	56.25	NE
56.25	78.75	ENE
78.75	101.25	E
101.25	123.75	ESE
123.75	146.25	SE
146.25	168.75	SSE
168.75	191.25	S
191.25	213.75	SSW
213.75	236.25	SW
236.25	258.75	WSW
258.75	281.25	W
281.25	303.75	WNW
303.75	326.25	NW
326.25	348.75	NNW
348.75	360	N

Average	Direction	General
313.67	NW	WEST



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f The Earth For Terrain Similar To Airports (m/s)						
July	August	September	October	November	December	AVERAGE
4.63	4.4	5.02	5.69	6.7	7.18	6.00

e The Surface Of The Earth (m/s)						
July	August	September	October	November	December	AVERAGE
5.42	5.15	5.87	6.66	7.84	8.4	7.02

S

The Surface Of The Earth (degrees)						
July	August	September	October	November	December	AVERAGE
300	297	303	311	312	314	313.67

Wind Direction and Degrees		
Degree Direction		General
Min Deg	Max Deg	Direction
0	45	NORTH
45	135	SOUTH
135	225	EAST
225	315	WEST
315	360	NORTH

DESIGN CALCULATIONS			
Equipment	*Micro - 1kW*	*Traditional - 2.5 kW*	*Traditional - 50 kW*
Prevailing Wind Direction	WEST (Specifically NW)		
Building's WEST Roof Perimeter's Available Length, Ft	329 Ft		
Ground Area Available (Row WIDTH), Ft	120 Ft		
Ground Area Available (Column DEPTH), Ft	140 Ft		
Ground Area Available, SqFt	16800		
Min. Distance Between Units (Roof), Ft	25 Ft	-	-
Min. Dist. Between Units (Ground), Rotor Dia.'s	-	3	
Min. Dist. Between Rows (Ground), Rotor Dia's	-	10	
Typical Rotor Diameter, Ft	6 Ft	16 Ft	50 Ft
Max. # of Units Possible per Row (Ground)	-	3	1
Max. # of Rows Possible (Ground)	-	1	1
Max. # of Units Possible (Roof)	14	-	-
Max Number of Units Possible	**14**	**3**	**1**
Target Minumum % of Energy Use	-	20%	
# Units Required to Reach Target	-	26	2
# Units to Install	14	3	1

ENERGY CALCULATIONS			
Equipment	*Micro - 1kW*	*Traditional - 2.5 kW*	*Traditional - 50 kW*
Average Wind Speed, (m/s)	6.00	6.00	7.02
Annual Electric Use, kWh	1,207,100 kWh		
Electric Cost	$0.15 / kWh		
Number of Units	14	3	1
kW Capacity, per Unit	1 kW	5.2 kW	50 kW
kW Capacity, Total	14 kW	16 kW	50 kW
Annual Production Per Unit	1,537 kWh	9,396 kWh	169,103 kWh
Annual Production Total	21,516 kWh	28,187 kWh	169,103 kWh
Annual Savings	$3,173	$4,156	$24,935
Installed Cost per Unit	$6,500	-	-
Installed Cost per kW	-	$6,000	$5,000
Gross Installed Cost	$91,000	$93,600	$250,000
NJ Incentive	$53,958	$57,294	$127,752
Net Installed Cost	$37,042	$36,306	$122,248
Simple PayBack, Years	11.7	8.7	4.9
% of Total Energy Use*	1.8%	2.3%	14.0%

*Mt Lakes High School: 1207100 kWh/Year.

OTHER CONCERNS			
Approximate Sound Levels, dB	65	72	99
Maximum Permissable Outdoor Levels - Commercial	65 dB		
Local Noise Ordinance Compliant?, Y / N	Y		
Local Zoning Restrictions	Chapter 340		
Clifton Zoning Code	No person shall cause, suffer, allow, or permit the operation of any source of sound on any source property listed in § 340-2A above in such a manner as to create a sound pressure level that equals or exceeds the sound levels listed below in one or more octave bands.		

Wind Turbine Economics: Mt Lakes High School

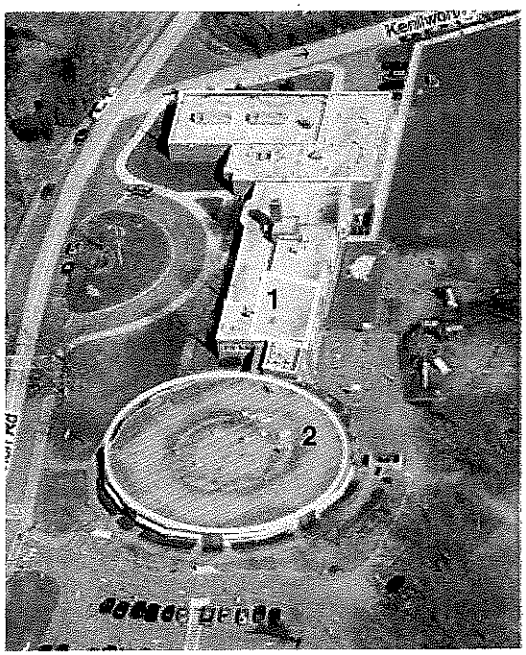
	Building Integrated - 1 kW	Ground Mount - 5.2 kW	Ground Mount - 50 kW
Number of Units	14	3	1
Gross Installation Cost Estimate	$91,000	$93,600	$250,000
NJ SSB Rebate	$53,958	$57,294	$127,752
Net Installation Cost Estimate	$37,042	$36,306	$122,248
Annual Energy Savings	3,173	4,156	24,935
Simple Payback with rebate**	12	9	5
Simple Payback without rebate**	29	23	10
System Capacity	14	16	50
Annual Avoided Energy Use	21,516	28,187	169,103
Annual Avoided CO2 Emmisions, Tons	8	10	59
% of Annual Electric Use*	1.8%	2.3%	14.0%

*Mt Lakes High School: 1207100 kWh/Year.

**The NJ Clean Energy Program temporary hold on all new wind applications (as of 3/8/11) is still in existence at the time of this report

Solar PV System - Mt Lakes
Wildwood Elementary School
Performed By Dome-Tech Energy Advisors

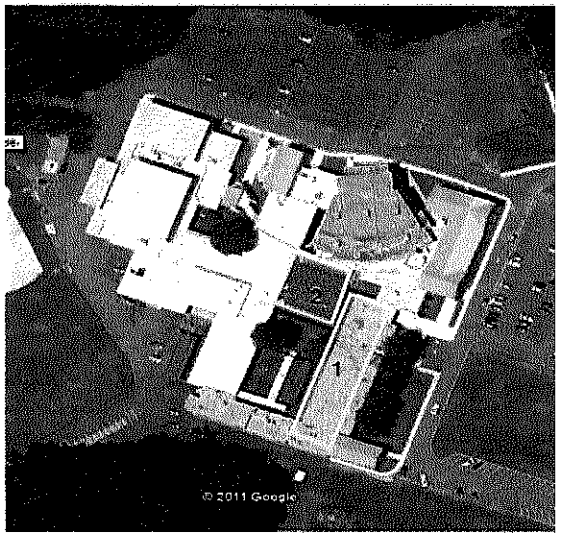
	Section 1	Section 2	Section 3	Section 4	Section 5	Parking Canopy	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	47	132					
Panel Count (calculated)	13.7	38.5	0.0	0.0	0.0	0.0	
Panel Count (actual)	13	38	0	0	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	19	132					
Panel Count (calculated)	3.7	25.8	0.0	0.0	0.0	0.0	
Panel Count (actual)	3	25	0	0	0	0	
Gross Panel Qty	39	950	0	0	0	0	
Panel Reduction %	50%	30%	50%	50%	50%	50%	
Net Panel Qty	20	285	0	0	0	0	305
							Total
System Capacity, kw	4	66	0	0	0	0	70
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	4,727	69,090	0	0	0	0	73,817



Solar PV System - Mt Lakes High School

Performed By Dome-Tech Energy Advisors

	Section 1 N/S	Section 2 N/S	Section 3 N/S	Section 4 N/S	Section 5 N/S	Parking Canopy N/S	
Gross Length, feet	240	75					
Panel Count (calculated)	69.9	21.9	0.0	0.0	0.0	0.0	
Panel Count (actual)	69	21	0	0	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	70	82					
Panel Count (calculated)	13.7	16.0	0.0	0.0	0.0	0.0	
Panel Count (actual)	13	16	0	0	0	0	
Gross Panel Qty	897	336	0	0	0	0	
Panel Reduction %	70%	60%	60%	50%	50%	50%	
Net Panel Qty	628	202	0	0	0	0	830
							Total
System Capacity, kw	144	46	0	0	0	0	191
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	152,216	48,872	0	0	0	0	201,087



Solar PV System - Mt Lakes
Briarcliff Middle School
Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Parking Canopy	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	52	16	62				
Panel Count (calculated)	15.2	4.7	18.1	0.0	0.0	0.0	
Panel Count (actual)	15	4	18	0	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	37	64	62				
Panel Count (calculated)	7.2	12.5	12.1	0.0	0.0	0.0	
Panel Count (actual)	7	12	12	0	0	0	
Gross Panel Qty	105	48	216	0	0	0	
Panel Reduction %	70%	60%	50%	50%	50%	50%	
Net Panel Qty	74	29	108	0	0	0	210
							Total
System Capacity, kw	17	7	25	0	0	0	48
Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	17,818	6,982	26,181	0	0	0	50,981