



Final Energy Audit Report

Ocean Township Board of Education
October 12, 2012



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October 12, 2012

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Subject: Final Energy Audit Report for the Township of Ocean Board of Education

Dear Mr. Jannarone:

Please find enclosed three (3) hard copies and a digital copy of our final energy audit report for the Township of Ocean Board of Education.

Should you have any questions or comments, kindly give me a call.

Very truly yours,

A handwritten signature in black ink, appearing to read "Matthew T. Goss".

Matthew T. Goss, P.E., C.E.M., C.E.A., LEED®AP
Senior Project Manager
CDM Smith

cc: Chris Korzenko (CDM Smith)

Enclosure



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Executive Summary

As part of an initiative to reduce energy cost and consumption, the Ocean Township Board of Education has secured the services of CDM Smith to perform an energy audit for six (6) facilities which are owned and operated by the Board in an effort to develop comprehensive Energy Conservation and Retrofit Measures (ECRMs).

CDM Smith's energy audit team visited the facilities June 25, and June 26, 2012. As a result of the site visit and evaluation of the historical energy usage of the facilities, CDM Smith was successful in identifying opportunities for energy savings measures.

CDM Smith has also evaluated the potential for renewable energy technologies to be implemented at the Board's facilities to offset the electrical energy usage. Specifically, the use of solar electric photovoltaic panels, ground source heat pumps and wind turbines were investigated.

Potential energy cost savings may be available for the Board through the use of a third party electric or gas supplier. Additionally, there is potential for the Board to make money by participation in a Demand Response Program, as discussed in Section 5.2.

Not all ECRMs identified as a result of the energy audit are recommended. ECRMs must be economically feasible to be recommended to the Board for implementation. The feasibility of each ECRM was measured through a simple payback analysis. The simple payback period was determined after establishing the following:

- Engineer's Opinion of Probable Construction Cost estimates
- Operation and Maintenance (O&M) cost estimates
- Projected annual energy savings estimates
- Potential value of New Jersey Clean Energy rebates
- Renewable Energy Credits, if applicable

ECRMs with a payback period of 20 years or less can be recommended.

Historical Energy Usage

The following table, Table ES-1, summarizes the historical energy usage at each of the Board's facilities as presented in Section 3. The data in Table ES-1 has been taken from the facility data forms, provided by the Board. These values can serve as a bench-marking tool, along with the building profiles that have been established through the EPA's Portfolio Manager Program. These tools can quantify the reduction in electrical energy and natural gas usage following the implementation of the recommended ECRMs.

Table ES-1						
Summary of Annual Energy Usage & Cost						
	Electrical Energy Use (kWh)	Peak Summer Demand (kW)	Peak Winter Demand (kW)	Fuel Use for Entire Building (therms)	Cost for Electric Service	Cost for Fuel
Administration Building	147,936	74	48	33,535	\$26,628	\$37,693
Ocean Township High School	1,998,972	502	495	155,138	\$299,846	\$129,596
Ocean Township Elementary School	467,748	162	143	35,828	\$74,840	\$46,755
Ocean Township Intermediate School	2,849,256	910	883	93,500	\$427,388	\$108,440
Wanamassa Elementary School	548,520	137	133	43,024	\$82,278	\$52,817
Wayside Elementary School	739,092	149	124	57,529	\$103,473	\$104,892

Recommended ECRMs

The following Table ES-2 presents the ranking of recommended ECRMs identified for the building lighting and HVAC systems based on the simple payback analysis.

Additional ECRMs associated with the building envelope and other miscellaneous appliances were identified and evaluated, as discussed in Sections 2 and 4. However, these ECRMs were not recommended due to longer payback periods. This table includes the Engineer's Opinion of Probable Construction Cost. Projected annual energy cost savings, projected annual energy usage savings, and total simple payback period for each recommended ECRM are also included. The ECRMs are ranked based on payback period.

Table ES-2 ¹					
Ranking of Energy Savings Measures Summary					
Overall Ranking (Based on Simple Payback)	Facility Measure	Total Cost	Energy Savings	Annual Fiscal Savings ²	Simple Payback (Years)
1	Ocean Township Intermediate School Lighting Upgrades	\$57,679	226,035 kWh	\$34,919	1.7
2	Ocean Township High School Lighting Upgrades	\$58,821	181,515 kWh	\$28,025	2.1
3	Ocean Township Elementary School Lighting Upgrades	\$16,820	47,561 kWh	\$7,546	2.2
4	Wanamassa Elementary Lighting Upgrades	\$29,784	54,171 kWh	\$7,514	4.0
5	Wayside Elementary Lighting Upgrades	\$38,468	67,397 kWh	\$8,211	4.7

Table ES-2 ¹					
Ranking of Energy Savings Measures Summary					
Overall Ranking (Based on Simple Payback)	Facility Measure	Total Cost	Energy Savings	Annual Fiscal Savings ²	Simple Payback (Years)
6	Administration Building Lighting Upgrades	\$55,345	44,164 kWh	\$9,360	5.9
7	Ocean Township Elementary School DHW Replacement	\$16,000	-714 Therms 19,845 kWh	\$2,340	6.7

1. Engineers Probable Construction Cost takes into account any applicable rebates.

2. Annual Fiscal Savings takes into account additional O&M cost or savings associated with the measure.

Renewable Energy Technologies

Solar Energy

Section 4 of the report provides for an economic evaluation of a solar energy system recommended to be installed at several of the Board's facilities. The evaluation covered the economic feasibility of the Board installing a solar energy system under a typical construction contract and to assume full responsibility of the operation of such a system.

Based on a simple payback model, summarized in Table ES-3, it would not benefit the Board to further investigate the installation of a solar energy system at the six buildings. This is primarily based on the initial upfront capital investment required for a solar energy system installation, negative NPV, and the 21.5 year payback period. This payback period does not justify installing the solar energy system. Other options such as Power Purchase Agreements are potentially available as well to help finance the project. Solar technology is constantly changing and will most likely continue to lower in price.

Two major factors influencing the project financial evaluation are the variance of the prevailing energy market conditions and Solar Renewable Energy Credit (SREC) rates. The largest impact to the payback model is the SREC credit pricing. For the payback model, conservative estimates of the SREC's market value over a 25 year period were assumed, as discussed in Section 4.

Table ES-3 includes a simple payback analysis for the installation of a solar energy system at the identified Board buildings. See section 4 for additional information.

Table ES-3	
Simple Payback Analysis for Solar Energy Systems	
Estimated Budgetary Project Cost	\$12,281,250
1 st Year Production	1,256,650 kWh
Annual Electric Savings	\$193,585
Annual Estimated SREC Revenue	\$376,995
Project Simple Payback	21.5

Wind Power Generation

Section 4 of the report provides for an economic evaluation of a wind turbine energy system recommended to be installed at the Board's facilities. The evaluation covered the economic feasibility of furnishing and installing a wind turbine energy system under a typical construction contract and to assume full responsibility of the operation of such a system.

CDM Smith completed a preliminary desktop wind power production analysis and has concluded that an additional on-site feasibility study is warranted and recommended. Such a feasibility study would include the installation of a wind test rig to measure actual wind conditions as observed on-site.

Wind power as a renewable energy source also qualifies for Renewable Energy Certificates (RECs). The prevailing energy market, Renewable Energy Incentive Program (REIP) and RECs comprise the major factors influencing a wind turbine energy system installation. Other options, such as government bonds or a Power Purchase Agreement, are potentially available and can assist with the financing of this project.

Table ES-4 includes a typical simple payback analysis for the installation of a wind turbine energy system located within the Board's borders. Refer to Appendix K for a more detailed wind energy financing spreadsheet.

Table ES-4			
Ranking of Energy Savings Measures Summary – Wind Turbine Energy System			
Parameter	Wind Turbine (Minimum Site Wind Speed – 4.4 m/s)	Wind Turbine (Maximum Site Wind Speed – 6.4 m/s)	Wind Turbine (Average Site Wind Speed – 5.5 m/s)
Engineer's Opinion of Probable Cost	\$450,000	\$450,000	\$450,000
Renewable Energy Incentive Program **	\$0	\$0	\$0
Total Cost	\$450,000	\$450,000	\$450,000
1 st Year Production	77,510	157,834	124,220
Annual Estimated Electric Savings	\$12,402	\$25,253	\$19,875
Annual Estimated REC Revenue	\$1,938	\$3,946	\$3,106
Project Simple Payback (Years)	31	15	20

** REIP incentive is calculated for only the first year and is applied as a deduction.

Recommended ECRMs

Table ES-6 summarizes the Total Engineer's Opinion of Probable Construction Cost, annual energy savings, projected annual energy, and O&M cost savings and the payback period based on the implementation of all of the above recommended ECRMs.

Table ES-6 Recommended ECRM's¹			
Total Engineer's Opinion of Probable Construction Cost	Projected Annual Energy Savings	Projected Annual Fiscal Savings	Simple Payback Period (years)
\$263,063	-714 Therms 637,327 kWh	\$97,663	2.69

1. Does not include energy savings associated with Solar Energy System or Wind Power Generation.

Section 1

Introduction

1.1 General

As part of an initiative to reduce energy cost and consumption, the Ocean Township Board of Education has secured the services of CDM Smith to perform an energy audit at six (6) facilities in an effort to develop comprehensive energy conservation initiatives.

The performance of an Energy Audit requires a coordinated phased approach to identify, evaluate and recommend energy conservation and retrofit measures (ECRMs). The various phases conducted under this Energy Audit included the following:

Gather preliminary data on all facilities;

Facility inspection;

Identify and evaluate potential ECRMs and evaluate renewable/distributed energy measures;

Develop the energy audit report.

Figure 1-1 is a schematic representation of the phases utilized by CDM Smith to prepare the Energy Audit Report.

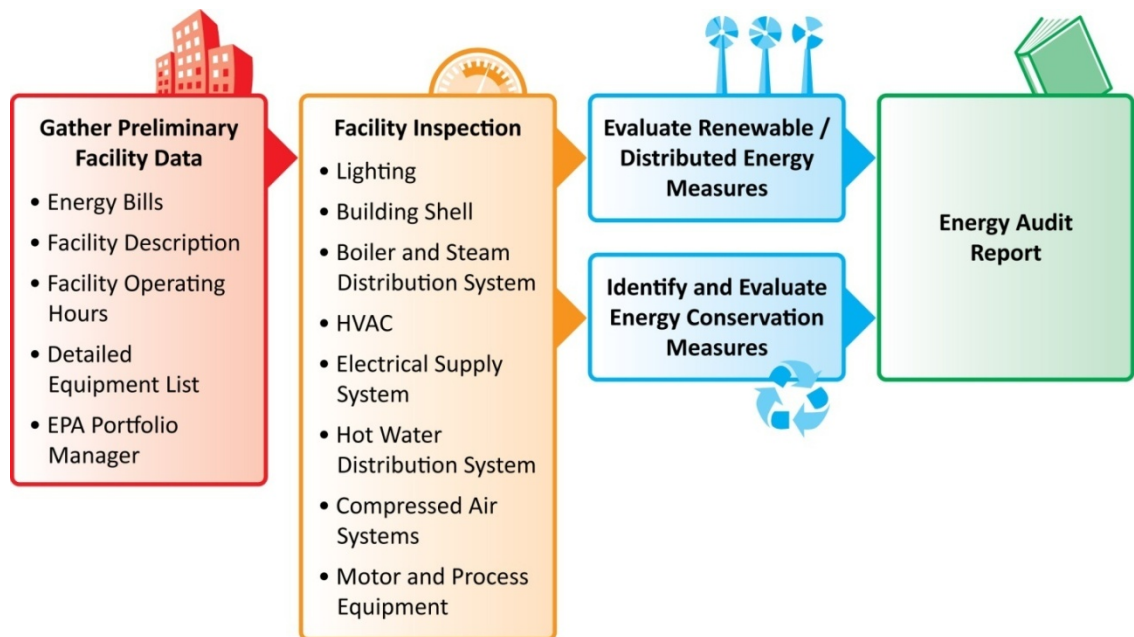


Figure 1-1: Energy Audit Phases

1.2 Background

The facilities that were included in the energy audit for the Ocean Township Board of Education were:

- Ocean Township High School
- Ocean Township Intermediate School
- Ocean Township Elementary School
- Wanamassa Elementary School
- Wayside Elementary School
- Administration Building.

The Ocean Township High School was constructed in 1964 with an addition added in 1998. The school totals approximately 200,215 square feet. It is normally occupied during the hours of 6am to 11pm from Monday to Friday by 1386 students.

The Township of Ocean Intermediate School was constructed in 1974 and is approximately 257,400 square feet. It is normally occupied during 6am to 11pm from Monday to Friday by 1327 students.

The Ocean Township Elementary School was constructed in 1957 and is approximately 76,160 square feet. It is normally occupied during 6am to 8pm from Monday to Friday by 455 students.

The Wanamassa Elementary School was constructed in 1930 and is approximately 59,580 square feet. It is normally occupied during 6am to 8pm from Monday to Friday by 360 students.

The Wayside Elementary School was constructed in 1969 and is approximately 147,375 square feet. It is normally occupied during 6am to 11pm from Monday to Friday by 652 students.

The Administration Building was constructed in 1900 and is approximately 34,000 square feet. It is normally occupied during 6am to 11pm from Monday to Friday by 80 staff.

1.3 Purpose and Scope

The objective of the energy audit is to identify energy conservation and retrofit measures to reduce energy usage and to develop an economic basis to financially validate the planning and implementation of identified energy conservation and retrofit measures.

Significant energy savings may be available with retrofits to the heating and cooling systems, and lighting systems. Changing building occupancy schedules and consolidating afterschool activities can also generate significant savings. It should be noted that the magnitude of energy savings available is not only dependent on the type of heating, lighting, or insulation systems in use, but also on the age and condition of the equipment and the capital available to implement major changes. Due to the rising cost of power and the desire to minimize dependence on foreign oil supplies, energy consumption is taking a higher priority across the nation and feasible alternatives for reducing energy consumption and operating costs must be evaluated on a case-by-case basis.

The purpose of this energy audit is to identify the various critical building comfort systems that are major consumers of electrical energy and are clear candidates for energy savings measures. In addition, potential energy producing systems such as solar electric, ground source heat pumps, and wind energy systems were also evaluated. A discussion on these technologies is included in Section 4, Energy Conservation and Retrofit Measures (ECRM).

In addition to identifying ECRMs and the potential for on-site energy generation, there is potential for further energy cost savings through the use of a third party energy supplier and participation in a Demand Response Program. This is discussed further in Section 5.

Section 2

Facility Description

2.1 Administration Building

2.1.1 Description of Building Envelope

The energy audit included an evaluation of the building's envelope (exterior shell) to determine the components' effective R-values to be utilized in the building model and to locate and fix any thermal weaknesses that may be present. The components of a building envelope include the exterior walls, foundation, and roof. The construction and material, age, and general condition of these components, including exterior windows and doors, impact the building's energy use.

The building was constructed in the 1900's. The original building has brick walls and sloped roof with asphalt shingles. The addition was built in the 1950's. The addition is CMU walls with a brick façade. The roof of the addition is flat roofing with two inches of rigid insulation with EPDM surface and steel deck and framing.

The interior surfaces are a mix of drywall and plaster. The peaked roof is not insulated and the top floor ceiling is not insulated.

The windows in the older portions of the building are all vinyl double pane aluminum windows. The addition has a mix of metal frame single pane windows and double pane vinyl in offices and break rooms. The site staff report the vinyl windows are in poor condition. The original single pane windows are observed to be in poor condition. The majority of exterior doors are original. Doors have single pane glazing. These doors are in poor condition. Some doors have been replaced with metal exterior doors. The metal replacement doors are in good condition.

The building's envelope is not insulated to current energy code standards. There is room for improvement. A major project to improve the building insulation values would probably not be cost effective. Incorporating insulation improvements into renovations is a cost effective incremental improvement.

2.1.2 Description of Building HVAC

The heating system is comprised of unit ventilators with hot water coils and radiators. The unit ventilators in each space are controlled by pneumatic thermostats. The unit ventilators, radiators, and air handlers are supplied with steam by a central boiler room. The boiler room houses two gas fired steam boilers. Each boiler is a Weil McLain 1088 rated at 2,452 MBH input.

The building has had many renovations. The original spaces were subdivided. The created spaces have electric resistance baseboard heaters. Typically, the units are controlled by a line voltage wall thermostat with a few that are controlled by the onboard rheostat.

The original building is cooled by packaged AC split systems. These units are rated at 30 MBH cooling. These units are controlled by a single set-point thermostat. The addition is cooled by window AC units and a packaged roof top unit. The window units typically have a cooling capacity of 24 MBH. The roof top unit is rated 48 MBH cooling.

Domestic hot water is produced by electric water heaters in various locations of the building.

2.1.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 2 lamp, 2X4 2, 3, and 4 lamp T8 linear fluorescent fixtures with electronic ballasts, 8' 2 lamp, 1x4 2 lamp, 2x4 2, 3, 4 T12 linear fluorescent fixtures with magnetic ballasts, compact fluorescent, and incandescent fixtures. Existing exterior lighting consists of HID wall packs. Refer to Section 4 for a more detailed description.

2.2 Ocean Township High School

2.2.1 Description of Building Envelope

The building is a steel structure with cmu walls and a brick exterior façade. The building addition walls are cmu structure with brick façade with a layer of rigid insulation. The interior faces of the building walls are painted cmu.

The building roof is flat corrugated steel decking on steel framing. The addition is on steel trusses with insulation on the roof deck. The roof finish is EPDM roofing.

The building windows are mostly double pane with aluminum frames. Windows in the gym have been replaced with translucent panels. Portions of the original building have single pane windows. The single pane windows in the cafeteria are scheduled to be replaced. The building has some sky lights. The skylights are mostly located in circulation areas.

2.2.2 Description of Building HVAC

The classrooms are heated and ventilated by unit ventilators. These units have hot water coils and are controlled by the building management system. The remainder of the building is conditioned by air handlers located in the building. These units have hot water coils and select ones have direct expansion, or dx, cooling coils. The library, auditorium, and E-wing classrooms have cooling coils in the air handlers. The building has a central boiler room. The boiler room contains three Cleaver Brooks fire tube boilers. Two of the boilers are CBE-700-150-12S rated at 6,300 MBH input and one CBE-700-200-125 rated at 8,400 MBH input. These boilers are 15 years old. The E-wing has under heating problems. This is due to the distance from the central boiler plant and the piping configuration mixing return water in the mains. This under heating can be corrected by installing a new dedicated pipe from the boiler room to the E wing mechanical room or installing a dedicated boiler to serve the E wing.

The main offices and computer labs are cooled by window air conditioners. The data center has two dedicated split-system air conditioners to cool the space. The data center layout can be optimized to reduce the energy consumption. This is accomplished by creating a single path of air through the computer racks.

The building automation system controls the space set points and schedules. Smaller systems are controlled independently by their respective unit controls.

Domestic hot water is produce by eight electric water heaters rated from 3 to 54 kW with 80 to 120 gallons of storage. The central boiler plant has a pair of 125 gallon, 540 MBH input storage water heaters. One water heater is a PVI 54N-125A-MX that is fair condition and one that is a PVI 54N-125A-MXG that is new.

2.2.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 1, 2, and 4 lamp, 2X4 2 and 3 lamp T8 linear fluorescent fixtures with electronic ballasts, compact fluorescent, incandescent fixtures, and high intensity discharge (HID) fixtures. Existing exterior lighting consists of HID wall packs. Refer to Section 4 for a more detailed description.

2.3 Ocean Township Elementary School

2.3.1 Description of Building Envelope

The school is cmu construction with brick exterior. The building interior finish is painted block. The building reported that the walls have one inch of rigid insulation between the brick and the block.

The building roof is flat on wood decking. The roof has an EPDM membrane over two inches of polyisocyanurate insulation. The roof is in good condition.

The building windows are double pane in aluminum frames. The doors are steel and in good condition.

2.3.2 Description of Building HVAC

The building is conditioned by unit ventilators, and heating and ventilation units, or HV units. These units are supplied with hot water from the central boiler room. The boiler room consists of two Aerco boilers and a Burnham fire tube boiler. The Burnham boiler is from 1957 and rated at 2,000 MBH input and probably 70% efficient. The Burnham boiler is only for backup. The Aerco boilers are Benchmark 2.0 rated at 2,000 MBH input each and 92% efficient.

The building is cooled by a few window air conditioners rated cooling capacity of 24 MBH. The main office is cooled by a York unit rated at 36 MBH cooling. The library is cooled by a pair of Lennox roof top units rated at 90 MBH cooling each. The server room is cooled by an EMI ductless split rated at 24 MBH cooling.

The building is controlled by the central control system. The system controls space set points and building schedules. Window units and ductless split system have unit mounted controls.

The domestic hot water is produced by four electric water heaters which are rated at 4.5 kW each.

2.3.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 2, lamp, 2X4 2, 3, and 4 lamp T8 linear fluorescent fixtures with electronic ballasts and compact fluorescent. Existing exterior lighting consists of HID wall packs and compact fluorescent fixtures. Refer to Section 4 for a more detailed description.

2.4 Ocean Township Intermediate School

2.4.1 Description of Building Envelope

The building was constructed in two phases. The original building is cmu walls with brick façade and one inch of rigid insulation according to site staff. The addition is also cmu walls with brick face. The addition walls have R-10 insulation.

The roof is insulated steel deck on steel trusses. The original building has two inches of polyisocyanurate and one inch of rigid insulation according to the building staff. The addition has a roof insulation value R-40. The roof surface is EPDM membrane. The roof also houses a solar array rated at 30 kVA which is to be expanded.

The building has a mix of windows. All windows are aluminum frame. The original portion of the building has single pane windows. The addition is all double pane windows.

2.4.2 Description of Building HVAC

The classrooms of the original building are conditioned by unit ventilators. The unit ventilators have a single water coil served by the buildings dual temperature loop. This coil heats or cools the space depending on the season. A few spaces have a chilled water coil and a hot water coil. Each of the three classroom wings has a roof mounted mechanical room. Each mechanical room has a chiller, exhaust fan, and air handler. Each chiller is connected to a dedicated air cooled tower. The chillers have scroll compressors and rated for 80 nominal tons each.

The chilled water and heating water is generated in the central plant. The central plant has two boilers. The first boiler is an American Standard PFA512 from 1973 rated at 4,185 MBH input. The second boiler is a Weil McLain 1788 from 2002 rated at 4,113 MBH input. The central plant has two chillers. These chillers are Trane scroll units rated at about 85 tons. Each chiller is connected to a dry cooler.

The addition of the building is cooled by packaged roof top units and Airedale unit ventilators. The addition is heated by hot water radiation in the space. The radiation is supplied by two Aerco BMK 2.0 boilers rated at 2,000 MBH input each and 92% efficient. The units that serve the gym are dx cooling and gas fired heating.

The building is controlled by a central digital control system. The control system controls space set point and schedule.

The domestic hot water is produced by eight water heaters in various locations. Two gas fired units are rated 199 MBH input with at 125 gallons and 660 MBH input with 500 gallons respectively. Six electric units range from 50 gallons of storage with 13.5 kW input to 1000 gallons and 90 kW input.

2.4.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 1, 2, 3, and 4 lamp, 2X4 2, 3, and 4 lamp T8 linear fluorescent fixtures with electronic ballasts, compact fluorescent, and incandescent fixtures. Existing exterior lighting consists of HID wall packs and compact fluorescent fixtures. Refer to Section 4 for a more detailed description.

2.5 Wanamassa Elementary School

2.5.1 Description of Building Envelope

The building is masonry construction with cmu walls, brick exterior, and plaster interior finish. The building has an addition with cmu walls, rigid insulation, and brick façade. The interior finish of the addition is a mix of painted block and drywall.

The building has a peaked roof which was added to the original building to suit the neighborhood in which it is located. The original flat roof is still there. The addition has a flat roof with an EPDM membrane. The windows of the original building were replaced with vinyl double pane windows. These windows are

showing their age and becoming leaky. The new building has aluminum framed double pane windows which are in good condition.

2.5.2 Description of Building HVAC

The main building is heated by unit ventilators and steam radiators. These are supplied by a pair of low pressure steam boilers in the basement. The boilers are Weil McLain cast iron sectional. The first boiler is a 1088 from 2002 and rated at 3103 MBH input each. The second boiler is a 1288 from 2009 and is rated at 3103 MBH input. The building has some electric heat installed in spaces which have been subdivided. The classroom unit ventilators typically also have dx cooling.

The addition is cooled by packaged roof top units. These Trane units range from 5 to 12 tons of cooling capacity. The building also has three air-cooled split-systems for cooling the main office, computer room, and server room. The gym is cooled and heated by a packaged AAON unit with 30 tons of cooling and 390 MBH input of gas fired heating. The building also has window air conditioners in administrative offices.

The building heating and cooling systems are controlled by a central DDC control system. It controls the space set points and schedules.

The building domestic hot water is generated by an instantaneous indirect water heater using steam from the heating boiler. When the heating boiler is not needed, the hot water is generated by a 40 gallon storage type electric water heater rated at 4.5 kW of input.

2.5.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 2 and 4 lamp, 2X4 2, 3, and 4 lamp T8 linear fluorescent fixtures with electronic ballasts, compact fluorescent and incandescent fixtures. Existing exterior lighting consists of HID wall packs. Refer to Section 4 for a more detailed description.

2.6 Wayside Elementary School

2.6.1 Description of Building Envelope

The building is cmu construction with brick exterior. The building does not have any insulation in the original walls. The interior finish is painted block.

The building roof is corrugated steel decking on steel framing. The roof surface is EPDM membrane over three inches of extruded polystyrene and one-half inch fiberboard.

The building windows are aluminum framed double pane windows. The windows are in fair condition.

2.6.2 Description of Building HVAC

The building is heated by unit ventilators. The unit ventilators have hot water coils. The hot water coils are supplied from the boiler room. The boiler room has three gas-fired, fire tube hot water boilers. The boilers are Hurst 125 WTR installed in 1996, and they are each rated at 3,356 MBH input. The gym and cafeteria are heated and cooled by heating and ventilation units with electric reheat.

The building is cooled by a few window air conditioning units and packaged roof top units. Packaged roof top air conditioning units serve the library, main office, and each center room of the three clusters of classrooms. The unit for the main office is about 15 tons, 20 years old, and in fair condition. This unit is scheduled for replacement.

The building is controlled by the central DDC control system. The system controls the space set point and schedule.

The domestic hot water is produced by a 100 gallon AO Smith gas fired storage water heater. The unit is rated at 399 MBH input and in fair condition.

2.6.3 Description of Building Lighting

Existing interior lighting system consists of 2X2 2 lamp, 1X4 1 and 2 lamp, 2X4 2, 3 and 4 lamp T8 linear fluorescent fixtures with electronic ballasts and compact fluorescent. Existing exterior lighting consists of HID wall packs and incandescent fixtures. Refer to Section 4 for a more detailed description.

Section 3

Baseline Energy Use

3.1 Utility Data Analysis

The first step in the energy audit process is the compilation and quantification of the facility's current and historical energy usage and associated utility costs. It is important to establish the existing patterns of electricity, gas, and oil usage in order to be able to identify areas in which energy consumption can be reduced.

For this study, the monthly gas and electric bills per facility were analyzed and unit costs of energy were obtained. The unit cost of energy, as determined from the information provided by the Board, was utilized in determining the feasibility of switching from one energy source to another, or reducing the demand on that particular source of energy to create annual cost savings for the Board.

3.1.1 Electric Charges

It is also important to understand how the utilities charge for the service. The majority of the energy consumed is electric as a result of both indoor and outdoor lighting and appliances, such as kitchen appliances, computers, printers and projectors. Electricity is charged by three basic components: electrical consumption (kWh), electrical demand (kW) and power factor (kVAR) (reactive power). The cost for electrical consumption is similar to the cost for fuel and the monthly consumption appears on the utility bill as kWh consumed per month with a cost figure associated with it. The service connections are either billed on a flat rate or time of day rates per kWh.

Electrical demand can be as much as 50 percent or more of the electric bill. The maximum demand (kW value) during the billing period is multiplied by the demand cost factor and the result is added to the electric bill. It is often possible to decrease the electric bill by 15 – 25 percent by reducing the demand, while still using the same amount of energy.

The power factor (reactive power) is the power required to energize electric and magnetic fields that result in the production of real power. Power factor is important because transmission and distribution systems must be designed and built to manage the need for real power, as well as the reactive power component (the total power). If the power factor is low, then the total power required can be greater than 50 percent or more than the real power alone. The power factor charge is a penalty for having a low power factor. Fortunately, this penalty charge does not impact the Board.

The other parts of the electric bill are the supply charges, delivery charges, system benefits, transmission revenue adjustments, state and municipality tariff surcharges, and sales taxes, which cannot be avoided.

Jersey Central Power and Light is the current supplier and distributor of electric energy for the Board.

3.1.2 Natural Gas Charges

New Jersey Natural Gas is the current distributor of natural gas for the Board. The Board is charged for the cost of the natural gas, a delivery charge and a customer charge, which covers gas administration charges.

3.2 Facility Results

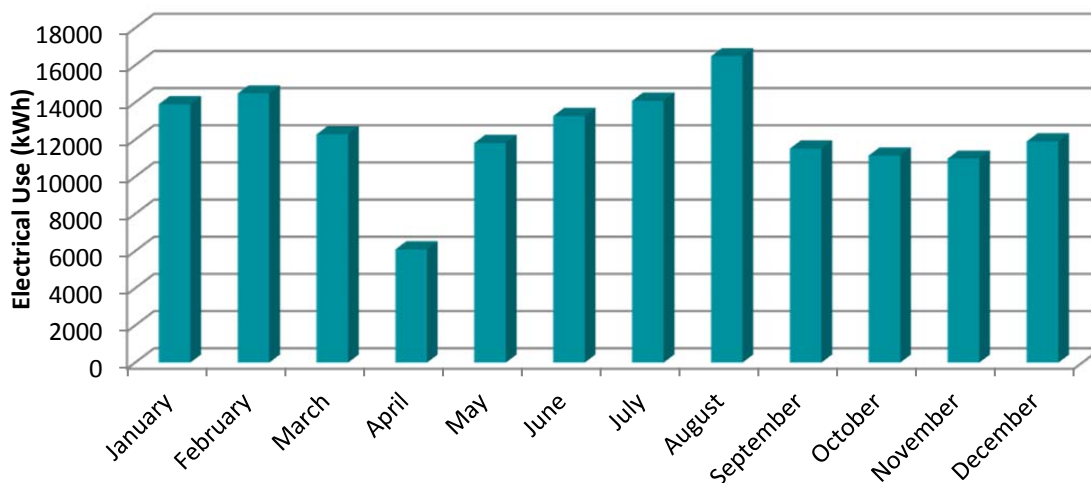
3.2.1 Administration Building

Electric power for the Administration Building is fed from one General Service Secondary single phase line from Jersey Central Power and Light. Figure 3.2-1 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for the Administration Building is approximately 12,328 kWh/month.

Table 3.2-1 illustrates the seasonal peak demand loads for the Administration Building from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-1: Administration Building Electricity Usage



The most recent tariff rates available at the time of this audit for the electrical service at the Administration Building from Jersey Central Power and Light are as follows:

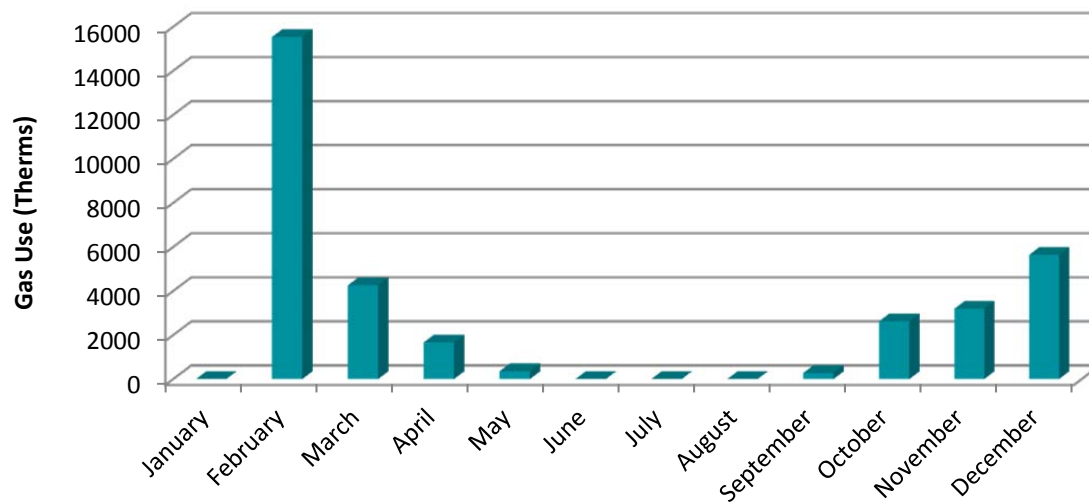
	Acct #: 10 00 12 9680 28
Service Charge:	\$11.65/month
Delivery Service Charges:	\$0.011381kWh \$5.966620/kW
Societal Benefits Charge:	\$0.003207/kWh
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	\$0.00124/kWh

Table 3.2-1: Administration Building Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	74
Winter	48

Refer to Table 3.3-1, in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-2 illustrates the monthly average natural gas consumption at Administration Building from June, 2010 through June, 2011.

Figure 3.2-2: Administration Building Gas Usage

The January usage appears to be combined with the February usage. For more on the Administration Building's gas usage, refer to Section 4.2.

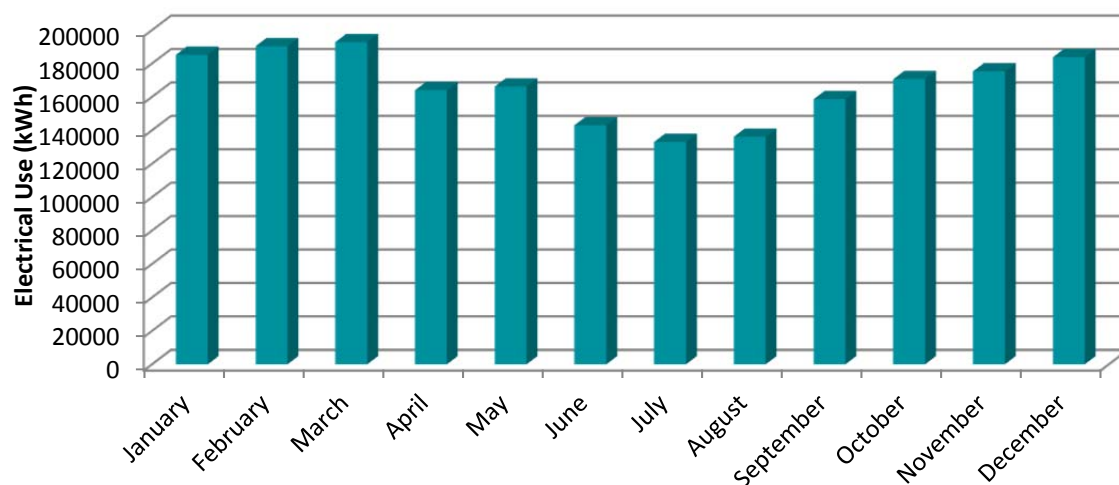
3.2.2 Ocean Township High School

Electric power for the Ocean Township High School is fed from one General Service Secondary three phase line from Jersey Central Power and Light. Figure 3.2-3 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for Ocean Township High School is approximately 166,581 kWh/month.

Table 3.2-2 illustrates the seasonal peak demand loads for the Ocean Township High School from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-3: Ocean Township High School Electricity Usage



The most recent tariff rates available at the time of this audit for the electrical service at the Ocean Township High School from Jersey Central Power and Light are as follows:

	Acct #: 10 00 13 6576 79
Service Charge:	\$11.65/month
Delivery Service Charges:	\$0.006836/kWh \$7.220012/kW
Societal Benefits Charge:	\$0.006413/kWh
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	\$0.00124/kWh

	Acct #: 10 00 13 4036 29
Service Charge:	\$11.65/month
Delivery Service Charges:	First 10kW \$0.00/kW Remaining kW #3.16/kW
Societal Benefits Charge:	\$0.003207/kWh

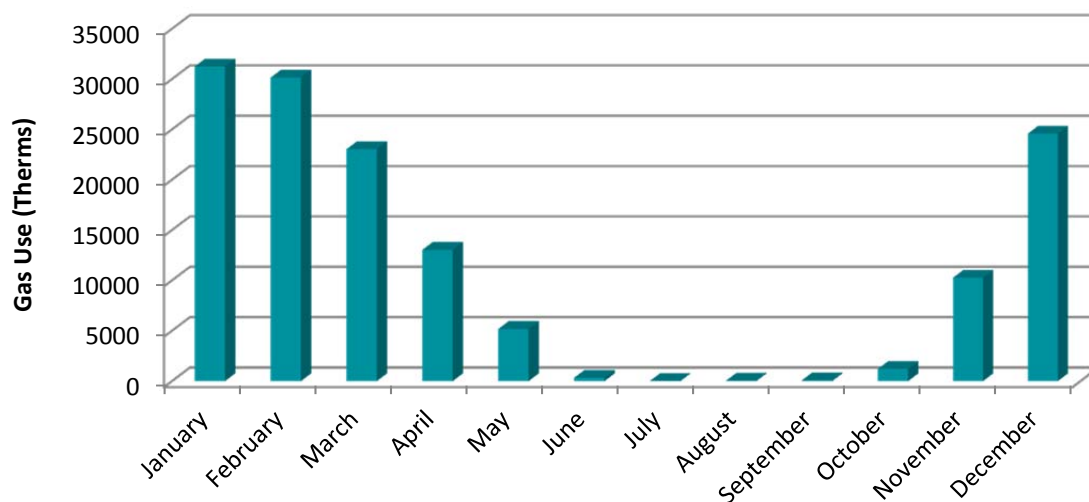
	Acct #: 10 00 13 4036 29
Non-Utility Generation Charge:	\$0.008386/kWh
System Control Charge:	\$0.000056/kWh
RGGI Recovery Charge	\$0.00124/kWh

Table 3.2-2: Ocean Township High School Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	502
Winter	495

Refer to Table 3.3-1, in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-4 illustrates the monthly average natural gas consumption at the Ocean Township High School from January 2009 through December 2009, and January 2011 through December 2011.

Figure 3.2-4: Ocean Township High School Gas Usage

For more on Ocean Township High School's gas usage, refer to Section 4.2.

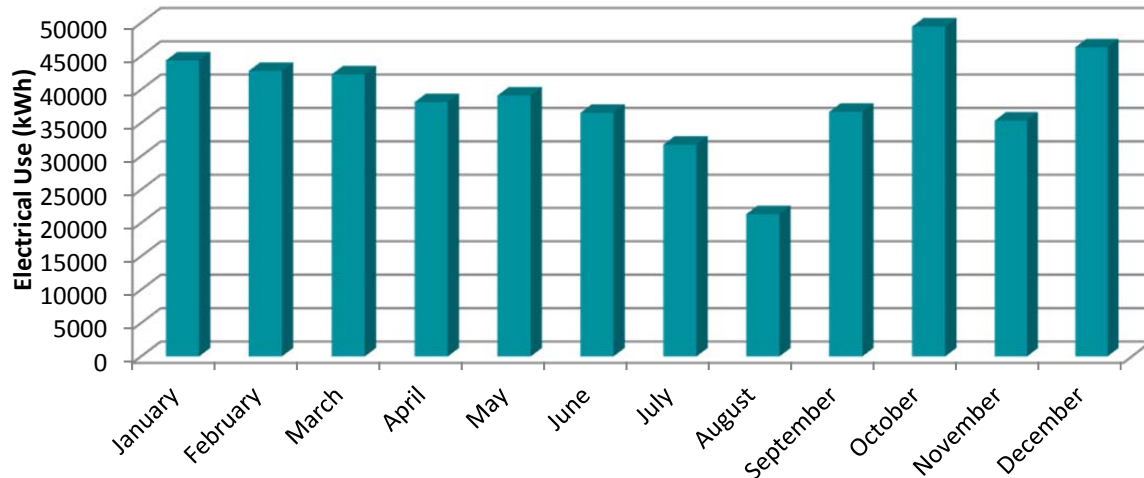
3.2.3 Ocean Township Elementary School

Electric power for the Ocean Township Elementary School is fed from one General Service Secondary three phase line from Jersey Central Power and Light. Figure 3.2-5 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for the Ocean Township Elementary School is approximately 38,676 kWh/month.

Table 3.2-3 illustrates the seasonal peak demand loads for the Ocean Township Elementary School from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-5: Ocean Township Elementary School Electricity Usage



The most recent tariff rates available at the time of this audit for the electrical service at the Ocean Township Elementary School from Jersey Central Power and Light are as follows:

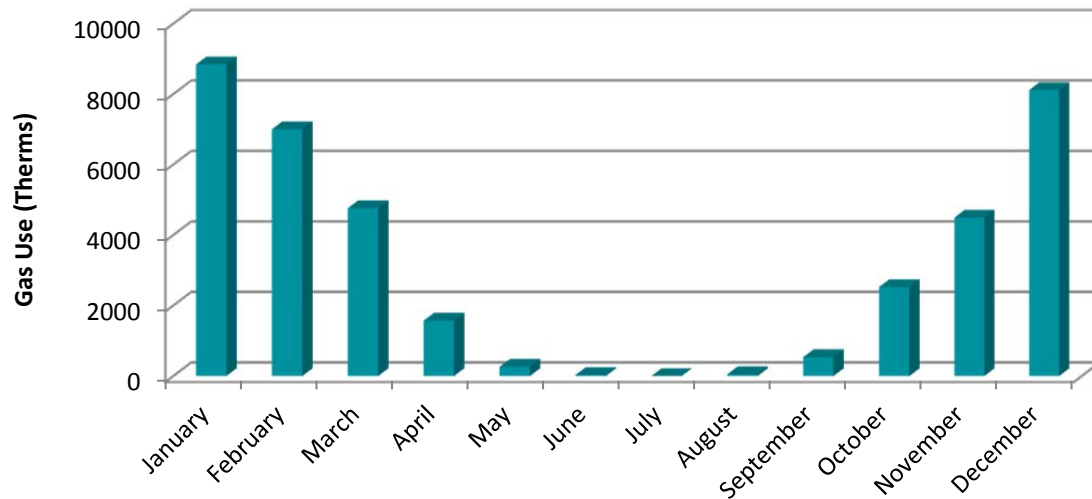
	Acct #: 10 00 12 1577 05
Service Charge:	\$11.65/month
Delivery Service Charges:	\$0.010526/kWh \$6.435273/kW
Societal Benefits Charge:	\$0.003206/kWh
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	\$0.00124/kWh

Table 3.2-3: Ocean Township Elementary School Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	162
Winter	143

Refer to Table 3.3-1 in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-6 illustrates the monthly average natural gas consumption at the Ocean Township Elementary School from January 2009 through December 2009, and January 2011 through December 2011.

Figure 3.2-6: Ocean Township Elementary School Gas Usage

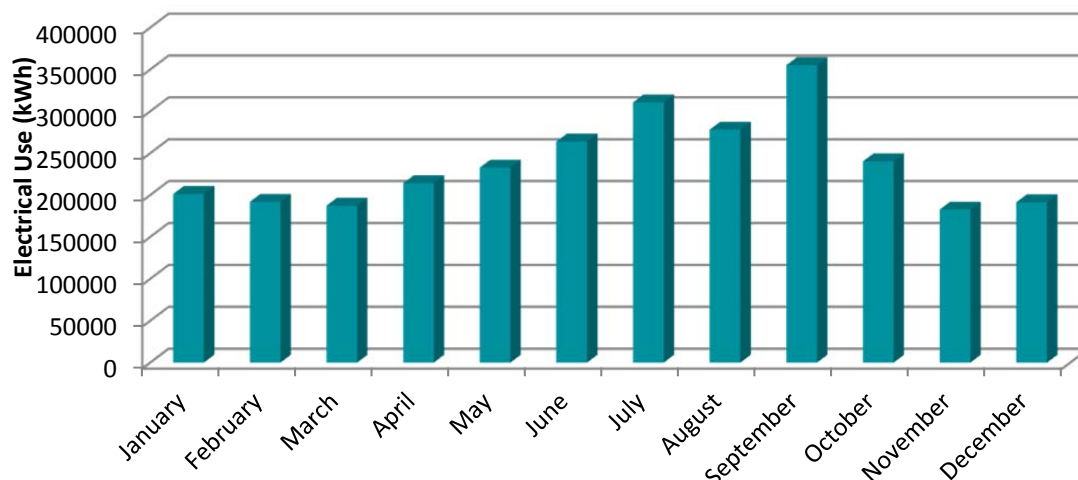
For more on Ocean Township Elementary School's gas usage, refer to Section 4.2.

3.2.4 Ocean Township Intermediate School

Electric power for the Ocean Township Intermediate School is fed from two General Service Secondary three phase lines from Jersey Central Power and Light. One service feeds the fifth grade wing addition, and the second feeds the remainder of the school. Figure 3.2-7 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for the Ocean Township Intermediate School is approximately 237,438 kWh/month.

Table 3.2-4 illustrates the seasonal peak demand loads for the Ocean Township Intermediate School from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-7: Ocean Township Intermediate School Electricity Usage

The most recent tariff rates available at the time of this audit for the electrical service at the Ocean Township Intermediate School from Jersey Central Power and Light are as follows:

	Acct #: 10 00 11 4715 52
Service Charge:	\$11.65/month
Supply Availability Charge:	\$0.000161/kWh
Delivery Service Charges:	\$0.008090/kWh
	\$6.850911/kW
Societal Benefits Charge:	\$0.003207/kWh
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	\$0.00124/kWh

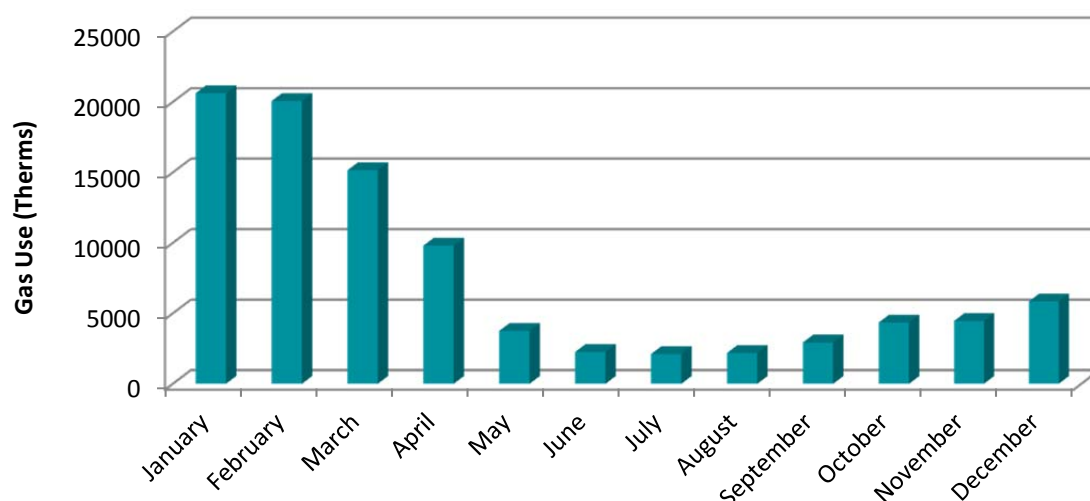
Table 3.2-4: Ocean Township Intermediate School Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	910
Winter	883

Refer to Table 3.3-1, in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-8 illustrates the monthly average natural gas consumption at the Ocean Township Intermediate School from June 2010 through June 2011.

Figure 3.2-8: Ocean Township Intermediate School Gas Usage



For more on Ocean Township Intermediate School's gas usage, refer to Section 4.2.

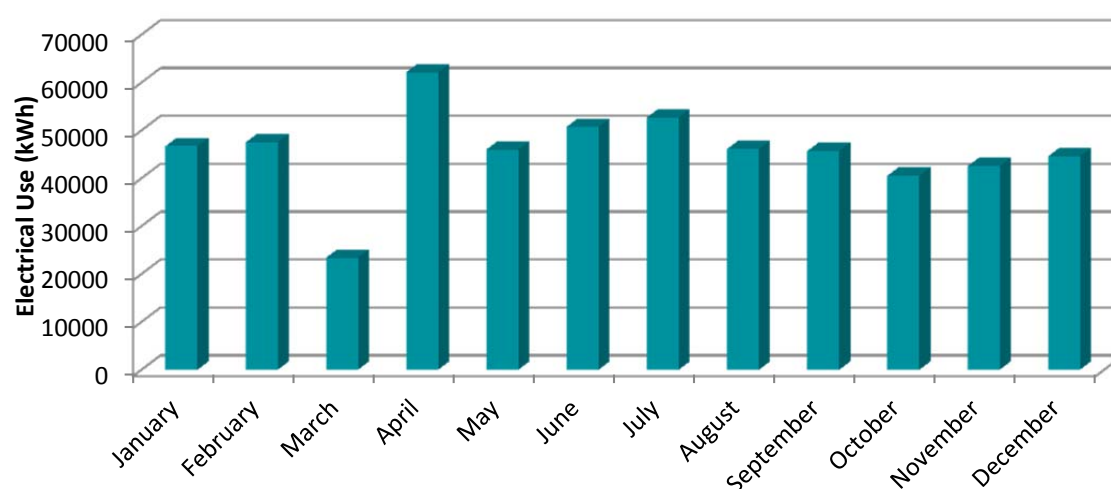
3.2.5 Wanamassa Elementary School

Electric power for the Wanamassa Elementary School is fed from one General Service Secondary three phase line from Jersey Central Power and Light. Figure 3.2-9 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for the Wanamassa Elementary School is approximately 45,710 kWh/month.

Table 3.2-5 illustrates the seasonal peak demand loads for the Wanamassa Elementary School from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-9: Wanamassa Elementary School Electricity Usage



The most recent tariff rates available at the time of this audit for the electrical service at the Wanamassa Elementary School from Jersey Central Power and Light are as follows:

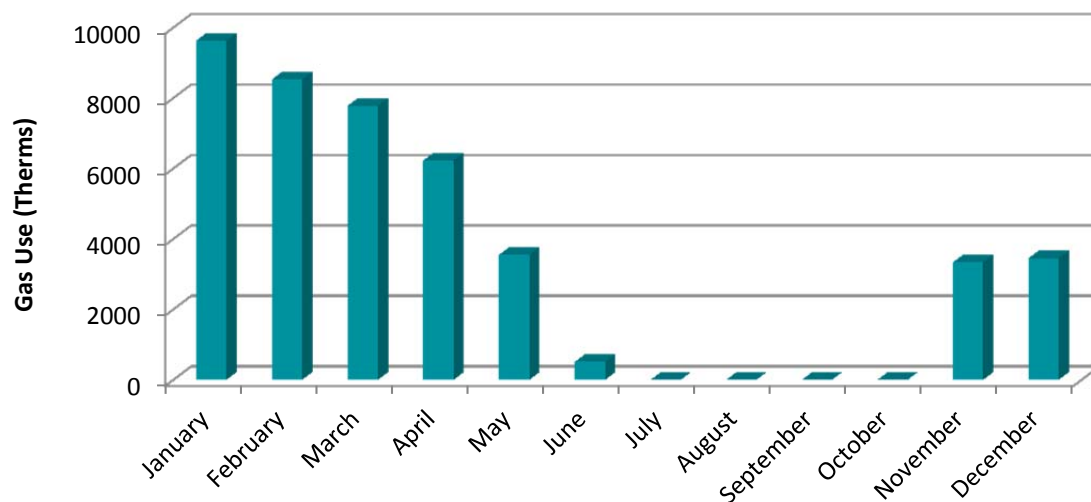
	Acct #: 10 00 58 8037 17
Service Charge:	\$11.65/month
Delivery Service Charges:	\$0.009197/kWh
	\$6.425926/kW
Societal Benefits Charge:	\$0.003206/kWh
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	\$0.00124/kWh

Table 3.2-5: Wanamassa Elementary School Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	137
Winter	133

Refer to Table 3.3-1, in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-10 illustrates the monthly average natural gas consumption at the Wanamassa Elementary School from June 2010 through June 2011.

Figure 3.2-10: Wanamassa Elementary School Gas Usage

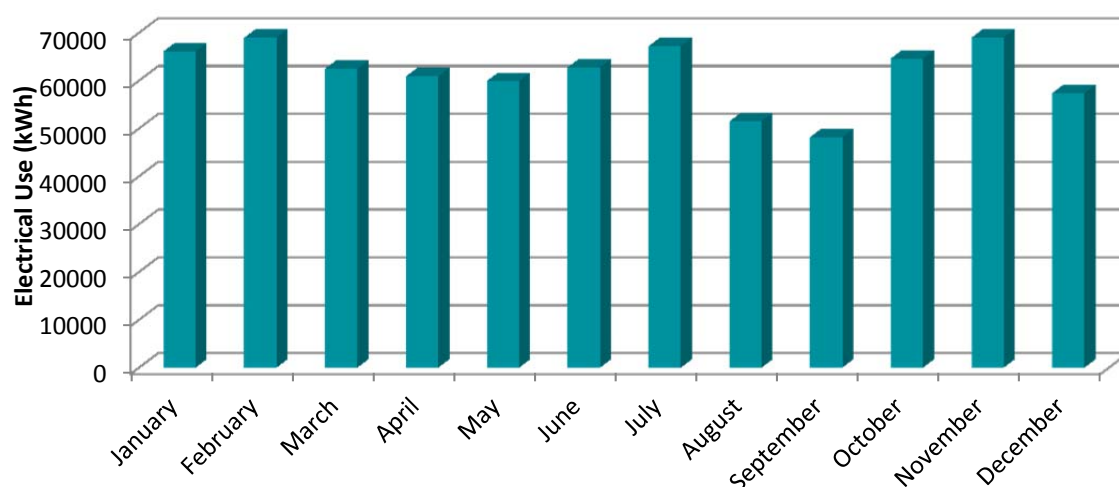
For more on Wanamassa Elementary School's gas usage, refer to Section 4.2.

3.2.6 Wayside Elementary School

Electric power for the Wayside Elementary School is fed from one General Service Secondary three phase line from Jersey Central Power and Light. Figure 3.2-11 illustrates the average monthly total energy consumption from January 2009 through December 2009, and January 2011 through December 2011.

From this graph, it can be determined that the baseline electrical consumption for the Wayside Elementary School is approximately 61,591 kWh/month.

Table 3.2-6 illustrates the seasonal peak demand loads for the Wayside Elementary School from January 2009 through December 2009, and January 2011 through December 2011. The information presented is only as recent as the most recent bill received.

Figure 3.2-11: Wayside Elementary School Electricity Usage

The most recent tariff rates available at the time of this audit for the electrical service at the Wayside Elementary School from Jersey Central Power and Light are as follows:

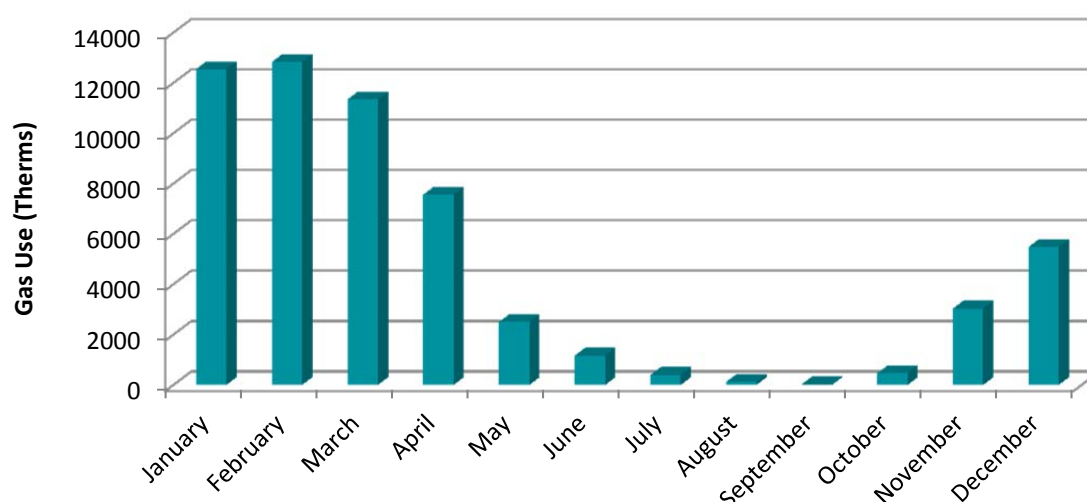
	Acct #: 10 00 11 5311 08
Service Charge:	\$11.65/month
Delivery Service Charges:	\$0.008769/kWh \$6.602963/kW
Societal Benefits Charge:	First 28,160 kWh \$0.006449/kWh Remaining 36,480 kWh \$0.006413
Non-Utility Generation Charge:	\$0.008385/kWh
System Control Charge:	\$0.000055/kWh
RGGI Recovery Charge	First 28,160 kWh \$0.00100/kWh Remaining 36,480 kWh \$0.00124/kWh

Table 3.2-6: Wayside Elementary School Seasonal Peak Demands

Season	Peak Demand (kW)
Summer	149
Winter	124

Refer to Table 3.3-1, in Section 3.3 for the average electrical aggregate cost. These tariffs are subject to change quite frequently. Refer to Appendix A for a complete Historical Data Analysis.

Figure 3.2-12 illustrates the monthly average natural gas consumption at the Wayside Elementary School from June 2010 through June 2011.

Figure 3.2-12: Wayside Elementary School Gas Usage

For more on Wayside Elementary School's gas usage, refer to Section 4.2.

3.3 Aggregate Costs

For the purposes of computing energy savings for all identified energy conservation and retrofit measures, aggregate unit costs for electrical energy and fuel, in terms of cost/kWh and cost/therm, were determined for each service location and utilized in the simple payback analyses discussed in subsequent sections. The aggregate unit cost accounts for all distribution and supply charges for each location. Table 3.3-1 and Table 3.3-2 summarize the aggregate costs for electrical energy consumption and therms utilized, respectively.

Table 3.3-1: Electrical Aggregate Unit Costs

Service Location	Aggregate \$ / kW-hr
Administration Building	\$0.18
Ocean Township High School	\$0.15
Ocean Township Elementary School	\$0.16
Ocean Township Intermediate School	\$0.15
Wanamassa Elementary School	\$0.15
Wayside Elementary School	\$0.14

Table 3.3-2: Natural Gas Aggregate Unit Costs

Service Location	Aggregate \$ / therm
Administration Building	\$1.19
Ocean Township High School	\$1.18
Ocean Township Elementary School	\$1.17
Ocean Township Intermediate School	\$1.19
Wanamassa Elementary School	\$1.23
Wayside Elementary School	\$1.82

3.4 Portfolio Manager

3.4.1 Portfolio Manager Overview

Portfolio Manager is an interactive energy management tool that allows the Board to track and assess energy consumption at the facilities in a secure online environment. Portfolio Manager can help the Board set investment priorities, verify efficiency improvements, and receive EPA recognition for superior energy performance.

3.4.2 Energy Performance Rating

For many facilities, you can rate their energy performance on a scale of 1–100 relative to similar facilities nationwide. Your facility is not compared to the other facilities entered into Portfolio Manager to determine your ENERGY STAR rating. Instead, statistically representative models are used to compare your facility against similar facilities from a national survey conducted by the Department of Energy's Energy Information Administration. This national survey, known as the Commercial Building Energy Consumption Survey (CBECS), is conducted every four years, and gathers data on building characteristics and energy use from thousands of facilities across the United States. Your facility's peer group of comparison is those facilities in the CBECS survey that have similar facility and operating characteristics. A rating of 50 indicates that the facility, from an energy consumption standpoint, performs better than 50% of all similar facilities nationwide, while a rating of 75 indicates that the facility performs better than 75% of all similar facilities nationwide.

3.4.3 Portfolio Manager Account Information

A Portfolio Manager account has been established for the Board, which includes a profile for the administration building and five schools. Information entered into this Portfolio Manager Facility profile, including electrical energy consumption and natural gas consumption has been used to establish a performance baseline.

It is recommended that the information be updated to track the buildings' energy usage. The six Town of Ocean Board of Education buildings were rated as follows:

Administration Building	42
Ocean Township High School	38
Ocean Township Elementary School	42
Ocean Township Intermediate School	33
Wanamassa Elementary School	13
Wayside Elementary School	89

Results are a reflection of the information supplied. If more recent information is entered into the Portfolio Manager account, there is a possibility for better results.

The following website link, username and password shall be used to access the Portfolio Manager account and building profiles that has been established for the Board:

<https://www.energystar.gov/istar/pmpam/>

████████████████████

████████████████

Section 4

Energy Conservation and Retrofit Measures (ECRM)

The following is a summary of how Annual Return on Investment (AROI), Internal Rate of Return (IRR), and Net Present Value (NPV) will be broken down in the cost analysis for all ECRMs recommended in this report.

Included in the simplified payback analysis summary table is the 'Annual Return on Investment' (AROI) values. This value is a performance measure used to evaluate the efficiency of an investment and is calculated using the following equation:

$$AROI = \frac{AECS + OCS}{NET\ ECM\ Cost} - \frac{1}{Lifetime}$$

Where OCS = Operating Cost Savings, and AECS = Annual Energy Cost Savings.

Also included in the table are net present values for each option. The NPV calculates the present value of an investment's future cash flows based on the time value of money, which is accounted for by a discount rate (DR) (assume bond rate of 3%). NPV is calculated using the following equation:

$$NPV = \sum_{n=0}^N \frac{C_n}{(1 + DR)^n}$$

Where C_n =Annual cash flow, and N = number of years.

The Internal Rate of Return (IRR) expresses an annual rate that results in a break-even point for the investment. If the Board is currently experiencing a lower return on their capital than the IRR, the project is financially advantageous. This measure also allows the Board to compare ECRM's against each other to determine the most appealing choices.

$$IRR \rightarrow 0 = \sum_{n=0}^N \frac{C_n}{(1 + IRR)^n}$$

Where C_n =Annual cash flow, and N = number of years.

The lifetime energy savings represents the cumulative energy savings over the assumed life of the ECRM.

4.1 Building Lighting Systems

The goal of this section is to present any lighting energy conservation measures that may also be cost beneficial. It should be noted that replacing current bulbs with more energy-efficient equivalents will have a small effect on the building heating and cooling loads. The building cooling load will see a small decrease from an upgrade to more efficient bulbs, and the heating load will see a small increase, as the more energy efficient bulbs give off less heat.

Two options are offered for most buildings. The first option will be for upgrading existing interior lighting, if applicable. The second option will be for upgrading existing exterior lighting, if applicable. A total cost for upgrading both options at the same time will be presented. Retrofitting of existing fluorescent fixtures includes upgrading both ballasts and lamps for the fixture. Refer to Appendix D for more information.

Please note that the Engineer's Estimate of Probable Construction Costs presented herein are estimates based on historic data compiled from similar installations and engineering opinions. Additional engineering will be required for each measure identified in this report, and final scope of work and budget cost estimates will need to be confirmed prior to the coordination of project financing or the issuance of a Request for Proposal.

4.1.1 Administration Building

It is recommended that the existing lighting system in the Administration Building be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for the Administration Building are listed in Table 4.1-1.

Table 4.1-1 Administration Building Lighting System Improvements	
Interior Lighting	High Performance T8 Retrofit, Incandescent to Compact Fluorescent, Occupancy Sensor Installation
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 14.4 kW, 43,388 kWh and \$9,322

Exterior Lighting: 0.1 kW, 776 kWh and \$37.6

The following table, Table 4.1-2, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at the Administration Building.

Table 4.1-2 Administration Building Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$56,480	\$2,230	\$58,710
New Jersey SmartStart Rebate	(\$3,065)*	(\$300)*	(\$3,365)*
Total Cost	\$53,416	\$1,930	\$55,345
Annual Energy Savings	\$7,810	\$140	\$7,950
Net Maintenance Cost Savings (NMCS)	\$1,512	(\$102)	\$1,410
Simple Payback****	5.7 years	51.3 years	5.9 years
Annual Return on Investment (ARO I)	10.8%	(4.7%)	10.2%
Lifetime Energy Savings (15 years)**	\$145,255	\$2,597	\$147,852
Internal Rate of Return (IRR)	18.3%	(10.1%)	17.6%
Net Present Value (NPV)	\$82,343	(\$1,381)	\$80,962

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

**** Simple payback includes NMCS

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours Without Sensors" in Appendix D.

4.1.2 Ocean Township High School

It is recommended that the existing lighting system at Ocean Township High School be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for Ocean Township High School are listed in Table 4.1-3.

Table 4.1-3 Ocean Township High School Lighting System Improvements	
Interior Lighting	Incandescent to Compact Fluorescent Retrofits, Occupancy Sensor Installation
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 8.7 kW, 171,017 kWh and \$26,879

Exterior Lighting: 2.7 kW, 10,499 kWh and \$1,146

The following table, Table 4.1-4, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements at Ocean Township High School.

Table 4.1-4			
Ocean Township High School Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$43,856	\$23,360	\$67,216
New Jersey SmartStart Rebate	(\$5,730)*	(\$2,665)*	(\$8,395)*
Total Cost	\$38,126	\$20,695	\$58,821
Annual Energy Savings	\$25,653	\$1,574.8	\$27,227
Net Maintenance Cost Savings (NMCS)	\$1,227	(\$428)	\$798.1
Simple Payback****	1.4 years	18.1 years	2.1 years
Annual Return on Investment (AROI)	63.8%	(1.13%)	41%
Lifetime Energy Savings (15 years)**	\$477,108	\$29,290	\$506,398
Internal Rate of Return (IRR)	73.5%	0.35%	50.5%
Net Present Value (NPV)	\$353,322	(\$4,006)	\$349,316

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

**** Simple payback includes NMCS

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours Without Sensors" in Appendix D.

4.1.3 Ocean Township Intermediate School

It is recommended that the existing lighting system at Ocean Township Intermediate School be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for the Ocean Township Intermediate School are listed in Table 4.1-5.

Table 4.1-5	
Ocean Township Intermediate School Lighting System Improvements	
Interior Lighting	High Performance T8 Retrofit, Incandescent to Compact Fluorescent
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 5.0 kW, 218,481 kWh and \$34,050

Exterior Lighting: 1.4 kW, 7,554 kWh and \$869

The following table, Table 4.1-6, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements for the Ocean Township Intermediate School.

Table 4.1-6			
Ocean Township Intermediate School Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$55,387	\$11,252	\$66,639
New Jersey SmartStart Rebate	(\$7,455)*	(\$1,505)*	(\$8,960)*
Total Cost	\$47,932	\$9,747	\$57,679
Annual Energy Savings	\$32,772	\$1,133	\$33,905
Net Maintenance Cost Savings (NMCS)	\$1,278	(\$264)	\$1,014
Simple Payback****	1.4 years	11.2 years	1.7 years
Annual Return on Investment (AROI)	64.4%	2.3%	53.9%
Lifetime Energy Savings (15 years)**	\$609,526	\$21,074	\$630,601
Internal Rate of Return (IRR)	74.0%	6.6%	63.5%
Net Present Value (NPV)	\$447,940	\$2,910	\$450,850

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

**** Simple payback includes NMCS

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours Without Sensors" in Appendix D.

4.1.4 Ocean Township Elementary School

It is recommended that the existing lighting system in the Ocean Township Elementary School be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for the Ocean Township Elementary School are listed in Table 4.1-7.

Table 4.1-7	
Ocean Township Elementary School Lighting System Improvements	
Interior Lighting	Incandescent to Compact Fluorescent, Occupancy Sensor Installation
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp

styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 0.0 kW, 44,079 kWh and \$7,053

Exterior Lighting: 0.6 kW, 3,481 kWh and \$493

The following table, Table 4.1-8, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements for the Ocean Township Elementary School.

Table 4.1-8 Ocean Township Elementary School Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$15,223	\$4,267	\$19,490
New Jersey SmartStart Rebate	(\$2,100)*	(\$570)*	(\$2,670)*
Total Cost	\$13,123	\$3,697	\$16,820
Annual Energy Savings	\$7,053	\$557	\$7,610
Net Maintenance Cost Savings (NMCS)	\$0.0	(\$64)	(\$64)
Simple Payback****	1.9 years	7.5 years	2.2 years
Annual Return on Investment (AROI)	47.1%	6.7%	38.2%
Lifetime Energy Savings (15 years)**	\$131,173	\$10,360	\$141,533
Internal Rate of Return (IRR)	56.6%	13.0%	47.7%
Net Present Value (NPV)	\$89,587	\$3,483	\$93,070

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

**** Simple payback includes NMCS

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours Without Sensors" in Appendix D.

4.1.5 Wanamassa Elementary School

It is recommended that the existing lighting system for the Wanamassa Elementary School be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for the Wanamassa Elementary School are listed in Table 4.1-9.

Table 4.1-9	
Wanamassa Elementary School Lighting System Improvements	
Interior Lighting	Incandescent to Compact Fluorescent, Occupancy Sensor Installation
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 0.4 kW, 48,223 kWh and \$7,404

Exterior Lighting: 1.1 kW, 5,948 kWh and \$110

The following table, Table 4.1-10, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements for the Wanamassa Elementary School.

Table 4.1-10			
Wanamassa Elementary School Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$17,117	\$17,347	\$34,464
New Jersey SmartStart Rebate	(\$2,345)*	(\$2,335)*	(\$4,680)*
Total Cost	\$14,772	\$15,012	\$29,784
Annual Energy Savings	\$7,234	\$892	\$8,127
Net Maintenance Cost Savings (NMCS)	\$171	(\$782)	(\$611)
Simple Payback****	2.0 years	136 years	4.0 years
Annual Return on Investment (AROI)	43.5%	(5.9%)	18.6%
Lifetime Energy Savings (15 years)**	\$134,535	\$16,592	\$151,128
Internal Rate of Return (IRR)	53.0%	(17.8%)	27.2%
Net Present Value (NPV)	\$93,055	(\$13,408)	\$79,647

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

**** Simple payback includes NMCS

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled "Proposed Operational Hours Without Sensors" in Appendix D.

4.1.6 Wayside Elementary School

It is recommended that the existing lighting system for the Wayside Elementary School be upgraded to high efficiency standards to create lighting uniformity throughout the building. In general, the recommended lighting upgrade, as presented in Appendix D, involves replacing existing inefficient bulbs, and installing new energy-efficient luminaires in the existing lighting systems. Options for improving the interior and exterior lighting for Wayside Elementary School are listed in Table 4.1-11.

Table 4.1-11 Wayside Elementary School Lighting System Improvements	
Interior Lighting	Incandescent to Compact Fluorescent, Occupancy Sensor Installation
Exterior Lighting	LED Replacement of Exterior Fixtures

The strategies included in this section focus on maximizing energy savings and maintaining or exceeding existing lighting levels, while also maintaining the existing look of each fixture; therefore, proposed lamp styles remain consistent with existing lamp styles. Please refer to Appendix D for a line-by-line proposed detailed lighting upgrades list.

The annual energy savings for these options are as follows:

Interior Lighting: 0.0 kW, 56,544 kWh and \$7,916

Exterior Lighting: 1.8 kW, 10,853 kWh and \$295

The following table, Table 4.1-12, summarizes a simple payback analysis assuming the implementation of all recommended lighting system improvements for the Wayside Elementary School.

Table 4.1-12 Wayside Elementary School Lighting System Improvements***			
	Interior Lighting	Exterior Lighting	Total
Engineer's Opinion of Probable Cost	\$16,999	\$27,514	\$44,513
New Jersey SmartStart Rebate	(\$2,345)*	(\$3,700)*	(\$6,045)*
Total Cost	\$14,654	\$23,814	\$38,468
Annual Energy Savings	\$7,916	\$1,519	\$9,436
Net Maintenance Cost Savings (NMCS)	\$0	(\$1,224)	(\$1,224)
Simple Payback****	1.9 years	80.7 years	4.7 years
Annual Return on Investment (AROI)	47.4%	(5.4%)	14.7%
Lifetime Energy Savings (15 years)**	\$147,233	\$28,259	\$175,492
Internal Rate of Return (IRR)	56.9%	(13.9%)	22.8%
Net Present Value (NPV)	\$100,631	(\$19,518)	\$81,113

* Additional incentives, based on eligibility, are available through the New Jersey SmartStart Program, see Appendix F.

**3% yearly inflation on electricity costs

***See Appendix H & I for ECRM Financial Analyses

It should be noted that the Annual Energy Savings assume the annual hours per year of operation as outlined under the columns entitled “Proposed Operational Hours Without Sensors” in Appendix D.

4.2 HVAC Systems

The goal of this section is to present any heating and cooling energy reduction and cost saving measures that may also be cost beneficial. Where possible, measures will be presented with a life-cycle cost analysis. This analysis displays a payback period based on weighing the capital cost of the measure against predicted annual fiscal savings. To do this, the buildings have been modeled as accurately as possible to predict energy usage for space heating and cooling, as well as domestic hot water use.

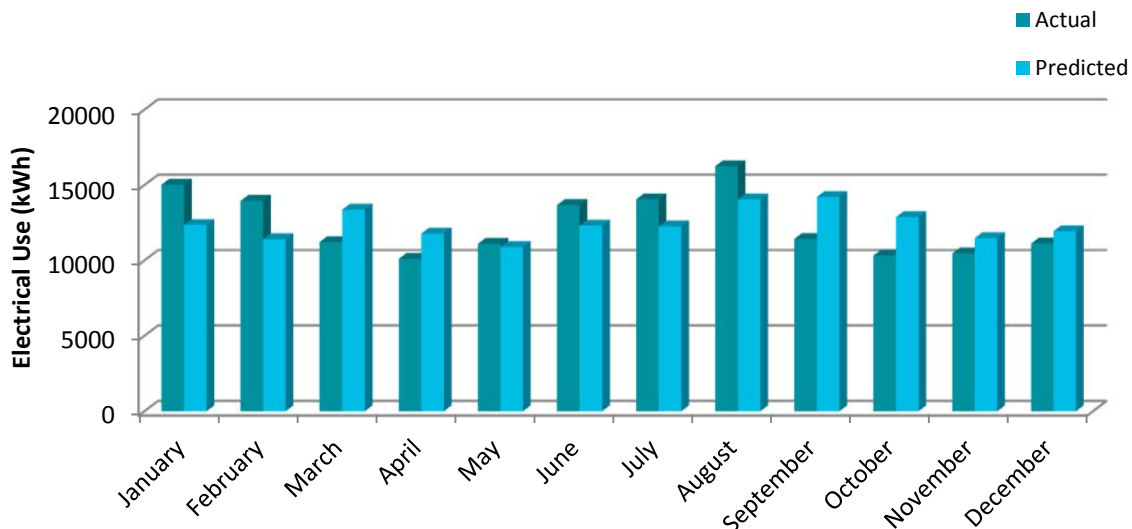
Each building is modeled using software called eQuest, a Department of Energy-sponsored energy modeling program, to establish a baseline space heating and cooling energy usage. Climate data from Long Branch, NJ was used for analyses. From this, the model may be calibrated, using historical utility bills, to predict the impact of theoretical energy savings measures.

Once annual energy savings from a particular measure have been predicted and the initial capital cost has been estimated, payback periods may be approximated. Equipment cost estimate calculations are provided in Appendix H.

4.2.1 Administration Building

A model of the Administration Building was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2011 through December 2011. Figure 4.2-1 below compares actual monthly electricity usages, with those predicted by the eQuest model. Historical monthly usages were averaged for each month observed over multiple years. For example, usage during the month of June was averaged for the three years, to yield an approximate average usage during the month of June.

Figure 4.2-1: Administration Building Electricity Usage



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith's field audit. Figure 4.2-2 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

Figure 4.2-2: Administration Building Electricity Usage Breakdown

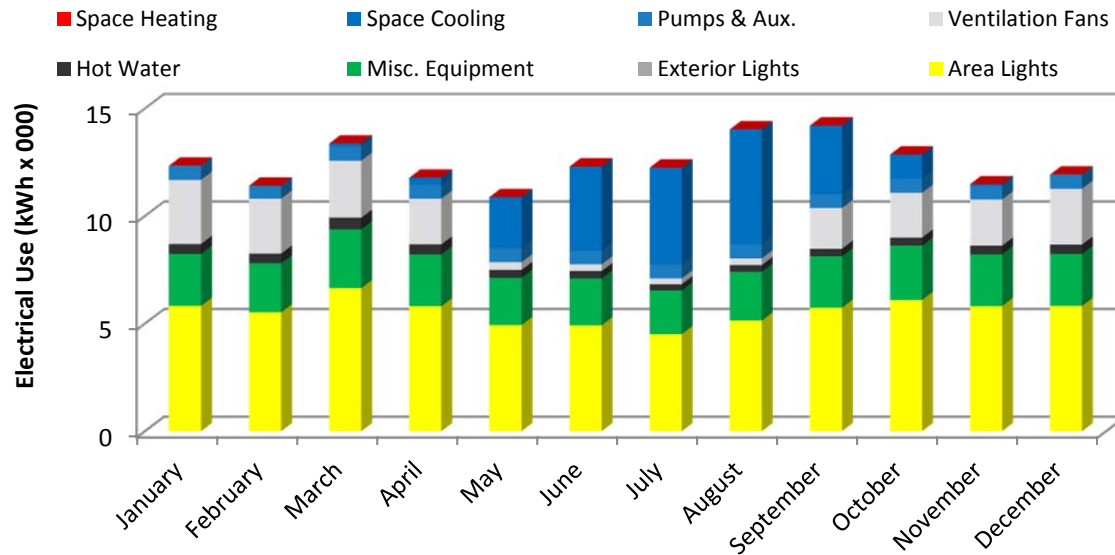
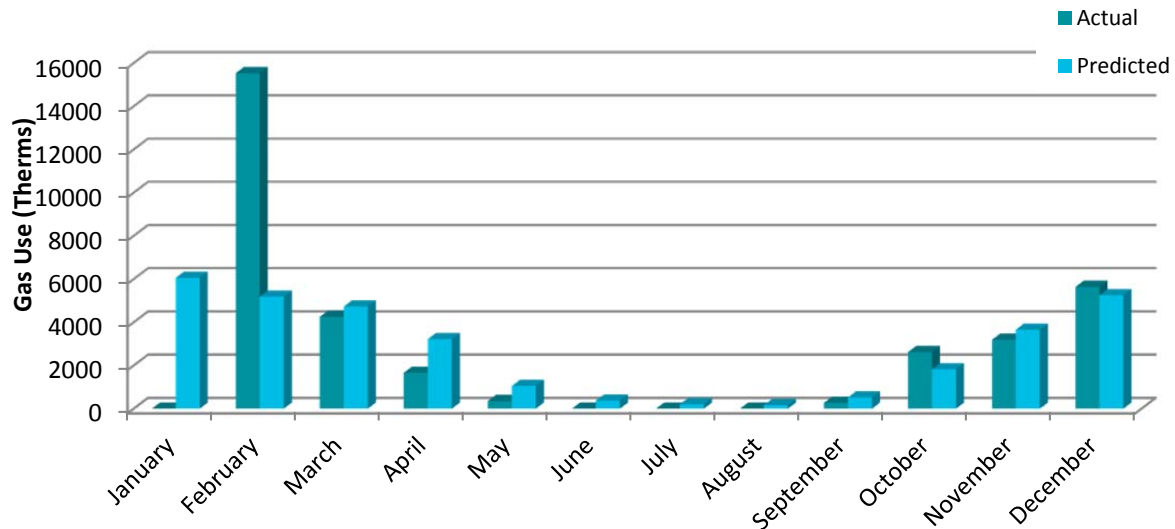


Figure 4.2-3 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-3: Administration Building Natural Gas Usage

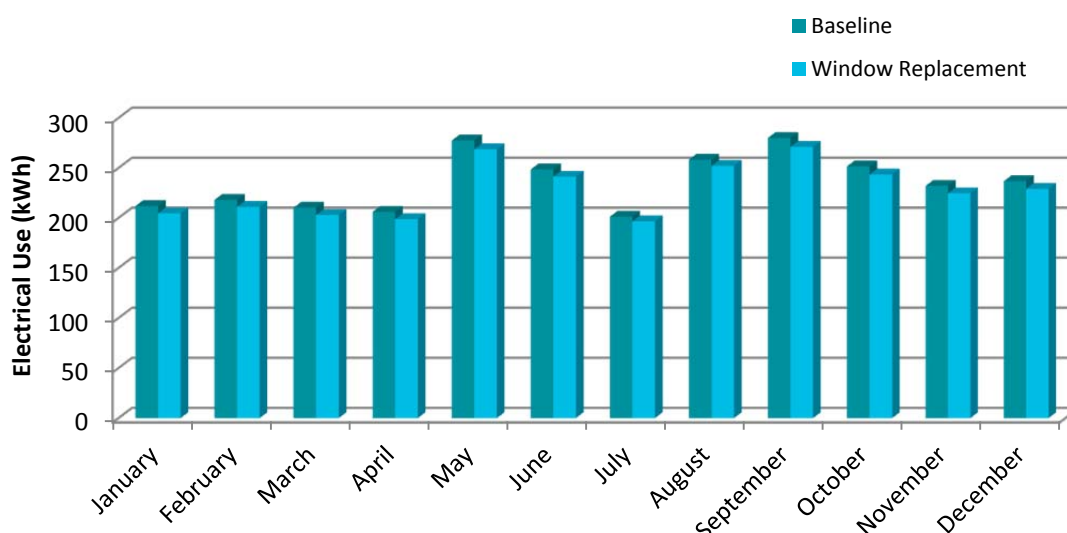


The Administration Building's cooling systems are a mix of dx split systems, window units and packaged roof top units. Generally the cooling equipment has about 5 years of life expectancy left.

Replacing all these units with new premium efficiency units reduces the electricity required to produce the same amount of cooling. The existing units are assumed to have an EER of 9.

Figure 4.2-4 compares current electric usage with predicted electric usage resulting from a switch to high-efficiency cooling equipment. The premium efficiency cooling is modeled as an average EER of 14.

Figure 4.2-4: Administration Building – Premium Cooling – Electric Usage



Fiscal savings from such an upgrade are then identified in Table 4.2-1 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It's important to note that these are estimates based on building models, and further investigation is warranted before pursuing air conditioning replacements.

Table 4.2-1	
Administration Building Premium Cooling Payback	
Predicted Annual Savings (kWh)	6,240
Total Annual Savings	\$ 1,123
Initial Capital Cost of Upgrade	\$ 40,000
Incentives**	\$ 1,500
Cost of Upgrade	\$ 38,500
Annual Maintenance Cost Savings (AMCS)	\$ 0
Simple Payback	34.3

**Incentives, per New Jersey Clean Energy Program, are \$92 per ton

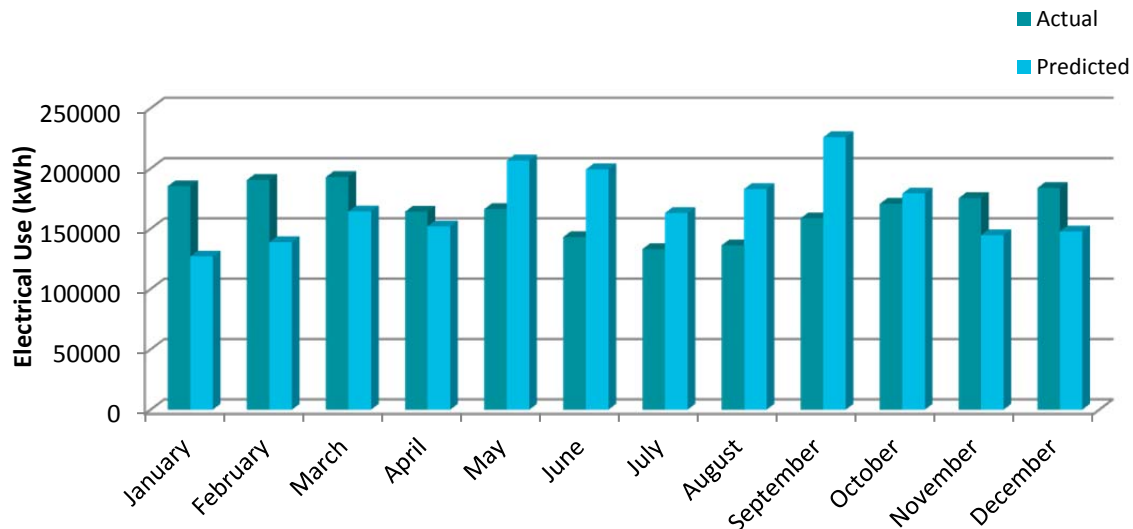
Due to the excessive payback this measure is not recommended.

All major equipment noted during CDM Smith's on site audit is listed in Appendix M. Where equipment ages were not found on the equipment tags, they have been estimated based on the units' appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit's manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information have been represented as "unknown".

4.2.2 Ocean Township High School

A model of the Ocean Township High School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2011 through December 2011. Figure 4.2-5 below compares actual monthly electricity usages, with those predicted by the eQuest model. Historical monthly usages were averaged for each month observed over multiple years. For example, usage during the month of June was averaged for the three years to yield an approximate average usage during the month of June.

Figure 4.2-5: Ocean Township High School Electricity Usage



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith's field audit. Figure 4.2-6 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

Figure 4.2-6: Ocean Township High School Electricity Usage Breakdown

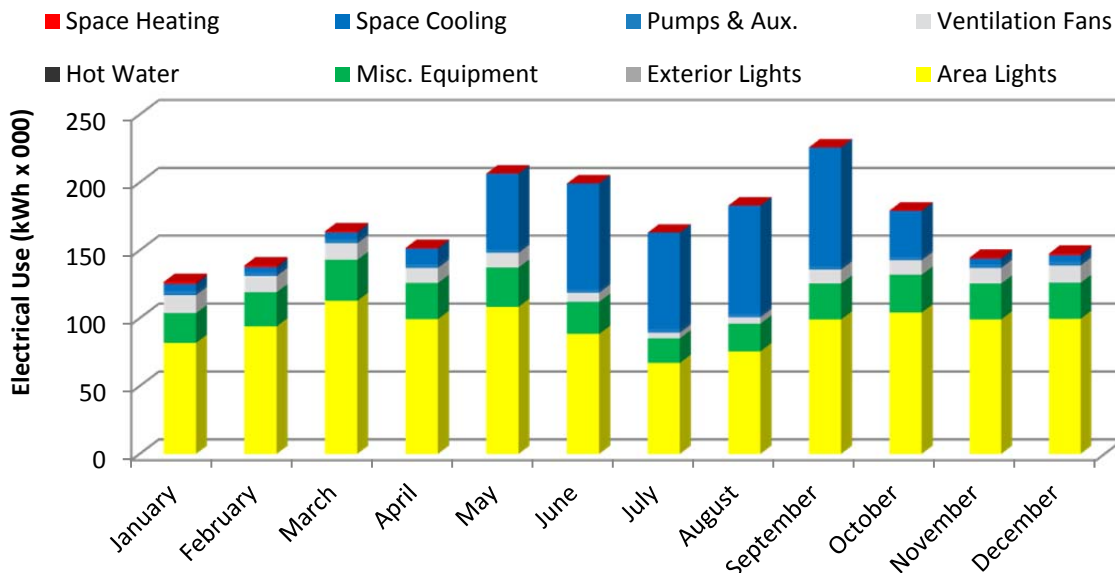
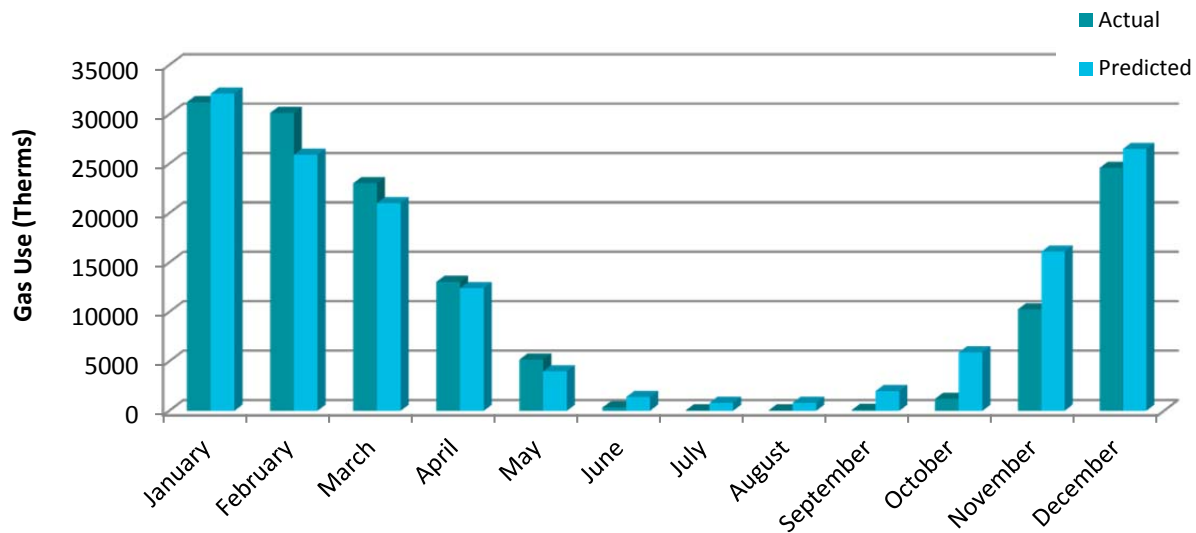


Figure 4.2-7 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-7: Ocean Township High School Natural Gas Usage



Currently, the water heating system utilizes multiple electric and gas fired storage water heater with a combined capacity 1400 MBH. CDM Smith conservatively estimates the gas fired water heaters to be 75% efficient. The gas fired water heater is about 20 years old and in fair condition. The unit is rated at 540 MBH input with 125 gallons storage.

CDM Smith recommends replacing the older gas fired water heater in the boiler room with a system of high-efficiency, condensing water heater. The new unit should be comparable in size and storage capacity.

Figure 4.2-4 compares current gas usage with predicted gas usage resulting from a switch to a high-efficiency, condensing boiler. Condensing boilers are modeled with a full-load efficiency of ~90% and return water temperature of 120°F.

Fiscal savings from such an upgrade are identified in Table 4.2-2 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It is important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements.

Table 4.2-2 Ocean High School DHW Upgrade Payback	
Predicted Annual Savings (Therms)	305
Total Annual Savings	\$ 360
Initial Capital Cost of Upgrade	\$ 20,000
Incentives**	\$ 945
Cost of Upgrade	\$ 19,055
Annual Maintenance Cost Savings (AMCS)	\$ 0
Simple Payback	52.9

**Incentives, per New Jersey Clean Energy Program, are \$1.75 per MBH

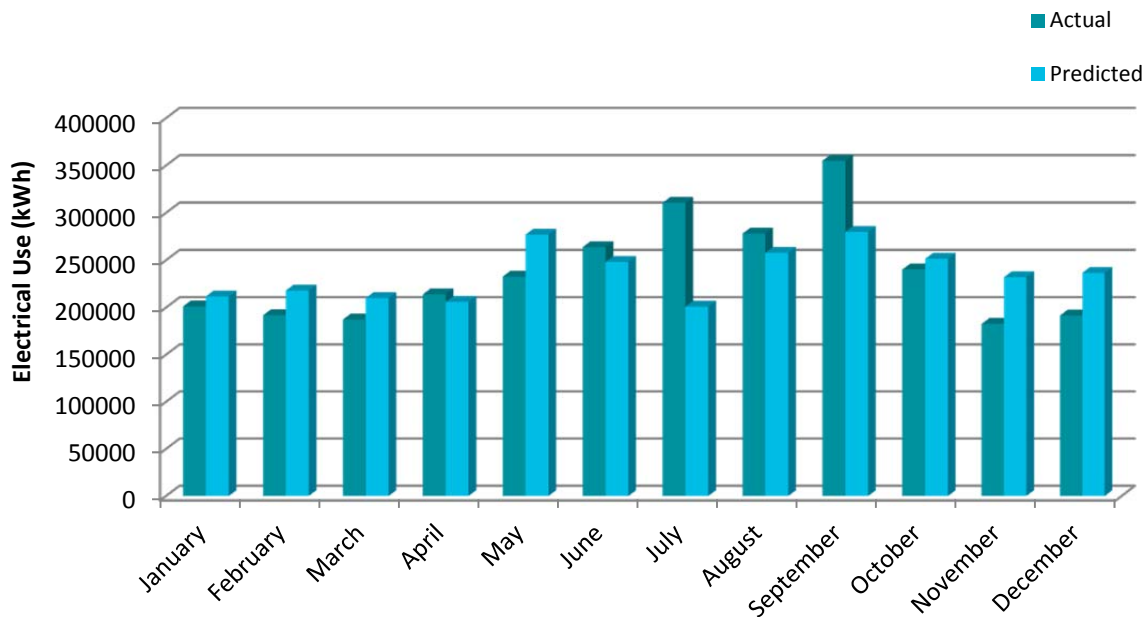
Due to the excessive payback, this measure is not recommended.

All major equipment noted during CDM Smith's on site audit is listed in Appendix M. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit's manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as "unknown".

4.2.3 Ocean Township Intermediate School

A model of the Ocean Township Intermediate School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2011 through December 2011. Figure 4.2-8 below compares actual monthly electricity usages with those predicted by the eQuest model.

Figure 4.2-8: Ocean Township Intermediate School Electricity Usage



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith's field audit. Figure 4.2-9 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

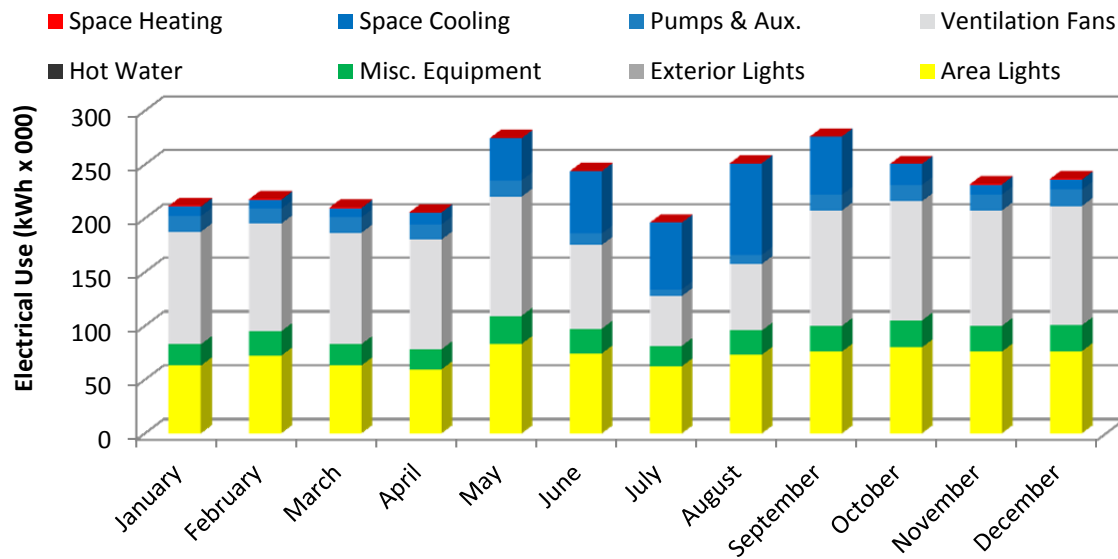
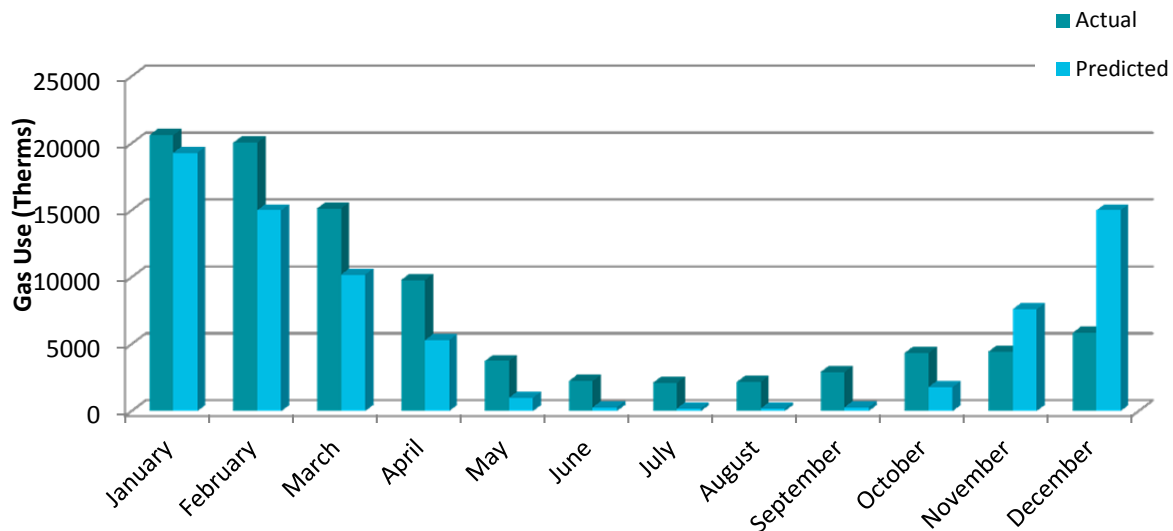
Figure 4.2-9: Ocean Township Intermediate School Electricity Usage Breakdown

Figure 4.2-10 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-10: Ocean Township Intermediate School Natural Gas Usage

The building has some single pane windows remaining. These windows have aluminum frames and are in fair condition. The windows in the addition and other renovated spaces have double pane windows.

New windows should be double pane with argon gas and low e glazing. This construction should yield a window u-value of 0.35 or less. Table 4.2-3 demonstrates the potential payback from such an implementation.

Table 4.2-3: Ocean Township Intermediate School Windows Payback	
Predicted Annual Savings (Therms)	2,900
Annual Savings (Natural Gas)	\$3,451
Predicted Annual Savings (kWh)	88,300
Annual Savings (Electricity)	\$13,245
Total Annual Savings	\$16,696
Initial Capital Cost of Upgrade	\$362,000
Incentives**	\$0
Cost of Upgrade	\$362,000
Simple Payback	21.7

**No Incentives found for this upgrade

This measure is not recommended due to the long payback.

Currently, the water heating system utilizes multiple electric and gas fired storage water heaters with a combined capacity of 1017 MBH. CDM Smith conservatively estimates the gas fired water heaters to be 70% efficient. The Boiler room gas fired water heater is about 20 years old and in fair condition. This unit is rated at 660 MBH input with a 500 gallon storage tank.

CDM Smith recommends replacing the older gas fired water heater in the boiler room with a high-efficiency, condensing water heater system. The new unit should be comparable in size and storage capacity.

Figure 4.2-4 compares current gas usage with predicted gas usage resulting from a switch to a high-efficiency, condensing boiler. Condensing boilers are modeled with a full-load efficiency of ~90% and return water temperature of 120°F.

Fiscal savings from such an upgrade are then identified in Table 4.2-4 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It is important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements.

Table 4.2-4 Ocean Township Intermediate School DHW Upgrade Payback	
Predicted Annual Savings (Therms)	858
Total Annual Savings	\$ 1,021
Initial Capital Cost of Upgrade	\$ 20,000
Incentives**	\$ 1,155
Cost of Upgrade	\$ 18,845
Annual Maintenance Cost Savings (AMCS)	\$ 0
Simple Payback	16.3

**Incentives, per New Jersey Clean Energy Program, are \$1.75 per MBH

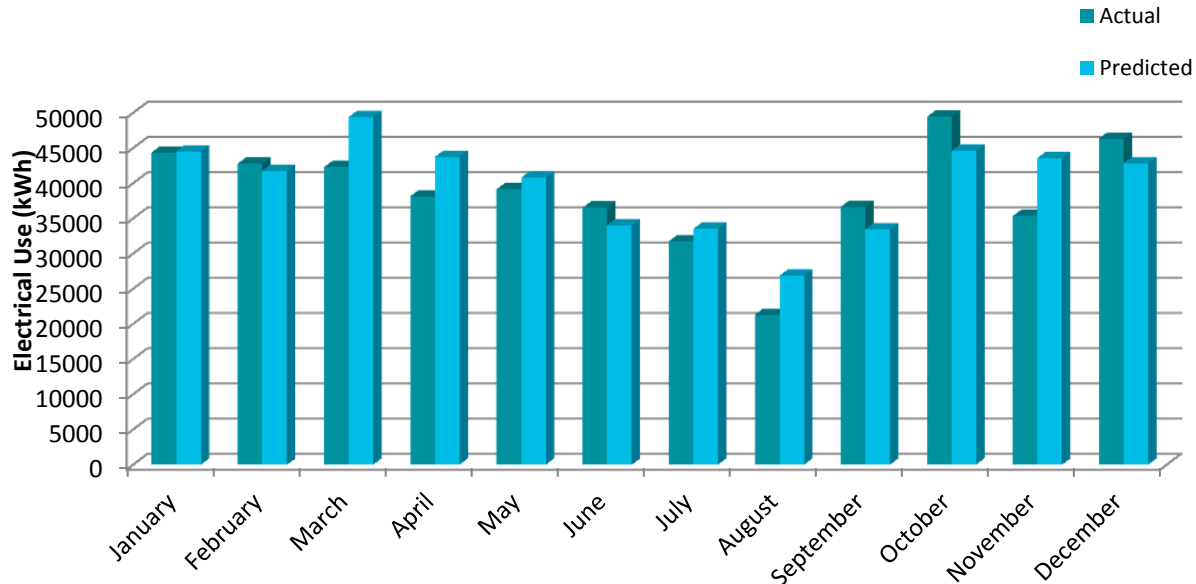
Due to the excessive payback, this measure is not recommended.

All major equipment noted during CDM Smith’s on site audit is listed in Appendix M, along with estimated current ages. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit’s manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as “unknown”.

4.2.4 Ocean Township Elementary School

A model of the Ocean Township Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2009 through December 2011. Figure 4.2-11 below compares actual monthly electricity usages with those predicted by the eQuest model. Historical monthly usages were averaged for each month observed over multiple years. For example, usage during the month of June was averaged for the three years to yield an approximate average usage during the month of June.

Figure 4.2-11: Ocean Township Elementary School Electricity Usage



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith’s field audit. Figure 4.2-12 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

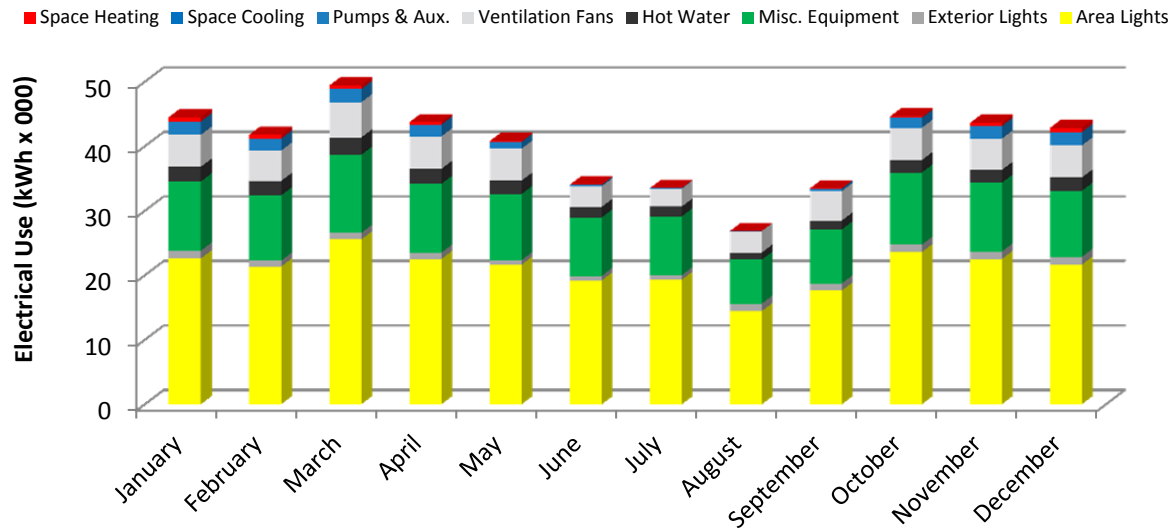
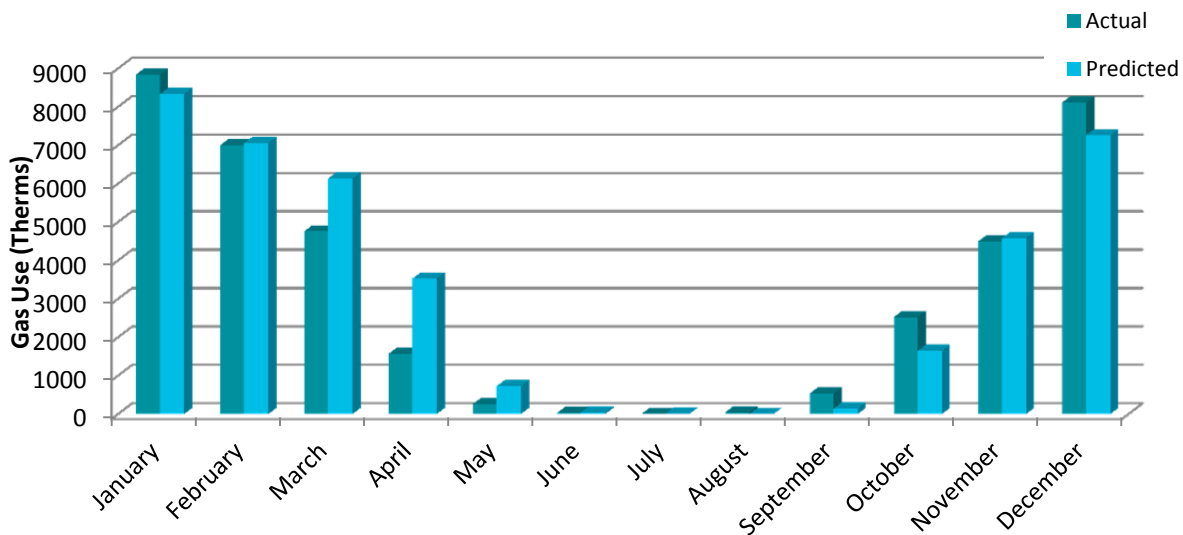
Figure 4.2-12: Ocean Township Elementary School Electricity Usage Breakdown

Figure 4.2-13 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-13: Ocean Township Elementary School Natural Gas Usage

Currently, the water heating system utilizes multiple electric storage water heaters with a combined capacity 18 kW and 80 to 120 gallons of storage. The water heaters are of various ages and in good to fair condition.

CDM Smith recommends replacing the 3 electric water heaters in the kitchen storage room with a high-efficiency, condensing water heater. The new unit is intended to replace the all 3 electric water heaters. This fuel conversion takes advantage of the difference in heat content of the electric and gas. The cost per btu of electricity is about 3 times more than natural gas. This typically makes gas fired units cost effective for major hot water uses.

Fiscal savings from such an upgrade are then identified in Table 4.2-5 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It is important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements.

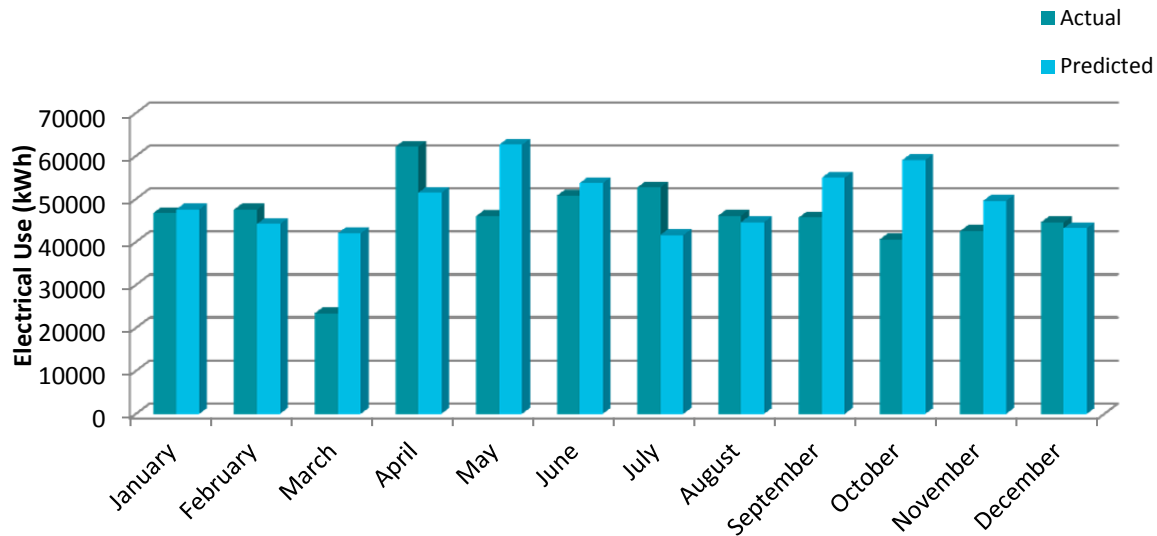
Table 4.2-5	
Ocean Township Elementary School DHW Upgrade Payback	
Predicted Annual Savings (kWh) per water heater	6,615
Predicted Annual Cost (\$) per water heater	\$ 1,058
Predicted New Annual Usage (Therms) per water heater	238
Predicted New Annual Cost (\$) per water heater	\$ 278
Total Annual Savings (3 water heaters)	\$ 2,340
Initial Capital Cost of Upgrade	\$ 16,000
Incentives**	\$ 350
Cost of Upgrade	\$ 15,650
Annual Maintenance Cost Savings (AMCS)	\$ 0
Simple Payback	6.7
Lifetime Energy Savings (15 years)*	\$44,609
Annual Return on Investment (AROI)	8.28%
Internal Rate of Return (IRR)	15.46%
Net Present Value (NPV)	\$19,218

**Incentives, per New Jersey Clean Energy Program, are \$1.75 per MBH

All major equipment noted during CDM Smith's on site audit is listed in Appendix M, along with estimated current ages. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit's manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as "unknown".

4.2.5 Wanamassa Elementary School

A model of the Wanamassa Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2009 through December 2011. Figure 4.2-14 below compares actual monthly electricity usages with those predicted by the eQuest model. Historical monthly usages were averaged for each month observed over multiple years. For example, usage during the month of June was averaged for the three years to yield an approximate average usage during the month of June.

Figure 4.2-14: Wanamassa Elementary School Electricity Usage

Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith's field audit. Figure 4.2-15 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

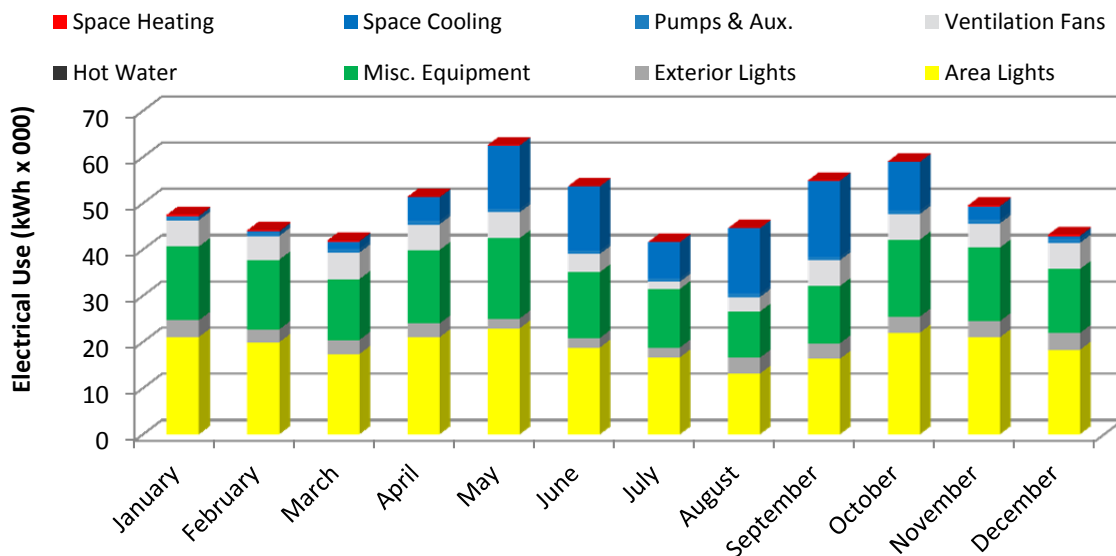
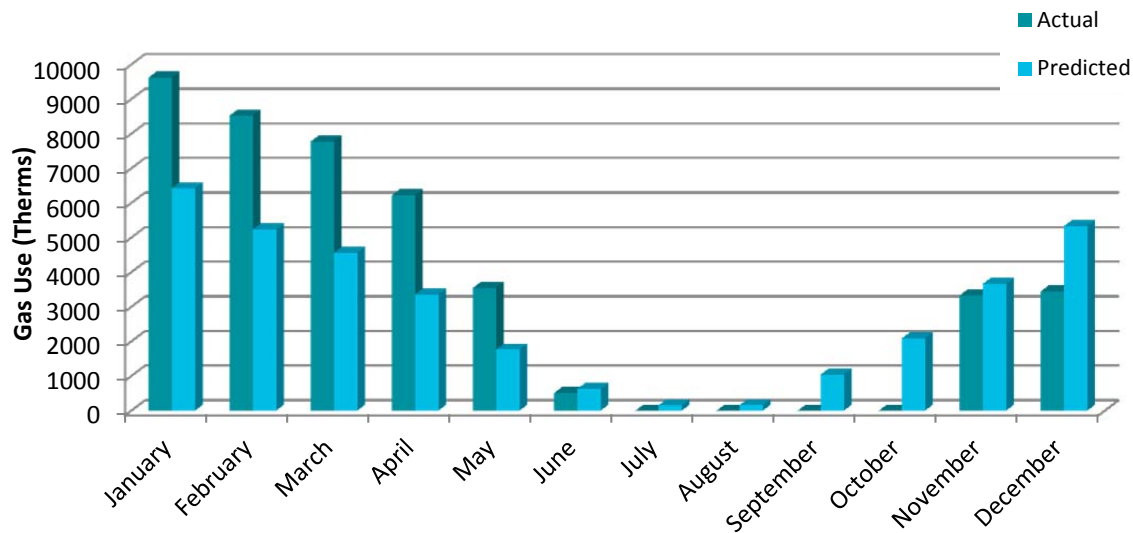
Figure 4.2-15: Wanamassa Elementary School Electricity Usage Breakdown

Figure 4.2-16 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-16: Wanamassa Elementary School Natural Gas Usage

The building has some double pane vinyl windows that were installed about 20 years ago. These windows were poorly installed according to site staff and are in fair condition. The windows in the addition and other renovated spaces have new double pane windows.

New windows should be double pane with argon gas and low e glazing. This construction should yield a window u-value of 0.35 or less. Table 4.2-6 demonstrates the potential payback from such an implementation.

Table 4.2-6: Wanamassa School Windows Payback	
Predicted Annual Savings (Therms)	1,165
Annual Savings (Natural Gas)	\$1,433
Predicted Annual Savings (kWh)	3,380
Annual Savings (Electricity)	\$507
Total Annual Savings	\$1,940
Initial Capital Cost of Upgrade	\$76,000
Incentives**	\$0
Cost of Upgrade	\$76,000
Simple Payback	39.2

**No Incentives found for this upgrade

This measure is not recommended due to the long payback.

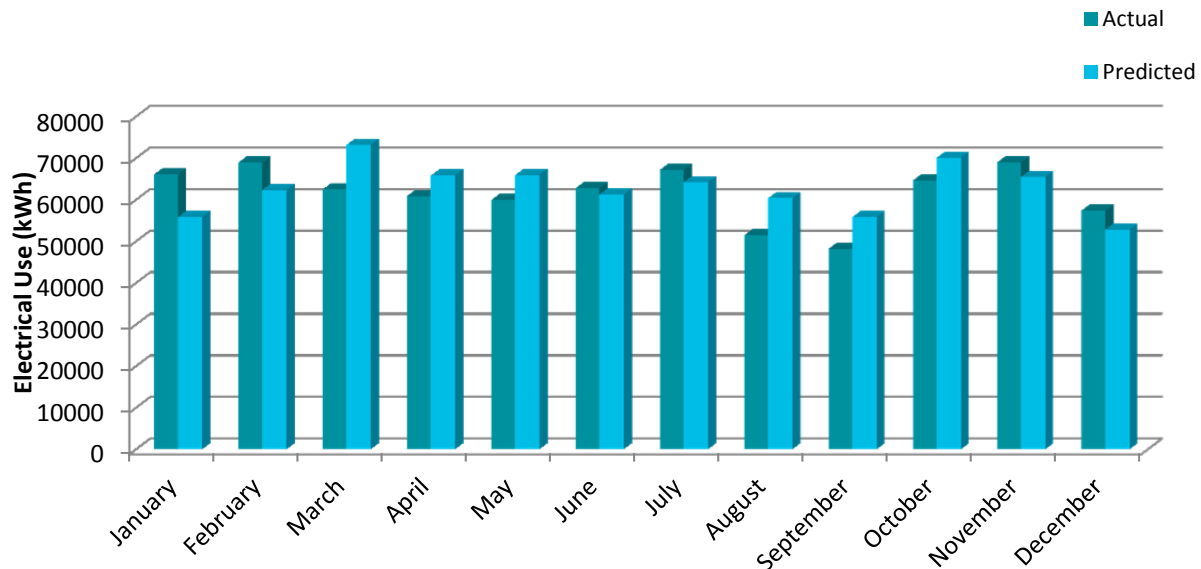
All major equipment noted during CDM Smith's on site audit is listed in Appendix M, along with estimated current ages. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit's manufacturer and/or model could not be

determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as “unknown”.

4.2.6 Wayside Elementary School

A model of the Wayside Elementary School was created in eQuest to predict heating and cooling loads for the building. To calibrate this model, CDM Smith used electricity bills and natural gas bills from January 2011 through December 2011. Figure 4.2-17 below compares actual monthly electricity usages with those predicted by the eQuest model. Historical monthly usages were averaged for each month observed over multiple years. For example, usage during the month of June was averaged for the three years to yield an approximate average usage during the month of June.

Figure 4.2-17: Wayside Elementary School Electricity Usage



Once the eQuest model was calibrated, it could be used to predict approximate major usage categories, such as lighting, plug loads (miscellaneous), ventilation, and cooling. It should be noted that these are only estimated usages based on information gathered during CDM Smith’s field audit. Figure 4.2-18 presents this information to help the Board visualize where CDM Smith anticipates the electricity is ultimately being used.

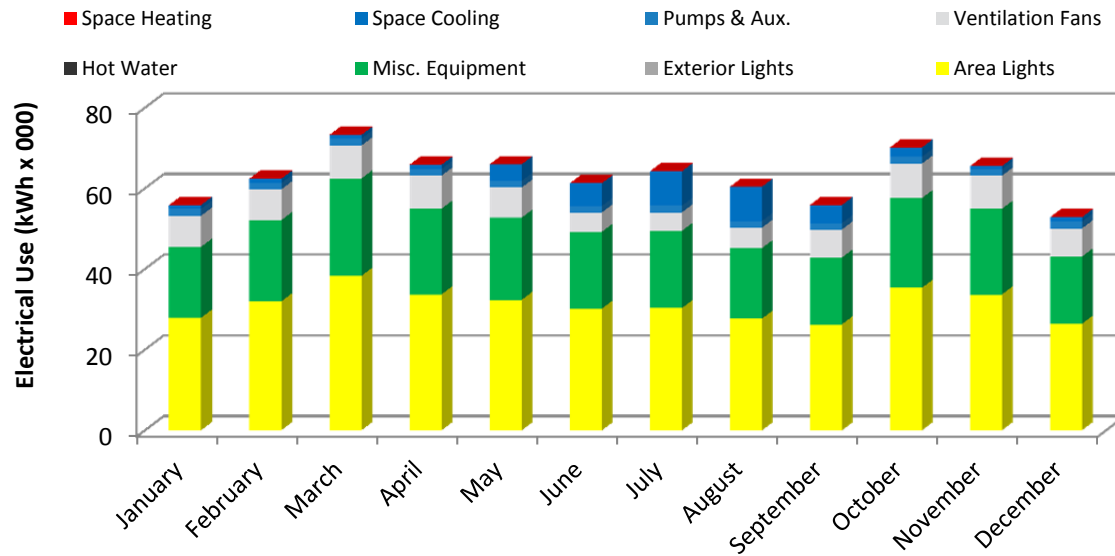
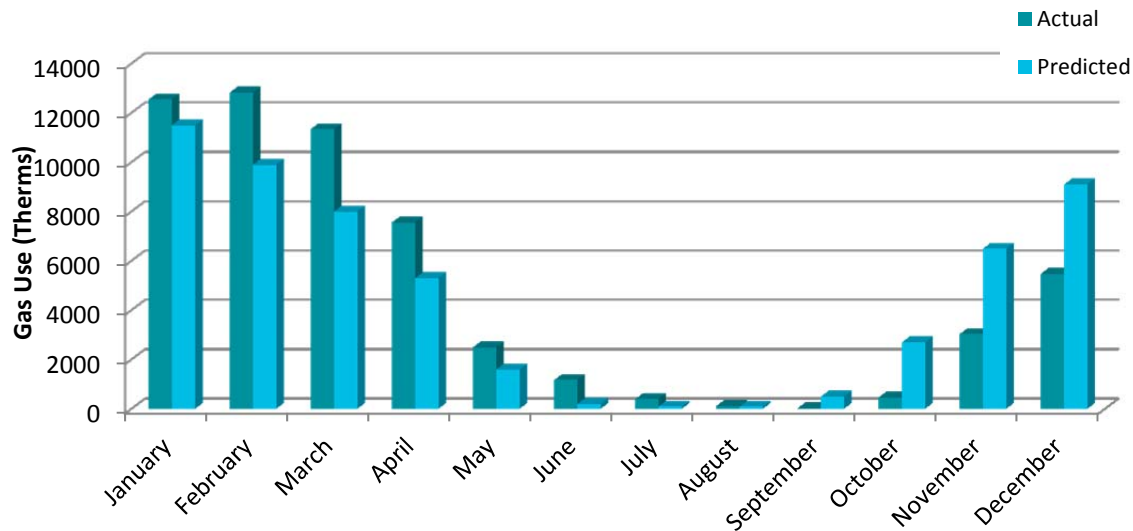
Figure 4.2-18: Wayside Elementary School Electricity Usage Breakdown

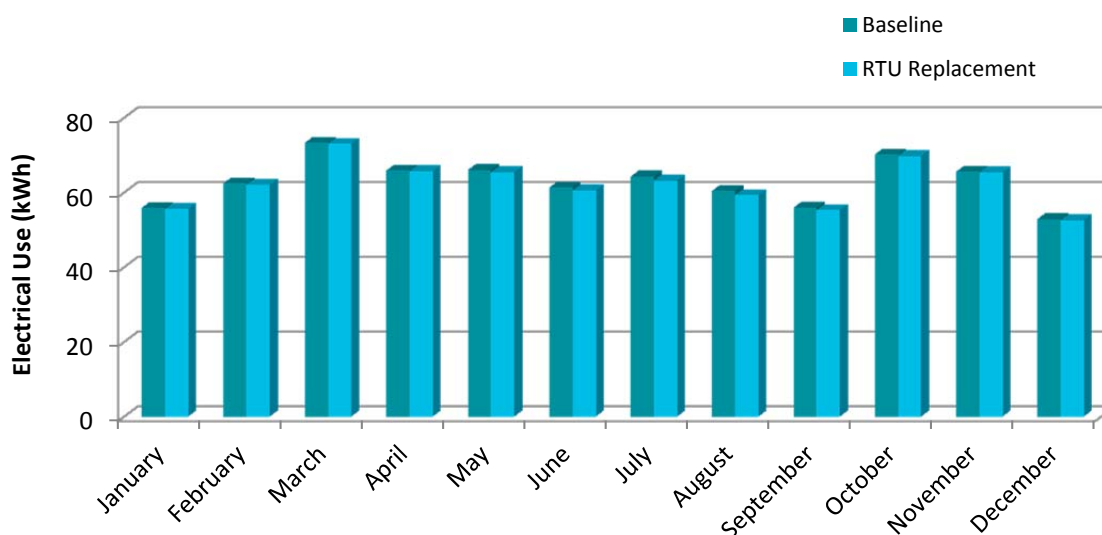
Figure 4.2-19 below compares actual natural gas usage to model-predicted natural gas use.

Figure 4.2-19: Wayside Elementary School Natural Gas Usage

The Wayside Elementary cooling systems are packaged roof top units and a few window air conditioners. All of the roof top units were replaced except for one. This unit is about 20 years old which is about 5 years or beyond the expected service life. The unit is assumed to have an EER about 9.0

Replacing this unit with a new premium efficiency unit reduces the electricity required to produce the same amount of cooling.

Figure 4.2-20 compares current electric usage with predicted electric usage resulting from a switch to high-efficiency cooling equipment. The premium efficiency cooling is modeled as an average EER of 14.

Figure 4.2-20: Wayside Elementary – Premium Cooling – Electric Usage

Fiscal savings from such an upgrade are identified in Table 4.2-7 below. Lifetime savings calculations for all ECRM's may be found in Appendix I. It is important to note that these are estimates based on building models, and further investigation is warranted before pursuing boiler replacements.

Table 4.2-7	
Wayside Elementary Cooling Upgrade Payback	
Predicted Annual Savings (kWh)	6,240
Total Annual Savings	\$ 874
Initial Capital Cost of Upgrade	\$ 30,000
Incentives**	\$ 1,380
Cost of Upgrade	\$ 28,620
Annual Maintenance Cost Savings (AMCS)	\$ 0
Simple Payback	32.7

**Incentives, per New Jersey Clean Energy Program, are \$92 per ton

Due to the excessive payback this measure is not recommended.

All major equipment noted during CDM Smith's on site audit is listed in Appendix M, along with estimated current ages. It should be noted that only equipment that was observed at the time of the audit is included. Where equipment ages were not found on the equipment tags, they have been estimated based on the unit appearance or approximate renovation dates. In some cases, service locations may have been estimated based on unit proximity. Additionally, in cases where a unit's manufacturer and/or model could not be determined due to an unreadable, faded, destroyed, or lost tag, manufacturer and model number information has been represented as "unknown".

4.3 Alternative Energy Sources

4.3.1 Photovoltaic Solar Energy System Overview

Photovoltaic (PV) cells convert energy in sunlight directly into electrical energy through the use of silicon semi-conductors, diodes and collection grids. Several PV cells are then linked together in a single frame of module to become a solar panel. PV cells are able to convert the energy from the sun into electricity. The angle of inclination of the PV cells, the amount of sunlight available, the orientation of the panels, the amount of physical space available and the efficiency of the individual panels are all factors that affect the amount of electricity that is generated.

Based on the estimated cumulative total available roof area, calculations determine that the installation of six systems with a total rating of approximately 1.03 MW (dc) will be appropriate for the six Board buildings listed below. It should be noted that the Ocean Township Intermediate School has an existing 25kW PV array installed, and the system discussed in this section for the Intermediate School is proposed to be installed in addition to the existing system.

As part of this energy audit, a preliminary engineering feasibility study of the sites outlined above to support solar generation facilities was completed consisting of the following tasks:

1. Site visit by CDM Smith engineers.
2. Satellite image analysis and conceptual design and layout of the photovoltaic system.
3. Design and construction cost estimates.
4. Determine a preliminary design for the size and energy production of the solar system.

The total unobstructed available area of each section of the roof with southern exposure was evaluated. It is important to note the following:

1. The structural integrity of the roofs was not confirmed during CDM Smith's site visit. The school buildings may require some degree of roofing work prior to the implementation of a solar system.
2. In the case of the flat areas, the PV system sizing and kWh production was calculated assuming the installation of a crystalline module facing south direction (180 Degree Azimuth) and tilted approximately 20 degrees to allow better rain water shedding and snow melting. Please note that the kWh production as well as system size may differ significantly based on final panel tilt selected during the RFP and design phase.
3. Blended electric rates were used based on actual utility bills and were applied for the schools.

The following is a preliminary study on the feasibility of installing PV solar systems at the six Board buildings to generate a portion of each facility's electricity requirements. Each system is designed to offset the electric purchased from the local utility and not as a backup or emergency source of power.

In order to determine the best location for the installation of the PV solar system, a satellite image analysis and site walkthrough of the buildings was performed on June 25, and June 26, 2012. As per the Scope of Work, only the building roofs were considered for PV installation.

Also, as part of the assessment, CDM Smith investigated possible locations for electrical equipment that need to be installed such as combiner boxes, disconnect switches and DC to AC inverters. Consideration was also given to locations of interconnection between the solar system and building's electrical grid.

4.3.1.1 Administration Building

The roof of the Administration Building is pitched, and partially flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 75 kW (dc).

Electrical Service

The existing electrical service size of the Administration Building is single-phase, 120/240V, at 200 Amps. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.2 Ocean Township High School

The roof of the Ocean Township High School is flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 180 kW (dc).

Electrical Service

The existing electrical service size of the Ocean Township High School is 3-phase, 277/480V, at 3000 Amps. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.3 Ocean Township Intermediate School

The roof of the Ocean Township Intermediate School is flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 320 kW (dc).

Electrical Service

The Ocean Township Intermediate School has two existing electrical services. The voltage and size of the first electrical service is 3-phase, 277/480V, at 3000 Amps. The voltage and size of the second service is 277/480V 2000A. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.4 Ocean Township Elementary School

The roof of the Ocean Township Elementary School is flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 250 kW (dc).

Electrical Service

The existing electrical service size of the Ocean Township Elementary School is 3-phase, 208Y120V, at 800 Amps. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.5 Wanamassa Elementary School

The roof of Wanamassa Elementary School is flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 70 kW (dc).

Electrical Service

The existing electrical service size of the Wanamassa Elementary School is 3-phase, 208Y120V, at 1600 Amps. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.6 Wayside Elementary School

The roof of the Wayside Elementary School is flat with very few obstructions. There is no amount of shading on the roof from adjacent foliage that would need to be addressed during the design phase of the project. The structural integrity of the roof was not confirmed although a visual inspection revealed no leaks or major defects. The structural integrity of the roof and the existence of a warranty shall be confirmed prior to the implementation of a PV system.

The Project Team conducted both a facility walkthrough and a satellite image analysis and based on the estimated total available area, calculated the potential capacity of a solar array system to be approximately 130 kW (dc).

Electrical Service

The existing electrical service size of the Wayside Elementary School is 3-phase, 277/480V, at 1600 Amps. The interconnection point for the PV system will require a modification or replacement of the existing service entrance equipment wherein the PV system feeder connections will have to be made after the main circuit breaker, and protective relaying will also have to be implemented. Any connection points would have to meet NEC and local utility requirements. Further investigation and verification of existing electrical equipment would be required prior to implementation of a PV system.

4.3.1.7 Basis for Design and Calculations

The proposed Photovoltaic (PV) Power systems outlined above for each school are comprised of the PV arrays, inverter(s), combiner boxes, disconnect switches, and all of the necessary wiring and interconnection equipment. The solar panels will be mounted onto the roof. The array outputs will feed power into the DC to AC inverters. AC outputs will then be connected at each building's electrical service as outlined above. Pending further engineering analysis of the roofs, it is yet to be determined if the solar arrays will be installed using a self-ballasting system, or roof penetration system, or a combination of both.

The most common roof mounted system is referred to as a "fixed tilt" system typically mounted to a metal rack that can be fixed at a specific angle. There are also "tracking systems" or movable along one or two axes to follow the position of the sun during the day. For a roof-mounted PV system, tracking systems are very rarely installed and are usually used for ground-mounted systems only, as they require more complex racks and higher maintenance costs. For the "fixed" system, the tilt is determined based on the following factors: geographical location, total targeted kWh production, seasonal electricity requirements and weather conditions such as wind. Ideally, the module tilt for Central to Eastern New Jersey should be 25-35 degrees with an azimuth as close as possible to 180 (south); however, experience has shown that PV systems are typically installed at a tilt of 20 degrees or lower in order to avoid any issues with wind and to maximize total system size



The type of PV panels and equipment used to mount the system shall be determined based on the wind conditions and structural integrity of the roof determined during the design phase of the project. In general,

penetration/tie-down systems, non-penetrating ballasted type systems, or a combination of the two should be considered.

Calculation of PV System Yield

An industry accepted software package PV Watts was used to calculate projected annual electrical production of the crystalline silicon PV system in its first year, as summarized in Table 4.3-1. The system was designed to provide maximum kWh production based on available roof space.

Table 4.3-1 Summary of Solar (PV) Systems

Site	Est. Area (ft ²)	kWh	Annual Energy Savings	Est. Annual SREC	Lifetime Energy Savings (25 Years)*	SREC Factor (\$/kWh)	Annual Return On Investment (AROI)	Net Present Value (NPV)	Internal Rate of Return (IRR)
Administration Building	7,500	91,950	\$16,551	\$27,585	\$603,437	\$0.30	0.4%	(\$290,300)	(0.2%)
Ocean Township High School	18,000	220,680	\$33,102	\$66,204	\$1,206,875	\$0.30	0.4%	(\$673,128)	(0.5%)
Ocean Township Intermediate School	32,000	392,320	\$58,848	\$117,696	\$2,145,555	\$0.30	0.5%	(\$1,099,450)	(0.3%)
Ocean Township Elementary School	25,000	306,500	\$49,040	\$91,950	\$1,787,962	\$0.30	0.6%	(\$816,193)	(0.03%)
Wanamassa Elementary School	7,000	85,820	\$13,731	\$25,746	\$500,630	\$0.30	0.1%	(\$318,534)	(0.9%)
Wayside Elementary School	13,000	159,380	\$22,313	\$47,814	\$813,523	\$0.30	0.2%	(\$557,320)	(1.0%)

*3% yearly inflation on electricity costs

Total Costs

It should be noted that construction costs are only estimates based on historic data compiled from similar installations, and engineering opinion. Additional engineering and analysis is required to confirm the condition of the roofs, structural integrity of the roofs, the system type, sizing, costs and savings. Budget costs assume existing roofs are structurally sound, do not need to be replaced, and can accommodate a solar system. For illustration purposes, a draft financial analysis pro forma is attached outlining all project costs and revenues.

Table 4.3-2 Engineers Opinion of Probable Cost

Engineers Opinion of Probable Cost	\$12,280,250
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As stated above, the estimated installation costs are based on significant experience with the pricing of solar installations in New Jersey, and are intended to provide the Board with a realistic budget cost. A typical solar installation can vary in cost from \$7.00 - \$10.00 per watt depending on size, complexity of the system, labor rates, etc. Approximately 60-70% of that number is material costs while the balance is labor, engineering, etc. Like any installation, certain conditions can affect a price upward or downward. For purposes of this analysis, the estimated installation cost does not include any roofing or structural work which may be required to maintain warranties or for additional structural support. CDM Smith has included a budget of \$9/watt for the solar system installation with an additional estimated budget of \$100,000 for potential electric service work.

Refer to Section 7 for discussion on Solar Renewable Energy Certificates and other financing options for solar projects. The financial model in Appendix E provides an annual forecast illustration of project revenues and costs for 25 years.

4.3.2 On-Site Wind Power Generation

On-site wind power generation typically utilizes a form of turbine, which is rotated with the flow of wind across it. This rotational force powers a generator, producing DC electricity. The DC electricity is then converted into AC electricity, which can be used for commercial power, or can be fed back into the power grid, reducing the overall electric demand. The size of the turbine is proportional to the amount of wind and concurrently the amount of energy it can produce.

CDM Smith has determined that it is economically feasible for the Board to install wind turbine energy systems at its facilities. This is primarily due to a 20 year payback for electrical energy produced at average wind speeds. There are many other incentives that could possibly provide additional funding which would reduce the payback period further.

Utilizing NASA's Atmospheric Science Data Center online wind mapping tool, it was determined that the local average wind speeds for the Board ranged from 4.4 m/s to 6.4 m/s at 43 meters above the ground. In general, around 3.2 m/s of average wind speed, as determined over the course of a year, is necessary to "fuel" the turbine. These values fall within the range of feasibility for installation of a new wind turbine system.



For the purposes of this feasibility analysis, CDM Smith chose a 35kW Endurance G-3120 wind turbine. Please refer to Appendix L for vendor information. This turbine size is used most often for small commercial applications. Power Curve data was determined through the use of the product specification sheets on vendor websites. Actual turbine size, height, location, and manufacturer should be determined upon design of a wind turbine system.

The estimated wind speed data, associated wind probability distribution function (weibull value), turbulence losses, and other relevant data were then incorporated into Wind Cad to estimate the annual output for the wind turbine. Refer to Appendix I for Wind Cad Modeling.

Table 4.3-3 includes a simple payback analysis for the installation of one wind turbine energy system. Refer to Appendix J for a more detailed wind turbine financing spreadsheet, including utility cost avoidance and REC's.

Table 4.3-3: Simple Payback Analysis for Wind Turbine Energy System			
Parameter	Wind Turbine (Minimum Site Wind Speed – 4.4 m/s)	Wind Turbine (Maximum Site Wind Speed – 6.4 m/s)	Wind Turbine (Average Site Wind Speed – 5.5 m/s)
Engineer's Opinion of Probable Cost	\$450,000	\$450,000	\$450,000
REIP Incentive (Program On Hold)	0	0	0
Total Cost	\$450,000	\$450,000	\$450,000
1 st Year Production (kWh)	77,510	157,834	124,220
Annual Estimated Electric Savings	\$12,402	\$25,253	\$19,875
Annual Estimated REC Revenue	\$1,938	\$3,946	\$3,106
Project Simple Payback (years)	31	15	20
Annual Return On Investment (AROI)	(0.8%)	2.5%	1.1%
Lifetime Energy Savings (25 years)	\$452,153	\$920,722	\$724,635
Internal Rate of Return (IRR)	0.3%	6.2%	4.0%
Net Present Value (NPV)	(\$134,341)	\$192,778	\$55,885

*Refer to Appendix J for Wind Cad Modeling

It should be noted that CDM Smith used only REC values in determining simple payback periods. As stated above, other incentives and financial programs such as Power Purchase Agreements are available to help finance this installation. For example, if a Power Purchase Agreement is completed, the private company financing the project would benefit from the 30% tax credit. Other incentives such as CREB's and first year usage incentives could be available to the Board in lowering the payback period. Refer to www.dsireusa.org for an extensive listing of possible incentives for New Jersey.

It should also be noted that the wind turbine represented above is for feasibility purposes only. If the Board decides to install a wind turbine system(s), different mounting heights, turbine sizes, and manufacturers should be considered. In addition, permits may be required for installation according to local zoning laws. The FAA must also be notified in order to give clearance for the tower, and for installation of aviation safety lights if necessary.

4.3.3 Additional Measures

It may be possible to reduce the plug load of the facilities even further with the implementation of smart strips and energy star appliances. Smart Strips save energy by electronically unplugging all of the devices that are plugged into the "Automatically Switched Outlets" when the device plugged into the control outlet is turned off. It is important to note that CDM Smith is not suggesting that computers be plugged into the automatically switched off outlets, as there would be potential for the computers to be shut off mid-operation. There are a vast amount of computer peripherals that are typically left on after a computer is shut off, including monitors, scanners, printers and DSL/Cable modems. These peripherals can be plugged into the automatic outlets.

A standard Smart Strip has one 'control' outlet, six (6) outlets that are automatically switched off when the control device is on, and three (3) outlets that are always hot. An example of how the Board can implement the use of Smart Strips office or library settings is to plug a computer into the control outlet, five (5) monitors and a personal printer (8 W in standby mode) into the automatic outlets and three (3) computers

into the always hot outlets. An LCD monitor can use up to 34W; in standby mode the monitor utilizes 1 – 2W. A CRT monitor typically utilizes around 75W. The following table 4.3-4 summarizes the payback of a Smart Strip, assuming five LCD monitors and one printer are automatically powered down that would otherwise been left on 8 hours/day and in standby mode 16 hours/day, 5 days/week for 9 months.

Table 4.3-4: Simple Payback

Smart Strip Application Example	
Predicted Annual Savings – 5 LCD monitors, 1 printer (kWh)	308
*Total Annual Savings	\$49.3
Initial Capital Cost	\$40
Simple Payback (years)	0.8
Lifetime Energy Savings (15 years)	\$739.5

*Aggregate Cost of \$.16/kWh

The following Table 4.3-5 summarizes other applications for the Smart Strip that may be applicable throughout the buildings:

Table 4.3-5: Applications for Smart Strips

Control Outlet	Switched Outlets
Computer	Monitors, printers, scanners, lamps
TV	VCR, DVD player, cable box
Lamp	Stereo, space heater

The Board should continue to implement Energy Star appliances. This is recommended on an ‘as-needed’ basis.

In addition to replacing old appliances with Energy Star appliances, the following two maintenance procedures can work to save the energy consumed by the refrigerators. One is cleaning dirty condenser coils twice a year. A refrigerator’s condenser coils and cooling fins are located either under the unit behind a grille in the front or on the back of the appliance. The coils can be cleaned with a brush or vacuum cleaner hose. The second source of wasted energy associated with a refrigerator is the door seal. Realigning the door or replacing a no longer airtight door seal will work to improve energy efficiency.

Section 5

Evaluation of Energy Purchasing and Procurement Strategies

5.1 Energy Deregulation

In 1999, New Jersey State Legislature passed the Electric Discount & Energy Competition Act (EDECA) to restructure the electric power industry in New Jersey. This law, the deregulation of the market, allowed all consumers to shop for their electric supplier. The intent was to create a competitive market for electrical energy supply. As a result, utilities were allowed to charge Cost of Service and customers were given the ability to choose a third party supplier. Energy deregulation in New Jersey increased the energy buyers' options by separating the function of electricity distribution from that of electricity supply.

CDM Smith obtained a third party energy supplier quote for the Board, and unfortunately, the rates offered by the third party energy supplier were not competitive with the Jersey Central Power and Light (JCP&L) utility rates that the Board is currently paying. Therefore, CDM Smith does not recommend that the Board switch to a third party energy supplier at this time.

To sell electric generation service in New Jersey, electric power suppliers must be licensed by the New Jersey Board of Public Utilities (NJ BPU). They must also be registered with the local public utility (JCP&L) to sell electric service in that utility's service areas. The following suppliers are licensed with the NJ BPU and are registered to sell electric service in the JCP&L service territory:

- Amerada Hess Corp
- BOC Energy Services
- Con Edison Solutions, Inc.
- Constellation New Energy, Inc.
- Direct Energy, LLC.
- First Energy Solutions Corp.
- Glacial Energy
- Integrys Energy Service
- Liberty Power
- Pepco Energy Services, Inc.
- PP&L Energy Plus, LLC.

- Reliant Energy Solutions East, LLC.
- Sempra Energy Solutions
- South Jersey Energy
- Strategic Energy LLC
- Suez Energy Resources NA, Inc.
- UGI Energy Services

5.2 Demand Response Program

Demand Response is a program through which a business can make money on reducing their electricity use when wholesale electricity prices are high or when heavy demand causes instability on the electric grid, which can result in voltage fluctuations or grid failure. Demand Response is an energy management program that compensates the participant for reducing their energy consumption at critical times. Demand Response is a highly efficient and cost effective means of reducing the potential for electrical grid failure and price volatility and is one of the best solutions to the Mid-Atlantic region's current energy challenges.

The program provides at least two hours advance notice before curtailment is required. There is typically one event a year that lasts about three hours in the summer months, when demand for electricity is at its highest.

Participation in Demand Response is generally done through companies known as Curtailment Service Providers, or CSPs, who are members of PJM Interconnection. There is no cost to enroll in the program and participation is voluntary, for instance, you can choose when you want to participate. In most cases, there is no penalty for declining to reduce your electricity use when you're asked to do so. The event is managed remotely by notifying your staff of the curtailment request and then enacting curtailment through your Building Management System. CSPs will share in a percentage of your savings, which may differ among various CSPs, since there may be costs associated with the hardware and/or software required for participation, so it is recommended that a number of CSPs be contacted to review their offers.

Section 6

Ranking of Energy Conservation and Retrofit Measures (ECRM)

6.1 ECRMs

The main objective of this energy audit is to identify potential Energy Conservation and Retrofit Measures and to determine whether or not the identified ECRM's are economically feasible to warrant the cost for planning and implementation of each measure. Economic feasibility of each identified measure was evaluated through a simple payback analysis. The simple payback analysis consists of establishing the Engineer's Opinion of Probable Construction Cost estimates; O&M cost savings estimates, projected annual energy savings estimates and the potential value of New Jersey Clean Energy Rebates or Renewable Energy Credits, if applicable. The simple payback period is then determined as the amount of time (years) until the energy savings associated with each measure amounts to the capital investment cost.

As discussed in Section 3, aggregate unit costs for electrical energy delivery and usage and natural gas delivery and usage, which accounts for all demand and tariff charges at each complex, was determined and utilized in the simple payback analyses.

In general, ECRMs having a payback period of 20 years or less have been recommended and only those recommended ECRMs within Section 4 of the report have been ranked for possible implementation. The most attractive rankings are those with the lowest simple payback period.

Ranking of ECRMs has been broken down into the following categories:

- Lighting Systems
- HVAC Systems
- Solar Systems
- Wind Systems

6.1.1 Lighting Systems

Table 6.1-1 includes the recommended ECRMs to provide energy savings for all building lighting systems, which include the installation of energy-efficient luminaires and occupancy sensors. A detailed discussion on building lighting systems is presented in Section 4.1.

Table 6.1-1 Ranking of Energy Savings Measures Summary – Lighting System Retrofits					
Complex	Retrofit Cost	Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
Ocean Township Intermediate School	\$66,639	\$8,960	\$57,679	\$34,919	1.7
Ocean Township High School	\$67,216	\$8,395	\$58,821	\$28,025	2.1
Ocean Township Elementary School	\$19,490	\$2,670	\$16,820	\$7,546	2.2
Wanamassa Elementary School	\$34,464	\$4,680	\$29,784	\$7,514	4.0
Wayside Elementary School	\$44,513	\$6,045	\$38,468	\$8,211	4.7
Administration Building	\$58,710	\$3,365	\$55,345	\$9,360	5.9

6.1.2 HVAC Systems

Table 6.1-2 includes the recommended ECRM to provide energy savings for building HVAC systems, which provide a simple payback of less than 20 years. A detailed discussion on building HVAC systems is presented in Section 4.2.

Table 6.1-2 Ranking of Energy Savings Measures Summary – HVAC System Upgrade					
Building Measure	Retrofit Cost	Incentives	Total Cost	Annual Fiscal Savings	Simple Payback (Years)
Ocean Township Elementary Domestic Hot water Replacement	\$16,000	\$350	\$15,650	\$2,340	6.7
Ocean Township Intermediate Domestic Hot water Replacement	\$20,000	\$1,155	\$18,845	\$1,021	16.3

The replacement of the water heater at Ocean Township Intermediate is not recommended because the 16.3 year payback is greater than the life expectancy of the new equipment.

6.1.3 Solar Energy

Implementation of new solar energy systems has been evaluated to determine the economic feasibility for furnishing and installing such systems. Based on the simple payback modeling performed, it would not benefit the Board to further investigate installing the solar energy systems. This is primarily based on the initial upfront capital investment required for a solar energy system installation, negative NPV, and a payback period greater than 20 years. Table 6.1-3 includes a ranking of the solar energy ECRMs evaluated for the Board.

Table 6.1-3 Ranking of Energy Savings Measures Summary – Solar Energy Systems				
Building	Retrofit Cost	Annual SREC Credit	Annual Fiscal Savings	Simple Payback (Years)
Ocean Township Intermediate School	\$3,725,000	\$117,696	\$58,848	22
Ocean Township Elementary School	\$2,937,500	\$91,950	\$49,040	22
Administration Building	\$968,750	\$27,585	\$16,551	23
Ocean Township High School	\$2,150,000	\$66,204	\$33,102	23
Wanamassa Elementary School	\$912,500	\$25,746	\$13,731	24
Wayside Elementary School	\$1,587,500	\$47,814	\$22,313	24

6.1.4 Wind Energy

Implementation of new wind energy systems has been evaluated to determine the economic feasibility for furnishing and installing such systems. Based on the simple payback modeling performed, it would benefit the Board to further investigate installing the wind energy systems. This is primarily based on the initial upfront capital investment required for a wind energy system installation and an acceptable payback period. Table 6.1-4, includes a ranking of the wind energy ECRMs evaluated for the Board.

Table 6.1-4 Ranking of Energy Savings Measures Summary – Wind Turbine Energy System			
Parameter	Wind Turbine (Minimum Site Wind Speed – 4.4 m/s)	Wind Turbine (Maximum Site Wind Speed – 6.4 m/s)	Wind Turbine (Average Site Wind Speed – 5.5 m/s)
Engineer's Opinion of Probable Cost	\$450,000	\$450,000	\$450,000
Renewable Energy Incentive Program	\$0	\$0	\$0
Total Cost	\$450,000	\$450,000	\$450,000
1 st Year Production	77,510	157,834	124,220
Annual Estimated Electric Savings	\$12,402	\$25,253	\$19,875
Annual Estimated REC Revenue	\$1,938	\$3,946	\$3,106
Project Simple Payback (Years)	31	15	20

Section 7

Grants, Incentives and Funding Sources

7.1 Renewable Energy

7.1.1 Renewable Energy Certificates (NJ BPU)

As part of New Jersey's Renewable Portfolio Standards (RPS), electric suppliers are required to have an annually-increasing percentage of their retail sales generated by renewable energy. Electric suppliers fulfill this obligation by purchasing renewable energy certificates (RECs) from the owners of solar generating systems. One REC is created for every 1,000 kWh (1 MWh) of renewable electricity generated. Although solar systems generate electricity and SRECs in tandem, the two are independent commodities and sold separately. The RPS, and creation of RECs, is intended to provide additional revenue flow and financial support for renewable energy projects in New Jersey. Class I RECs, which include electricity generation from wind, wave, tidal, geothermal and sustainable biomass typically trade at around \$25/MWh. RECs generated from solar electricity, or SRECs, trade at \$550/MWh due to supplemental funding from NJ BPU. The supplemental funding will decrease over time to \$350/MWh.

7.1.2 Clean Energy Solutions Capital Investment Loan/Grant (NJ EDA)

NJ EDA in cooperation with NJ DEP is offering interest-free loans and grants for energy efficiency, combined heat and power (CHP) and renewable energy projects with total project capital equipment costs of at least \$1 million. The interest-free loans are available for up to \$5 million, a portion of which may be issued as a grant. The most recent round was closed as of October 2009, but new CESCO program updates will be posted at www.njeda.com. For additional information, contact CESCI@njeda.com or call 866-534-7789.

7.1.3 Renewable Energy Incentive Program (NJ BPU)

The Renewable Energy Incentive Program (REIP) has been put on temporary hold, and is expected to be restarted in the beginning of the next fiscal year. For more information on REIP, please see www.njcleanenergy.com.

7.1.4 Grid Connected Renewables Program (NJ BPU)

The New Jersey Grid Connected Renewables Program offers competitive incentives for wind and sustainable biomass electricity generation projects larger than 1 Megawatt (MW). Applications for the most recent round of funding, which totaled \$6 million, were due January 8, 2010. Requests for Proposals (RFPs) for the next round will be posted at www.njcleanenergy.com and www.state.nj.us/bpu. A total of roughly \$16 million is available for incentives under this program during 2010. Most of the incentives offered under this program will take the form of a payment for energy production (\$/MWh) once the project is operating. Incentives range up to \$58.49/MWh for publicly-owned wastewater biogas projects. Up to 10% of the incentive may be requested in the form of a lump grant to cover up-front costs such as financing fees, interconnection fees, project design, permitting, and construction costs.

7.1.5 Utility Financing Programs

All four Electric Distribution Companies (EDCs) in New Jersey have developed long term contracting or financing programs for the development of solar energy systems. In all of the programs, Solar Renewable Energy Credits (SRECs) generated by the solar energy systems will be sold at auction to energy suppliers who are required to purchase a certain quantity of SRECs to meet their Renewable Portfolio Standard requirements.

7.1.6 Renewable Energy Manufacturing Incentive (NJ BPU)

New Jersey's Renewable Energy Manufacturing Incentive (REMI) program provides rebates to purchase and install solar panels, inverters, and racking systems manufactured in New Jersey. Rebates for panels start at \$0.25 per watt and rebates for racking systems and inverters start at \$0.15 per watt for solar projects up to 500 kW in capacity. To be eligible for REMI, applicants must apply to either the [Renewable Energy Incentive Program \(REIP\)](#) or the [SREC Registration Program \(SRP\)](#).

7.1.7 Clean Renewable Energy Bonds (IRS)

CREBs are 0% interest bonds typically issued for up to approximately \$3.0 million administered by the Internal Revenue Service (IRS). Last year, \$2.2 billion in CREBs was allocated to municipal entities to fund 610 renewable energy projects, including anaerobic digestion. IRS has been allocating funding for CREBs annually since 2005. Last year, IRS solicited applications starting in April, which were due in August. The IRS is expected to receive additional funding for CREBs and release another round of solicitations in 2010.

7.1.8 Qualified Energy Conservation Bonds (IRS)

These IRS 0% interest bonds are very similar to CREBs except they are allocated based on state and county population. New Jersey was allocated \$90 million as part of the ARRA stimulus fund. QECBs are typically distributed through municipal bond banks or state economic development agencies.

7.1.9 Global Climate Change Mitigation Incentive Fund (US EDA)

The Economic Development Agency (part of the U.S. Department of Commerce) administers the GCCMIF to public works projects that reduce greenhouse gas emissions and creates new jobs. In FY 2009, \$15 million was allocated to the fund, and additional funding is expected to be allocated in FY 2010. Applications are due on a rolling basis. The program does not have a maximum grant amount but does limit the grant to 50 percent of the project cost.

7.1.10 Private Tax-Exempt Financing

Similar to traditional municipal bond financing, there are many private financial service companies that offer a myriad of options for tax-exempt financing of municipal projects. The providers of these services suggest that this capital can be offered at competitive rates in an expedited timeframe and with fewer complications when compared to traditional municipal financing methods. Though these factors would need to be compared on a case-by-case basis, the one distinct advantage to private financing on the current project would likely be the flexibility to structure payments to meet budget needs with consideration given to the terms and conditions of existing loan and/or bond agreements. For example, this mechanism could be used to limit the initial debt payments when the current bond debt is the greatest and the operations savings of the project has yet to be fully realized. It should also be noted that, in many cases, the construction and long term financing can be rolled into a single private financing agreement. Also, in some instances, equipment manufacturers have the ability to offer competitive financing terms (e.g. Siemens Financial Services Corporation), though financing from these sources is generally contingent upon a substantial portion of the project cost (~20% to 30%) being for their respective equipment.

7.1.11 Performance Based Contracts (ESCOs)

A second financing alternative for a project of this nature would be to enter into a Performance Based Contract with an Energy Services Company (ESCO). The premise of this type of contract is that it requires no initial municipal capital contributions in order to implement the project - instead relying on future operations cost savings and/or energy production, to fund the annual payments. Prior to entering into an agreement for the funding of the project, an ESCO would perform an energy audit and/or conceptual studies to confirm future energy cost savings or energy production inherent with the projects implementation and operation. The contract would then be formulated based on some measurable parameter(s) (energy production, etc.) which would be verified by measurement throughout the contract duration. The savings in energy costs or energy production would then be used to pay back the capital investment of the project over the contract time period (typically on the order of 10-years or less). The ESCO would guarantee the agreed upon energy savings or energy production. If the project does not meet energy savings or production commitments, the ESCO pays the owner the equivalent difference.

With this funding alternative, the ownership and operation of the facility would be maintained by the original owner. A performance contract may also include ESCO operation and maintenance of the energy-related facilities if that were deemed appropriate. Significant ESCO's with experience in this area include Siemens Building Technologies, Chevron and Johnson Controls. CDM Smith has functioned in several roles on performance based contracts including being the owner's representative and, on different contracts, providing design-build services (as a subcontractor to the ESCO). CDM Smith can provide additional experience-based information upon request.

7.1.12 Power Purchase Agreements (SPCs)

A Power Purchase Agreement (PPA) also delivers a project with no initial capital contribution by the original owner. In this model, a Special Purpose Company (SPC) created by a developer, would own the energy production facilities. Within the framework of a PPA, a SPC will typically lease property from the owners for construction and operation of the new facilities. The funding and construction of the new facilities would be performed by the SPC who would then own and operate the facilities for the duration of the contract (typically 20 to 30 years). Throughout that period of time, the original owner would purchase power from the SPC at a pre-negotiated rate which would take into account the initial capital cost, operation and maintenance of the constructed facility, ancillary benefits of the project and investor returns on investment. For renewable energy, financial incentives may enable this financing approach to compete favorably with utility power tariffs. Incentives include state and local tax credits, renewable energy credits, and Federal energy production tax credits or energy investment tax credits. It is expected that a number of experienced companies and developers may be interested in a PPA for New Jersey municipal renewable energy projects.

7.2 Energy Efficiency

7.2.1 Introduction

New Jersey's Clean Energy Program (NJ CEP) promotes increased energy efficiency and the use of clean, renewable sources of energy including solar, wind, geothermal, and sustainable biomass. The results for New Jersey are a stronger economy, less pollution, lower costs, and reduced demand for electricity. NJCEP offers financial incentives, programs, and services for residential, commercial, and municipal customers.

NJCEP reduces the need to generate electricity and burn natural gas which eliminates the pollution that would have been caused by such electric generation or natural gas usage. The benefits of these programs continue for the life of the measures installed, which on average is about 15 years. Thus, the public receives

substantial environmental and public health benefits from programs that also lower energy bills and benefit the economy.

7.2.2 New Jersey Smart Start Buildings Program (NJ BPU)

The New Jersey Smart Start Buildings Program offers rebate incentives for several qualifying equipment such as high efficient premium motors and lighting controls.

Incentive information and incentive calculation worksheets are provided for the various new equipment installation identified in this report and are included in Appendix F.

7.2.3 Pay for Performance Program (NJ BPU)

Another program offered through the New Jersey Smart Start Program is the Pay for Performance Program. Commercial, industrial and institutional buildings are eligible for participation if not already receiving Energy Efficiency and Conservation Block Grants.

Incentives are available for buildings that are able to present an Energy Reduction Plans that reduce the building's current energy consumption by 15% or more, in addition to incentives for installing the recommended measures and incentives for presenting the energy savings in a post-construction benchmarking report. No more than 50% of the total energy savings may be derived from lighting retrofits. In addition, the total energy savings of 15% may not come from the implementation of one energy savings measure. The incentive structure is provided in Appendix F.

The recommended ECRM's presented in this report are expected to warrant participation in this program.

7.2.4 Direct Install (NJ BPU)

Owners of existing small to mid-size commercial and industrial facilities with a peak electric demand that did not exceed 150 kW in any of the preceding 12 months are eligible to participate in Direct Install. Buildings must be located in New Jersey and be served by one of the state's public, regulated electric or natural gas utility companies.

This program will cover up to 70% of the retro-fitting costs associated with the use of new energy efficient equipment. Lighting, HVAC, refrigeration, motors, natural gas systems, and variable frequency drives are covered under the Direct Install program.

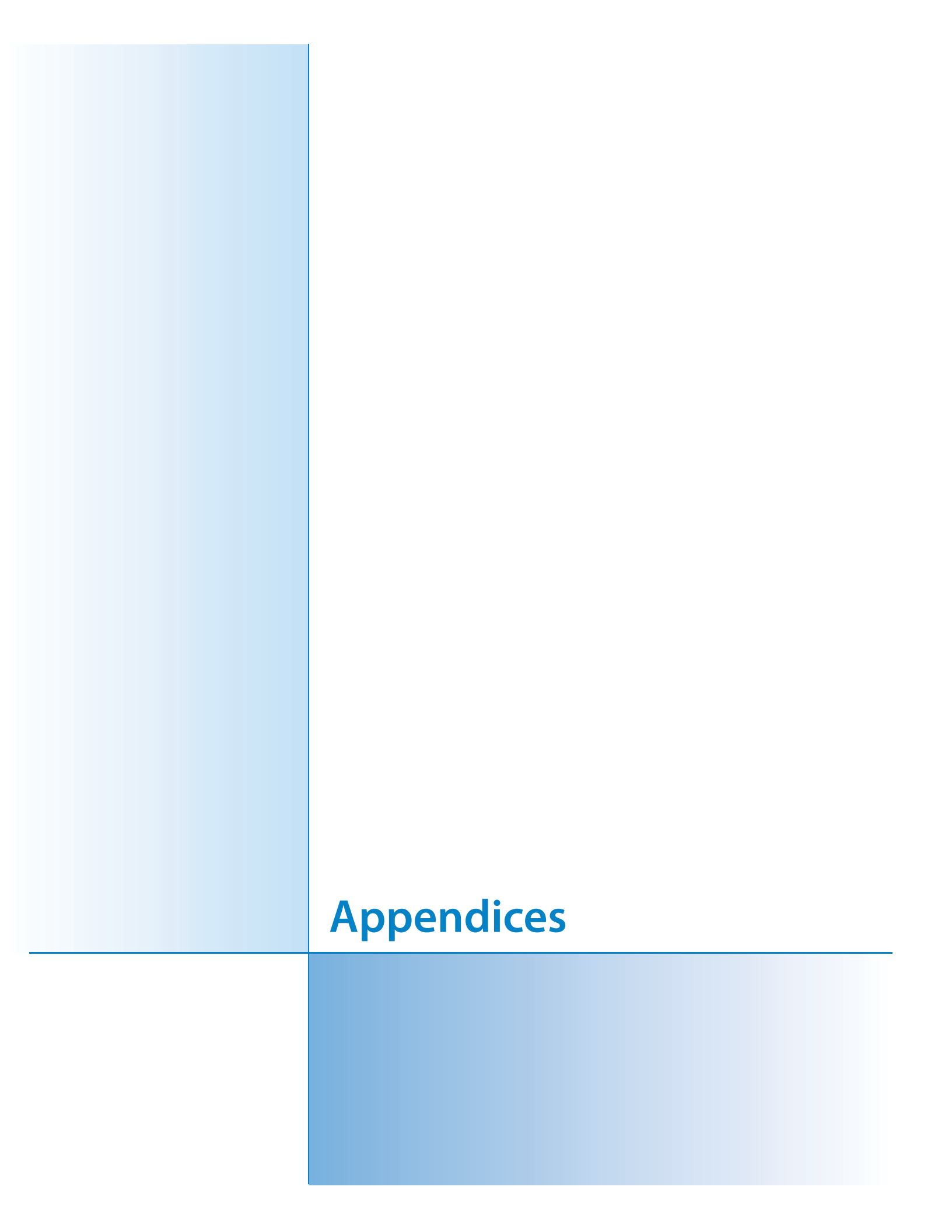
The buildings covered under this audit that are potentially eligible for participation in the Direct Install Program, based on the requirement to have not exceeded a peak demand of 150 kW in the preceding 12 months, are the Administration Building, Ocean Township Elementary School, and Wanamassa Elementary School. The Direct Install Program is designed to fast-track project implementation so energy savings can be realized sooner rather than later. The steps for participation are to contact the contractor assigned and trained to provide Direct Install services in your County and schedule an Energy Assessment with this contractor. The contractor will assist in completing the Program Application and Participation Agreement.

The Energy Assessment with the participating contractor will work to determine which conservation measures qualify and the resulting project cost. Following this assessment, a scope of work will be finalized and installation will be arranged. Following completion of the installation a 'project completion form' must be submitted to the program representative assigned to the project.

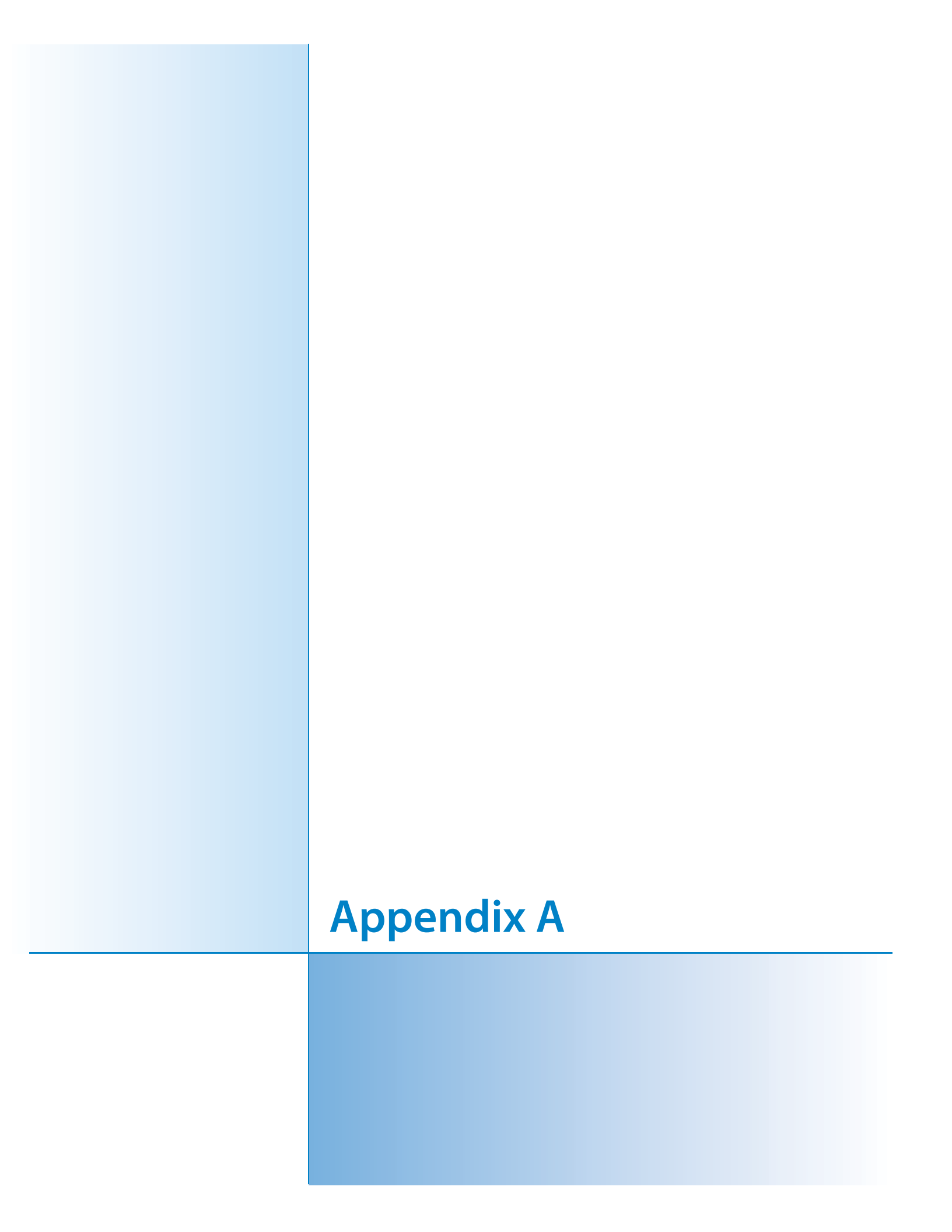
The contractor for Monmouth County is:

Hutchinson Mechanical Services
Ed Hutchinson or Mike Hutchinson
Phone: 888-777-4501
Email: DIcoordinator@hutchbiz.com

Any additional information on the Direct Install Program can be obtained by calling 866-NJSMART or by e-mail to DirectInstall@trcsolutions.com

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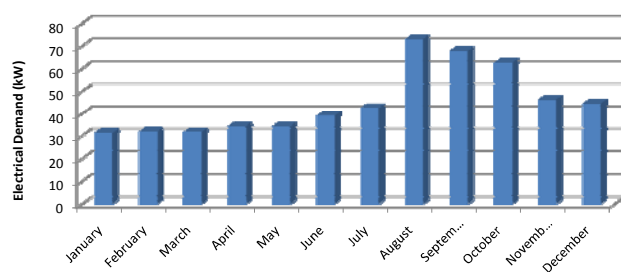
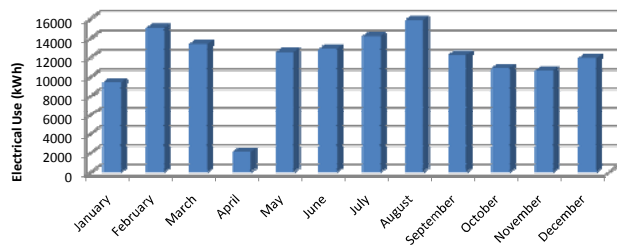
Appendices

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Appendix A

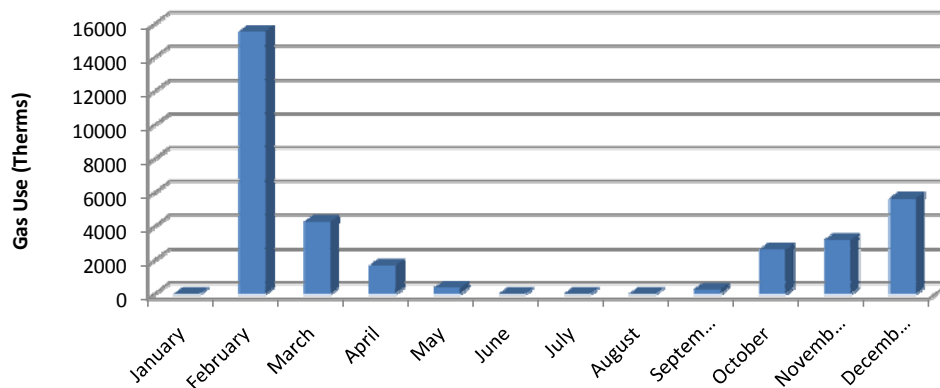
Energy Audit Building	BUILDING NAME	Administration
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100012968028
Meter Number	METER NUMBER	G15316572

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 2,202.60	\$ 2,202.60			13200	44.3
Feb	1	Mar	1		\$ 2,524.18	\$ 2,524.18			15120	51.7
Mar	1	Apr	1		\$ 2,175.06	\$ 2,175.06			13240	47.0
Apr	1	May	1		\$ 1,767.28	\$ 1,767.28			1720	47.6
May	1	June	1		\$ 2,146.29	\$ 2,146.29			12880	56.5
June	1	July	1		\$ 2,160.21	\$ 2,160.21			12880	58.5
July	1	Aug	1		\$ 2,351.74	\$ 2,351.74			14160	60.1
Aug	1	Sept	1		\$ 2,822.14	\$ 2,822.14			16800	76.6
Sept	1	Oct	1		\$ 1,922.53	\$ 1,922.53			11440	56.1
Oct	1	Nov	1		\$ 1,920.52	\$ 1,920.52			11960	45.1
Nov	1	Dec	1		\$ 1,867.00	\$ 1,867.00			11480	47.0
Dec	1	Jan	1		\$ 2,020.50	\$ 2,020.50			12720	44.6
2010										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1			\$ -				
Feb	1	Mar	1			\$ -				
Mar	1	Apr	1			\$ -				
Apr	1	May	1			\$ -				
May	1	June	1			\$ -				
June	1	July	1			\$ -				
July	1	Aug	1		\$ 2,605.89	\$ 2,605.89				
Aug	1	Sept	1		\$ 2,538.57	\$ 2,538.57			15000	71.3
Sept	1	Oct	1		\$ 2,325.87	\$ 2,325.87			13680	71.4
Oct	1	Nov	1		\$ 1,862.46	\$ 1,862.46			10280	71.4
Nov	1	Dec	1		\$ 1,645.39	\$ 1,645.39			9880	46.1
Dec	1	Jan	1		\$ 1,914.08	\$ 1,914.08			11920	44.6
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 2,385.59	\$ 2,385.59			15120	50.0
Feb	1	Mar	1		\$ 2,189.81	\$ 2,189.81			13960	44.2
Mar	1	Apr	1		\$ 1,737.01	\$ 1,737.01			11080	48.3
Apr	1	May	1		\$ 1,645.24	\$ 1,645.24			10080	55.2
May	1	June	1		\$ 1,601.82	\$ 1,601.82			11120	46.6
June	1	July	1		\$ 1,988.09	\$ 1,988.09			13760	58.5
July	1	Aug	1		\$ 2,086.48	\$ 2,086.48			14040	68.1
Aug	1	Sept	1		\$ 2,370.80	\$ 2,370.80			16320	71.3
Sept	1	Oct	1		\$ 1,788.87	\$ 1,788.87			11280	76.1
Oct	1	Nov	1		\$ 1,643.46	\$ 1,643.46			10280	71.4
Nov	1	Dec	1		\$ 1,507.50	\$ 1,507.50			10480	46.1
Dec	1	Jan	1		\$ 1,572.52	\$ 1,572.52			11120	44.6



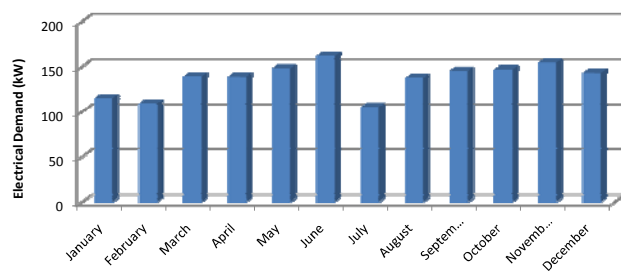
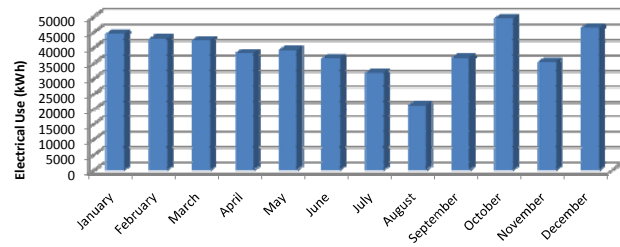
Energy Audit Building	BUILDING NAME	Administration
Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	05-3123-3160-25
Meter Number	METER NUMBER	n/a

2009							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Dec	24	Jan	22	\$ 7,398.72		\$ 7,398.72	685
Jan	23	Feb	24	\$ 7,698.38		\$ 7,698.38	716
Feb	21	Mar	20	\$ 4,916.57		\$ 4,916.57	482
Mar	20	Apr	20	\$ 3,497.41		\$ 3,497.41	331
Apr	20	May	26	\$ 747.71		\$ 747.71	74
May	26	June	22			\$ -	
June	22	July	14			\$ -	
July	14	Aug	7			\$ -	
Sept	9	Oct	8	\$ 63.99		\$ 63.99	6
Oct	8	Nov	5	\$ 1,138.41		\$ 1,138.41	115
Nov	5	Dec	9	\$ 3,395.81		\$ 3,395.81	381
Dec	9	Jan	11	\$ 6,382.93		\$ 6,382.93	716
2010							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	11	Feb	9	\$ 5,572.18		\$ 5,572.18	625
Feb	9	Mar	11	\$ 306.38		\$ 306.38	34
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	10	July	9	\$ 479.31		\$ 479.31	
July	9	Aug	9	\$ 479.31		\$ 479.31	
Aug	1	Sept	1			\$ -	
Sept	8	Oct	7	\$ 479.31		\$ 479.31	
Oct	7	Nov	8	\$ 479.31		\$ 479.31	
Nov	8	Dec	10	\$ 479.31		\$ 479.31	
Dec	10	Jan	11	\$ 5,307.04	\$ 6,790.68	\$ 12,097.72	11228
2011							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	11	Feb	9	\$479.31	\$0.00	\$479.31	0
Feb	9	Mar	14	\$7,252.27	\$9,334.02	\$16,586.29	15532
Mar	14	Apr	13	\$2,309.23	\$2,557.99	\$4,867.22	4257
Apr	13	May	11	\$1,194.25	\$978.35	\$2,172.60	1663
May	11	June	10	\$632.65	\$202.24	\$834.89	357
June	10	July	12	\$479.31	\$0.00	\$479.31	0
July	12	Aug	9	\$479.31	\$0.00	\$479.31	0
Aug	9	Sept	8	\$479.31	\$0.00	\$479.31	0
Sept	8	Oct	7	\$597.59	\$139.56	\$737.15	273
Oct	7	Nov	8	\$1,643.84	\$1,572.54	\$3,216.38	2621
Nov	8	Dec	9	\$1,895.15	\$1,347.10	\$3,242.25	3191
Dec	9	Jan	11	\$2,377.04	\$1,741.88	\$4,118.92	5642



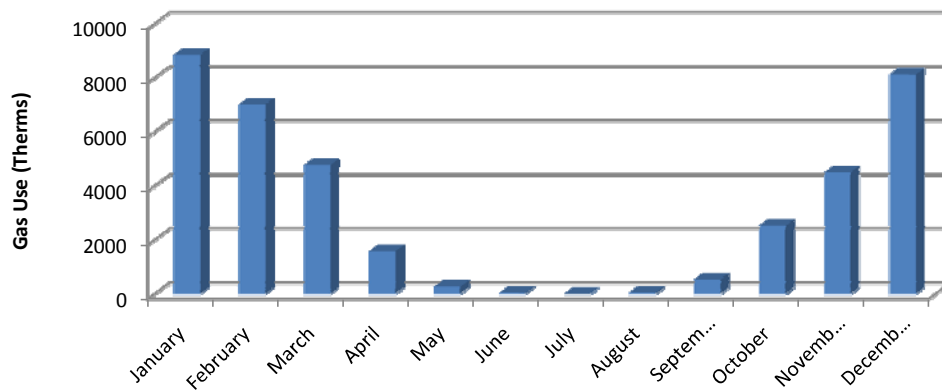
Energy Audit Building	BUILDING NAME	Ocean Township Elementary School
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100012157705
Meter Number	METER NUMBER	G55494574

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 8,324.53	\$ 8,324.53			50160	160.8
Feb	1	Mar	1		\$ 7,561.78	\$ 7,561.78			45600	149.0
Mar	1	Apr	1		\$ 6,701.36	\$ 6,701.36			41040	139.2
Apr	1	May	1		\$ 5,990.89	\$ 5,990.89			37200	143.0
May	1	June	1		\$ 6,269.98	\$ 6,269.98			39360	130.8
June	1	July	1		\$ 6,587.46	\$ 6,587.46			40320	157.7
July	1	Aug	1		\$ 4,887.73	\$ 4,887.73			30480	105.4
Aug	1	Sept	1		\$ 3,735.76	\$ 3,735.76			20400	137.5
Sept	1	Oct	1		\$ 6,175.52	\$ 6,175.52			38400	145.2
Oct	1	Nov	1		\$ 6,365.87	\$ 6,365.87			39840	145.2
Nov	1	Dec	1		\$ 5,957.12	\$ 5,957.12			36960	142.8
Dec	1	Jan	1		\$ 7,609.22	\$ 7,609.22			48960	145.4
2010										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1			\$ -				
Feb	1	Mar	1			\$ -				
Mar	1	Apr	1			\$ -				
Apr	1	May	1			\$ -				
May	1	June	1			\$ -				
June	1	July	1			\$ -				
July	1	Aug	1		\$ 5,179.50	\$ 5,179.50				
Aug	1	Sept	1		\$ 3,635.87	\$ 3,635.87			19680	137.5
Sept	1	Oct	1		\$ 5,845.49	\$ 5,845.49			36000	145.2
Oct	1	Nov	1		\$ 9,398.36	\$ 9,398.36			61920	148.3
Nov	1	Dec	1		\$ 6,378.88	\$ 6,378.88			40140	69.4
Dec	1	Jan	1		\$ 6,378.88	\$ 6,378.88			40140	69.4
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 6,378.88	\$ 6,378.88			40140	69.4
Feb	1	Mar	1		\$ 6,378.88	\$ 6,378.88			40140	69.4
Mar	1	Apr	1		\$ 6,423.07	\$ 6,423.07			43200	139.2
Apr	1	May	1		\$ 5,841.00	\$ 5,841.00			38880	134.6
May	1	June	1		\$ 5,841.00	\$ 5,841.00			38880	165.1
June	1	July	1		\$ 4,904.49	\$ 4,904.49			32640	165.8
July	1	Aug	1		\$ 4,484.21	\$ 4,484.21			32640	105.4
Aug	1	Sept	1		\$ 3,437.39	\$ 3,437.39			21600	137.5
Sept	1	Oct	1		\$ 5,078.56	\$ 5,078.56			36000	145.2
Oct	1	Nov	1		\$ 7,830.85	\$ 7,830.85			59760	148.3
Nov	1	Dec	1		\$ 4,874.87	\$ 4,874.87			32880	166.8
Dec	1	Jan	1		\$ 6,038.18	\$ 6,038.18			44400	140.6



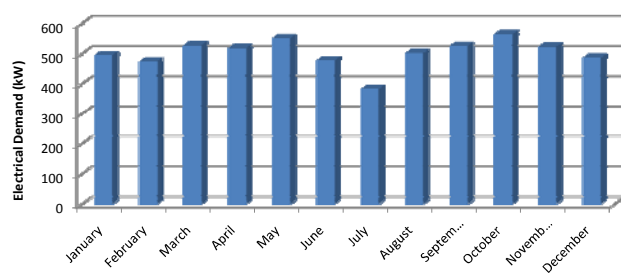
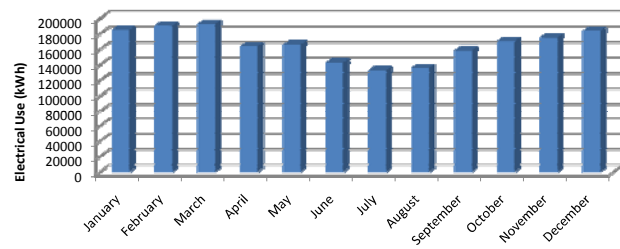
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Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	05-3123-7679-26
Meter Number	METER NUMBER	00696646

2009							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1				
Feb	1	Mar	1				
Mar	1	Apr	1				
Apr	1	May	1				
May	1	June	1				
June	1	July	1				
July	1	Aug	1				
Aug	1	Sept	1				
Sept	1	Oct	1				
Oct	1	Nov	1				
Nov	1	Dec	1				
Dec	1	Jan	1				
2010							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1			\$ -	
Feb	1	Mar	1			\$ -	
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	1	July	1			\$ -	
July	1	Aug	1			\$ -	
Aug	1	Sept	1			\$ -	
Sept	1	Oct	1			\$ -	
Oct	1	Nov	1			\$ -	
Nov	9	Dec	9		\$ 3,240.76	\$ 3,240.76	5509
Dec	9	Jan	11	\$ 4,935.13	\$ 5,725.25	\$ 10,660.38	9466
2011							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1	\$ 4,666.86	\$ 5,314.27	\$ 9,981.13	8843
Feb	9	Mar	14	\$ 4,048.59	\$ 4,208.14	\$ 8,256.73	7002
Mar	14	Apr	12	\$ 2,912.34	\$ 2,861.60	\$ 5,773.94	4762
Apr	12	May	11	\$ 1,541.31	\$ 945.05	\$ 2,486.36	1573
May	11	June	11	\$ 978.27	\$ 149.06	\$ 1,127.33	263
June	11	July	12	\$ 877.93	\$ 16.66	\$ 894.59	29
July	12	Aug	9	\$ 865.26	\$ -	\$ 865.26	0
Aug	9	Sept	8	\$ 886.41	\$ 27.23	\$ 913.64	49
Sept	8	Oct	7	\$ 1,096.58	\$ 272.89	\$ 1,369.47	534
Oct	7	Nov	8	\$ 1,987.32	\$ 1,297.96	\$ 3,285.28	2525
Nov	8	Dec	9	\$ 2,409.37	\$ 1,899.63	\$ 4,309.00	3480
Dec	10	Jan	11	\$ 3,858.37	\$ 3,633.82	\$ 7,492.19	6767



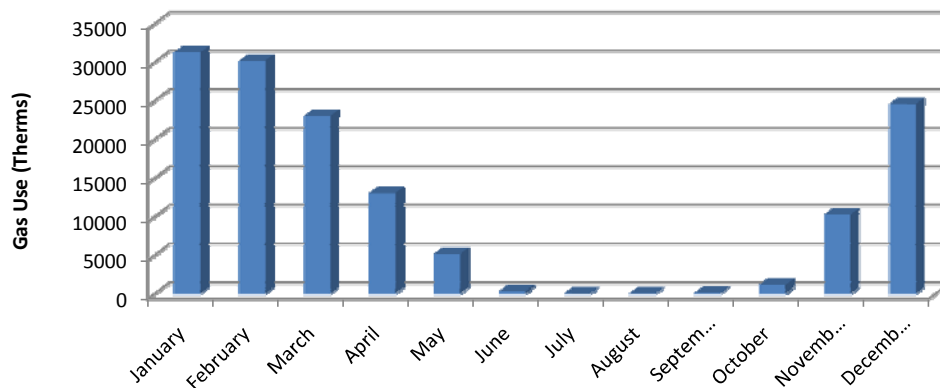
Energy Audit Building	BUILDING NAME	High School
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100013403629 & 100013657679
Meter Number	METER NUMBER	S76393714 & G00461304

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 30,881.62	\$ 30,881.62			190814	509.7
Feb	1	Mar	1		\$ 31,395.52	\$ 31,395.52			192079	465.8
Mar	1	Apr	1		\$ 30,007.20	\$ 30,007.20			201528	554.0
Apr	1	May	1		\$ 26,992.28	\$ 26,992.28			167117	510.7
May	1	June	1		\$ 25,626.62	\$ 25,626.62			159325	520.3
June	1	July	1		\$ 24,330.23	\$ 24,330.23			149318	531.6
July	1	Aug	1		\$ 20,133.32	\$ 20,133.32			125516	401.9
Aug	1	Sept	1		\$ 21,127.46	\$ 21,127.46			129977	453.1
Sept	1	Oct	1		\$ 24,352.05	\$ 24,352.05			150003	520.4
Oct	1	Nov	1		\$ 27,446.18	\$ 27,446.18			170678	595.1
Nov	1	Dec	1		\$ 26,958.53	\$ 26,958.53			172367	523.6
Dec	1	Jan	1		\$ 29,525.19	\$ 29,525.19			190916	483.0
2010										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ -	\$ -				
Feb	1	Mar	1		\$ -	\$ -				
Mar	1	Apr	1		\$ -	\$ -			0	0.0
Apr	1	May	1		\$ -	\$ -			0	0.0
May	1	June	1		\$ -	\$ -			0	0.0
June	1	July	1		\$ 23,932.66	\$ 23,932.66			0	0.0
July	1	Aug	1		\$ 19,202.44	\$ 19,202.44			113618	370.1
Aug	1	Sept	1		\$ 24,790.67	\$ 24,790.67			149050	600.3
Sept	1	Oct	1		\$ 25,567.95	\$ 25,567.95			159399	545.2
Oct	1	Nov	1		\$ 26,194.81	\$ 26,194.81			162211	579.3
Nov	1	Dec	1		\$ 28,194.00	\$ 28,194.00			180189	509.0
Dec	1	Jan	1		\$ 28,290.02	\$ 28,290.02			180991	495.5
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 28,822.39	\$ 28,822.39			185670	479.9
Feb	1	Mar	1		\$ 30,039.42	\$ 30,039.42			190016	481.0
Mar	1	Apr	1		\$ 27,033.50	\$ 27,033.50			182899	501.4
Apr	1	May	1		\$ 21,265.46	\$ 21,265.46			159479	523.4
May	1	June	1		\$ 23,320.39	\$ 23,320.39			172869	580.4
June	1	July	1		\$ 18,154.90	\$ 18,154.90			135574	423.3
July	1	Aug	1		\$ 18,182.19	\$ 18,182.19			139690	364.6
Aug	1	Sept	1		\$ 19,764.89	\$ 19,764.89			142546	550.5
Sept	1	Oct	1		\$ 22,352.41	\$ 22,352.41			168956	530.5
Oct	1	Nov	1		\$ 22,876.61	\$ 22,876.61			170878	532.9
Nov	1	Dec	1		\$ 23,515.09	\$ 23,515.09			178877	522.0
Dec	1	Jan	1		\$ 23,005.80	\$ 23,005.80			176675	489.9



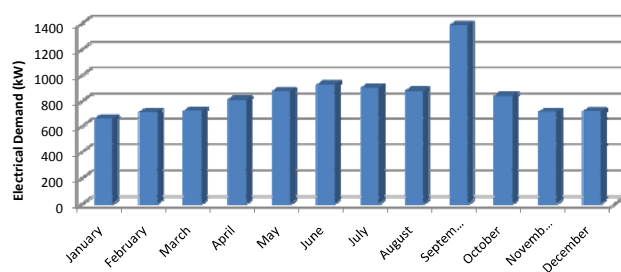
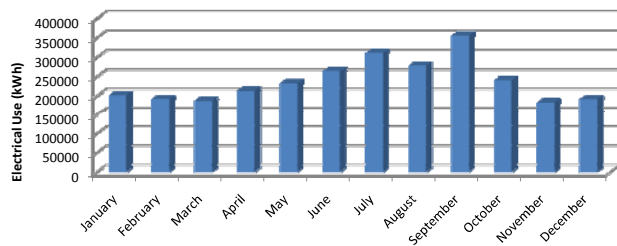
Energy Audit Building	BUILDING NAME	High School
Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	07-3114-1595-23
Meter Number	METER NUMBER	n/a

2009							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Dec	24	Jan	22	\$ 14,670.21	\$ 33,760.12	\$ 48,430.33	31,245
Jan	23	Feb	24	\$ 14,226.84	\$ 32,415.26	\$ 46,642.10	30,153
Feb	24	Mar	25	\$ 11,336.12	\$ 23,512.52	\$ 34,848.64	23,033
Mar	25	Apr	24	\$ 7,279.92	\$ 13,770.12	\$ 21,050.04	13,043
Apr	24	May	28	\$ 4,088.19	\$ 5,208.76	\$ 9,296.95	5,182
May	28	June	24	\$ 2,122.38	\$ 341.88	\$ 2,464.26	340
June	24	July	16	\$ 1,401.96	\$ 32.09	\$ 1,434.05	32
July	16	Aug	7	\$ 1,406.41	\$ 42.72	\$ 1,449.13	43
Aug	7	Sept	10	\$ 2,019.85	\$ 85.43	\$ 2,105.28	85
Sept	10	Oct	9	\$ 2,476.31	\$ 1,216.31	\$ 3,692.62	1,210
Oct	9	Nov	5	\$ 6,064.95	\$ 10,219.81	\$ 16,284.76	10,277
Nov	5	Dec	9	\$ 9,179.89	\$ 16,217.17	\$ 25,397.06	18,197
2010							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1			\$ -	
Feb	1	Mar	1			\$ -	
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	1	July	1			\$ -	
July	1	Aug	1			\$ -	
Aug	1	Sept	1			\$ -	
Sept	1	Oct	1			\$ -	
Oct	1	Nov	1			\$ -	
Nov	1	Dec	1			\$ -	
Dec	9	Jan	11	\$ 14,939.60	\$ 18,226.00	\$ 33,165.60	30,134
2011							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	11	Feb	9	\$ 14,939.00	\$ 17,246.66	\$ 32,185.66	28,699
Feb	9	Mar	14	\$ 12,953.41	\$ 14,780.69	\$ 27,734.10	24,595
Mar	14	Apr	12	\$ 9,555.82	\$ 10,585.34	\$ 20,141.16	17,614
Apr	12	May	12	\$ 5,665.92	\$ 4,498.42	\$ 10,164.34	8,566
May	12	June	10	\$ 2,812.33	\$ 1,093.33	\$ 3,905.66	1,928
June	10	July	12	\$ 2,143.95	\$ 210.93	\$ 2,354.88	374
July	12	Aug	9	\$ 1,987.83	\$ 5.84	\$ 1,993.67	10
Aug	9	Sept	8	\$ 1,987.84	\$ 5.76	\$ 1,993.60	10
Sept	8	Oct	7	\$ 2,308.42	\$ 383.49	\$ 2,691.91	751
Oct	7	Nov	8	\$ 5,872.18	\$ 4,498.42	\$ 10,370.60	8,752
Nov	8	Dec	9	\$ 7,694.10	\$ 7,025.74	\$ 14,719.84	12,871
Dec	9	Jan	11	\$ 13,229.09	\$ 13,653.12	\$ 26,882.21	25,426



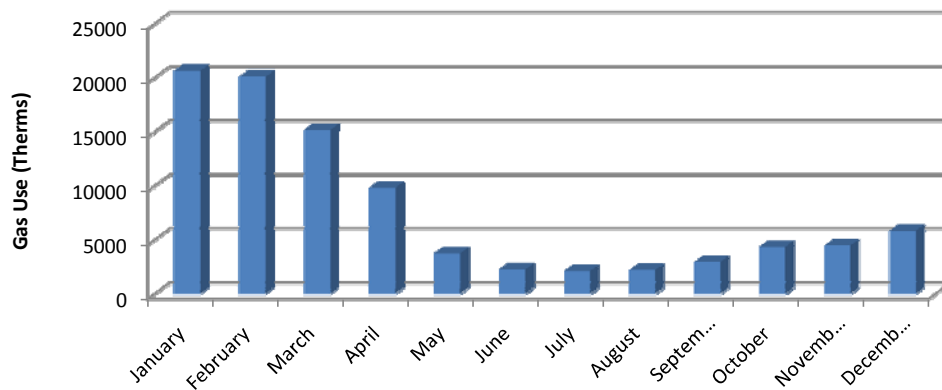
Energy Audit Building	BUILDING NAME	Ocean Township Intermediate School
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100011461552
Meter Number	METER NUMBER	L28739830

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 32,594.60	\$ 32,594.60			197400	607
Feb	1	Mar	1		\$ 32,030.67	\$ 32,030.67			188000	754
Mar	1	Apr	1		\$ 29,577.82	\$ 29,577.82			177200	700
Apr	1	May	1		\$ 38,884.02	\$ 38,884.02			245000	821
May	1	June	1		\$ 38,884.02	\$ 38,884.02			245000	821
June	1	July	1		\$ 45,961.35	\$ 45,961.35			279300	862
July	1	Aug	1		\$ 44,069.88	\$ 44,069.88			324000	869
Aug	1	Sept	1		\$ 50,218.25	\$ 50,218.25			274700	980
Sept	1	Oct	1		\$ 43,799.46	\$ 43,799.46			403800	1911
Oct	1	Nov	1		\$ 23,595.87	\$ 23,595.87			228000	885
Nov	1	Dec	1		\$ 36,776.29	\$ 36,776.29			165200	662
Dec	1	Jan	1		\$ 26,783.45	\$ 26,783.45				
1										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ -	\$ -				
Feb	1	Mar	1		\$ -	\$ -				
Mar	1	Apr	1		\$ -	\$ -				
Apr	1	May	1		\$ -	\$ -				
May	1	June	1		\$ -	\$ -				
June	1	July	1		\$ 54,944.97	\$ 54,944.97				
July	1	Aug	1		\$ 54,944.97	\$ 54,944.97				
Aug	1	Sept	1		\$ 45,699.65	\$ 45,699.65			285843	971
Sept	1	Oct	1		\$ 44,004.86	\$ 44,004.86			275561	997
Oct	1	Nov	1		\$ 37,144.01	\$ 37,144.01			230840	878
Nov	1	Dec	1		\$ 31,988.32	\$ 31,988.32			197357	783
Dec	1	Jan	1		\$ 63,980.41	\$ 63,980.41			411649	1209
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 31,861.69	\$ 31,861.69			204918	705.1
Feb	1	Mar	1		\$ 31,020.96	\$ 31,020.96			196377	671.9
Mar	1	Apr	1		\$ 29,884.11	\$ 29,884.11			195846	749
Apr	1	May	1		\$ 26,493.87	\$ 26,493.87			185236	802
May	1	June	1		\$ 31,508.46	\$ 31,508.46			221169	932.4
June	1	July	1		\$ 35,783.30	\$ 35,783.30			250934	991.2
July	1	Aug	1		\$ 40,997.12	\$ 40,997.12			299622	935.9
Aug	1	Sept	1		\$ 37,570.95	\$ 37,570.95			279325	779.0
Sept	1	Oct	1		\$ 41,505.56	\$ 41,505.56			312138	859.7
Oct	1	Nov	1		\$ 33,294.88	\$ 33,294.88			244196	799.9
Nov	1	Dec	1		\$ 27,756.39	\$ 27,756.39			197028	767.3
Dec	1	Jan	1		\$ 53,505.22	\$ 53,505.22			383242	1440.0



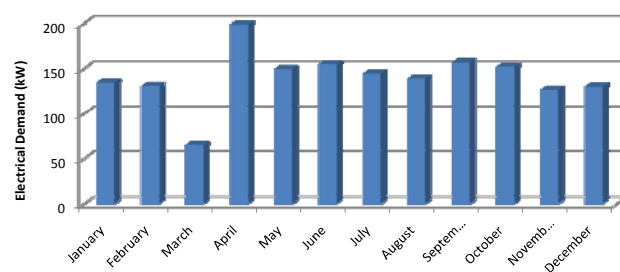
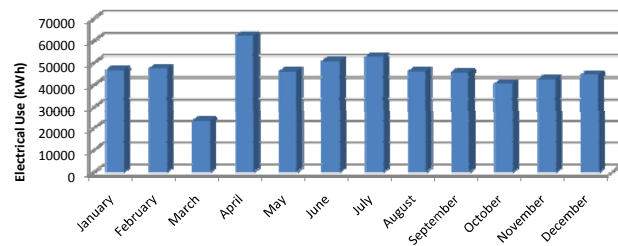
Energy Audit Building	BUILDING NAME	Ocean Township Intermediate School
Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	
Meter Number	METER NUMBER	

2009							
<u>Month</u>	<u>Day</u>	<u>Month</u>	<u>Day</u>	<u>Delivery Charge</u>	<u>Supply Charge</u>	<u>Total Charge</u>	<u>Therms</u>
Jan	1	Feb	1				
Feb	1	Mar	1				
Mar	1	Apr	1				
Apr	1	May	1				
May	1	June	1				
June	1	July	1				
July	1	Aug	1				
Aug	1	Sept	1				
Sept	1	Oct	1				
Oct	1	Nov	1				
Nov	1	Dec	1				
Dec	1	Jan	1				
2010							
<u>Month</u>	<u>Day</u>	<u>Month</u>	<u>Day</u>	<u>Delivery Charge</u>	<u>Supply Charge</u>	<u>Total Charge</u>	<u>Therms</u>
Jan	1	Feb	1			\$ -	
Feb	1	Mar	1			\$ -	
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	1	July	1			\$ -	
July	1	Aug	1			\$ -	
Aug	1	Sept	1			\$ -	
Sept	1	Oct	1			\$ -	
Oct	1	Nov	1			\$ -	
Nov	1	Dec	1			\$ -	
Dec	1	Jan	1			\$ -	
2011							
<u>Month</u>	<u>Day</u>	<u>Month</u>	<u>Day</u>	<u>Delivery Charge</u>	<u>Supply Charge</u>	<u>Total Charge</u>	<u>Therms</u>
Jan	1	Feb	1	\$ 9,955.37	\$ 12,484.36	\$ 22,439.73	20619
Feb	1	Mar	1	\$ 9,713.86	\$ 12,056.03	\$ 21,769.89	20061
Mar	1	Apr	1	\$ 7,821.30	\$ 9,105.95	\$ 16,927.25	15152
Apr	1	May	1	\$ 5,301.40	\$ 5,887.79	\$ 11,189.19	9797
May	1	June	1	\$ 2,702.47	\$ 2,228.84	\$ 4,931.31	3752
June	1	July	1	\$ 2,059.01	\$ 1,280.09	\$ 3,339.10	2255
July	1	Aug	1	\$ 1,996.45	\$ 1,190.20	\$ 3,186.65	2110
Aug	1	Sept	1	\$ 2,027.48	\$ 1,236.86	\$ 3,264.34	2182
Sept	1	Oct	1	\$ 2,348.20	\$ 1,652.15	\$ 4,000.35	2928
Oct	1	Nov	1	\$ 2,963.99	\$ 2,224.29	\$ 5,188.28	4345
Nov	1	Dec	1	\$ 3,070.85	\$ 2,260.82	\$ 5,331.67	4457
Dec	1	Jan	1	\$ 3,680.53	\$ 3,192.09	\$ 6,872.62	5840



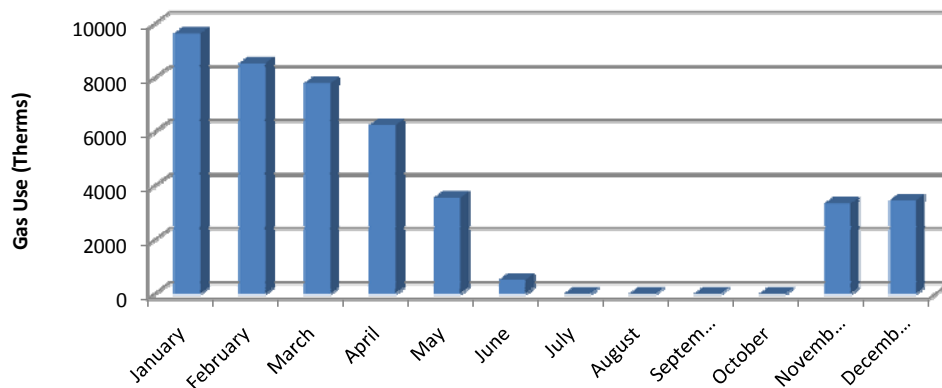
Energy Audit Building	BUILDING NAME	Wanamassa Elementary School
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100058803717
Meter Number	METER NUMBER	G99130718

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 7,822.26	\$ 7,822.26			47920	134.7
Feb	1	Mar	1		\$ 7,869.67	\$ 7,869.67			48320	131.8
Mar	1	Apr	1			\$ -				
Apr	1	May	1		\$ 13,153.91	\$ 13,153.91			81040	260.8
May	1	June	1		\$ 7,498.00	\$ 7,498.00			47920	149.9
June	1	July	1		\$ 8,324.02	\$ 8,324.02			53600	147.2
July	1	Aug	1		\$ 8,463.82	\$ 8,463.82			54640	145.9
Aug	1	Sept	1		\$ 7,570.84	\$ 7,570.84			48240	143.0
Sept	1	Oct	1		\$ 6,618.60	\$ 6,618.60			40800	152.0
Oct	1	Nov	1		\$ 6,357.01	\$ 6,357.01			40000	140.3
Nov	1	Dec	1		\$ 6,677.55	\$ 6,677.55			42720	132.9
Dec	1	Jan	1		\$ 6,814.58	\$ 6,814.58			43840	130.5
2010										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 6,814.58	\$ 6,814.58			43840	130.5
Feb	1	Mar	1			\$ -			43840	130.5
Mar	1	Apr	1			\$ -				
Apr	1	May	1			\$ -				
May	1	June	1			\$ -				
June	1	July	1			\$ -				
July	1	Aug	1		\$ 7,801.61	\$ 7,801.61				
Aug	1	Sept	1		\$ 6,641.24	\$ 6,641.24			42000	132.2
Sept	1	Oct	1		\$ 7,410.88	\$ 7,410.88			46160	161.4
Oct	1	Nov	1		\$ 7,208.22	\$ 7,208.22			45120	163.7
Nov	1	Dec	1		\$ 6,835.98	\$ 6,835.98			42960	151.0
Dec	1	Jan	1		\$ 7,255.50	\$ 7,255.50			47013	130.5
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 7,255.50	\$ 7,255.50			47013	134.7
Feb	1	Mar	1		\$ 7,255.50	\$ 7,255.50			47013	130.2
Mar	1	Apr	1		\$ 6,640.84	\$ 6,640.84			44880	129.8
Apr	1	May	1		\$ 6,752.69	\$ 6,752.69			45920	136.4
May	1	June	1		\$ 5,886.63	\$ 5,886.63			42800	149.0
June	1	July	1		\$ 6,686.64	\$ 6,686.64			48320	162.7
July	1	Aug	1		\$ 6,827.32	\$ 6,827.32			50720	143.4
Aug	1	Sept	1		\$ 5,940.69	\$ 5,940.69			43520	135.0
Sept	1	Oct	1		\$ 6,942.66	\$ 6,942.66			50640	161.4
Oct	1	Nov	1		\$ 5,730.53	\$ 5,730.53			40640	163.5
Nov	1	Dec	1		\$ 5,690.81	\$ 5,690.81			42560	120.6
Dec	1	Jan	1		\$ 6,072.55	\$ 6,072.55			45280	130.2



Energy Audit Building	BUILDING NAME	Wanamassa Elementary School
Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	
Meter Number	METER NUMBER	

2009							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1				
Feb	1	Mar	1				
Mar	1	Apr	1				
Apr	1	May	1				
May	1	June	1				
June	1	July	1				
July	1	Aug	1				
Aug	1	Sept	1				
Sept	1	Oct	1				
Oct	1	Nov	1				
Nov	1	Dec	1				
Dec	1	Jan	1				
2010							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1			\$ -	
Feb	1	Mar	1			\$ -	
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	1	July	1			\$ -	
July	1	Aug	1			\$ -	
Aug	1	Sept	1			\$ -	
Sept	1	Oct	1			\$ -	
Oct	1	Nov	1			\$ -	
Nov	1	Dec	1			\$ -	
Dec	1	Jan	1			\$ -	
2011							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1	\$ 4,876.52	\$ 5,824.22	\$ 10,700.74	9627
Feb	1	Mar	1	\$ 4,403.82	\$ 5,125.27	\$ 9,529.09	8529
Mar	1	Apr	1	\$ 4,082.72	\$ 4,676.53	\$ 8,759.25	7782
Apr	1	May	1	\$ 3,416.25	\$ 3,744.79	\$ 7,161.04	6231
May	1	June	1	\$ 2,264.86	\$ 2,102.02	\$ 4,366.88	3553
June	1	July	1	\$ 957.72	\$ 307.53	\$ 1,265.25	513
July	1	Aug	1	\$ 737.38	\$ -	\$ 737.38	0
Aug	1	Sept	1	\$ 737.38	\$ -	\$ 737.38	0
Sept	1	Oct	1	\$ 737.38	\$ -	\$ 737.38	0
Oct	1	Nov	1	\$ 737.38	\$ -	\$ 737.38	0
Nov	1	Dec	1	\$ 2,220.64	\$ 1,709.75	\$ 3,930.39	3338
Dec	1	Jan	1	\$ 2,269.21	\$ 1,885.92	\$ 4,155.13	3452

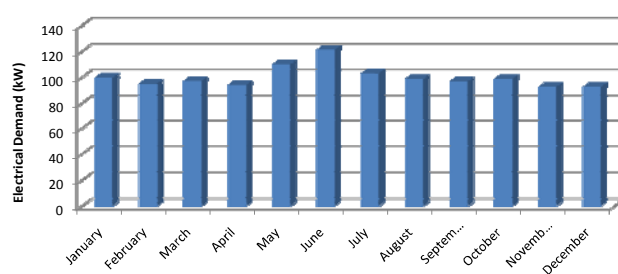
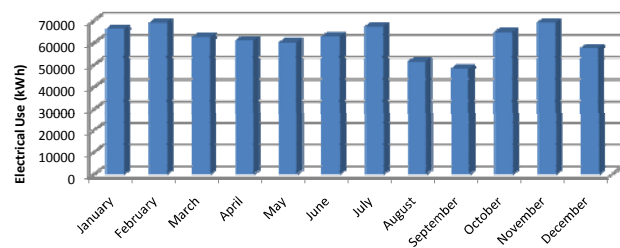


Energy Audit Building	BUILDING NAME	Wayside Elementary School
Service Provider	SERVICE PROVIDER	JCP&L
Account Number:	ACCOUNT NUMBER	100011531108
Meter Number	METER NUMBER	G79127147

2009										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 9,609.50	\$ 9,609.50			65920	0.0
Feb	1	Mar	1		\$ 10,218.62	\$ 10,218.62			69920	
Mar	1	Apr	1		\$ 9,598.04	\$ 9,598.04			66880	0.0
Apr	1	May	1		\$ 9,201.52	\$ 9,201.52			64640	
May	1	June	1		\$ 7,801.88	\$ 7,801.88			56800	
June	1	July	1		\$ 8,418.28	\$ 8,418.28			61280	
July	1	Aug	1		\$ 7,437.26	\$ 7,437.26			54080	
Aug	1	Sept	1		\$ 6,636.88	\$ 6,636.88			48160	
Sept	1	Oct	1		\$ 7,902.53	\$ 7,902.53			57440	
Oct	1	Nov	1		\$ 7,456.66	\$ 7,456.66			54240	
Nov	1	Dec	1		\$ 8,344.84	\$ 8,344.84			60800	
Dec	1	Jan	1		\$ 8,235.88	\$ 8,235.88			60000	

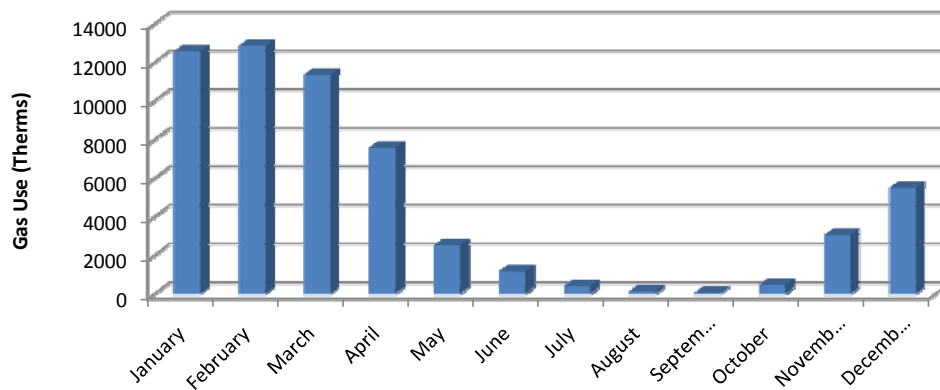
2010										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1			\$ -				
Feb	1	Mar	1			\$ -				
Mar	1	Apr	1			\$ -				
Apr	1	May	1			\$ -				
May	1	June	1			\$ -				
June	1	July	1		\$ 10,491.79	\$ 10,491.79				
July	1	Aug	1		\$ 9,946.60	\$ 9,946.60			60640	242.4
Aug	1	Sept	1		\$ 8,256.66	\$ 8,256.66			50400	200.0
Sept	1	Oct	1		\$ 6,243.67	\$ 6,243.67			36320	200.0
Oct	1	Nov	1		\$ 8,845.71	\$ 8,845.71			55680	193.9
Nov	1	Dec	1		\$ 11,840.39	\$ 11,840.39			77600	193.9
Dec	1	Jan	1		\$ 9,547.40	\$ 9,547.40			61200	185.3

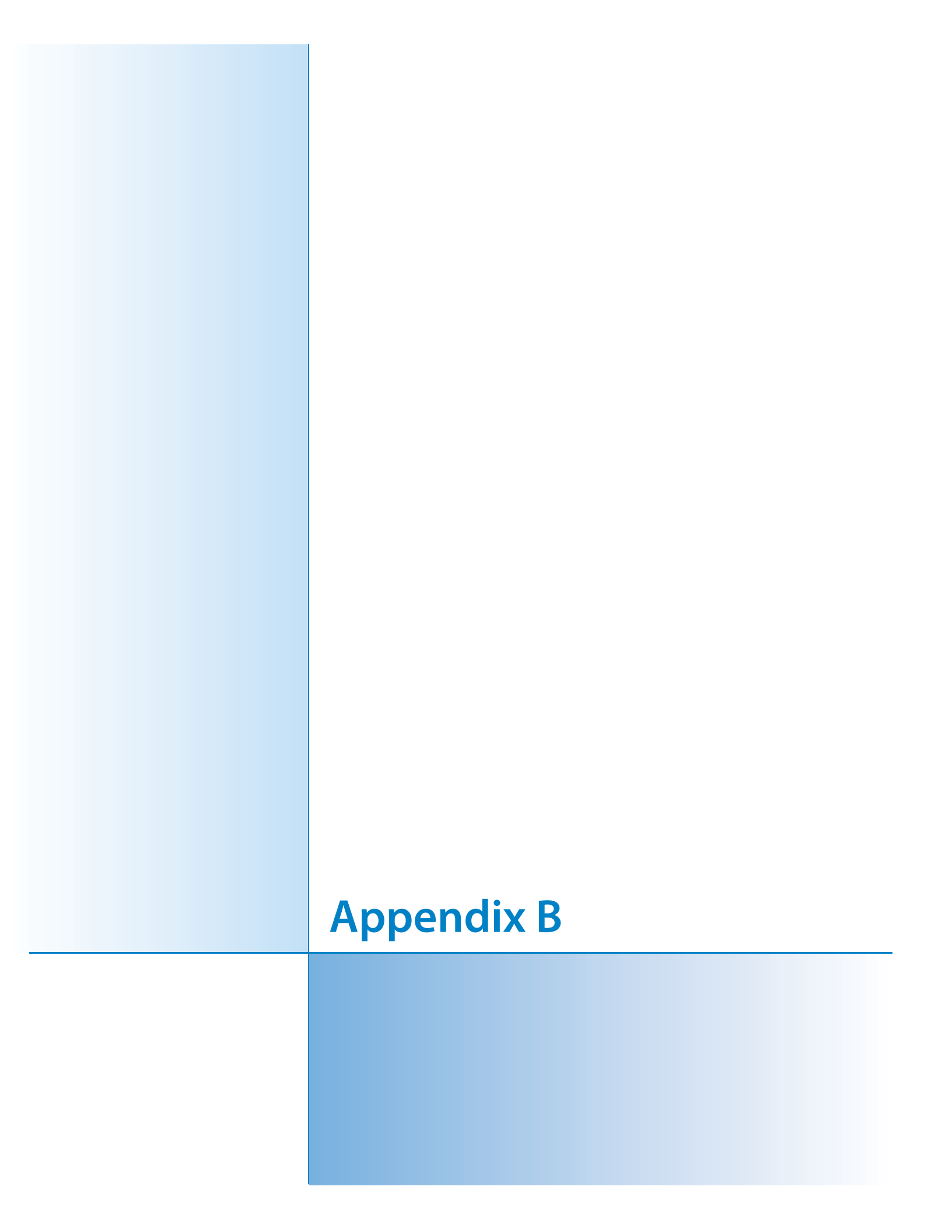
2011										
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	On Peak kWh	Off Peak kWh	Total kWh	KW
Jan	1	Feb	1		\$ 10,542.71	\$ 10,542.71			68560	199.2
Feb	1	Mar	1		\$ 10,542.71	\$ 10,542.71			68560	190.2
Mar	1	Apr	1		\$ 8,158.34	\$ 8,158.34			57200	194.4
Apr	1	May	1		\$ 8,158.34	\$ 8,158.34			57200	188.3
May	1	June	1		\$ 8,759.11	\$ 8,759.11			62880	220.0
June	1	July	1		\$ 9,115.72	\$ 9,115.72			64640	242.4
July	1	Aug	1		\$ 11,398.65	\$ 11,398.65			80480	205.9
Aug	1	Sept	1		\$ 7,554.05	\$ 7,554.05			53760	197.8
Sept	1	Oct	1		\$ 5,724.82	\$ 5,724.82			38880	193.9
Oct	1	Nov	1		\$ 10,040.06	\$ 10,040.06			76000	197.8
Nov	1	Dec	1		\$ 10,162.68	\$ 10,162.68			77600	185.3
Dec	1	Jan	1		\$ 7,406.78	\$ 7,406.78			53920	185.3



Energy Audit Building	BUILDING NAME	Wayside Elementary School
Account:	SERVICE PROVIDER	New Jersey Natural Gas
Account Number:	ACCOUNT NUMBER	
Meter Number	METER NUMBER	

2009							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1				
Feb	1	Mar	1				
Mar	1	Apr	1				
Apr	1	May	1				
May	1	June	1				
June	1	July	1				
July	1	Aug	1				
Aug	1	Sept	1				
Sept	1	Oct	1				
Oct	1	Nov	1				
Nov	1	Dec	1				
Dec	1	Jan	1				
2010							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1			\$ -	
Feb	1	Mar	1			\$ -	
Mar	1	Apr	1			\$ -	
Apr	1	May	1			\$ -	
May	1	June	1			\$ -	
June	1	July	1			\$ -	
July	1	Aug	1			\$ -	
Aug	1	Sept	1			\$ -	
Sept	1	Oct	1			\$ -	
Oct	1	Nov	1			\$ -	
Nov	1	Dec	1			\$ -	
Dec	1	Jan	1			\$ -	
2011							
Month	Day	Month	Day	Delivery Charge	Supply Charge	Total Charge	Therms
Jan	1	Feb	1	\$ 6,466.33	\$ 7,599.49	\$ 14,065.82	12551
Feb	1	Mar	1	\$ 6,586.58	\$ 7,712.25	\$ 14,298.83	12833
Mar	1	Apr	1	\$ 6,161.71	\$ 6,819.46	\$ 12,981.17	11348
Apr	1	May	1	\$ 4,321.87	\$ 4,546.40	\$ 8,868.27	7565
May	1	June	1	\$ 2,147.11	\$ 1,489.03	\$ 3,636.14	2507
June	1	July	1	\$ 1,573.13	\$ 10,025.30	\$ 11,598.43	1171
July	1	Aug	1	\$ 1,243.48	\$ 13,591.91	\$ 14,835.39	405
Aug	1	Sept	1	\$ 1,123.04	\$ 11,001.39	\$ 12,124.43	125
Sept	1	Oct	1	\$ 227.30	\$ 240.27	\$ 467.57	31
Oct	1	Nov	1	\$ 1,271.98	\$ 281.61	\$ 1,553.59	469
Nov	1	Dec	1	\$ 2,420.47	\$ 1,541.50	\$ 3,961.97	3039
Dec	1	Jan	1	\$ 3,503.06	\$ 2,997.14	\$ 6,500.20	5485



The graphic consists of a large light blue rectangle on the left side of the page. A horizontal line extends from the right edge of this rectangle across the page. A vertical line extends from the bottom of the light blue rectangle down to the bottom of the page. These two lines intersect at the bottom right corner of the light blue rectangle. In the bottom right corner of the page, there is a smaller, darker blue rectangle. The text "Appendix B" is positioned at the intersection of the horizontal and vertical lines, just above the darker blue rectangle.

Appendix B



STATEMENT OF ENERGY PERFORMANCE

Administration Building

Building ID: 3202960

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Administration Building
163 Monmouth Road
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1900

Gross Floor Area (ft²): 24,000Energy Performance Rating² (1-100) 42**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	507,160
Natural Gas (kBtu) ⁴	3,260,941
Total Energy (kBtu)	3,768,101

Energy Intensity⁴

Site (kBtu/ft ² /yr)	157
Source (kBtu/ft ² /yr)	213

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	245
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	144
National Median Source EUI	195
% Difference from National Median Source EUI	9%
Building Type	Office

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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Administration Building	Is this the official building name to be displayed in the ENERGY STAR Registry of Labeled Buildings?		☐
Type	Office	Is this an accurate description of the space in question?		☐
Location	163 Monmouth Road, Oakhurst, NJ 07755	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (Office)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	24,000 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.		☐
Weekly operating hours	50 Hours	Is this the total number of hours per week that the Office space is 75% occupied? This number should exclude hours when the facility is occupied only by maintenance, security, or other support personnel. For facilities with a schedule that varies during the year, "operating hours/week" refers to the total weekly hours for the schedule most often followed.		☐
Workers on Main Shift	55 (Default)	Is this the number of employees present during the main shift? Note this is not the total number of employees or visitors who are in a building during an entire 24 hour period. For example, if there are two daily 8 hour shifts of 100 workers each, the Workers on Main Shift value is 100. The normal worker density ranges between 0.3 and 5.3 workers per 1000 square feet (92.8 square meters)		☐
Number of PCs	53 (Default)	Is this the number of personal computers in the Office?		☐
Percent Cooled	50% or more	Is this the percentage of the total floor space within the facility that is served by mechanical cooling equipment?		☐
Percent Heated	50% or more	Is this the percentage of the total floor space within the facility that is served by mechanical heating equipment?		☐

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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	11,120.00
11/01/2011	11/30/2011	10,480.00
10/01/2011	10/31/2011	10,280.00
09/01/2011	09/30/2011	11,280.00
08/01/2011	08/31/2011	16,320.00
07/01/2011	07/31/2011	14,040.00
06/01/2011	06/30/2011	13,760.00
05/01/2011	05/31/2011	11,120.00
04/01/2011	04/30/2011	10,080.00
03/01/2011	03/31/2011	11,080.00
02/01/2011	02/28/2011	13,960.00
01/01/2011	01/31/2011	15,120.00
Electricity Consumption (kWh (thousand Watt-hours))		148,640.00
Electricity Consumption (kBtu (thousand Btu))		507,159.68
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		507,159.68
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
11/11/2011	12/10/2011	3,191.00
10/11/2011	11/10/2011	2,621.00
09/11/2011	10/10/2011	273.00
08/11/2011	09/10/2011	0.00
07/11/2011	08/10/2011	0.00
06/11/2011	07/10/2011	0.00
05/11/2011	06/10/2011	357.00
04/11/2011	05/10/2011	1,663.00
03/11/2011	04/10/2011	4,257.00
02/11/2011	03/10/2011	15,532.00

01/11/2011	02/10/2011	0.00
Gas Consumption (therms)		27,894.00
Gas Consumption (kBtu (thousand Btu))		2,789,400.00
Total Natural Gas Consumption (kBtu (thousand Btu))		2,789,400.00
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

Administration Building
163 Monmouth Road
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Administration Building	
Gross Floor Area Excluding Parking: (ft ²)	24,000
Year Built	1900
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	Office
Gross Floor Area (ft ²)	24,000
Weekly operating hours	50
Workers on Main Shift ^d	55
Number of PCs ^d	53
Percent Cooled	50% or more
Percent Heated	50% or more

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	42	42	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	157	157	107	N/A	144
Source (kBtu/ft ²)	213	213	145	N/A	195
Energy Cost					
\$/year	\$ 58,881.45	\$ 58,881.45	\$ 39,990.63	N/A	\$ 54,069.67
\$/ft ² /year	\$ 2.45	\$ 2.45	\$ 1.66	N/A	\$ 2.25
Greenhouse Gas Emissions					
MtCO ₂ e/year	245	245	166	N/A	225
kgCO ₂ e/ft ² /year	10	10	7	N/A	9

More than 50% of your building is defined as Office. Please note that your rating accounts for all of the spaces listed. The National Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

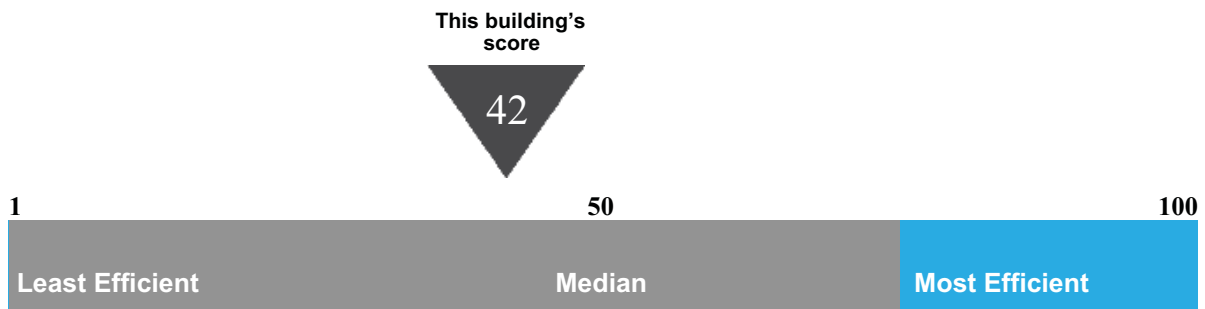
Statement of Energy Performance

2011

Administration Building
163 Monmouth Road
Oakhurst, NJ 07755

Portfolio Manager Building ID: 3202960

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 213 kBtu per square foot per year.*

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





STATEMENT OF ENERGY PERFORMANCE

Ocean Township Elementary School

Building ID: 3202785

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Ocean Township Elementary School
555 Dow Ave
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1957

Gross Floor Area (ft²): 76,160Energy Performance Rating² (1-100) 42**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	1,573,478
Natural Gas (kBtu) ⁴	3,582,700
Total Energy (kBtu)	5,156,178

Energy Intensity⁴

Site (kBtu/ft ² /yr)	68
Source (kBtu/ft ² /yr)	118

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	413
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	63
National Median Source EUI	111
% Difference from National Median Source EUI	7%
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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Ocean Township 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	555 Dow Ave, Oakhurst , NJ 07755	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	76,160 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	133 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1 (Default)	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	10 %	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	12(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'.	☐
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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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	44,400.00
11/01/2011	11/30/2011	32,880.00
10/01/2011	10/31/2011	59,760.00
09/01/2011	09/30/2011	36,000.00
08/01/2011	08/31/2011	21,600.00
07/01/2011	07/31/2011	32,640.00
06/01/2011	06/30/2011	32,640.00
05/01/2011	05/31/2011	38,880.00
04/01/2011	04/30/2011	38,880.00
03/01/2011	03/31/2011	43,200.00
02/01/2011	02/28/2011	40,140.00
01/01/2011	01/31/2011	40,140.00
Electricity Consumption (kWh (thousand Watt-hours))		461,160.00
Electricity Consumption (kBtu (thousand Btu))		1,573,477.92
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		1,573,477.92
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
12/01/2011	12/31/2011	6,767.00
11/01/2011	11/30/2011	3,480.00
10/01/2011	10/31/2011	2,525.00
09/01/2011	09/30/2011	534.00
08/01/2011	08/31/2011	49.00
07/01/2011	07/31/2011	0.00
06/01/2011	06/30/2011	29.00
05/01/2011	05/31/2011	263.00
04/01/2011	04/30/2011	1,573.00
03/01/2011	03/31/2011	4,762.00

02/01/2011	02/28/2011	7,002.00
01/01/2011	01/31/2011	8,843.00
Gas Consumption (therms)		35,827.00
Gas Consumption (kBtu (thousand Btu))		3,582,700.00
Total Natural Gas Consumption (kBtu (thousand Btu))		3,582,700.00
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

Ocean Township Elementary School
555 Dow Ave
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Ocean Township Elementary School	
Gross Floor Area Excluding Parking: (ft ²)	76,160
Year Built	1957
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	K-12 School
Gross Floor Area (ft ²)	76,160
Open Weekends?	No
Number of PCs ^d	133
Number of walk-in refrigeration/freezer units ^d	1
Presence of cooking facilities	Yes
Percent Cooled	10
Percent Heated	100
Months ^o	12
High School?	No
School District ^o	Town of Ocean

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	42	42	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	68	68	50	N/A	63
Source (kBtu/ft ²)	118	118	87	N/A	111
Energy Cost					
\$/year	\$ 114,266.30	\$ 114,266.30	\$ 83,632.13	N/A	\$ 106,957.98
\$/ft ² /year	\$ 1.50	\$ 1.50	\$ 1.10	N/A	\$ 1.40
Greenhouse Gas Emissions					
MtCO ₂ e/year	413	413	302	N/A	387
kgCO ₂ e/ft ² /year	5	5	4	N/A	5

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 Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

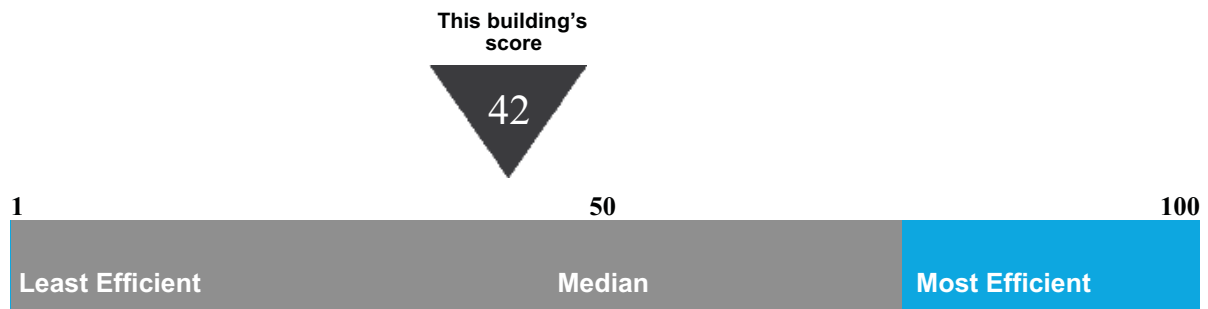
Statement of Energy Performance

2011

Ocean Township Elementary School
555 Dow Ave
Oakhurst , NJ 07755

Portfolio Manager Building ID: 3202785

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 118 kBtu per square foot per year.*

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





STATEMENT OF ENERGY PERFORMANCE

Ocean Township High School

Building ID: 3202765

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Ocean Township High School
550 West Park Ave
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1964

Gross Floor Area (ft²): 200,215Energy Performance Rating² (1-100) 38**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	6,838,088
Natural Gas (kBtu) ⁴	12,481,362
Total Energy (kBtu)	19,319,450

Energy Intensity⁴

Site (kBtu/ft ² /yr)	96
Source (kBtu/ft ² /yr)	179

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	1,632
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	87
National Median Source EUI	162
% Difference from National Median Source EUI	10%
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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Ocean Township 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	550 West Park Ave, Oakhurst, NJ 07755	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	200,215 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	350 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	2 (Default)	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	30 %	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	12(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'.	☐
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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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	176,675.00
11/01/2011	11/30/2011	178,877.00
10/01/2011	10/31/2011	170,878.00
09/01/2011	09/30/2011	168,956.00
08/01/2011	08/31/2011	142,546.00
07/01/2011	07/31/2011	139,690.00
06/01/2011	06/30/2011	135,574.00
05/01/2011	05/31/2011	172,869.00
04/01/2011	04/30/2011	159,479.00
03/01/2011	03/31/2011	182,899.00
02/01/2011	02/28/2011	190,016.00
01/01/2011	01/31/2011	185,670.00
Electricity Consumption (kWh (thousand Watt-hours))		2,004,129.00
Electricity Consumption (kBtu (thousand Btu))		6,838,088.15
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		6,838,088.15
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
11/11/2011	12/10/2011	12,871.00
10/11/2011	11/10/2011	8,752.00
09/11/2011	10/10/2011	751.00
08/11/2011	09/10/2011	10.00
07/11/2011	08/10/2011	10.00
06/11/2011	07/10/2011	374.00
05/11/2011	06/10/2011	1,928.00
04/11/2011	05/10/2011	8,566.00
03/11/2011	04/10/2011	17,614.00
02/11/2011	03/10/2011	24,595.00

01/11/2011	02/10/2011	28,699.00
Gas Consumption (therms)		104,170.00
Gas Consumption (kBtu (thousand Btu))		10,417,000.00
Total Natural Gas Consumption (kBtu (thousand Btu))		10,417,000.00
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

Ocean Township High School
550 West Park Ave
Oakhurst, NJ 07755

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Ocean Township High School	
Gross Floor Area Excluding Parking: (ft ²)	200,215
Year Built	1964
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	K-12 School
Gross Floor Area (ft ²)	200,215
Open Weekends?	Yes
Number of PCs ^d	350
Number of walk-in refrigeration/freezer units ^d	2
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	100
Months ^o	12
High School?	Yes
School District ^o	Town of Ocean

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	38	38	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	96	96	68	N/A	87
Source (kBtu/ft ²)	179	179	127	N/A	162
Energy Cost					
\$/year	\$ 421,799.00	\$ 421,799.00	\$ 298,655.90	N/A	\$ 381,931.58
\$/ft ² /year	\$ 2.11	\$ 2.11	\$ 1.49	N/A	\$ 1.91
Greenhouse Gas Emissions					
MtCO ₂ e/year	1,632	1,632	1,156	N/A	1,478
kgCO ₂ e/ft ² /year	8	8	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 Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

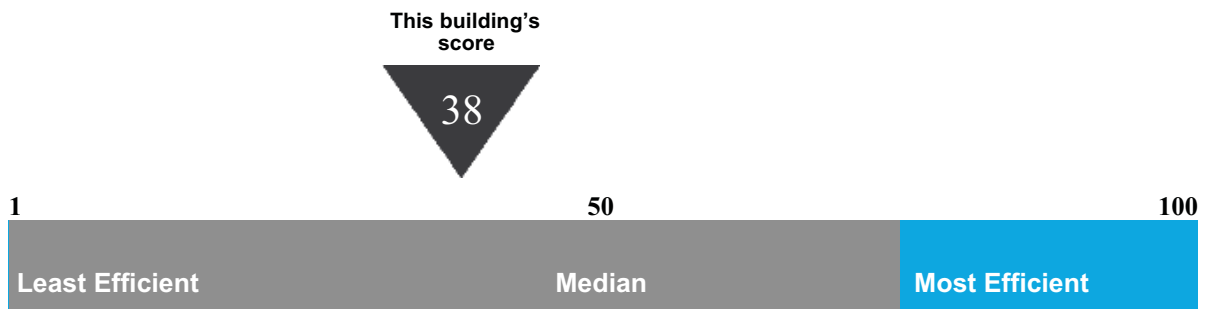
Statement of Energy Performance

2011

Ocean Township High School
550 West Park Ave
Oakhurst, NJ 07755

Portfolio Manager Building ID: 3202765

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 179 kBtu per square foot per year.*

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





STATEMENT OF ENERGY PERFORMANCE

Township of Ocean Intermediate School

Building ID: 3202794

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Township of Ocean Intermediate School
1200 West Park Ave
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1974

Gross Floor Area (ft²): 257,400

Energy Performance Rating² (1-100) 33

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	10,133,746
Natural Gas (kBtu) ⁴	9,349,800
Total Energy (kBtu)	19,483,546

Energy Intensity⁴

Site (kBtu/ft ² /yr)	76
Source (kBtu/ft ² /yr)	170

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	1,932
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	66
National Median Source EUI	147
% Difference from National Median Source EUI	16%
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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Township of Ocean Intermediate 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	1200 West Park Ave, Ocean, NJ 07712	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	257,400 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	450 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	3 (Default)	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	100 %	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	12(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'.	☐
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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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	383,242.00
11/01/2011	11/30/2011	197,028.00
10/01/2011	10/31/2011	244,196.00
09/01/2011	09/30/2011	312,138.00
08/01/2011	08/31/2011	279,325.00
07/01/2011	07/31/2011	299,622.00
06/01/2011	06/30/2011	250,934.00
05/01/2011	05/31/2011	221,169.00
04/01/2011	04/30/2011	185,236.00
03/01/2011	03/31/2011	195,846.00
02/01/2011	02/28/2011	196,377.00
01/01/2011	01/31/2011	204,918.00
Electricity Consumption (kWh (thousand Watt-hours))		2,970,031.00
Electricity Consumption (kBtu (thousand Btu))		10,133,745.77
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		10,133,745.77
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
12/01/2011	12/31/2011	5,840.00
11/01/2011	11/30/2011	4,457.00
10/01/2011	10/31/2011	4,345.00
09/01/2011	09/30/2011	2,928.00
08/01/2011	08/31/2011	2,182.00
07/01/2011	07/31/2011	2,110.00
06/01/2011	06/30/2011	2,255.00
05/01/2011	05/31/2011	3,752.00
04/01/2011	04/30/2011	9,797.00
03/01/2011	03/31/2011	15,152.00

02/01/2011	02/28/2011	20,061.00
01/01/2011	01/31/2011	20,619.00
Gas Consumption (therms)		93,498.00
Gas Consumption (kBtu (thousand Btu))		9,349,800.00
Total Natural Gas Consumption (kBtu (thousand Btu))		9,349,800.00
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

Township of Ocean Intermediate School
1200 West Park Ave
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Township of Ocean Intermediate School	
Gross Floor Area Excluding Parking: (ft ²)	257,400
Year Built	1974
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	K-12 School
Gross Floor Area (ft ²)	257,400
Open Weekends?	Yes
Number of PCs ^d	450
Number of walk-in refrigeration/freezer units ^d	3
Presence of cooking facilities	Yes
Percent Cooled	100
Percent Heated	100
Months ^o	12
High School?	No
School District ^o	Township of Ocean

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	33	33	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	76	76	51	N/A	66
Source (kBtu/ft ²)	170	170	115	N/A	147
Energy Cost					
\$/year	\$ 527,622.89	\$ 527,622.89	\$ 357,325.27	N/A	\$ 456,938.57
\$/ft ² /year	\$ 2.05	\$ 2.05	\$ 1.39	N/A	\$ 1.78
Greenhouse Gas Emissions					
MtCO ₂ e/year	1,932	1,932	1,308	N/A	1,673
kgCO ₂ e/ft ² /year	8	8	5	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 Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

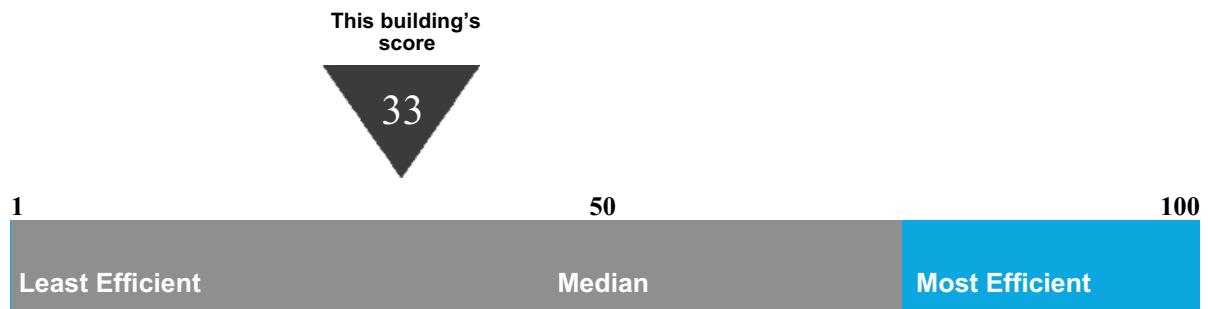
Statement of Energy Performance

2011

Township of Ocean Intermediate School
1200 West Park Ave
Ocean, NJ 07712

Portfolio Manager Building ID: 3202794

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 170 kBtu per square foot per year.*

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





STATEMENT OF ENERGY PERFORMANCE

Wanamassa Elementary School

Building ID: 3202804

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Wanamassa Elementary School
901 Bendermere Ave.
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1930

Gross Floor Area (ft²): 59,580Energy Performance Rating² (1-100) 13**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	1,874,232
Natural Gas (kBtu) ⁴	4,302,500
Total Energy (kBtu)	6,176,732

Energy Intensity⁴

Site (kBtu/ft ² /yr)	104
Source (kBtu/ft ² /yr)	181

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	494
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	71
National Median Source EUI	124
% Difference from National Median Source EUI	45%
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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Wanamassa 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	901 Bendermere Ave., Ocean, NJ 07712	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	59,580 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	104 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1 (Default)	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	30 %	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	12(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'.	☐
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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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	45,280.00
11/01/2011	11/30/2011	42,560.00
10/01/2011	10/31/2011	40,640.00
09/01/2011	09/30/2011	50,640.00
08/01/2011	08/31/2011	43,520.00
07/01/2011	07/31/2011	50,720.00
06/01/2011	06/30/2011	48,320.00
05/01/2011	05/31/2011	42,800.00
04/01/2011	04/30/2011	45,920.00
03/01/2011	03/31/2011	44,880.00
02/01/2011	02/28/2011	47,013.00
01/01/2011	01/31/2011	47,013.00
Electricity Consumption (kWh (thousand Watt-hours))		549,306.00
Electricity Consumption (kBtu (thousand Btu))		1,874,232.07
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		1,874,232.07
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
12/01/2011	12/31/2011	3,452.00
11/01/2011	11/30/2011	3,338.00
10/01/2011	10/31/2011	0.00
09/01/2011	09/30/2011	0.00
08/01/2011	08/31/2011	0.00
07/01/2011	07/31/2011	0.00
06/01/2011	06/30/2011	513.00
05/01/2011	05/31/2011	3,553.00
04/01/2011	04/30/2011	6,231.00
03/01/2011	03/31/2011	7,782.00

02/01/2011	02/28/2011	8,529.00
01/01/2011	01/31/2011	9,627.00
Gas Consumption (therms)		43,025.00
Gas Consumption (kBtu (thousand Btu))		4,302,500.00
Total Natural Gas Consumption (kBtu (thousand Btu))		4,302,500.00
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

Wanamassa Elementary School
901 Bendermere Ave.
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Wanamassa Elementary School	
Gross Floor Area Excluding Parking: (ft ²)	59,580
Year Built	1930
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	K-12 School
Gross Floor Area (ft ²)	59,580
Open Weekends?	No
Number of PCs ^d	104
Number of walk-in refrigeration/freezer units ^d	1
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	100
Months ^o	12
High School?	No
School District ^o	Town of Ocean

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	13	13	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	104	104	56	N/A	71
Source (kBtu/ft ²)	181	181	97	N/A	124
Energy Cost					
\$/year	\$ 137,135.65	\$ 137,135.65	\$ 73,839.22	N/A	\$ 94,422.13
\$/ft ² /year	\$ 2.30	\$ 2.30	\$ 1.24	N/A	\$ 1.58
Greenhouse Gas Emissions					
MtCO ₂ e/year	494	494	266	N/A	340
kgCO ₂ e/ft ² /year	8	8	4	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 Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

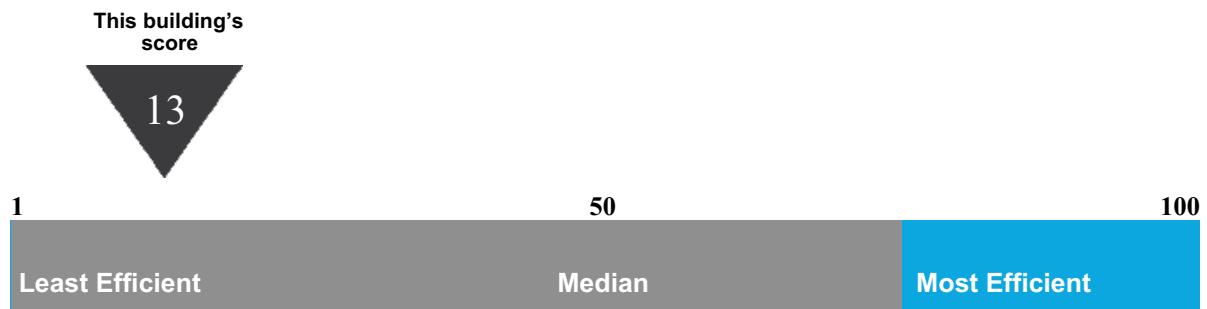
Statement of Energy Performance

2011

Wanamassa Elementary School
901 Bendermere Ave.
Ocean, NJ 07712

Portfolio Manager Building ID: 3202804

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 181 kBtu per square foot per year.*

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





STATEMENT OF ENERGY PERFORMANCE

Wayside Elementary School

Building ID: 3202807

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: August 08, 2012

Facility

Wayside Elementary School
733 Bowne Road
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

Year Built: 1969

Gross Floor Area (ft²): 147,375Energy Performance Rating² (1-100) 89**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	2,592,028
Natural Gas (kBtu) ⁴	5,752,900
Total Energy (kBtu)	8,344,928

Energy Intensity⁴

Site (kBtu/ft ² /yr)	57
Source (kBtu/ft ² /yr)	100

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	673
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	89
National Median Source EUI	157
% Difference from National Median Source EUI	-37%
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.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

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

Certifying Professional

Matt Goss
11 British American Boulevard
Latham, NY 12110

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	Wayside 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	733 Bowne Road, Ocean, NJ 07712	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 a hospital, k-12 school, hotel and senior care facility) nor can they be submitted as representing only a portion of a building.		☐
Building (K-12 School)				
CRITERION	VALUE AS ENTERED IN PORTFOLIO MANAGER	VERIFICATION QUESTIONS	NOTES	☒
Gross Floor Area	147,375 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	258 (Default)	Is this the number of personal computers in the K12 School?		☐
Number of walk-in refrigeration/freezer units	1 (Default)	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	100 %	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	12(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'.	☐
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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: Electricity (kWh (thousand Watt-hours)) Space(s): Entire Facility Generation Method: Grid Purchase		
Start Date	End Date	Energy Use (kWh (thousand Watt-hours))
12/01/2011	12/31/2011	53,920.00
11/01/2011	11/30/2011	77,600.00
10/01/2011	10/31/2011	76,000.00
09/01/2011	09/30/2011	38,880.00
08/01/2011	08/31/2011	53,760.00
07/01/2011	07/31/2011	80,480.00
06/01/2011	06/30/2011	64,640.00
05/01/2011	05/31/2011	62,880.00
04/01/2011	04/30/2011	57,200.00
03/01/2011	03/31/2011	57,200.00
02/01/2011	02/28/2011	68,560.00
01/01/2011	01/31/2011	68,560.00
Electricity Consumption (kWh (thousand Watt-hours))		759,680.00
Electricity Consumption (kBtu (thousand Btu))		2,592,028.16
Total Electricity (Grid Purchase) Consumption (kBtu (thousand Btu))		2,592,028.16
Is this the total Electricity (Grid Purchase) consumption at this building including all Electricity meters?		☐
Fuel Type: Natural Gas		
Meter: Gas (therms) Space(s): Entire Facility		
Start Date	End Date	Energy Use (therms)
12/01/2011	12/31/2011	5,485.00
11/01/2011	11/30/2011	3,039.00
10/01/2011	10/31/2011	469.00
09/01/2011	09/30/2011	31.00
08/01/2011	08/31/2011	125.00
07/01/2011	07/31/2011	405.00
06/01/2011	06/30/2011	1,171.00
05/01/2011	05/31/2011	2,507.00
04/01/2011	04/30/2011	7,565.00
03/01/2011	03/31/2011	11,348.00

02/01/2011	02/28/2011	12,833.00
01/01/2011	01/31/2011	12,551.00
Gas Consumption (therms)		57,529.00
Gas Consumption (kBtu (thousand Btu))		5,752,900.00
Total Natural Gas Consumption (kBtu (thousand Btu))		5,752,900.00
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

Wayside Elementary School
733 Bowne Road
Ocean, NJ 07712

Facility Owner

Township of Ocean School District
163 Monmouth Rd.
Oakhurst, NJ 07755

Primary Contact for this Facility

Matt Goss
11 British American Boulevard
Latham, NY 12110

General Information

Wayside Elementary School	
Gross Floor Area Excluding Parking: (ft ²)	147,375
Year Built	1969
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Building	
Space Type	K-12 School
Gross Floor Area (ft ²)	147,375
Open Weekends?	Yes
Number of PCs ^d	258
Number of walk-in refrigeration/freezer units ^d	1
Presence of cooking facilities	Yes
Percent Cooled	100
Percent Heated	100
Months ^o	12
High School?	No
School District ^o	Town Of Ocean

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	89	89	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	57	57	70	N/A	89
Source (kBtu/ft ²)	100	100	123	N/A	157
Energy Cost					
\$/year	\$ 212,449.78	\$ 212,449.78	\$ 262,279.05	N/A	\$ 335,371.98
\$/ft ² /year	\$ 1.44	\$ 1.44	\$ 1.78	N/A	\$ 2.27
Greenhouse Gas Emissions					
MtCO ₂ e/year	673	673	831	N/A	1,062
kgCO ₂ e/ft ² /year	5	5	6	N/A	8

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 Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.

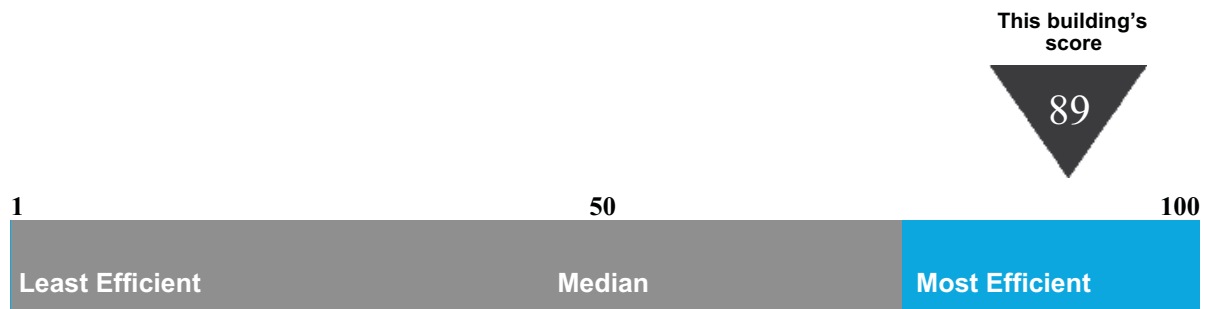
Statement of Energy Performance

2011

Wayside Elementary School
733 Bowne Road
Ocean, NJ 07712

Portfolio Manager Building ID: 3202807

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 100 kBtu per square foot per year.*

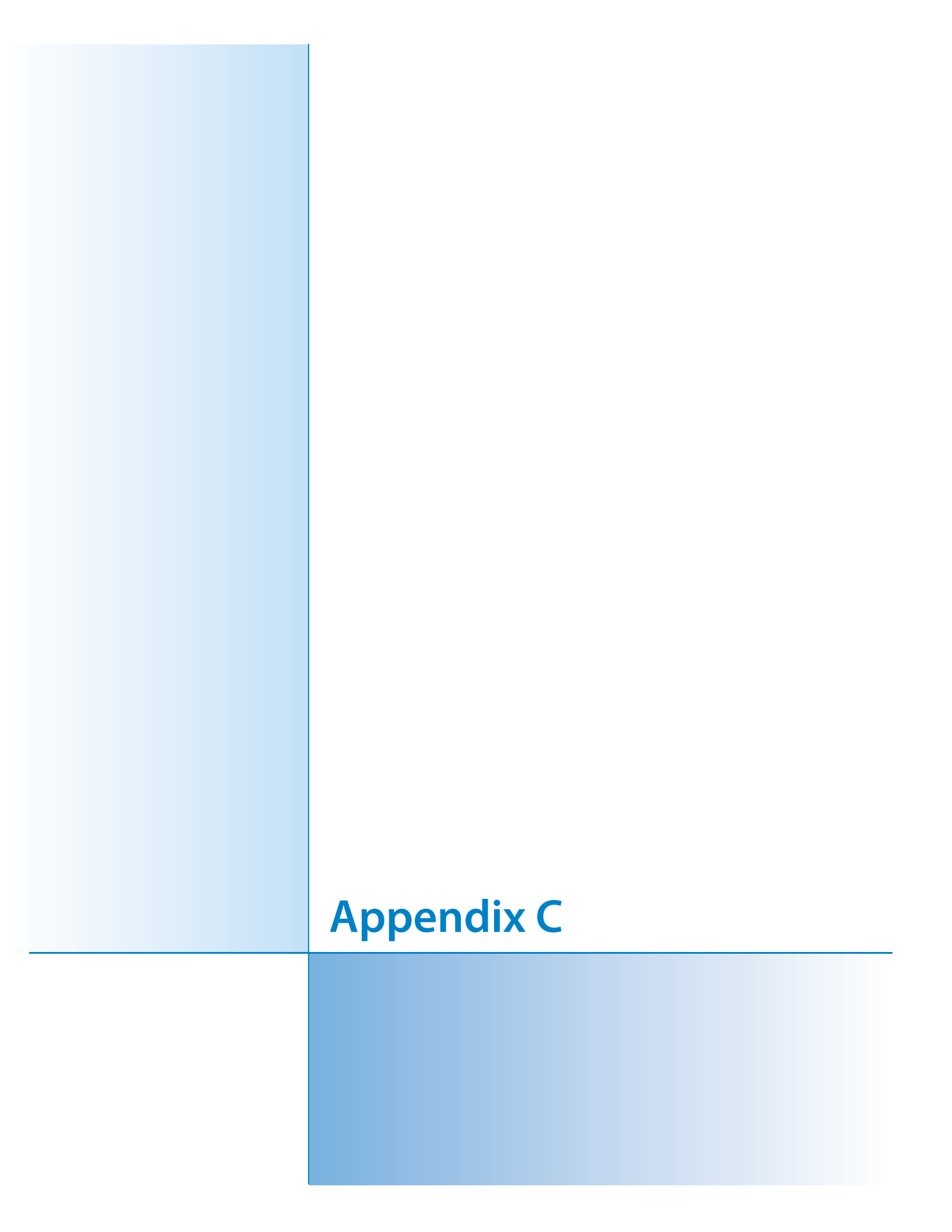
*Based on source energy intensity for the 12 month period ending December 2011

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

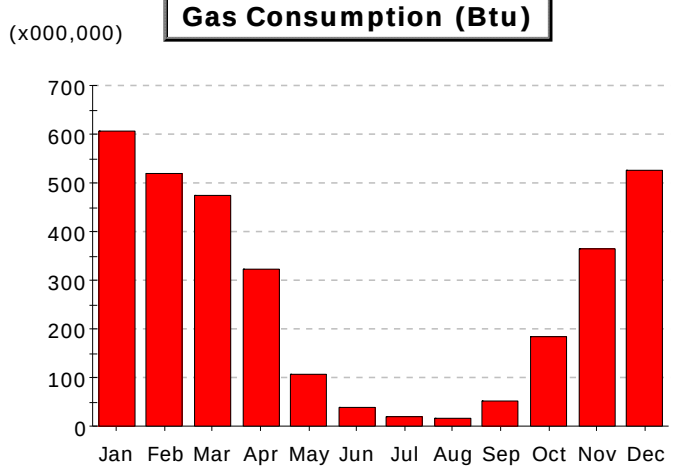
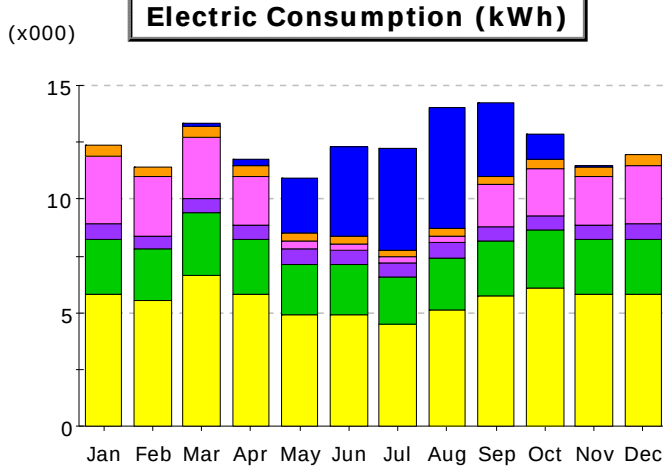
I certify that the information contained within this statement is accurate and in accordance with U.S.
Environmental Protection Agency's measurement standards, found at energystar.gov

Date of certification



The graphic consists of a large light blue rectangle on the left side of the page. A horizontal line extends from the right edge of this rectangle across the page. A vertical line extends from the bottom of the light blue rectangle down to the bottom of the page. These two lines intersect at the bottom right corner of the light blue rectangle. In the bottom right corner of the page, there is a smaller, darker blue rectangle. The text "Appendix C" is positioned at the intersection of the horizontal and vertical lines, just above the darker blue rectangle.

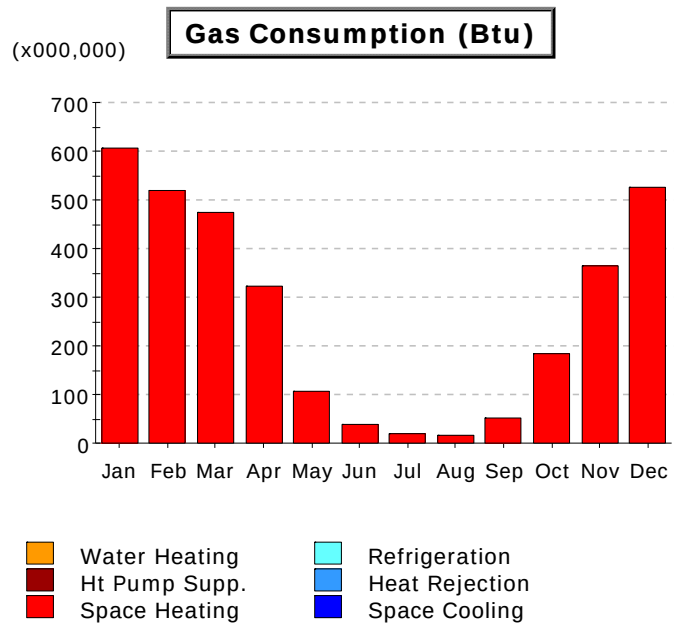
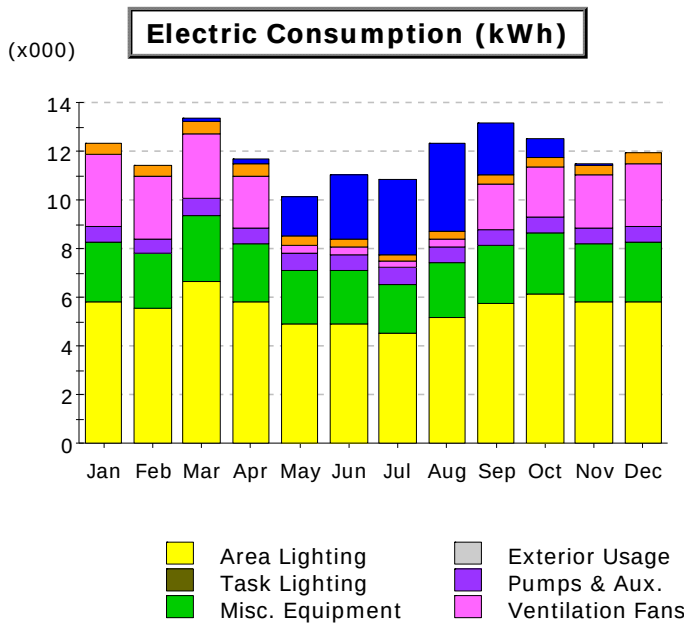
Appendix C

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.14	0.33	2.37	3.91	4.49	5.34	3.20	1.12	0.07	-	20.97
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.46	0.45	0.54	0.46	0.37	0.34	0.29	0.31	0.35	0.38	0.40	0.43	4.79
Vent. Fans	2.98	2.56	2.65	2.13	0.36	0.31	0.27	0.31	1.89	2.08	2.15	2.60	20.30
Pumps & Aux.	0.66	0.60	0.66	0.64	0.66	0.64	0.66	0.66	0.64	0.66	0.64	0.66	7.81
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	2.42	2.28	2.73	2.41	2.19	2.18	2.03	2.27	2.39	2.52	2.41	2.42	28.25
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	5.82	5.52	6.65	5.81	4.93	4.92	4.51	5.14	5.74	6.10	5.81	5.82	66.78
Total	12.35	11.41	13.37	11.78	10.89	12.30	12.25	14.04	14.21	12.87	11.48	11.94	148.90

Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	605.6	518.5	472.8	321.7	105.1	37.4	20.6	16.7	52.4	182.3	365.7	525.1	3,223.8
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	605.6	518.5	472.8	321.7	105.1	37.4	20.6	16.7	52.4	182.3	365.7	525.1	3,223.8

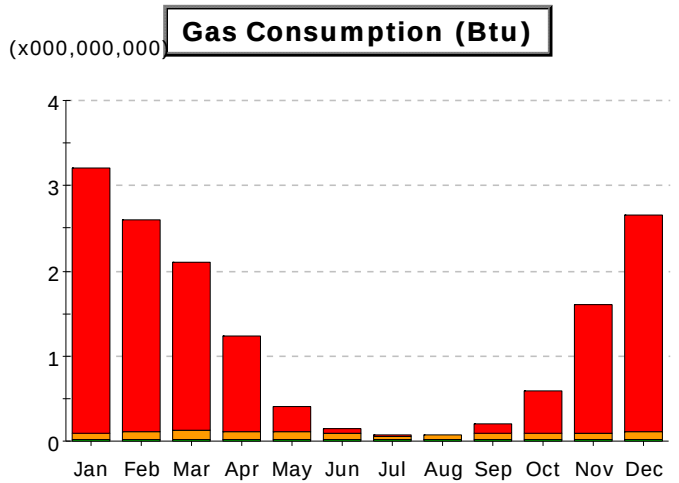
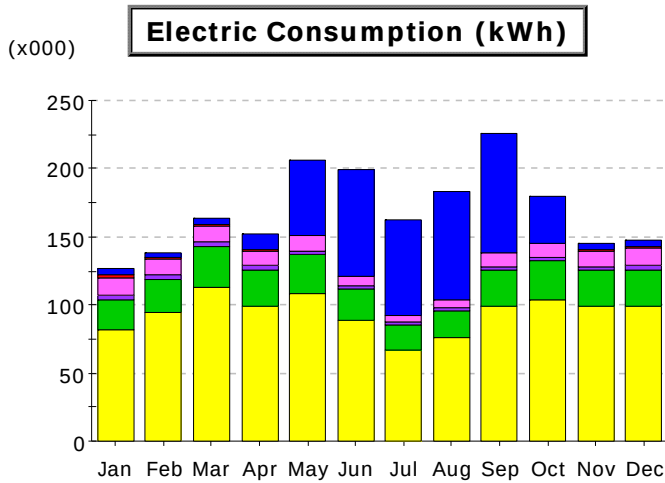


Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	0.09	0.22	1.61	2.66	3.06	3.64	2.17	0.76	0.05	-	14.27
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.46	0.45	0.54	0.46	0.37	0.34	0.29	0.31	0.35	0.38	0.40	0.43	4.79
Vent. Fans	2.98	2.56	2.65	2.13	0.36	0.31	0.27	0.31	1.89	2.08	2.15	2.60	20.30
Pumps & Aux.	0.66	0.60	0.66	0.64	0.66	0.64	0.66	0.66	0.64	0.66	0.64	0.66	7.81
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	2.42	2.28	2.73	2.41	2.19	2.18	2.03	2.27	2.39	2.52	2.41	2.42	28.25
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	5.82	5.52	6.65	5.81	4.93	4.92	4.51	5.14	5.74	6.10	5.81	5.82	66.78
Total	12.35	11.41	13.33	11.68	10.13	11.05	10.82	12.34	13.19	12.52	11.46	11.94	142.20

Gas Consumption (Btu x000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	605.6	518.5	472.8	321.7	105.1	37.4	20.6	16.7	52.4	182.3	365.7	525.1	3,223.8
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	605.6	518.5	472.8	321.7	105.1	37.4	20.6	16.7	52.4	182.3	365.7	525.1	3,223.8

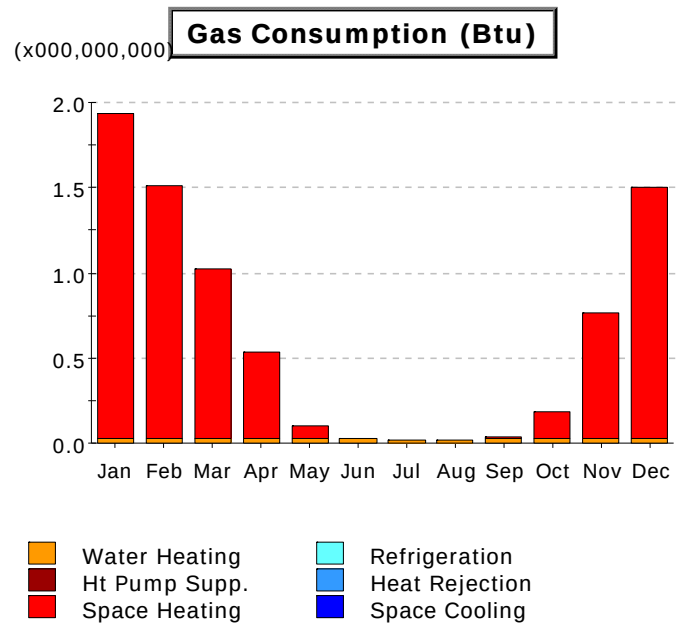
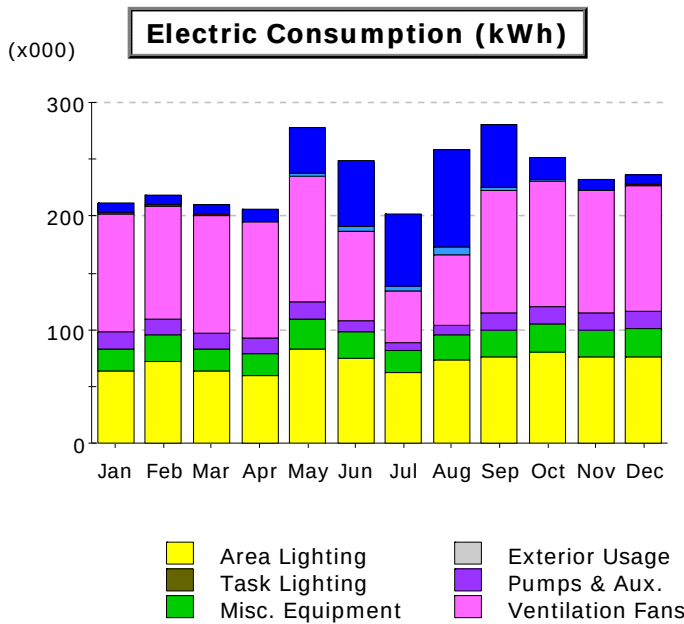


Electric Consumption (kWh x000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	5.2	3.8	4.9	11.5	55.8	78.1	71.2	79.8	87.7	33.7	4.0	4.4	440.0
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.6	1.3	1.0	0.6	0.2	0.0	0.0	0.0	0.1	0.3	0.8	1.3	7.2
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	13.3	11.8	12.2	11.1	10.7	6.7	4.2	4.7	10.2	10.7	11.5	12.7	119.8
Pumps & Aux.	3.0	2.8	3.0	2.8	2.5	2.4	2.5	2.5	2.4	2.6	2.8	3.1	32.3
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	21.9	25.2	30.2	26.6	29.0	23.7	18.1	20.4	26.5	27.9	26.5	26.6	302.5
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	81.8	94.0	112.8	99.3	108.4	88.4	67.0	75.6	99.0	104.1	99.0	99.5	1,128.9
Total	126.9	138.8	164.2	151.9	206.5	199.2	163.0	182.9	225.8	179.2	144.6	147.7	2,030.7

Gas Consumption (Btu x000,000,000)

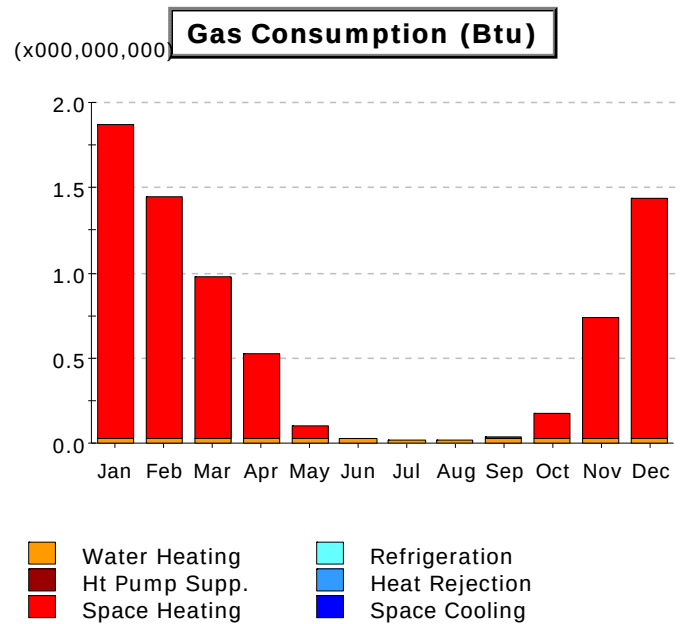
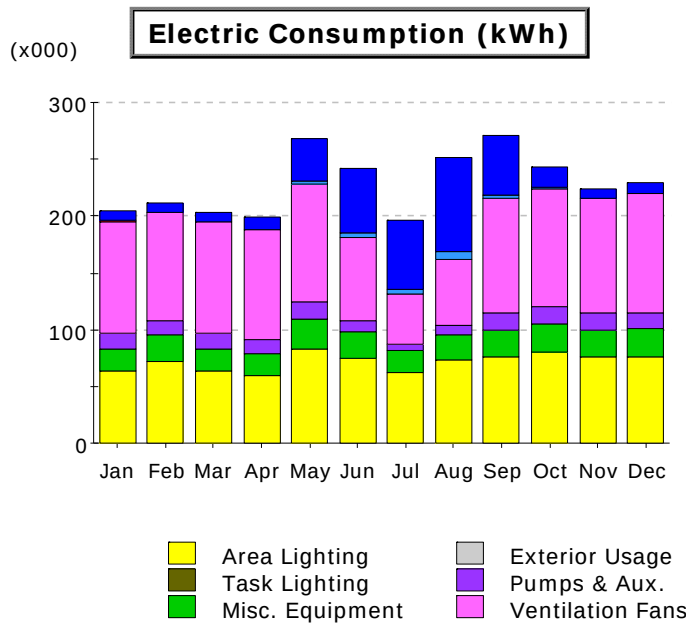
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	3.12	2.48	1.97	1.13	0.28	0.05	0.01	0.01	0.11	0.49	1.51	2.54	13.71
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.08	0.10	0.12	0.10	0.10	0.07	0.05	0.05	0.07	0.08	0.08	0.09	1.00
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.18
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3.21	2.59	2.10	1.24	0.40	0.14	0.08	0.08	0.20	0.59	1.61	2.65	14.89

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	8.7	8.3	8.6	11.0	39.2	58.2	62.3	85.5	54.2	19.4	9.3	9.2	374.0
Heat Reject.	0.1	0.1	0.1	0.3	2.5	4.2	4.6	6.6	3.6	0.9	0.1	0.1	23.1
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.9	0.7	0.5	0.2	0.0	0.0	-	-	0.0	0.1	0.3	0.7	3.4
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	104.7	100.1	103.6	102.1	110.8	77.9	46.4	61.9	107.3	110.8	107.3	110.8	1,143.5
Pumps & Aux.	14.6	13.9	14.4	14.2	15.3	10.7	6.3	8.5	14.8	15.3	14.9	15.4	158.5
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	19.9	22.8	19.9	18.8	26.3	23.1	19.1	22.6	24.0	25.2	24.0	24.2	270.0
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	63.1	72.2	63.1	59.5	83.2	74.4	62.4	73.2	76.1	79.9	76.1	76.5	859.8
Total	211.9	218.1	210.2	206.1	277.4	248.5	201.2	258.3	280.0	251.6	232.1	236.8	2,832.2

Gas Consumption (Btu x000,000,000)

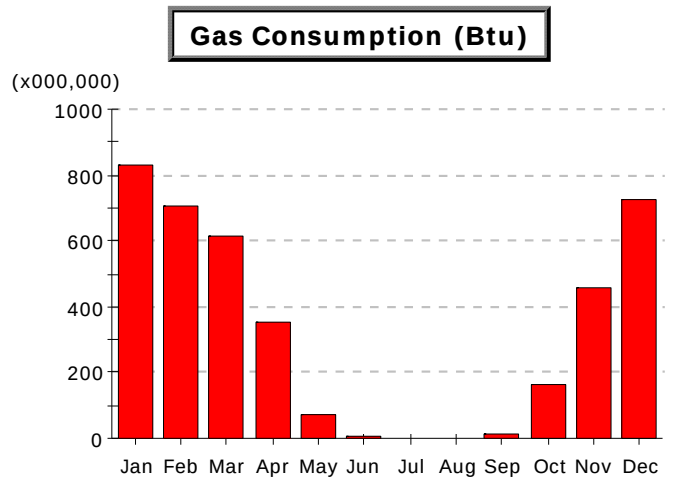
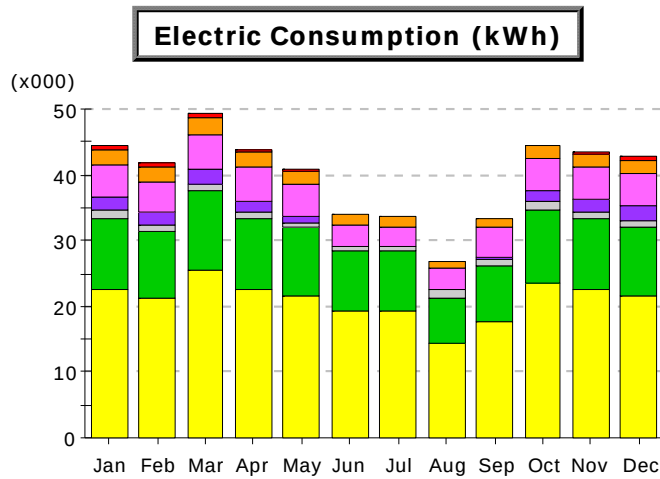
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.91	1.48	1.00	0.51	0.07	0.00	0.00	0.00	0.01	0.16	0.74	1.48	7.35
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.31
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.94	1.51	1.02	0.54	0.10	0.03	0.02	0.02	0.03	0.18	0.77	1.51	7.66

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	8.2	7.8	8.1	10.4	37.8	56.1	60.7	83.4	52.3	18.5	8.8	8.7	361.1
Heat Reject.	0.1	0.1	0.1	0.3	2.4	4.1	4.5	6.4	3.4	0.8	0.1	0.1	22.3
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.8	0.6	0.4	0.2	0.0	0.0	-	-	0.0	0.1	0.3	0.6	3.2
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	98.5	94.3	97.5	96.1	104.4	73.3	43.7	58.3	101.0	104.4	101.0	104.4	1,076.8
Pumps & Aux.	13.9	13.3	13.7	13.5	14.5	10.2	6.0	8.1	14.1	14.6	14.2	14.7	150.7
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	19.9	22.8	19.9	18.8	26.3	23.1	19.1	22.6	24.0	25.2	24.0	24.2	270.0
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	63.1	72.2	63.1	59.5	83.2	74.4	62.4	73.2	76.1	79.9	76.1	76.5	859.8
Total	204.5	211.1	202.9	198.8	268.6	241.2	196.5	252.0	271.0	243.5	224.6	229.1	2,743.9

Gas Consumption (Btu x000,000,000)

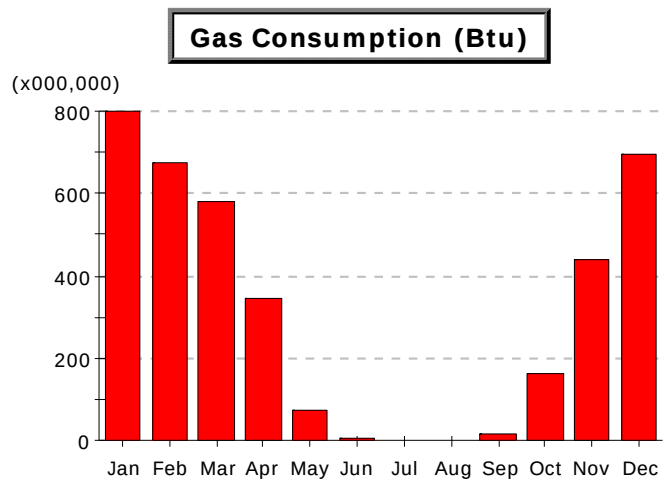
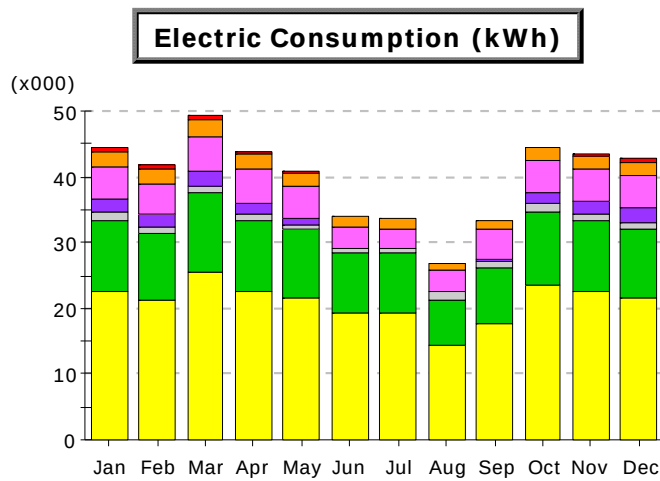
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.84	1.42	0.95	0.50	0.07	0.00	0.00	0.00	0.01	0.15	0.71	1.41	7.06
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.31
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.87	1.45	0.98	0.52	0.10	0.03	0.02	0.02	0.03	0.17	0.73	1.44	7.37

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.69	0.60	0.55	0.37	0.11	0.01	0.00	-	0.03	0.20	0.46	0.65	3.67
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.29	2.24	2.69	2.33	2.08	1.64	1.52	1.09	1.38	1.93	1.98	2.06	23.22
Vent. Fans	4.95	4.69	5.45	5.02	4.95	3.18	2.77	3.32	4.57	5.00	4.84	4.97	53.70
Pumps & Aux.	2.06	1.86	2.05	1.84	1.05	0.23	0.07	0.01	0.38	1.55	1.97	2.06	15.13
Ext. Usage	1.20	0.92	1.02	0.99	0.70	0.68	0.70	1.15	1.11	1.15	1.16	1.20	11.98
Misc. Equip.	10.72	10.11	12.10	10.67	10.25	9.08	9.13	6.83	8.36	11.18	10.67	10.25	119.35
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	22.62	21.35	25.55	22.52	21.65	19.22	19.32	14.46	17.64	23.60	22.52	21.65	252.10
Total	44.53	41.78	49.40	43.74	40.79	34.05	33.52	26.86	33.47	44.60	43.59	42.83	479.16

Gas Consumption (Btu x000,000)

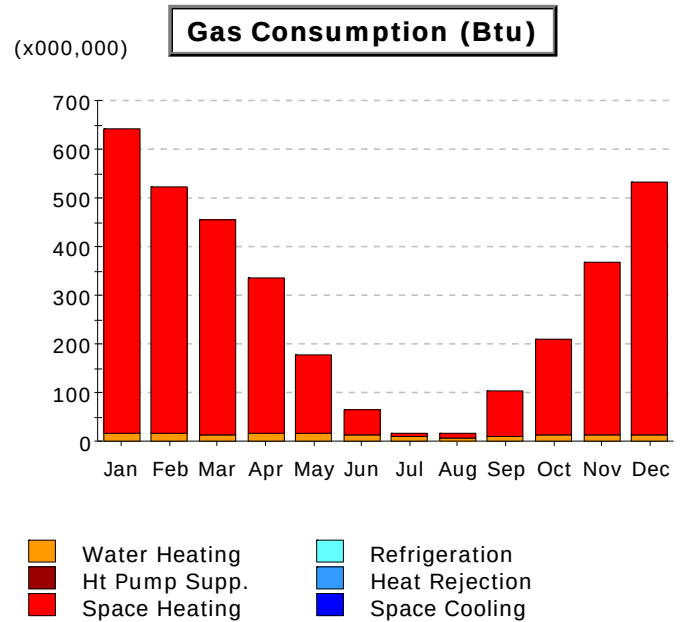
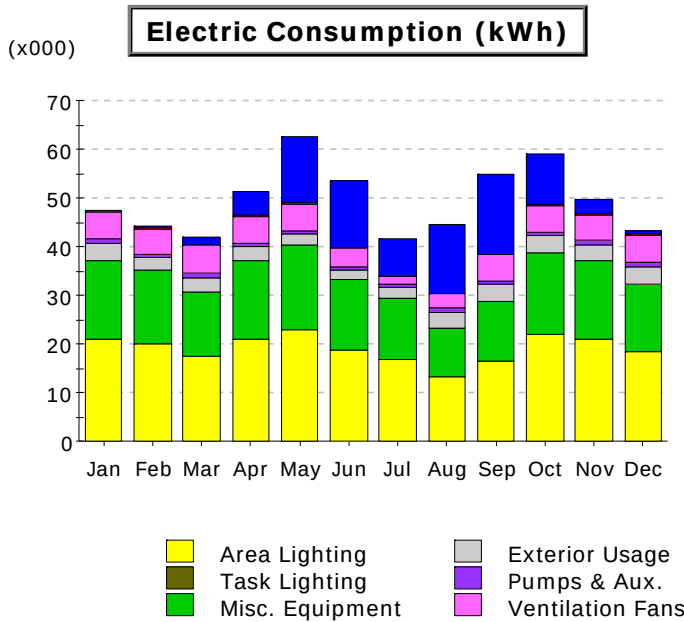
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	833.1	705.7	614.2	353.3	73.3	4.8	0.5	-	14.5	164.9	458.2	726.5	3,949.0
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	833.1	705.7	614.2	353.3	73.3	4.8	0.5	-	14.5	164.9	458.2	726.5	3,949.0

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.69	0.60	0.56	0.36	0.10	0.01	0.00	-	0.03	0.20	0.46	0.64	3.65
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	2.29	2.24	2.69	2.33	2.08	1.64	1.52	1.09	1.38	1.93	1.98	2.06	23.22
Vent. Fans	4.95	4.69	5.45	5.02	4.95	3.18	2.77	3.32	4.57	5.00	4.84	4.97	53.70
Pumps & Aux.	2.06	1.86	2.05	1.84	1.05	0.23	0.07	0.01	0.38	1.55	1.97	2.06	15.13
Ext. Usage	1.20	0.92	1.02	0.99	0.70	0.68	0.70	1.15	1.11	1.15	1.16	1.20	11.98
Misc. Equip.	10.72	10.11	12.10	10.67	10.25	9.08	9.13	6.83	8.36	11.18	10.67	10.25	119.35
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	22.62	21.35	25.55	22.52	21.65	19.22	19.32	14.46	17.64	23.60	22.52	21.65	252.10
Total	44.53	41.78	49.41	43.73	40.79	34.05	33.52	26.86	33.47	44.60	43.59	42.83	479.14

Gas Consumption (Btu x000,000)

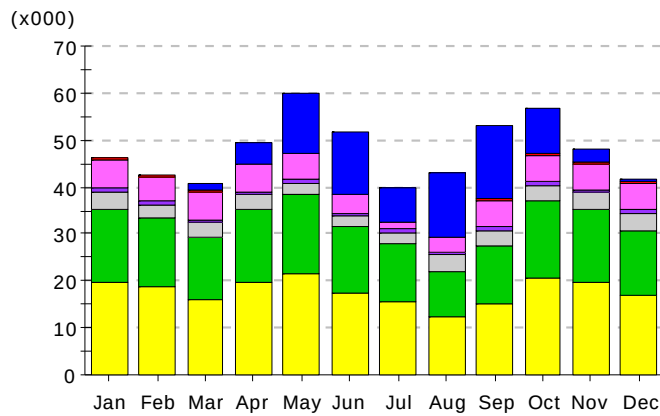
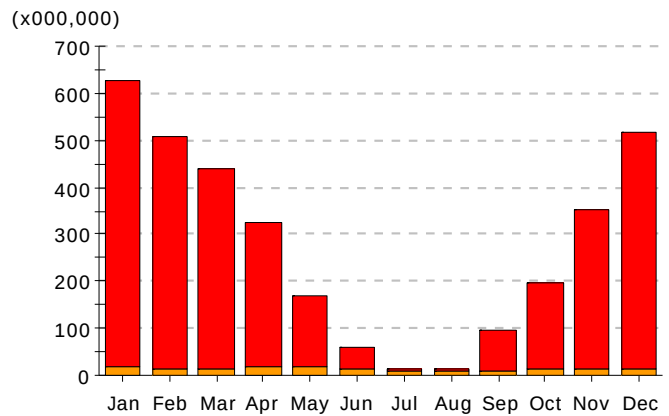
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	798.1	677.0	581.2	343.4	72.4	4.7	0.5	-	14.5	159.6	439.2	697.2	3,787.8
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	798.1	677.0	581.2	343.4	72.4	4.7	0.5	-	14.5	159.6	439.2	697.2	3,787.8

**Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.23	1.59	5.05	13.71	13.89	7.81	14.13	16.47	10.49	2.93	0.66	86.96
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.35	0.28	0.24	0.18	0.09	0.03	0.00	0.01	0.06	0.11	0.20	0.28	1.83
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	5.69	5.12	5.73	5.54	5.58	3.91	1.55	3.13	5.58	5.54	5.24	5.65	58.27
Pumps & Aux.	0.82	0.74	0.81	0.77	0.75	0.73	0.75	0.75	0.73	0.77	0.77	0.82	9.20
Ext. Usage	3.61	2.77	3.06	2.97	2.12	2.05	2.12	3.45	3.34	3.45	3.49	3.61	36.04
Misc. Equip.	15.98	15.10	13.17	15.92	17.39	14.27	12.69	10.00	12.41	16.69	15.92	13.87	173.42
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	21.10	19.93	17.38	21.02	22.96	18.81	16.69	13.15	16.37	22.03	21.02	18.31	228.77
Total	47.57	44.17	42.00	51.44	62.61	53.69	41.62	44.61	54.95	59.08	49.57	43.20	594.49

Gas Consumption (Btu x000,000)

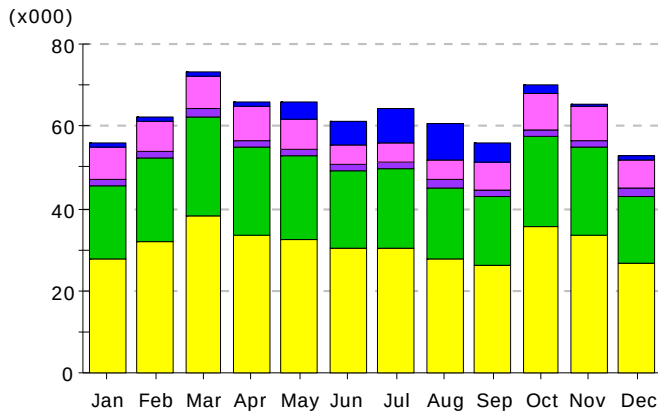
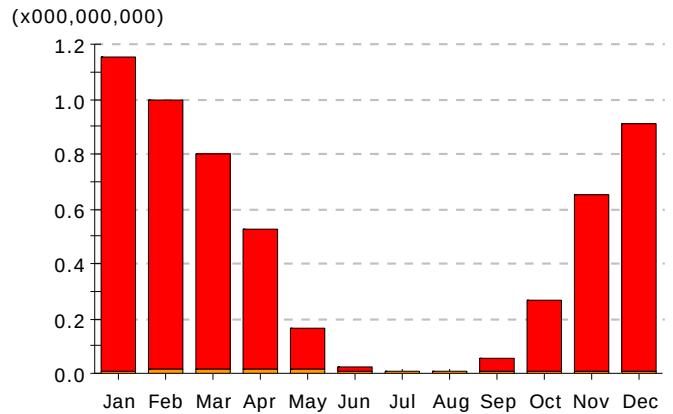
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	626.3	507.8	441.9	319.4	160.0	50.6	5.5	8.5	94.7	195.5	352.7	520.2	3,283.3
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	16.3	16.0	14.0	16.6	16.8	12.6	10.1	7.7	9.9	13.7	14.1	13.3	161.0
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	642.6	523.8	456.0	336.0	176.8	63.1	15.6	16.2	104.6	209.3	366.8	533.5	3,444.3

Electric Consumption (kWh)**Gas Consumption (Btu)****Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.01	0.21	1.48	4.73	12.95	13.24	7.49	13.52	15.63	9.88	2.74	0.62	82.51
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.34	0.27	0.23	0.17	0.09	0.03	0.00	0.01	0.06	0.11	0.19	0.27	1.77
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	5.81	5.22	5.85	5.65	5.70	3.99	1.58	3.19	5.69	5.66	5.35	5.77	59.46
Pumps & Aux.	0.81	0.73	0.80	0.75	0.74	0.71	0.74	0.74	0.71	0.75	0.76	0.81	9.06
Ext. Usage	3.61	2.77	3.06	2.97	2.12	2.05	2.12	3.45	3.34	3.45	3.49	3.61	36.04
Misc. Equip.	15.81	14.93	13.03	15.75	17.20	14.12	12.55	9.89	12.27	16.51	15.75	13.72	171.54
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	19.63	18.54	16.17	19.55	21.35	17.50	15.52	12.23	15.23	20.49	19.55	17.03	212.79
Total	46.02	42.68	40.63	49.58	60.16	51.64	40.00	43.02	52.94	56.85	47.82	41.82	573.16

Gas Consumption (Btu x000,000)

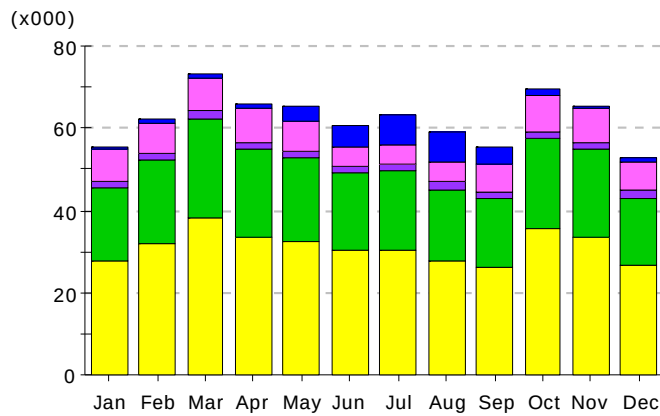
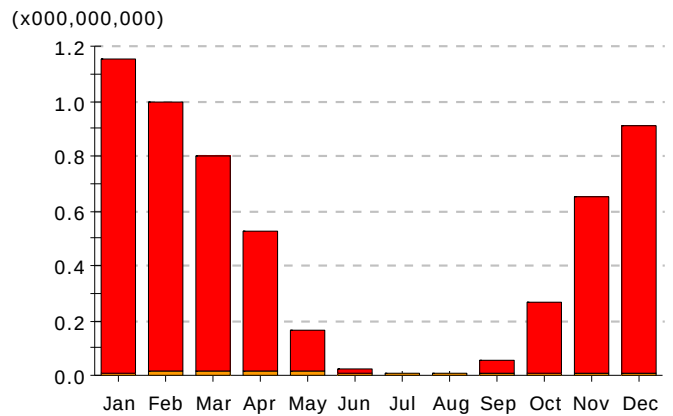
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	612.6	492.2	427.6	307.8	151.9	47.2	5.0	7.2	88.4	185.3	340.7	502.5	3,168.5
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	16.1	15.7	13.8	16.4	16.6	12.4	10.0	7.6	9.8	13.5	13.9	13.1	158.9
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	628.7	508.0	441.4	324.2	168.5	59.6	15.0	14.8	98.1	198.9	354.5	515.7	3,327.4

Electric Consumption (kWh)**Gas Consumption (Btu)****Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.92	1.09	0.91	1.06	4.10	5.63	8.54	8.49	4.47	2.32	0.73	1.06	39.31
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	7.69	7.61	8.16	8.17	7.44	4.78	4.56	5.05	6.92	8.53	8.17	6.97	84.05
Pumps & Aux.	1.74	1.57	1.73	1.66	1.68	1.62	1.68	1.68	1.62	1.69	1.66	1.73	20.06
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	17.61	20.16	24.16	21.27	20.41	19.08	19.17	17.51	16.59	22.29	21.26	16.68	236.21
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	27.90	31.95	38.29	33.71	32.35	30.18	30.32	27.70	26.29	35.33	33.70	26.42	374.14
Total	55.87	62.38	73.25	65.86	65.99	61.30	64.25	60.42	55.89	70.15	65.53	52.87	753.77

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.14	0.98	0.79	0.51	0.15	0.01	0.00	0.00	0.04	0.26	0.64	0.90	5.43
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.13
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.15	0.99	0.80	0.53	0.16	0.02	0.01	0.01	0.05	0.27	0.65	0.91	5.56

Electric Consumption (kWh)**Gas Consumption (Btu)****Electric Consumption (kWh x000)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.66	0.77	0.66	0.83	3.49	4.86	7.45	7.34	3.81	1.91	0.53	0.76	33.07
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	-	-	-	-	-	-	-	-	-	-	-	-	-
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	7.69	7.61	8.16	8.17	7.44	4.78	4.56	5.05	6.92	8.53	8.17	6.97	84.05
Pumps & Aux.	1.74	1.57	1.73	1.66	1.68	1.62	1.68	1.68	1.62	1.69	1.66	1.73	20.06
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	17.61	20.16	24.16	21.27	20.41	19.08	19.17	17.51	16.59	22.29	21.26	16.68	236.21
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	27.90	31.95	38.29	33.71	32.35	30.18	30.32	27.70	26.29	35.33	33.70	26.42	374.14
Total	55.60	62.07	73.00	65.64	65.38	60.52	63.17	59.28	55.24	69.75	65.33	52.56	747.53

Gas Consumption (Btu x000,000,000)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Reject.	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	1.14	0.98	0.79	0.51	0.15	0.01	0.00	0.00	0.04	0.26	0.64	0.90	5.43
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.13
Vent. Fans	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumps & Aux.	-	-	-	-	-	-	-	-	-	-	-	-	-
Ext. Usage	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc. Equip.	-	-	-	-	-	-	-	-	-	-	-	-	-
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1.15	0.99	0.80	0.53	0.16	0.02	0.01	0.01	0.05	0.27	0.65	0.91	5.56

Domestic Hot Water Analysis

Building Name	Ocean Township High School	
Building Squarefootage	200,215	sqft
Water Heater Count	7	

Baseline		
Baseline DHW System Fuel	Therm	100,000 btu
Baseline squarefeet per Person	56	
Baseline Usage per Person per Day	1.0	gallons
Baseline People	3,575	
Baseline Building Usage per Day	3,575	gallons
Baseline Building Usage Per Year	1,304,973	gallons
Baseline DHW System Efficiency	75%	
Estimated cold water temperature	50	°F
Estimated hot water temperature	120	°F
Temperature Rise	70	°F
Heater output required	760.9	mmbtu
Heater input required	1014.6	mmbtu
Heater Fuel Usage	10,146	Therm
Estimated Usage Per Heater	1,449	Therm

Proposed		
Baseline DHW System Fuel	Therm	100,000 btu
Baseline squarefeet per Person	56	
Baseline Usage per Person per Day	1.0	gallons
Baseline People	3,575	
Baseline Building Usage per Day	3,575	gallons
Baseline Building Usage Per Year	1,304,973	gallons
Baseline DHW System Efficiency	95%	
Estimated cold water temperature	50	°F
Estimated hot water temperature	120	°F
Temperature Rise	70	°F
Heater output required	760.9	mmbtu
Heater input required	801.0	mmbtu
Heater Fuel Usage	8,010	Therm

Domestic Hot Water Analysis

Building Name	Ocean Township Intermediate School	
Building Squarefootage	257,400	sqft
Water Heater Count	8	

Baseline		
Baseline DHW System Fuel	Therm	100,000 btu
Baseline squarefeet per Person	60	
Baseline Usage per Person per Day	2.0	gallons
Baseline People	4,290	
Baseline Building Usage per Day	8,580	gallons
Baseline Building Usage Per Year	3,131,700	gallons
Baseline DHW System Efficiency	70%	
Estimated cold water temperature	50	°F
Estimated hot water temperature	120	°F
Temperature Rise	70	°F
Heater output required	1826.1	mmbtu
Heater input required	2608.7	mmbtu
Heater Fuel Usage	26,087	Therm
Estimated Usage Per Heater	3,261	Therm

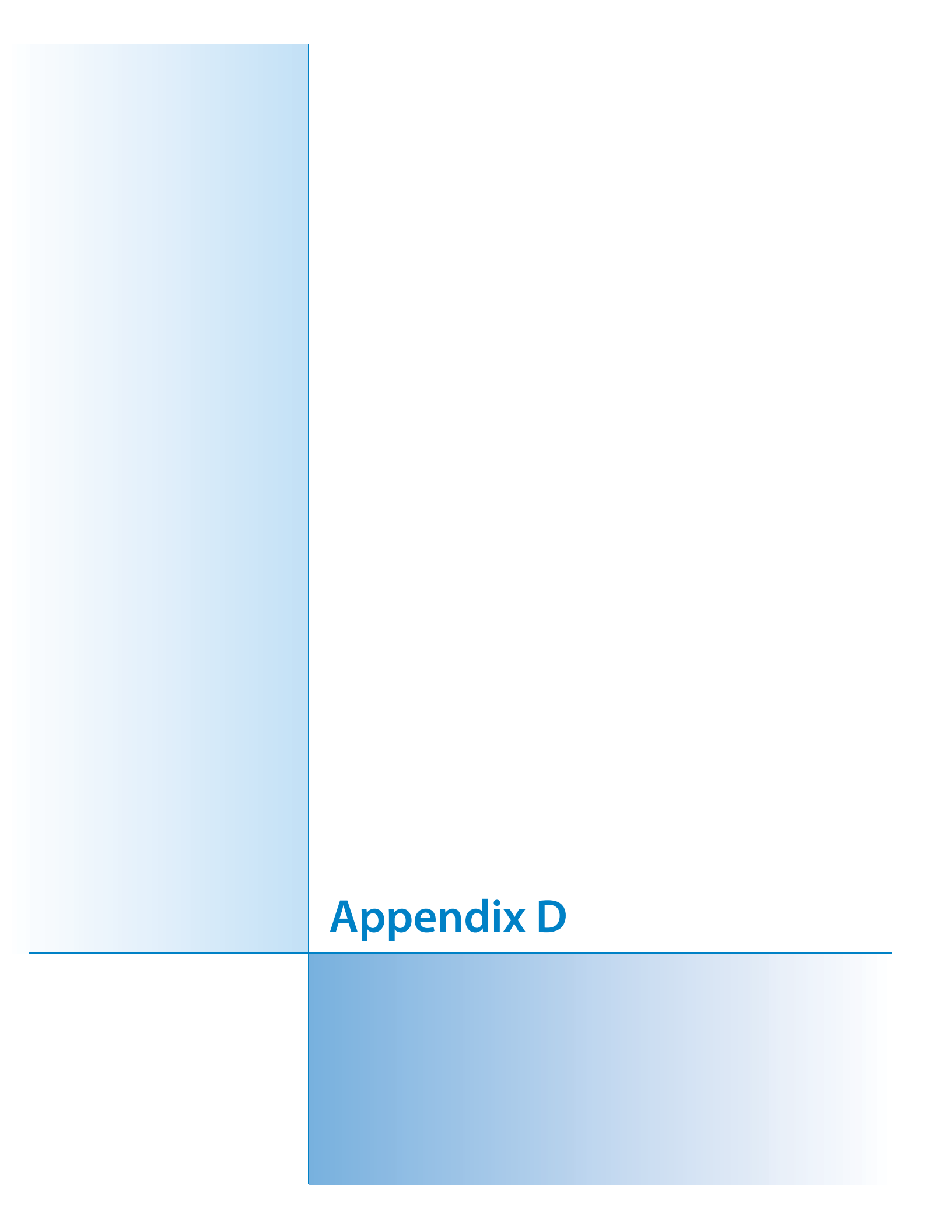
Proposed		
Baseline DHW System Fuel	Therm	100,000 btu
Baseline squarefeet per Person	60	
Baseline Usage per Person per Day	2.0	gallons
Baseline People	4,290	
Baseline Building Usage per Day	8,580	gallons
Baseline Building Usage Per Year	3,131,700	gallons
Baseline DHW System Efficiency	95%	
Estimated cold water temperature	50	°F
Estimated hot water temperature	120	°F
Temperature Rise	70	°F
Heater output required	1826.1	mmbtu
Heater input required	1922.2	mmbtu
Heater Fuel Usage	19,222	Therm

Domestic Hot Water Analysis

Building Name	Ocean Township Intermediate School	
Building Squarefootage	76,160	sqft
Water Heater Count	4	

Baseline		
Baseline DHW System Fuel	kWh	3,413 btu
Baseline squarefeet per Person	100	
Baseline Usage per Person per Day	0.6	gallons
Baseline People	762	
Baseline Building Usage per Day	457	gallons
Baseline Building Usage Per Year	166,790	gallons
Baseline DHW System Efficiency	100%	
Estimated cold water temperature	55	°F
Estimated hot water temperature	120	°F
Temperature Rise	65	°F
Heater output required	90.3	mmbtu
Heater input required	90.3	mmbtu
Heater Fuel Usage	26,460	kWh
Baseline Fraction per heater	6,615	kWh

Proposed		
Baseline DHW System Fuel	Therm	100,000 btu
Baseline squarefeet per Person	100	
Baseline Usage per Person per Day	0.6	gallons
Baseline People	762	
Baseline Building Usage per Day	457	gallons
Baseline Building Usage Per Year	166,790	gallons
Baseline DHW System Efficiency	95%	
Estimated cold water temperature	55	°F
Estimated hot water temperature	120	°F
Temperature Rise	65	°F
Heater output required	90.3	mmbtu
Heater input required	95.1	mmbtu
Heater Fuel Usage	951	Therm

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Appendix D

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Administration - Interior	003	KENS OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$308.5	None Proposed	10	3380	2366	None Proposed	0	0	514.098	92.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	4	3380	1157.312	\$208.3	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	4	3380	2366	None Proposed	0	0.1396	677.4872	121.9	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$580.0
Administration - Interior	003	SUPER OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$123.4	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	37.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	SUPER OFFICE	26W CFL Fixture	8	3380	703.04	\$126.5	None Proposed	8	3380	2366	None Proposed	0	0	210.912	38.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	JOHN LYSKO	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$123.4	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	37.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	6	3380	1735.968	\$312.5	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	6	3380	2366	None Proposed	0	0.2094	1016.2308	182.9	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$870.0
Administration - Interior	003	COUNTY OFFICE	2x4 Fixtures w/ 4-T12 Lamp Fixture w/ Magnetic Ballast	7	3380	4050.592	\$729.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	7	3380	2366	None Proposed	0	0.4144	2195.648	395.2	\$105.0	\$20.0	\$65.0	\$0.0	\$0.0	\$190.0	\$1,330.0
Administration - Interior	003	ASSISTANT JUSTICE	2x4 Fixtures w/ 4-T12 Lamp Fixture w/ Magnetic Ballast	2	3380	1157.312	\$208.3	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	2	3380	2366	None Proposed	0	0.1184	627.328	112.9	\$105.0	\$20.0	\$65.0	\$0.0	\$0.0	\$190.0	\$380.0
Administration - Interior	003	CLOSET	65W Incandescent Fixture	1	500	32.5	\$5.9	Replace 65W Incandescent Fixture with 13W CFL	1	500	350	None Proposed	0	0.052	27.95	5.0	\$0.0	\$6.3	\$4.0	\$0.0	\$0.0	\$10.3	\$10.3
Administration - Interior	003	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$92.5	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	27.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$61.7	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	18.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	COPY ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$185.1	None Proposed	6	3380	2366	None Proposed	0	0	308.4588	55.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	OFFICE	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	5	3380	1892.8	\$340.7	None Proposed	5	3380	2366	None Proposed	0	0	567.84	102.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	SUPER OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$277.6	None Proposed	9	3380	2366	None Proposed	0	0	462.6882	83.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	003	ATTIC	8' T12 Fixture w/ 2-T12 Lamps	5	500	567.5	\$102.2	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	5	500	350	None Proposed	0	0.628	390.05	70.2	\$65.1	\$105.0	\$93.0	\$0.0	\$0.0	\$263.1	\$1,315.5
Administration - Interior	002	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	3380	289.328	\$52.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	None Proposed	0	0.0349	169.3718	30.5	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$145.0
Administration - Interior	002	OFFICE	2x4 Fixtures w/ 4-T12 Lamp Fixture w/ Magnetic Ballast	2	3380	1157.312	\$208.3	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	2	3380	2366	None Proposed	0	0.1184	627.328	112.9	\$105.0	\$20.0	\$65.0	\$0.0	\$0.0	\$190.0	\$380.0
Administration - Interior	002	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	3380	289.328	\$52.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	None Proposed	0	0.0349	169.3718	30.5	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$145.0
Administration - Interior	002	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	3380	289.328	\$52.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.0349	169.3718	30.5	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$321.5
Administration - Interior	003	OFFICE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	3380	289.328	\$52.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.0349	169.3718	30.5	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$321.5
Administration - Interior	003	HALL	65W Incandescent Fixture	1	3380	219.7	\$39.5	Replace 65W Incandescent Fixture with 13W CFL	1	3380	2366	None Proposed	0	0.052	188.942	34.0	\$0.0	\$6.3	\$4.0	\$0.0	\$0.0	\$10.3	\$10.3
Administration - Interior	003	ASST SAFE	2x4 Fixtures w/ 3-T12 Lamp Fixture w/ Magnetic Ballast	4	3380	1735.968	\$312.5	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	4	3380	2366	None Proposed	0	0.1616	903.136	162.6	\$85.0	\$15.0	\$65.0	\$0.0	\$0.0	\$165.0	\$660.0
Administration - Interior	003	ASST SAFE	2x4 Fixtures w/ 3-T12 Lamp Fixture w/ Magnetic Ballast	6	3380	2603.952	\$468.7	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	6	3380	2366	None Proposed	0	0.2424	1354.704	243.8	\$85.0	\$15.0	\$65.0	\$0.0	\$0.0	\$165.0	\$990.0
Administration - Interior	002	COPY ROOM	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	6	3380	1735.968	\$312.5	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	6	3380	2366	None Proposed	0	0.2094	1016.2308	182.9	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$870.0
Administration - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$61.7	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	18.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	002	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$61.7	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	18.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	002	COPY ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$277.6	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	462.6882	83.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	002	PAPER ROOM	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	2	3380	578.656	\$104.2	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.0698	338.7436	61.0	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$466.5
Administration - Interior	002	SPECIAL PROJECTS	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$277.6	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	462.6882	83.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	002	CONFERENCE ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$246.8	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	74.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	002	STORAGE	2x2 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	15	500	642	\$115.6	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	15	500	350	Ceiling Mounted Occupancy Sensor	1	0.5235	375.825	67.6	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$2,351.5
Administration - Interior	001	AUDITORIUM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	25	3380	4284.15	\$771.1	None Proposed	25	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1285.245	231.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	BASEMENT	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	12	500	513.6	\$92.4	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	12	500	350	None Proposed	0	0.4188	300.66	54.1	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$1,740.0
Administration - Interior	000	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$92.5	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	27.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Administration - Interior	000	TESTING	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	3	3380	867.984	\$156.2	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	3	3380	2366	None Proposed	0	0.1047	508.1154	91.5	\$70.0	\$10.0	\$65.0	\$0.0	\$0.0	\$145.0	\$435.0
Administration - Interior	000	TESTING	60W Incandescent Fixture	1	3380	202.8	\$36.5	Replace 60W Incandescent Fixture with 13W CFL	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.047	172.042	31.0	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$186.8

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Administration - Interior	000	OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$215.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	64.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$61.7	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	18.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$92.5	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	27.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	LUNCH ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$123.4	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	37.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	STORAGE	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	2	500	85.6	\$15.4	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	2	500	350	Ceiling Mounted Occupancy Sensor	1	0.0698	50.11	9.0	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$466.5
Administration - Interior	000	LADIES	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	4	500	171.2	\$30.8	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	4	500	350	Ceiling Mounted Occupancy Sensor	1	0.1396	100.22	18.0	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$756.5
Administration - Interior	000	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$61.7	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	18.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	MENS ROOM	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	4	500	171.2	\$30.8	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	4	500	350	Ceiling Mounted Occupancy Sensor	1	0.1396	100.22	18.0	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$756.5
Administration - Interior	000	CUSTODIANS	65W Incandescent Fixture	1	500	32.5	\$5.9	Replace 65W Incandescent Fixture with 13W CFL	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.052	27.95	5.0	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$186.8
Administration - Interior	000	STORAGE	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	500	42.8	\$7.7	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.0349	25.055	4.5	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$321.5
Administration - Interior	000	ROOM 14	300W Incandescent Fixture	1	3380	1014	\$182.5	Replace 300W Incandescent Fixture with 65W CFL	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.235	860.21	154.8	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$219.5
Administration - Interior	000	STORAGE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	3	500	128.4	\$23.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	3	500	350	Ceiling Mounted Occupancy Sensor	1	0.1047	75.165	13.5	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$611.5
Administration - Interior	000	TEACHERS ROOM	1x4 Fixtures w/ 3-T12 Lamp Fixture w/ Magnetic Ballast	1	3380	433.992	\$78.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.0404	225.784	40.6	\$85.0	\$15.0	\$65.0	\$103.0	\$73.5	\$165.0	\$341.5
Administration - Interior	000	TEACHERS ROOM	8' T12 Fixture w/ 2-T12 Lamps	1	3380	767.26	\$138.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.1256	527.3476	94.9	\$65.1	\$105.0	\$93.0	\$103.0	\$73.5	\$263.1	\$439.6
Administration - Interior	000	STORAGE	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	1	500	42.8	\$7.7	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.0349	25.055	4.5	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$321.5
Administration - Interior	000	STORAGE	150W Incandescent Fixture	1	500	75	\$13.5	Replace 150W Incandescent Fixture with 25W CFL	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.125	66.25	11.9	\$0.0	\$7.0	\$4.0	\$103.0	\$73.5	\$11.0	\$187.5
Administration - Interior	000	STORAGE	150W Incandescent Fixture	1	500	75	\$13.5	Replace 150W Incandescent Fixture with 25W CFL	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.125	66.25	11.9	\$0.0	\$7.0	\$4.0	\$103.0	\$73.5	\$11.0	\$187.5
Administration - Interior	000	STORAGE	300W Incandescent Fixture	4	500	600	\$108.0	Replace 300W Incandescent Fixture with 65W CFL	4	500	350	Ceiling Mounted Occupancy Sensor	1	0.94	509	91.6	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$348.3
Administration - Interior	000	STORAGE	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	2	500	85.6	\$15.4	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	2	500	350	Ceiling Mounted Occupancy Sensor	1	0.0698	50.11	9.0	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$466.5
Administration - Interior	000	HALLWAY	60W Incandescent Fixture	4	3380	811.2	\$146.0	Replace 60W Incandescent Fixture with 13W CFL	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.188	688.168	123.9	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$217.5
Administration - Interior	000	HALL	300W Incandescent Fixture	1	3380	1014	\$182.5	Replace 300W Incandescent Fixture with 65W CFL	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.235	860.21	154.8	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$219.5
Administration - Interior	000	BOILER ROOM	300W Incandescent Fixture	3	500	450	\$81.0	Replace 300W Incandescent Fixture with 65W CFL	3	500	350	Ceiling Mounted Occupancy Sensor	1	0.705	381.75	68.7	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$305.4
Administration - Interior	000	STORAGE	8' T12 Fixture w/ 2-T12 Lamps	9	500	1021.5	\$183.9	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	9	500	350	Ceiling Mounted Occupancy Sensor	1	1.1304	702.09	126.4	\$65.1	\$105.0	\$93.0	\$103.0	\$73.5	\$263.1	\$2,544.4
Administration - Interior	000	OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$277.6	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	462.6882	83.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	GARAGE	8' T12 Fixture w/ 2-T12 Lamps	18	500	2043	\$367.7	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	18	500	350	Ceiling Mounted Occupancy Sensor	1	2.2608	1404.18	252.8	\$65.1	\$105.0	\$93.0	\$103.0	\$73.5	\$263.1	\$4,912.3
Administration - Interior	000	BREAK ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$370.2	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	111.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	SHOP	8' T12 Fixture w/ 2-T12 Lamps	8	3380	6138.08	\$1,104.9	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	1.0048	4218.7808	759.4	\$65.1	\$105.0	\$93.0	\$103.0	\$73.5	\$263.1	\$2,281.3
Administration - Interior	000	PRINT ROOM	1x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	12	3380	3471.936	\$624.9	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.4188	2032.4616	365.8	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$1,916.5
Administration - Interior	000	WOOD SHOP	8' T12 Fixture w/ 2-T12 Lamps	20	3380	15345.2	\$2,762.1	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	20	3380	2366	Ceiling Mounted Occupancy Sensor	1	2.512	10546.952	1,898.5	\$65.1	\$105.0	\$93.0	\$103.0	\$73.5	\$263.1	\$5,438.5
Administration - Interior	000	BATHROOM	60W Incandescent Fixture	1	500	30	\$5.4	Replace 60W Incandescent Fixture with 13W CFL	1	500	350	Ceiling Mounted Occupancy Sensor	1	0.047	25.45	4.6	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$186.8
Administration - Interior	000	OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$370.2	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	111.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Administration - Interior	000	CABLE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$92.5	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	27.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	AUDITORIUM	300W Incandescent Fixture	36	3380	36504	\$5,475.6	Replace 300W Incandescent Fixture with 65W CFL	36	3380	2366	Ceiling Mounted Occupancy Sensor	1	8.46	30967.56	4,645.1	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$1,722.7
High School - Interior	001	AUDITORIUM	Exterior Wall Packs (Assume 70w)	2	3380	608.4	\$91.3	Replace 70W Fixture with LED Fixture	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.092	400.192	60.0	\$0.0	\$380.0	\$137.0	\$103.0	\$73.5	\$517.0	\$1,210.5
High School - Interior	001	STAGE LIGHT	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	42W CFL Fixture	20	3380	3312.4	\$496.9	None Proposed	20	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	993.72	149.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total	
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	ATHLETIC OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	A140	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	34	3380	5826.444	\$874.0	None Proposed	34	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1747.9332	262.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	A140	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$128.5	None Proposed	5	3380	2366	None Proposed	0	0	257.049	38.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A141	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	30	3380	5140.98	\$771.1	None Proposed	30	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1542.294	231.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	A145	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A145	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A145	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	None Proposed	0	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A144	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	16	3380	4759.04	\$713.9	None Proposed	16	3380	2366	None Proposed	0	0	1427.712	214.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A142	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	16	3380	4759.04	\$713.9	None Proposed	16	3380	2366	None Proposed	0	0	1427.712	214.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A143	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$128.5	None Proposed	5	3380	2366	None Proposed	0	0	257.049	38.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	A143	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	BAND ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	30	3380	5140.98	\$771.1	None Proposed	30	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1542.294	231.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	BAND ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	BAND ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	BAND ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	CLOSET	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.6	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	CLOSET	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	42W CFL Fixture	4	3380	662.48	\$99.4	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	198.744	29.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	10	3380	2974.4	\$446.2	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	892.32	133.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	42W CFL Fixture	11	3380	1821.82	\$273.3	None Proposed	11	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	546.546	82.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	42W CFL Fixture	4	3380	662.48	\$99.4	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	198.744	29.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	42W CFL Fixture	4	3380	662.48	\$99.4	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	198.744	29.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	27	3380	4626.882	\$694.0	None Proposed	27	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1388.0646	208.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MAIN OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	MENS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	Ceiling Mounted Occupancy Sensor	1	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	WOMENS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	Ceiling Mounted Occupancy Sensor	1	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	NURSE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
High School - Interior	001	NURSE	13W CFL Fixture	1	3380	43.94	\$6.6	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	13.182	2.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	001	NURSE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	NURSE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	NURSE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$231.3	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	462.6882	69.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	COPY ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BUSINESS ED	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BUSINESS ED	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	D-101	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	15	3380	4461.6	\$669.2	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1338.48	200.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	D-103	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	D-100	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	None Proposed	0	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	D-105	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	MENS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	D-102	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	JANITOR	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	50	7.605	\$1.1	None Proposed	3	50	35	None Proposed	0	0	2.2815	0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	D-104	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588																	

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	002	D-209	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	11	3380	1885.026	\$282.8	None Proposed	11	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	565.5078	84.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	D-207	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	None Proposed	0	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-208	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-205	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-206	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	GIRLS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	CUSTODIAN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	MENS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	Ceiling Mounted Occupancy Sensor	1	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	D-204	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	11	3380	1885.026	\$282.8	None Proposed	11	3380	2366	None Proposed	0	0	565.5078	84.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-203	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	11	3380	1885.026	\$282.8	None Proposed	11	3380	2366	None Proposed	0	0	565.5078	84.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$128.5	None Proposed	5	3380	2366	None Proposed	0	0	257.049	38.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-200/202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	D-201	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	STAIRWELL	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$231.3	None Proposed	9	3380	2366	None Proposed	0	0	462.6882	69.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	MENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	None Proposed	0	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	000	WOMENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	None Proposed	0	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	000	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	30	3380	5140.98	\$771.1	None Proposed	30	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1542.294	231.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LIBRARY MECH ROOM	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	8	500	448	\$67.2	None Proposed	8	500	350	Ceiling Mounted Occupancy Sensor	1	0	134.4	20.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HOME ECONOMICS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HOME ECONOMICS	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	MENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.6	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	WOMENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.6	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	001	C-112	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-110	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-108	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-111	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	25	3380	4284.15	\$642.6	None Proposed	25	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1285.245	192.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	OFFICE C-111	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-105A	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-109	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$267.7	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	535.392	80.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-107	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	3380	2379.52	\$356.9	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	713.856	107.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-106	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-105	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	3380	2379.52	\$356.9	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	713.856	107.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-104A	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	3380	2379.52	\$356.9	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	713.856	107.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-104A	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-104	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-103	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	C-102	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.		

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	001	HUMAN SERVICES	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	None Proposed	0	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	B-105	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	B-102	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	B-103	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	B-100	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	STAIRWELL	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	B-101	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	LADIES	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	MENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	STORAGE	60W Incandescent Fixture	4	500	120	\$18.0	Replace 60W Incandescent Fixture with 13W CFL	4	500	350	None Proposed	0	0.188	101.8	15.3	\$0.0	\$6.3	\$4.0	\$0.0	\$0.0	\$10.3	\$41.0
High School - Interior	001	GYM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	54	3380	20442.24	\$3,066.3	None Proposed	54	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	6132.672	919.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	AUX GYM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	60	3380	5151.12	\$772.7	None Proposed	60	3380	2366	None Proposed	0	0	1545.336	231.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	WEIGHT ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	40	3380	6854.64	\$1,028.2	None Proposed	40	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2056.392	308.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	WEIGHT ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	MECH ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	Ceiling Mounted Occupancy Sensor	1	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	TRAINER	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	26W CFL Fixture	4	3380	351.52	\$52.7	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	105.456	15.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LOCKER ROOM	26W CFL Fixture	8	3380	703.04	\$105.5	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	210.912	31.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BATHROOM	26W CFL Fixture	3	500	39	\$5.9	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	11.7	1.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LOCKER ROOM	26W CFL Fixture	6	3380	527.28	\$79.1	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	158.184	23.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LOCKER ROOM	26W CFL Fixture	18	3380	1581.84	\$237.3	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	474.552	71.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BATHROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	PHYS ED	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	STORAGE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.6	None Proposed	2	500	350	None Proposed	0	0	15.21	2.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	HALLWAY	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	6	3380	515.112	\$77.3	None Proposed	6	3380	2366	None Proposed	0	0	154.5336	23.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	None Proposed	0	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	B-200	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	None Proposed	0	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	002	B-201	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B 202	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-203	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-204	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	002	WORKROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	WORK ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	BOYS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	GIRLS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-206	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	CUSTODIAN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-208	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-205	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	STAIRWELL	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	B-207	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	MECH ROOM	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	8	500	448	\$67.2	None Proposed	8	500	350	Ceiling Mounted Occupancy Sensor	1	0	134.4	20.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	MECH ROOM	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	1	500	56	\$8.4	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	16.8	2.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	STORAGE	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	1	500	56	\$8.4	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	16.8	2.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	CUSTODIAN	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	1	500	56	\$8.4	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	16.8	2.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	LADIES	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	MENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3</														

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
High School - Interior	001	E-102	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	17	3380	5056.48	\$758.5	None Proposed	17	3380	2366	None Proposed	0	0	1516.944	227.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	E-103	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	17	3380	5056.48	\$758.5	None Proposed	17	3380	2366	None Proposed	0	0	1516.944	227.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	E-104	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	17	3380	5056.48	\$758.5	None Proposed	17	3380	2366	None Proposed	0	0	1516.944	227.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	E-103A	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	None Proposed	0	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	E-101A	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	11	3380	1885.026	\$282.8	None Proposed	11	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	565.5078	84.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	A-107	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	A-105	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	A-103	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	FACULTY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	CAFETERIA	13W CFL Fixture	8	3380	351.52	\$52.7	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	105.456	15.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	CAFETERIA	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	70	3380	26499.2	\$3,974.9	None Proposed	70	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	7949.76	1,192.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	CAFETERIA	13W CFL Fixture	1	3380	43.94	\$6.6	None Proposed	1	3380	2366	None Proposed	0	0	13.182	2.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
High School - Interior	001	KITCHEN	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	4	3380	1514.24	\$227.1	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	454.272	68.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	KITCHEN	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BOILER ROOM	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	4	500	224	\$33.6	None Proposed	4	500	350	Ceiling Mounted Occupancy Sensor	1	0	67.2	10.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	BOILER ROOM	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	4	500	224	\$33.6	None Proposed	4	500	350	Ceiling Mounted Occupancy Sensor	1	0	67.2	10.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Interior	001	HALLWAY	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
High School - Exterior	001	EXTERIOR	250W MH Fixture	6	4368	7469.28	\$1,120.4	Replace 250W Fixture with LED Fixture	6	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	1.05	5451.264	817.7	\$0.0	\$390.0	\$137.0	\$103.0	\$73.5	\$527.0	\$3,338.5
High School - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	4	4368	1572.48	\$235.9	Replace 70W Fixture with LED Fixture	4	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	0.184	1034.3424	155.2	\$0.0	\$380.0	\$137.0	\$103.0	\$73.5	\$517.0	\$2,244.5
High School - Exterior	001	STORAGE TRAILER	2x4 Fixtures w/ 2-T12 Lamp Fixture w/ Magnetic Ballast	26	500	1112.8	\$166.9	Replace T12 Bulbs With 32W T8 Bulbs, Replace Ballast w/ High Perf., 0.78 Ballast Factor Ballast	26	500	350	Ceiling Mounted Occupancy Sensor	1	0.9074	651.43	97.7	\$70.0	\$10.0	\$65.0	\$103.0	\$73.5	\$145.0	\$3,946.5
High School - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	13	4368	5110.56	\$766.6	Replace 70W Fixture with LED Fixture	13	4368	3057.6	None Proposed	0	0.598	3361.6128	504.2	\$0.0	\$380.0	\$137.0	\$0.0	\$0.0	\$517.0	\$6,721.0
Town of Ocean Intermediate School - Interior	002	877	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	4	3380	343.408	\$51.5	None Proposed	4	3380	2366	None Proposed	0	0	103.0224	15.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	872	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	877	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	2	3380	171.704	\$25.8	None Proposed	2	3380	2366	None Proposed	0	0	51.5112	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	STAIRWELL	42W CFL Fixture	6	3380	993.72	\$149.1	None Proposed	6	3380	2366	None Proposed	0	0	298.116	44.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	LIBRARY BALCONY	42W CFL Fixture	79	3380	13083.98	\$1,962.6	None Proposed	79	3380	2366	None Proposed	0	0	3925.194	588.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	ROOF PENTHOUSE	300W Incandescent Fixture	4	3380	4056	\$608.4	Replace 300W Incandescent Fixture with 65W CFL	4	3380	2366	None Proposed	0	0.94	3440.84	516.1	\$0.0	\$39.0	\$4.0	\$0.0	\$0.0	\$43.0	\$171.8
Town of Ocean Intermediate School - Interior	002	ROOF PENTHOUSE	300W Incandescent Fixture	4	3380	4056	\$608.4	Replace 300W Incandescent Fixture with 65W CFL	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.94	3440.84	516.1	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$348.3
Town of Ocean Intermediate School - Interior	002	ROOF PENTHOUSE	300W Incandescent Fixture	4	3380	4056	\$608.4	Replace 300W Incandescent Fixture with 65W CFL	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.94	3440.84	516.1	\$0.0	\$39.0	\$4.0	\$103.0	\$73.5	\$43.0	\$348.3
Town of Ocean Intermediate School - Interior	002	MAIN OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$267.7	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	535.392	80.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	MAIN OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	MAIN OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	MAIN OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	610	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	610	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	710	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	710	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	810	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	810	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	610	65W Incandescent Fixture	5	3380	1098.5	\$164.8	Replace 65W Incandescent Fixture with 13W CFL	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.26	944.71	141.7	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$227.8
Town of Ocean Intermediate School - Interior	001	710	65W Incandescent Fixture	5	3380	1098.5	\$164.8	Replace 65W Incandescent Fixture with 13W CFL	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.26	944.71	141.7	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$227.8
Town of Ocean Intermediate School - Interior	001	810	65W Incandescent Fixture	5	3380	1098.5	\$164.8	Replace 65W Incandescent Fixture with 13W CFL	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0.26	944.71	141.7	\$0.0	\$6.3	\$4.0	\$103.0	\$73.5	\$10.3	\$227.8
Town of Ocean Intermediate School - Interior	001	600	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	612	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	601	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	TEACHERS BATHROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	12	500	152.4	\$22.9	None Proposed	12	500	350	Ceiling Mounted Occupancy Sensor	1	0	45.72	6.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	602	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	605	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	45	3380	7711.47	\$1,156.7	None Proposed	45	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2313.441	347.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	605	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	13	3380	1116.076	\$167.4	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	334.8228	50.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	708	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$154.2	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	46.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	604	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	45	3380	7711.47	\$1,156.7	None Proposed	45	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2313.441	347.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	604	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	704	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	45	3380	7711.47	\$1,156.7	None Proposed	45	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2313.441	347.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	704	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	804	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	45	3380	7711.47	\$1,156.7	None Proposed	45	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2313.441	347.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	804	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$334.2	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	668.3274	100.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	606	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	607	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	609	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	709	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	809	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	611	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$267.7	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	535.392	80.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MECH ROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	500	12.7	\$1.9	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	3.81	0.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	700	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	712	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	701	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	702	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	11	3380	3271.84	\$490.8	None Proposed	11	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	981.552	147.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	707	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MECH ROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	500	12.7	\$1.9	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	3.81	0.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	800	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	801	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	802	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	5	3380	1487.2	\$223.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	446.16	66.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	807	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	26W CFL Fixture	104	3380	9139.52	\$1,370.9	None Proposed	104	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2741.856	411.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	42W CFL Fixture	120	3380	19874.4	\$2,981.2	None Proposed	120	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	5962.32	894.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	21	3380	3598.686	\$539.8	None Proposed	21	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1079.6058	161.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	26W CFL Fixture	19	3380	1669.72	\$250.5	None Proposed	19	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	500.916	75.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	21	3380	3598.686	\$539.8	None Proposed	21	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1079.6058	161.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$616.9	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	185.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5		

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	16	3380	2741.856	\$411.3	None Proposed	16	3380	2366	None Proposed	0	0	822.5568	123.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	None Proposed	0	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	CAFETORIUM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	STAGE	42W CFL Fixture	4	3380	662.48	\$99.4	None Proposed	4	3380	2366	None Proposed	0	0	198.744	29.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	TEACHERS ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$359.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	108.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	209/210	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	27	3380	10221.12	\$1,533.2	None Proposed	27	3380	2366	None Proposed	0	0	3066.336	460.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	209/210	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	2	3380	757.12	\$113.6	None Proposed	2	3380	2366	None Proposed	0	0	227.136	34.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	209/210	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	5	3380	429.26	\$64.4	None Proposed	5	3380	2366	None Proposed	0	0	128.778	19.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	209/210	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	001	209/210	65W Incandescent Fixture	8	3380	1757.6	\$263.6	Replace 65W Incandescent Fixture with 13W CFL	8	3380	2366	None Proposed	0	0.416	1511.536	226.7	\$0.0	\$6.3	\$4.0	\$0.0	\$0.0	\$10.3	\$82.0
Town of Ocean Intermediate School - Interior	001	209/210	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	26W CFL Fixture	8	3380	703.04	\$105.5	None Proposed	8	3380	2366	None Proposed	0	0	210.912	31.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	GYM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	36	3380	13628.16	\$2,044.2	None Proposed	36	3380	2366	None Proposed	0	0	4088.448	613.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$385.6	None Proposed	15	3380	2366	None Proposed	0	0	771.147	115.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	WOMENS BATHROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	3	500	38.1	\$5.7	None Proposed	3	500	350	None Proposed	0	0	11.43	1.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	WOMENS BATHROOM	26W CFL Fixture	1	500	13	\$2.0	None Proposed	1	500	350	None Proposed	0	0	3.9	0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	208	26W CFL Fixture	5	3380	439.4	\$65.9	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	131.82	19.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HOME ECONOMICS 208	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	15	3380	5678.4	\$851.8	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1703.52	255.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	2	3380	171.704	\$25.8	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.5112	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LOCKER	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	LOCKER	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	37	3380	6340.542	\$951.1	None Proposed	37	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1902.1626	285.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	KITCHEN	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	2	3380	757.12	\$113.6	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	227.136	34.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MECH ROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	16	500	203.2	\$30.5	None Proposed	16	500	350	Ceiling Mounted Occupancy Sensor	1	0	60.96	9.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MECH ROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	12	500	152.4	\$22.9	None Proposed	12	500	350	Ceiling Mounted Occupancy Sensor	1	0	45.72	6.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	64	3380	10967.42	\$1,645.1	None Proposed	64	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	3290.2272	493.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$267.7	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	535.392	80.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	26W CFL Fixture	14	3380	1230.32	\$184.5	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	369.096	55.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	4	3380	343.408	\$51.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	103.0224	15.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	4	3380	343.408	\$51.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	103.0224	15.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	102	26W CFL Fixture	2	3380	175.76	\$26.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	52.728	7.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	AUX GYM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	40	3380	15142.4	\$2,271.4	None Proposed	40	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	4542.72	681.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	16	3380	4759.04	\$713.9	None Proposed	16	3380	2366	None Proposed	0	0	1427.712	214.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	300	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	16	3380	2741.856	\$411.3	None Proposed	16	3380	2366	None Proposed	0	0	822.5568	123.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	300	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	None Proposed	0	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	300	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	16	500	405.6	\$60.8	None Proposed	16	500	350	Ceiling Mounted Occupancy Sensor	1	0	121.68	18.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	32	3380	5483.712	\$822.6	None Proposed	32	3380	2366	None Proposed	0	0	1645.1136	246.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	None Proposed	0	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$128.5	None Proposed	5	3380	2366	None Proposed	0	0	257.049	38.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	304	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	ELECTRICAL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	001	NURSE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$359.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	108.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	NURSE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	NURSE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	NURSE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	BAND ROOM	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	BAND ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	29	3380	4969.614	\$745.4	None Proposed	29	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1490.8842	223.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	BAND ROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MUSIC	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	27	3380	4626.882	\$694.0	None Proposed	27	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1388.0646	208.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MUSIC	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	MUSIC	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	001	SUPERSKIN	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	9	3380	2676.96	\$401.5	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	803.088	120.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	8	4368	3144.96	\$471.7	Replace 70W Fixture with LED Fixture	8	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	0.368	2068.6848	310.3	\$0.0	\$380.0	\$137.0	\$103.0	\$73.5	\$517.0	\$4,312.5
Town of Ocean Intermediate School - Exterior	001	EXTERIOR	250W MH Fixture	6	4368	7469.28	\$1,120.4	Replace 250W Fixture with LED Fixture	6	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	1.05	5451.264	817.7	\$0.0	\$390.0	\$137.0	\$103.0	\$73.5	\$527.0	\$3,338.5
Town of Ocean Intermediate School - Exterior	001	EXTERIOR	26W CFL Fixture	1	4368	113.568	\$17.0	None Proposed	1	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	0	34.0704	5.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	20	3380	5948.8	\$892.3	None Proposed	20	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1784.64	267.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5212	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5226	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5225	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5210	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5224	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

[illegible]

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	002	654B	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$359.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	108.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	002	655	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	23	3380	3941.418	\$591.2	None Proposed	23	3380	2366	None Proposed	0	0	1182.4254	177.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	002	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	None Proposed	0	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Town of Ocean Intermediate School - Interior	002	656	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	657	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	658	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	5	3380	1487.2	\$223.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	446.16	66.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	STAIRWELL	26W CFL Fixture	6	3380	527.28	\$79.1	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	158.184	23.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	751	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	16	3380	6056.96	\$908.5	None Proposed	16	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1817.088	272.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	750	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	751	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	18	3380	5353.92	\$803.1	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1606.176	240.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	BATHROOM STAFF	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	None Proposed	0	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	BATHROOM MEN	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	9	500	114.3	\$17.1	None Proposed	9	500	350	None Proposed	0	0	34.29	5.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	BATHROOM MEN	42W CFL Fixture	1	500	24.5	\$3.7	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.35	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	500	253.5	\$38.0	None Proposed	10	500	350	Ceiling Mounted Occupancy Sensor	1	0	76.05	11.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	752	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	766	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	10	3380	3785.6	\$567.8	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1135.68	170.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	766	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380</																		

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	002	869	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$257.0	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	77.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	852	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	866	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	16	3380	6056.96	\$908.5	None Proposed	16	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1817.088	272.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	866	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	853	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	21	3380	3598.686	\$539.8	None Proposed	21	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1079.6058	161.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	854	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	28	3380	4798.248	\$719.7	None Proposed	28	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1439.4744	215.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	855	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	28	3380	4798.248	\$719.7	None Proposed	28	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1439.4744	215.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	850	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	23	3380	3941.418	\$591.2	None Proposed	23	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1182.4254	177.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	9	3380	2676.96	\$401.5	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	803.088	120.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	856	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	21	3380	3598.686	\$539.8	None Proposed	21	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1079.6058	161.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	857	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	858	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	23	3380	3941.418	\$591.2	None Proposed	23	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1182.4254	177.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	856	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	3380	85.852	\$12.9	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	25.7556	3.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	MECH ROOM	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	4	500	50.8	\$7.6	None Proposed	4	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.24	2.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	ART 877	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	23	3380	3941.418	\$591.2	None Proposed	23	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1182.4254	177.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	501	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	503	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5104	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	3380	2379.52	\$356.9	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	713.856	107.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5126	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	14	3380	4164.16	\$624.6	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1249.248	187.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	X111	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	15	3380	4461.6	\$669.2	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1338.48	200.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	X08	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	X09 MUSIC	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	24	3380	7138.56	\$1,070.8	None Proposed	24	3380	2366	None Proposed	0	0	2141.568	321.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	HALL	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	BATHROOM MEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	Ceiling Mounted Occupancy Sensor	1	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	FACULTY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	None Proposed	0	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5129	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	None Proposed	0	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	BATHROOM WOMEN	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	5	500	220	\$33.0	None Proposed	5	500	350	None Proposed	0	0	66	9.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5130	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5131	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	3380	297.44	\$44.6	None Proposed	1	3380	2366	None Proposed	0	0	89.232	13.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	HUB	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5133	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	None Proposed	0	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5112	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5134	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	9	3380	2676.96	\$401.5	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	803.088	120.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5113	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	9	3380	2676.96	\$401.5	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	803.088	120.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Town of Ocean Intermediate School - Interior	002	5135	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5114	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5115	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5236	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	3	3380	892.32	\$133.8	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	267.696	40.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	BOILER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	500	177.45	\$26.6	None Proposed	7	500	350	Ceiling Mounted Occupancy Sensor	1	0	53.235	8.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5116	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	BOYS LOCKER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	GIRLS LOCKER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	GUIDANCE OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	5148	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5149	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	13	3380	3866.72	\$580.0	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1160.016	174.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	BOYS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	Ceiling Mounted Occupancy Sensor	1	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Town of Ocean Intermediate School - Interior	002	GIRLS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$15.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	GYM	42W CFL Fixture	24	3380	3974.88	\$596.2	None Proposed	24	3380	2366	None Proposed	0	0	1192.464	178.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	002	5142	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	None Proposed	0	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Town of Ocean Intermediate School - Interior	00																						

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total	
Ocean Township Elementary School - Interior	002	207	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	209	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	TEACHERS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$137.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	257.049	41.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	TEACHERS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	208	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	211	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	210	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	213	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	212	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	None Proposed	0	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	215	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	214	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	217	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	STAIRWELL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$54.8	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	16.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	216	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	STAIRWELL	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	218	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$571.1	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	171.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	002	MS. BUHAM	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$571.1	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	171.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	STAIRWELL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	002	MS. ZORMI	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	HALL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	30	3380	5140.98	\$822.6	None Proposed	30	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1542.294	246.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	116	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	117	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	114	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	115	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	112	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	113	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	110	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	111	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	108	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$109.7	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	32.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	109	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	107	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	MENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	WOMENS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	GUIDANCE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Ocean Township Elementary School - Interior	001	105	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Ocean Township Elementary School - Interior	001	106	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	103	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$383.9	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	719.7372	115.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	101	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	HALL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	HALL	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$109.7	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	32.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	20	3380	3427.32	\$548.4	None Proposed	20	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1028.196	164.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	26W CFL Fixture	7	3380	615.16	\$98.4	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	184.548	29.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	26	3380	4455.516	\$712.9	None Proposed	26	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1336.6548	213.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	26W CFL Fixture	5	3380	439.4	\$70.3	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	131.82	21.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	LIBRARY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	3380	297.44	\$47.6	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	89.232	14.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	BOILER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	500	202.8	\$32.4	None Proposed	8	500	350	None Proposed	0	0	60.84	9.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	BOILER ROOM	26W CFL Fixture	1	500	13	\$2.1	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	3.9	0.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	000	BASEMENT	26W CFL Fixture	7	3380	615.16	\$98.4	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	184.548	29.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	000	BASEMENT	26W CFL Fixture	10	3380	878.8	\$140.6	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	263.64	42.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	000	BASEMENT	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	None Proposed	0	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	000	BASEMENT	26W CFL Fixture	1	3380	87.88	\$14.1	None Proposed	1	3380	2366	None Proposed	0	0	26.364	4.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	000	BASEMENT	42W CFL Fixture	1	3380	165.62	\$26.5	None Proposed	1	3380	2366	None Proposed	0	0	49.686	7.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	NURSE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	None Proposed	0	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	NURSE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	MAIN OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$109.7	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	32.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	GUIDANCE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	CONFERENCE ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	16	3380	2741.856	\$438.7	None Proposed	16	3380	2366	None Proposed	0	0	822.5568	131.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	MAIN OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	22	3380	3770.052	\$603.2	None Proposed	22	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1131.0156	181.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	CHILD STUDY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	GYM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	20	3380	7571.2	\$1,211.4	None Proposed	20	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	2271.36	363.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	GYM OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$164.5	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	49.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	STAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$274.2	None Proposed	10	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	514.098	82.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$329.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	98.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$4.1	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$27.4	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	8.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	STORAGE	13W CFL Fixture	1	500	6.5	\$1.0	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	1.95	0.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	OFFICE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$54.8	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	16.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$54.8	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	16.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	MS. MURPHY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$137.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	257.049	41.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Ocean Township Elementary School - Interior	001	MS. MURPHY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$571.1	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	171.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	3380	2227.758	\$356.4	None Proposed	13	3380	2366	None Proposed	0	0	668.3274	106.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	MS. THORNE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	15	3380	2570.49	\$411.3	None Proposed	15	3380	2366	None Proposed	0	0	771.147	123.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$4.1	None Proposed	1	500	350	None Proposed	0	0	7.605	1.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	10	3380	1713.66	\$274.2	None Proposed	10	3380	2366	None Proposed	0	0	514.098	82.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	KITCHEN	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$82.3	None Proposed	3	3380	2366	None Proposed	0	0	154.2294	24.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	KITCHEN	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$54.8	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	16.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	CAFETERIA	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$54.8	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	16.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	BATHROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$8.1	None Proposed	2	500	350	None Proposed	0	0	15.21	2.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ocean Township Elementary School - Interior	001	BATHROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$8.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$8.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$8.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$8.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Exterior	001	EXTERIOR	13W CFL Fixture	14	4368	794.976	\$127.2	None Proposed	14	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	0	238.4928	38.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Ocean Township Elementary School - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	2	4368	786.24	\$125.8	Replace 70W Fixture with LED Fixture	2	4368	3057.6	None Proposed	0	0.092	517.1712	82.7	\$0.0	\$380.0	\$137.0	\$0.0	\$0.0	\$517.0	\$1,034.0
Ocean Township Elementary School - Exterior	001	EXTERIOR	250W MH Fixture	3	4368	3734.64	\$597.5	Replace 250W Fixture with LED Fixture	3	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	0.525	2725.632	436.1	\$0.0	\$390.0	\$137.0	\$103.0	\$73.5	\$527.0	\$1,757.5
Wanamassa - Interior	001	BOILER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	500	152.1	\$22.8	None Proposed	6	500	350	Ceiling Mounted Occupancy Sensor	1	0	45.63	6.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	16	3380	4759.04	\$713.9	None Proposed	16	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1427.712	214.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	LIBRARY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	21	3380	6246.24	\$936.9	None Proposed	21	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1873.872	281.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	LIBRARY	26W CFL Fixture	6	3380	527.28	\$79.1	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	158.184	23.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	LIBRARY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	LIBRARY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	9	3380	1542.294	\$231.3	None Proposed	9	3380	2366	None Proposed	0	0	462.6882	69.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	LIBRARY	26W CFL Fixture	6	3380	527.28	\$79.1	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	158.184	23.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	LIBRARY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	5	3380	1487.2	\$223.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	446.16	66.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	108	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	MENS BATHROOM	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	BACK ROOM	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	500	352	\$52.8	None Proposed	8	500	350	None Proposed	0	0	105.6	15.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	STORAGE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	500	88	\$13.2	None Proposed	2	500	350	None Proposed	0	0	26.4	4.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	GIRLS BATHROOM	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	105	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	104	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	112	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	113	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	102	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	103	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	110	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Wanamassa - Interior	001	111	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$535.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	160.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	BATHROOM	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	500	44	\$6.6	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	13.2	2.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	115	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	None Proposed	0	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	5	3380	1487.2	\$223.1	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	446.16	66.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	3380	297.44	\$44.6	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	89.232	13.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	4	3380	1189.76	\$178.5	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	356.928	53.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	22	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	16	3380	2741.856	\$411.3	None Proposed	16	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	822.5568	123.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	21A	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	21	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	MENS BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	500	152.1	\$22.8	None Proposed	6	500	350	None Proposed	0	0	45.63	6.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	WOMENS BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	500	152.1	\$22.8	None Proposed	6	500	350	Ceiling Mounted Occupancy Sensor	1	0	45.63	6.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	20	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	CAFETERIA	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	None Proposed	0	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	ART ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	25	3380	4284.15	\$642.6	None Proposed	25	3380	2366	None Proposed	0	0	1285.245	192.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	MUSIC	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	HALL	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$128.5	None Proposed	5	3380	2366	None Proposed	0	0	257.049	38.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	CUSTODIANS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	500	126.75	\$19.0	None Proposed	5	500	350	None Proposed	0	0	38.025	5.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	23	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	19	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	14	3380	2399.124	\$359.9	None Proposed	14	3380	2366	None Proposed	0	0	719.7372	108.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	WOMENS BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	500	202.8	\$30.4	None Proposed	8	500	350	Ceiling Mounted Occupancy Sensor	1	0	60.84	9.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	18	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	12	3380	2056.392	\$308.5	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	616.9176	92.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	17	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	17	3380	2913.222	\$437.0	None Proposed	17	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	873.9666	131.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$77.1	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	23.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	26W CFL Fixture	7	3380	615.16	\$92.3	None Proposed	7	3380	2366	None Proposed	0	0	184.548	27.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	CLOSET	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	26W CFL Fixture	9	3380	790.92	\$118.6	None Proposed	9	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	237.276	35.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	HALLWAY	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	CLOSET	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	HALLWAY	26W CFL Fixture	7	3380	615.16	\$92.3	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	184.548	27.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	HALLWAY	1X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	1	3380	378.56	\$56.8	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	113.568	17.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	HALLWAY	1X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	15	3380	4461.6	\$669.2	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1338.48	200.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Wanamassa - Interior	002	5	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Wanamassa - Interior	002	6	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	HALLWAY	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$179.9	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	359.8686	54.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	4	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	3	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	2	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	2	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	None Proposed	0	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	CLOSET	26W CFL Fixture	1	500	13	\$2.0	None Proposed	1	500	350	None Proposed	0	0	3.9	0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	1	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	8	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	7	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	18	3380	3084.588	\$462.7	None Proposed	18	3380	2366	None Proposed	0	0	925.3764	138.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	TEACHERS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$205.6	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	61.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	TEACHERS	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$102.8	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	205.6392	30.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	TEACHERS	26W CFL Fixture	1	3380	87.88	\$13.2	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	26.364	4.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$89.2	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	26.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	CAFETERIA	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$681.4	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	204.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	STAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$25.7	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	002	STAGE	65W Incandescent Fixture	7	3380	1537.9	\$230.7	Replace 65W Incandescent Fixture with 13W CFL	7	3380	2366	Ceiling Mounted Occupancy Sensor											

Appendix D - Lighting Upgrades

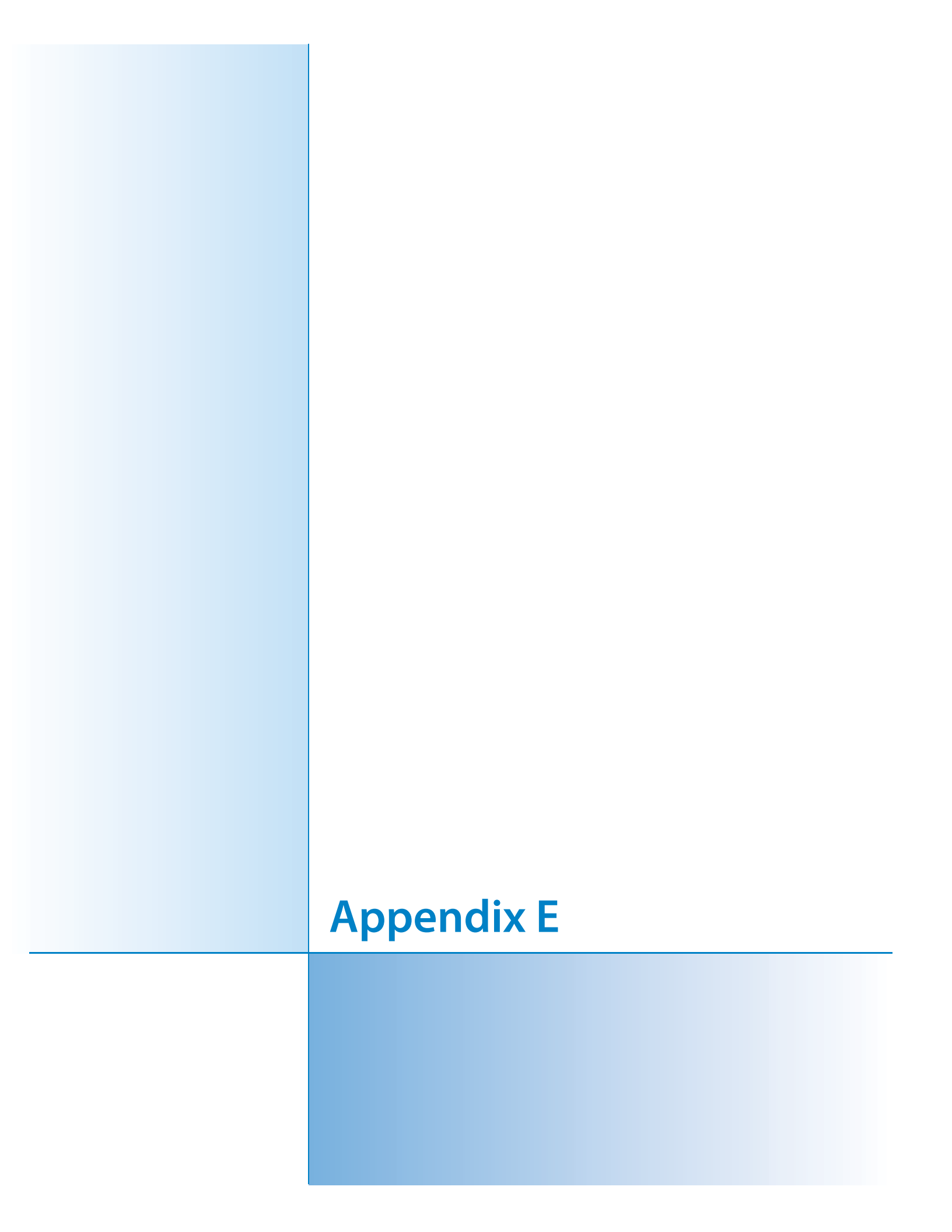
Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Wanamassa - Interior	002	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	GIRLS BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	None Proposed	0	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	BOYS BATHROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	500	76.05	\$11.4	None Proposed	3	500	350	Ceiling Mounted Occupancy Sensor	1	0	22.815	3.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	K-1	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	13	3380	3866.72	\$580.0	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1160.016	174.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	K-1	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	K-2	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	13	3380	3866.72	\$580.0	None Proposed	13	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1160.016	174.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	K-2	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$51.4	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	15.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	001	K-2	26W CFL Fixture	3	3380	263.64	\$39.5	None Proposed	3	3380	2366	None Proposed	0	0	79.092	11.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wanamassa - Interior	001	K-1	26W CFL Fixture	3	3380	263.64	\$39.5	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	79.092	11.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	BOILER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	13	500	329.55	\$49.4	None Proposed	13	500	350	Ceiling Mounted Occupancy Sensor	1	0	98.865	14.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Interior	002	BOILER ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.6	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.3	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wanamassa - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	23	4368	9041.76	\$1,356.3	Replace 70W Fixture with LED Fixture	23	4368	3057.6	Ceiling Mounted Occupancy Sensor	1	1,058	5947.4688	892.1	\$0.0	\$380.0	\$137.0	\$103.0	\$73.5	\$517.0	\$12,067.5
Wayside - Interior	001	CAFETORIUM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	14	3380	5299.84	\$742.0	None Proposed	14	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1589.952	222.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	GYM	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	15	3380	5678.4	\$795.0	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1703.52	238.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MECH ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.5	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	STORAGE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	500	44	\$6.2	None Proposed	1	500	350	None Proposed	0	0	13.2	1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.5	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	GYM OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$83.3	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	25.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	GYM BATHROOM	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.5	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	STORAGE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.5	None Proposed	1	500	350	None Proposed	0	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	STORAGE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	1	500	44	\$6.2	None Proposed	1	500	350	None Proposed	0	0	13.2	1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	GYM OFFICE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$83.3	None Proposed	2	3380	2366	None Proposed	0	0	178.464	25.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	GYM OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.1	None Proposed	2	500	350	None Proposed	0	0	15.21	2.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	500	101.4	\$14.2	None Proposed	4	500	350	None Proposed	0	0	30.42	4.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	STAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$575.8	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	172.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	HALL	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$83.3	None Proposed	2	3380	2366	None Proposed	0	0	178.464	25.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	MUSIC	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	15	3380	5678.4	\$795.0	None Proposed	15	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1703.52	238.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	608	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	2	3380	594.88	\$83.3	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	178.464	25.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	8	3380	2379.52	\$333.1	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	713.856	99.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	BOYS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	GIRLS ROOM	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	500	50.7	\$7.1	None Proposed	2	500	350	Ceiling Mounted Occupancy Sensor	1	0	15.21	2.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	HALLWAY	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	2	3380	757.12	\$106.0	None Proposed	2	3380	2366	None Proposed	0	0	227.136	31.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	CUSTODIANS	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	500	12.7	\$1.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	3.81	0.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	STORAGE	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	500	25.35	\$3.5	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	7.605	1.1	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	301	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Wayside - Interior	001	306	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	300	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	24	3380	4112.784	\$575.8	None Proposed	24	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1233.8352	172.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	300	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	5	3380	856.83	\$120.0	None Proposed	5	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	257.049	36.0	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	307	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	308	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	None Proposed	0	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	309	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	4	3380	1514.24	\$212.0	None Proposed	4	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	454.272	63.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	301	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	307	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	302	13W CFL Fixture	2	3380	87.88	\$12.3	None Proposed	2	3380	2366	None Proposed	0	0	26.364	3.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$249.8	None Proposed	6	3380	2366	None Proposed	0	0	535.392	75.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	303	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	None Proposed	0	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	304	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	None Proposed	0	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	HALL	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	6	3380	1784.64	\$249.8	None Proposed	6	3380	2366	None Proposed	0	0	535.392	75.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	CUSTODIANS	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	500	12.7	\$1.8	None Proposed	1	500	350	None Proposed	0	0	3.81	0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	HALLWAY	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	8	3380	1370.928	\$191.9	None Proposed	8	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	411.2784	57.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	606	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	15	3380	5678.4	\$795.0	None Proposed	15	3380	2366	None Proposed	0	0	1703.52	238.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	606	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	606	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	2	3380	757.12	\$106																

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total
Wayside - Interior	001	NURSE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Wayside - Interior	001	MAIN OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	4	3380	685.464	\$96.0	None Proposed	4	3380	2366	None Proposed	0	0	205.6392	28.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	7	3380	1199.562	\$167.9	None Proposed	7	3380	2366	None Proposed	0	0	359.8686	50.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$48.0	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	14.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	None Proposed	0	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$72.0	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	21.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$72.0	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	21.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	3	3380	514.098	\$72.0	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	154.2294	21.6	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	6	3380	1028.196	\$143.9	None Proposed	6	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	308.4588	43.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$48.0	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	14.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$48.0	None Proposed	2	3380	2366	None Proposed	0	0	102.8196	14.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	MAIN OFFICE	2X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	2	3380	342.732	\$48.0	None Proposed	2	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	102.8196	14.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	722	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	12	3380	4542.72	\$636.0	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1362.816	190.8	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	722	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	3	3380	1135.68	\$159.0	None Proposed	3	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	340.704	47.7	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	722	2X2 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	722	1X4 Fixtures w/ 2-T8 Lamps w/ Electronic Ballasts	1	3380	171.366	\$24.0	None Proposed	1	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	51.4098	7.2	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	CUSTODIAN	1X4 Fixtures w/ 1-T8 Lamps w/ Electronic Ballasts	1	500	12.7	\$1.8	None Proposed	1	500	350	Ceiling Mounted Occupancy Sensor	1	0	3.81	0.5	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5
Wayside - Interior	001	721	2X4 Fixtures w/ 4-T8 Lamps w/ Electronic Ballasts	15	3380	5678.4	\$795.0	None Proposed	15														

Appendix D - Lighting Upgrades

Building	Floor	Location/Room #	Existing Fixture/Lamp & Ballast Description	Qty of Existing Fixtures	Operating Hours	Existing kWh	Existing Annual Energy Cost	Proposed Replacement Solution	Qty of Proposed Fixtures	Proposed Operational Hours Without Sensors	Proposed Operational Hours With Sensors	Proposed Occupancy Sensor Type	Occupancy Sensor Quantity	Total kW Saved	Total kWh Saved	Energy Cost Savings	Ballast/Fixture/Reflector Per Unit Price	Bulb (Per Unit Price)	Labor (Per Unit Price)	Occupancy Sensor (Per Unit Price)	Occupancy Sensor (Per Unit Labor Price)	Labor & Materials Subtotal	Labor & Materials Total	
Wayside - Interior	001	PHYSICAL THERAPY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MS. BRAMICAN	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MS. WAYNE	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	410	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MS. BRAUITGA	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	HALLWAY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	7	3380	2082.08	\$291.5	None Proposed	7	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	624.624	87.4	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MR. MCGURTY	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MS. MCCONILA	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	Ceiling Mounted Occupancy Sensor	1	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$103.0	\$73.5	\$0.0	\$176.5	
Wayside - Interior	001	MRS. WB HEARTS	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Interior	001	MRS DOYLA	2X4 Fixtures w/ 3-T8 Lamps w/ Electronic Ballasts	12	3380	3569.28	\$499.7	None Proposed	12	3380	2366	None Proposed	0	0	1070.784	149.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wayside - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	37	4368	14545.44	\$2,036.4	Replace 70W Fixture with LED Fixture	37	4368	3057.6	None Proposed	0	1.702	9567.6672	1,339.5	\$0.0	\$380.0	\$137.0	\$0.0	\$0.0	\$517.0	\$19,129.0	
Wayside - Exterior	001	EXTERIOR	150W Incandescent Fixture	1	4368	655.2	\$91.7	Replace 150W Incandescent Fixture with 25W CFL	1	4368	3057.6	None Proposed	0	0.125	578.76	81.0	\$0.0	\$7.0	\$4.0	\$0.0	\$0.0	\$11.0	\$11.0	
Administration - Exterior	001	EXTERIOR	Exterior Wall Packs (Assume 70w)	3	4368	1179.36	\$212.3	Replace 70W Fixture with LED Fixture	3	4368	3057.6	None Proposed	0	0.138	775.7568	139.6	\$0.0	\$380.0	\$137.0	\$0.0	\$0.0	\$517.0	\$1,551.0	

The graphic consists of a large light blue rectangle on the left side of the page. A horizontal line extends from the right edge of this rectangle across the page. A vertical line extends from the bottom of the light blue rectangle down to the bottom of the page. These two lines intersect at the bottom right corner of the light blue rectangle, forming an L-shape. The text "Appendix E" is positioned at this intersection point, with the "A" and "E" partially overlapping the light blue area and the "ppendix" part on the white background.

Appendix E

Administration

Existing Conditions

Current Utility Price (\$/kWh)	0.18
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

Solar Rating - Zip Code: 8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)	75
Roof Space Needed (sq-ft)	7,500.00
Annual Solar kWh (PV Watts)	91,950
Net System installation Cost (\$9/kWh)	\$675,000
Electrical Service Modification Cost	\$100,000
Total System Installation Cost	\$775,000
Materials	\$542,500
Labor	\$232,500
Engineers Opinion of Probable Cost	\$968,750

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1800	91,950.0	\$16,551.0	\$27,585	(\$1,839)	\$42,297.0	\$42,297.0	\$0.300	
2	0.1854	91,490.3	\$16,962.3	\$27,447	(\$1,830)	\$42,579.6	\$84,876.6	\$0.300	
3	0.1910	91,032.8	\$17,383.8	\$27,310	(\$1,821)	\$42,873.0	\$127,749.6	\$0.300	
4	0.1967	90,577.6	\$17,815.8	\$27,173	(\$1,812)	\$43,177.5	\$170,927.1	\$0.300	
5	0.2026	90,124.7	\$18,258.5	\$27,037	(\$1,802)	\$43,493.4	\$214,420.5	\$0.300	
6	0.2087	89,674.1	\$18,712.2	\$26,902	(\$1,793)	\$43,821.0	\$258,241.5	\$0.300	
7	0.2149	89,225.8	\$19,177.2	\$26,768	(\$1,785)	\$44,160.4	\$302,402.0	\$0.300	
8	0.2214	88,779.6	\$19,653.8	\$26,634	(\$1,776)	\$44,512.1	\$346,914.1	\$0.300	
9	0.2280	88,335.7	\$20,142.2	\$26,501	(\$1,767)	\$44,876.2	\$391,790.2	\$0.300	
10	0.2349	87,894.0	\$20,642.7	\$26,368	(\$1,758)	\$45,253.1	\$437,043.3	\$0.300	
11	0.2419	87,454.6	\$21,155.7	\$26,236	(\$1,749)	\$45,643.0	\$482,686.3	\$0.300	
12	0.2492	87,017.3	\$21,681.4	\$26,105	(\$1,740)	\$46,046.3	\$528,732.5	\$0.300	
13	0.2566	86,582.2	\$22,220.2	\$25,975	(\$1,732)	\$46,463.2	\$575,195.8	\$0.300	
14	0.2643	86,149.3	\$22,772.4	\$25,845	(\$1,723)	\$46,894.2	\$622,089.9	\$0.300	
15	0.2723	85,718.6	\$23,338.3	\$25,716	(\$1,714)	\$47,339.5	\$669,429.4	\$0.300	
16	0.2804	85,290.0	\$23,918.2	\$2,132	(\$1,706)	\$24,344.7	\$693,774.1		\$0.025
17	0.2888	84,863.5	\$24,512.6	\$2,122	(\$1,697)	\$24,936.9	\$718,711.0		\$0.025
18	0.2975	84,439.2	\$25,121.7	\$2,111	(\$1,689)	\$25,543.9	\$744,254.9		\$0.025
19	0.3064	84,017.0	\$25,746.0	\$2,100	(\$1,680)	\$26,166.1	\$770,421.0		\$0.025
20	0.3156	83,596.9	\$26,385.8	\$2,090	(\$1,672)	\$26,803.8	\$797,224.7		\$0.025
21	0.3251	83,178.9	\$27,041.5	\$2,079	(\$1,664)	\$27,457.4	\$824,682.1		\$0.025
22	0.3349	82,763.0	\$27,713.5	\$2,069	(\$1,655)	\$28,127.3	\$852,809.4		\$0.025
23	0.3449	82,349.2	\$28,402.1	\$2,059	(\$1,647)	\$28,813.9	\$881,623.3		\$0.025
24	0.3552	81,937.5	\$29,107.9	\$2,048	(\$1,639)	\$29,517.6	\$911,140.9		\$0.025
25	0.3659	81,527.8	\$29,831.3	\$2,038	(\$1,631)	\$30,238.9	\$941,379.8		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

High School

Existing Conditions

Current Utility Price (\$/kWh)	0.15
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

Solar Rating - Zip Code: 8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)	180
Roof Space Needed (sq-ft)	18,000.00
Annual Solar kWh (PV Watts)	220,680
Net System installation Cost (\$9/kWh)	\$1,620,000
Electrical Service Modification Cost	\$100,000
Total System Installation Cost	\$1,720,000
Materials	\$1,204,000
Labor	\$516,000
Engineers Opinion of Probable Cost	\$2,150,000

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1500	220,680.0	\$33,102.0	\$66,204	(\$4,414)	\$94,892.4	\$94,892.4	\$0.300	
2	0.1545	219,576.6	\$33,924.6	\$65,873	(\$4,392)	\$95,406.0	\$190,298.4	\$0.300	
3	0.1591	218,478.7	\$34,767.6	\$65,544	(\$4,370)	\$95,941.7	\$286,240.1	\$0.300	
4	0.1639	217,386.3	\$35,631.6	\$65,216	(\$4,348)	\$96,499.8	\$382,739.8	\$0.300	
5	0.1688	216,299.4	\$36,517.0	\$64,890	(\$4,326)	\$97,080.9	\$479,820.7	\$0.300	
6	0.1739	215,217.9	\$37,424.5	\$64,565	(\$4,304)	\$97,685.5	\$577,506.2	\$0.300	
7	0.1791	214,141.8	\$38,354.5	\$64,243	(\$4,283)	\$98,314.2	\$675,820.4	\$0.300	
8	0.1845	213,071.1	\$39,307.6	\$63,921	(\$4,261)	\$98,967.5	\$774,787.9	\$0.300	
9	0.1900	212,005.7	\$40,284.4	\$63,602	(\$4,240)	\$99,646.0	\$874,433.9	\$0.300	
10	0.1957	210,945.7	\$41,285.4	\$63,284	(\$4,219)	\$100,350.2	\$974,784.1	\$0.300	
11	0.2016	209,891.0	\$42,311.4	\$62,967	(\$4,198)	\$101,080.9	\$1,075,865.0	\$0.300	
12	0.2076	208,841.5	\$43,362.8	\$62,652	(\$4,177)	\$101,838.5	\$1,177,703.4	\$0.300	
13	0.2139	207,797.3	\$44,440.4	\$62,339	(\$4,156)	\$102,623.6	\$1,280,327.1	\$0.300	
14	0.2203	206,758.3	\$45,544.7	\$62,028	(\$4,135)	\$103,437.1	\$1,383,764.1	\$0.300	
15	0.2269	205,724.5	\$46,676.5	\$61,717	(\$4,114)	\$104,279.4	\$1,488,043.5	\$0.300	
16	0.2337	204,695.9	\$47,836.4	\$5,117	(\$4,094)	\$48,859.9	\$1,536,903.4		\$0.025
17	0.2407	203,672.4	\$49,025.2	\$5,092	(\$4,073)	\$50,043.5	\$1,586,947.0		\$0.025
18	0.2479	202,654.1	\$50,243.4	\$5,066	(\$4,053)	\$51,256.7	\$1,638,203.7		\$0.025
19	0.2554	201,640.8	\$51,492.0	\$5,041	(\$4,033)	\$52,500.2	\$1,690,703.9		\$0.025
20	0.2630	200,632.6	\$52,771.6	\$5,016	(\$4,013)	\$53,774.7	\$1,744,478.6		\$0.025
21	0.2709	199,629.4	\$54,082.9	\$4,991	(\$3,993)	\$55,081.1	\$1,799,559.7		\$0.025
22	0.2790	198,631.3	\$55,426.9	\$4,966	(\$3,973)	\$56,420.1	\$1,855,979.8		\$0.025
23	0.2874	197,638.1	\$56,804.3	\$4,941	(\$3,953)	\$57,792.5	\$1,913,772.2		\$0.025
24	0.2960	196,649.9	\$58,215.9	\$4,916	(\$3,933)	\$59,199.1	\$1,972,971.4		\$0.025
25	0.3049	195,666.7	\$59,662.5	\$4,892	(\$3,913)	\$60,640.8	\$2,033,612.2		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

Town of Ocean Intermediate School

Existing Conditions

Current Utility Price (\$/kWh)	0.15
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

Solar Rating - Zip Code: 8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)	320
Roof Space Needed (sq-ft)	32,000.00
Annual Solar kWh (PV Watts)	392,320
Net System installation Cost (\$9/kWh)	\$2,880,000
Electrical Service Modification Cost	\$100,000
Total System Installation Cost	\$2,980,000
Materials	\$2,086,000
Labor	\$894,000
Engineers Opinion of Probable Cost	\$3,725,000

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1500	392,320.0	\$58,848.0	\$117,696	(\$7,846)	\$168,697.6	\$168,697.6	\$0.300	
2	0.1545	390,358.4	\$60,310.4	\$117,108	(\$7,807)	\$169,610.7	\$338,308.3	\$0.300	
3	0.1591	388,406.6	\$61,809.1	\$116,522	(\$7,768)	\$170,562.9	\$508,871.3	\$0.300	
4	0.1639	386,464.6	\$63,345.0	\$115,939	(\$7,729)	\$171,555.1	\$680,426.4	\$0.300	
5	0.1688	384,532.3	\$64,919.2	\$115,360	(\$7,691)	\$172,588.2	\$853,014.6	\$0.300	
6	0.1739	382,609.6	\$66,532.4	\$114,783	(\$7,652)	\$173,663.1	\$1,026,677.7	\$0.300	
7	0.1791	380,696.5	\$68,185.7	\$114,209	(\$7,614)	\$174,780.8	\$1,201,458.4	\$0.300	
8	0.1845	378,793.1	\$69,880.2	\$113,638	(\$7,576)	\$175,942.2	\$1,377,400.7	\$0.300	
9	0.1900	376,899.1	\$71,616.7	\$113,070	(\$7,538)	\$177,148.4	\$1,554,549.1	\$0.300	
10	0.1957	375,014.6	\$73,396.3	\$112,504	(\$7,500)	\$178,400.4	\$1,732,949.5	\$0.300	
11	0.2016	373,139.5	\$75,220.2	\$111,942	(\$7,463)	\$179,699.3	\$1,912,648.8	\$0.300	
12	0.2076	371,273.8	\$77,089.5	\$111,382	(\$7,425)	\$181,046.1	\$2,093,695.0	\$0.300	
13	0.2139	369,417.5	\$79,005.1	\$110,825	(\$7,388)	\$182,442.0	\$2,276,137.0	\$0.300	
14	0.2203	367,570.4	\$80,968.4	\$110,271	(\$7,351)	\$183,888.1	\$2,460,025.1	\$0.300	
15	0.2269	365,732.5	\$82,980.5	\$109,720	(\$7,315)	\$185,385.6	\$2,645,410.7	\$0.300	
16	0.2337	363,903.9	\$85,042.6	\$9,098	(\$7,278)	\$86,862.1	\$2,732,272.8		\$0.025
17	0.2407	362,084.3	\$87,155.9	\$9,052	(\$7,242)	\$88,966.3	\$2,821,239.1		\$0.025
18	0.2479	360,273.9	\$89,321.7	\$9,007	(\$7,205)	\$91,123.1	\$2,912,362.1		\$0.025
19	0.2554	358,472.5	\$91,541.3	\$8,962	(\$7,169)	\$93,333.7	\$3,005,695.8		\$0.025
20	0.2630	356,680.2	\$93,816.1	\$8,917	(\$7,134)	\$95,599.5	\$3,101,295.3		\$0.025
21	0.2709	354,896.8	\$96,147.5	\$8,872	(\$7,098)	\$97,921.9	\$3,199,217.3		\$0.025
22	0.2790	353,122.3	\$98,536.7	\$8,828	(\$7,062)	\$100,302.3	\$3,299,519.6		\$0.025
23	0.2874	351,356.7	\$100,985.4	\$8,784	(\$7,027)	\$102,742.1	\$3,402,261.8		\$0.025
24	0.2960	349,599.9	\$103,494.8	\$8,740	(\$6,992)	\$105,242.8	\$3,507,504.6		\$0.025
25	0.3049	347,851.9	\$106,066.7	\$8,696	(\$6,957)	\$107,806.0	\$3,615,310.6		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

Ocean Township Elementary School

Existing Conditions

Current Utility Price (\$/kWh)	0.16
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

Solar Rating - Zip Code: 8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)	250
Roof Space Needed (sq-ft)	25,000.00
Annual Solar kWh (PV Watts)	306,500
Net System installation Cost (\$9/kWh)	\$2,250,000
Electrical Service Modification Cost	\$100,000
Total System Installation Cost	\$2,350,000
Materials	\$1,645,000
Labor	\$705,000
Engineers Opinion of Probable Cost	\$2,937,500

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1600	306,500.0	\$49,040.0	\$91,950	(\$6,130)	\$134,860.0	\$134,860.0	\$0.300	
2	0.1648	304,967.5	\$50,258.6	\$91,490	(\$6,099)	\$135,649.5	\$270,509.5	\$0.300	
3	0.1697	303,442.7	\$51,507.6	\$91,033	(\$6,069)	\$136,471.5	\$406,981.1	\$0.300	
4	0.1748	301,925.4	\$52,787.5	\$90,578	(\$6,039)	\$137,326.7	\$544,307.7	\$0.300	
5	0.1801	300,415.8	\$54,099.3	\$90,125	(\$6,008)	\$138,215.7	\$682,523.5	\$0.300	
6	0.1855	298,913.7	\$55,443.7	\$89,674	(\$5,978)	\$139,139.5	\$821,663.0	\$0.300	
7	0.1910	297,419.2	\$56,821.4	\$89,226	(\$5,948)	\$140,098.8	\$961,761.8	\$0.300	
8	0.1968	295,932.1	\$58,233.5	\$88,780	(\$5,919)	\$141,094.4	\$1,102,856.2	\$0.300	
9	0.2027	294,452.4	\$59,680.6	\$88,336	(\$5,889)	\$142,127.2	\$1,244,983.5	\$0.300	
10	0.2088	292,980.2	\$61,163.6	\$87,894	(\$5,860)	\$143,198.1	\$1,388,181.5	\$0.300	
11	0.2150	291,515.3	\$62,683.5	\$87,455	(\$5,830)	\$144,307.8	\$1,532,489.4	\$0.300	
12	0.2215	290,057.7	\$64,241.2	\$87,017	(\$5,801)	\$145,457.4	\$1,677,946.7	\$0.300	
13	0.2281	288,607.4	\$65,837.6	\$86,582	(\$5,772)	\$146,647.7	\$1,824,594.4	\$0.300	
14	0.2350	287,164.4	\$67,473.7	\$86,149	(\$5,743)	\$147,879.7	\$1,972,474.1	\$0.300	
15	0.2420	285,728.5	\$69,150.4	\$85,719	(\$5,715)	\$149,154.4	\$2,121,628.5	\$0.300	
16	0.2493	284,299.9	\$70,868.8	\$7,107	(\$5,686)	\$72,290.3	\$2,193,918.8		\$0.025
17	0.2568	282,878.4	\$72,629.9	\$7,072	(\$5,658)	\$74,044.3	\$2,267,963.1		\$0.025
18	0.2645	281,464.0	\$74,434.7	\$7,037	(\$5,629)	\$75,842.1	\$2,343,805.1		\$0.025
19	0.2724	280,056.7	\$76,284.4	\$7,001	(\$5,601)	\$77,684.7	\$2,421,489.9		\$0.025
20	0.2806	278,656.4	\$78,180.1	\$6,966	(\$5,573)	\$79,573.4	\$2,501,063.3		\$0.025
21	0.2890	277,263.1	\$80,122.9	\$6,932	(\$5,545)	\$81,509.2	\$2,582,572.5		\$0.025
22	0.2976	275,876.8	\$82,113.9	\$6,897	(\$5,518)	\$83,493.3	\$2,666,065.8		\$0.025
23	0.3066	274,497.4	\$84,154.5	\$6,862	(\$5,490)	\$85,527.0	\$2,751,592.7		\$0.025
24	0.3158	273,124.9	\$86,245.7	\$6,828	(\$5,462)	\$87,611.3	\$2,839,204.1		\$0.025
25	0.3252	271,759.3	\$88,388.9	\$6,794	(\$5,435)	\$89,747.7	\$2,928,951.8		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

Wanamassa

Existing Conditions

Current Utility Price (\$/kWh)	0.16
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

Solar Rating - Zip Code: 8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)	70
Roof Space Needed (sq-ft)	7,000.00
Annual Solar kWh (PV Watts)	85,820
Net System installation Cost (\$9/kWh)	\$630,000
Electrical Service Modification Cost	\$100,000
Total System Installation Cost	\$730,000
Materials	\$511,000
Labor	\$219,000
Engineers Opinion of Probable Cost	\$912,500

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1600	85,820.0	\$13,731.2	\$25,746	(\$1,716)	\$37,760.8	\$37,760.8	\$0.300	
2	0.1648	85,390.9	\$14,072.4	\$25,617	(\$1,708)	\$37,981.9	\$75,742.7	\$0.300	
3	0.1697	84,963.9	\$14,422.1	\$25,489	(\$1,699)	\$38,212.0	\$113,954.7	\$0.300	
4	0.1748	84,539.1	\$14,780.5	\$25,362	(\$1,691)	\$38,451.5	\$152,406.2	\$0.300	
5	0.1801	84,116.4	\$15,147.8	\$25,235	(\$1,682)	\$38,700.4	\$191,106.6	\$0.300	
6	0.1855	83,695.8	\$15,524.2	\$25,109	(\$1,674)	\$38,959.1	\$230,065.6	\$0.300	
7	0.1910	83,277.4	\$15,910.0	\$24,983	(\$1,666)	\$39,227.7	\$269,293.3	\$0.300	
8	0.1968	82,861.0	\$16,305.4	\$24,858	(\$1,657)	\$39,506.4	\$308,799.7	\$0.300	
9	0.2027	82,446.7	\$16,710.6	\$24,734	(\$1,649)	\$39,795.6	\$348,595.4	\$0.300	
10	0.2088	82,034.4	\$17,125.8	\$24,610	(\$1,641)	\$40,095.5	\$388,690.8	\$0.300	
11	0.2150	81,624.3	\$17,551.4	\$24,487	(\$1,632)	\$40,406.2	\$429,097.0	\$0.300	
12	0.2215	81,216.2	\$17,987.5	\$24,365	(\$1,624)	\$40,728.1	\$469,825.1	\$0.300	
13	0.2281	80,810.1	\$18,434.5	\$24,243	(\$1,616)	\$41,061.4	\$510,886.4	\$0.300	
14	0.2350	80,406.0	\$18,892.6	\$24,122	(\$1,608)	\$41,406.3	\$552,292.8	\$0.300	
15	0.2420	80,004.0	\$19,362.1	\$24,001	(\$1,600)	\$41,763.2	\$594,056.0	\$0.300	
16	0.2493	79,604.0	\$19,843.3	\$1,990	(\$1,592)	\$20,241.3	\$614,297.3		\$0.025
17	0.2568	79,205.9	\$20,336.4	\$1,980	(\$1,584)	\$20,732.4	\$635,029.7		\$0.025
18	0.2645	78,809.9	\$20,841.7	\$1,970	(\$1,576)	\$21,235.8	\$656,265.4		\$0.025
19	0.2724	78,415.9	\$21,359.6	\$1,960	(\$1,568)	\$21,751.7	\$678,017.2		\$0.025
20	0.2806	78,023.8	\$21,890.4	\$1,951	(\$1,560)	\$22,280.5	\$700,297.7		\$0.025
21	0.2890	77,633.7	\$22,434.4	\$1,941	(\$1,553)	\$22,822.6	\$723,120.3		\$0.025
22	0.2976	77,245.5	\$22,991.9	\$1,931	(\$1,545)	\$23,378.1	\$746,498.4		\$0.025
23	0.3066	76,859.3	\$23,563.3	\$1,921	(\$1,537)	\$23,947.5	\$770,446.0		\$0.025
24	0.3158	76,475.0	\$24,148.8	\$1,912	(\$1,529)	\$24,531.2	\$794,977.1		\$0.025
25	0.3252	76,092.6	\$24,748.9	\$1,902	(\$1,522)	\$25,129.4	\$820,106.5		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

Wayside

Existing Conditions

Current Utility Price (\$/kWh)	0.14
Actual SREC Market Values (January 2010-Present)	\$110/MWh - \$700/MWh

Calculations

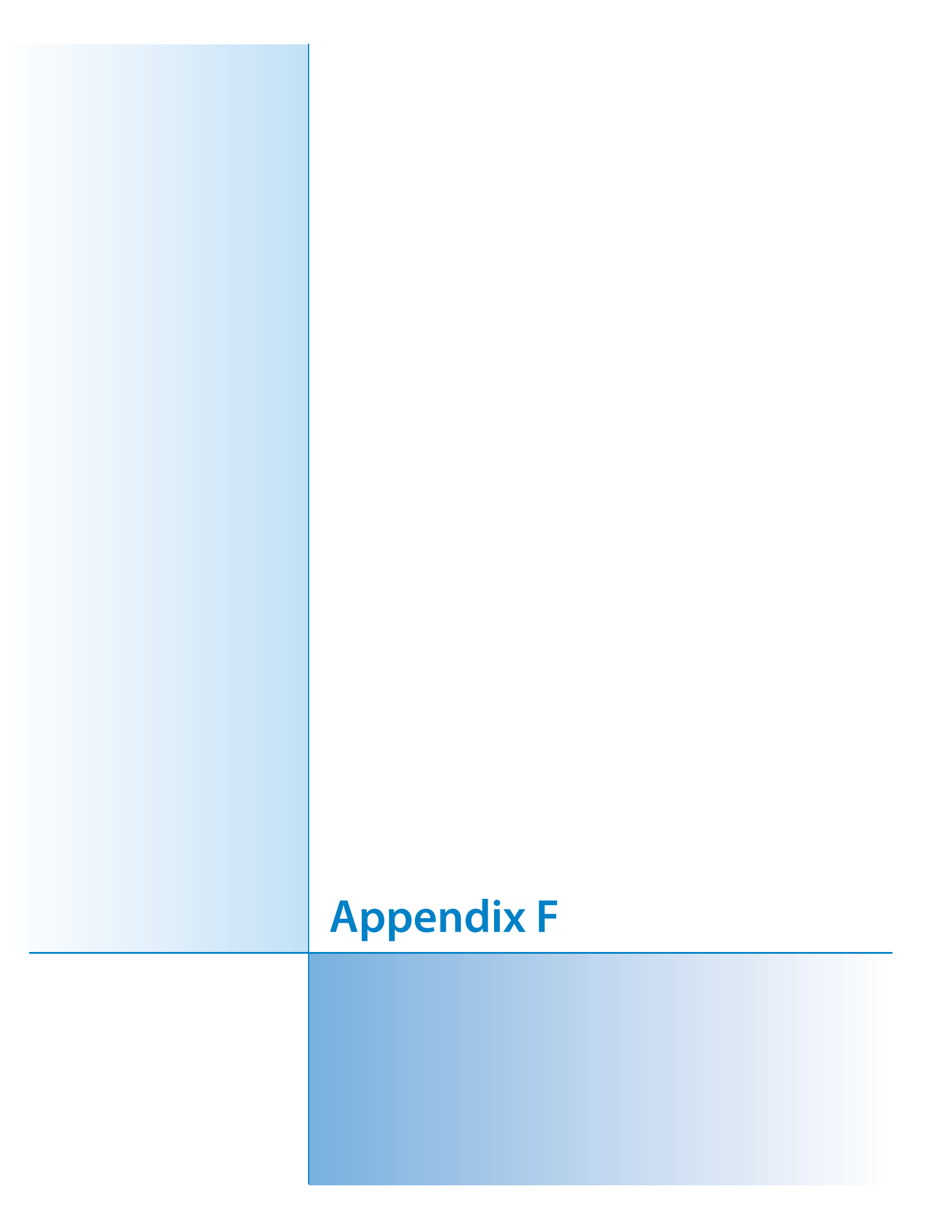
Solar Rating - Zip Code:	8857	4.63 kWh/sq-m/day
Solar Capacity Required (kW)		130
Roof Space Needed (sq-ft)		13,000.00
Annual Solar kWh (PV Watts)		159,380
Net System installation Cost (\$9/kWh)		\$1,170,000
Electrical Service Modification Cost		\$100,000
Total System Installation Cost		\$1,270,000
Materials		\$889,000
Labor		\$381,000
Engineers Opinion of Probable Cost		\$1,587,500

Assumptions

Annual System Degredation	0.50%
Annual Utility Inflation	3.00%
Annual Maintenance Costs	2%

Year	Utility Price	Solar kWh	Utility Savings	SRECS	Maintenance Costs	Annual Cash Flow	Cummulative Cash Flow	SREC Factor (\$/kWh)*	REC Factor (\$/kWh)
Install									
1	0.1400	159,380.0	\$22,313.2	\$47,814	(\$3,188)	\$66,939.6	\$66,939.6	\$0.300	
2	0.1442	158,583.1	\$22,867.7	\$47,575	(\$3,172)	\$67,271.0	\$134,210.6	\$0.300	
3	0.1485	157,790.2	\$23,435.9	\$47,337	(\$3,156)	\$67,617.2	\$201,827.7	\$0.300	
4	0.1530	157,001.2	\$24,018.3	\$47,100	(\$3,140)	\$67,978.7	\$269,806.4	\$0.300	
5	0.1576	156,216.2	\$24,615.2	\$46,865	(\$3,124)	\$68,355.7	\$338,162.1	\$0.300	
6	0.1623	155,435.1	\$25,226.9	\$46,631	(\$3,109)	\$68,748.7	\$406,910.9	\$0.300	
7	0.1672	154,658.0	\$25,853.8	\$46,397	(\$3,093)	\$69,158.0	\$476,068.9	\$0.300	
8	0.1722	153,884.7	\$26,496.2	\$46,165	(\$3,078)	\$69,583.9	\$545,652.8	\$0.300	
9	0.1773	153,115.3	\$27,154.7	\$45,935	(\$3,062)	\$70,026.9	\$615,679.7	\$0.300	
10	0.1827	152,349.7	\$27,829.4	\$45,705	(\$3,047)	\$70,487.4	\$686,167.1	\$0.300	
11	0.1881	151,587.9	\$28,521.0	\$45,476	(\$3,032)	\$70,965.6	\$757,132.7	\$0.300	
12	0.1938	150,830.0	\$29,229.8	\$45,249	(\$3,017)	\$71,462.2	\$828,594.9	\$0.300	
13	0.1996	150,075.8	\$29,956.1	\$45,023	(\$3,002)	\$71,977.4	\$900,572.2	\$0.300	
14	0.2056	149,325.5	\$30,700.5	\$44,798	(\$2,987)	\$72,511.7	\$973,083.9	\$0.300	
15	0.2118	148,578.8	\$31,463.4	\$44,574	(\$2,972)	\$73,065.5	\$1,046,149.4	\$0.300	
16	0.2181	147,835.9	\$32,245.3	\$3,696	(\$2,957)	\$32,984.5	\$1,079,133.9		\$0.025
17	0.2247	147,096.8	\$33,046.6	\$3,677	(\$2,942)	\$33,782.1	\$1,112,915.9		\$0.025
18	0.2314	146,361.3	\$33,867.8	\$3,659	(\$2,927)	\$34,599.6	\$1,147,515.6		\$0.025
19	0.2383	145,629.5	\$34,709.4	\$3,641	(\$2,913)	\$35,437.6	\$1,182,953.1		\$0.025
20	0.2455	144,901.3	\$35,571.9	\$3,623	(\$2,898)	\$36,296.5	\$1,219,249.6		\$0.025
21	0.2529	144,176.8	\$36,455.9	\$3,604	(\$2,884)	\$37,176.8	\$1,256,426.4		\$0.025
22	0.2604	143,455.9	\$37,361.8	\$3,586	(\$2,869)	\$38,079.1	\$1,294,505.5		\$0.025
23	0.2683	142,738.7	\$38,290.3	\$3,568	(\$2,855)	\$39,004.0	\$1,333,509.5		\$0.025
24	0.2763	142,025.0	\$39,241.8	\$3,551	(\$2,840)	\$39,951.9	\$1,373,461.4		\$0.025
25	0.2846	141,314.8	\$40,217.0	\$3,533	(\$2,826)	\$40,923.5	\$1,414,384.9		\$0.025

* SREC factor is referenced from the NJBPU Solar Alternative Compliance Payment (SACP) schedule.

The graphic consists of a large light blue rectangle on the left side of the page. A horizontal line extends from the right edge of this rectangle across the page. A vertical line extends from the bottom of the light blue rectangle down to the bottom of the page. These two lines intersect at the bottom right corner of the light blue rectangle. In the bottom right corner of the page, there is a smaller, darker blue rectangle. The text "Appendix F" is located in the white space between the light blue rectangle and the darker blue rectangle, positioned to the right of the vertical line and above the horizontal line.

Appendix F



2012 Prescriptive Lighting Application

Customer Information

Company	Electric Utility Serving Applicant choose one	Electric Account No.	Anticipated Installation Date	
Facility Address	City	State	Zip	
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement	Size of Building			
Company Mailing Address	City	State	Zip	
Contact Person (Name/Title)	Telephone No. ()	Fax No. ()		
Incorporated? ☐ Yes ☐ No ☐ Exempt	Federal Tax ID# or SSN	E-mail Address		
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other	Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

E-mail Address				
Company	Contact Name	Incorporated? ☐ Yes ☐ No	Federal Tax ID#	
Street Address	City	State	Zip	Telephone No. () Fax No. ()

Contractor/Vendor Information (if different from Payee)

E-mail Address				
Company	Contact Name	Incorporated? ☐ Yes ☐ No	Federal Tax ID#	
Street Address	City	State	Zip	Telephone No. () Fax No. ()

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Prescriptive Lighting Incentive

\$_____ Total Incentive (per attached worksheet calculations)

Note: Prescriptive Lighting Worksheet must accompany this application.



001-01/12

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Incentives for T-5 and T-8 lamps with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
4. Incentives for retrofits/replacement of existing fixtures $\leq 250\text{W}$ to T-8 lighting requires high performance or reduced wattage lamps (4' only) and ballasts qualified by CEE.
<http://www.cee.l.org/com-lt/com-lt-main.php5>
 - Incentives for delamped T-8 lamps with new reflectors are available only for fixtures with a total Harmonic Distortion of $< 20\%$. Electronic ballast replacement required for all eligible de-lamped fixtures. Eligible de-lamping can include reduction in linear lamp feet from existing conditions. For example, 1-8' linear fluorescent lamp can be considered as 2-4' linear lamps. U-bend lamps 4' in total length can be considered as 2-F17/T8 lamps.
 - Electronic ballast replacement is necessary for all eligible de-lamped fixtures.
 - Reduced wattage T8 (28W/25W 4') (1-4 lamps) retrofit requires lamp and ballast replacement.
5. For all eligible lighting devices, fixture or lamp must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
6. Requirements for CFL fixtures (must meet all requirements):
 - Fixtures must be new and ENERGY STAR® qualified
 - Fixtures must have replaceable electronic ballasts
 - Total Harmonic Distortion (THD) must not exceed 33%
 - Power factor of the ballast must be no less than 90%
 - The manufacturer must warrant all fixtures for a minimum of 3 years. Warranty does not pertain to lamps or photocells not physically part of the fixture.
 - The installer must warrant installation of fixtures for a minimum of 1 year.
7. Screw-in PAR 38 or 30 Compact Fluorescent Lamps (CFL) with Aluminum Reflectors replacing existing incandescent fixtures.
 - Lamp must be ENERGY STAR® qualified where applicable. For ENERGY STAR® qualified and non-qualified product, ALL the following requirements must be met:
 - The lamp must be new and warranted by the manufacturer for 12 months, or one year
 - Average rated lamp life must be $\geq 8,000$ hours
 - Power factor of the ballast must be $> 50\%$
8. Pulse Start Metal Halide (including pole-mounted parking lot lighting) must have a 12% minimum wattage reduction.
9. T-5 or T-8 Fixtures replacing incandescent or T-12 fluorescent fixtures greater than 250 watt or High Intensity Discharge shall comply as follows:
 - T-5 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.0; have reflectivity greater than or equal to 91%; have a minimum 2 lamps; and be designated as F54T5 HO.
 - T-8 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.14; have reflectivity greater than or equal to 91%; have a minimum of 4 lamps; and be designated as F32T8, minimum 32 watts.
10. Incentive requirements for LED fixtures and lamps (excluding LED Exit Signs)
 - LED fixture or lamp must be listed on ENERGY STAR® or Design Lights Consortium Qualified (DLC) Product Lists.
 - For replacement of incandescent, fluorescent and HID only
 - LEDs categories not listed by ENERGY STAR®⁽¹⁾/⁽²⁾ or DLC⁽³⁾ qualified products will not be evaluated through Custom for incentive eligibility.
 - (1) http://www.energystar.gov/index.cfm?c=ssl.pr_commercial
 - (2) http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=ILB
 - (3) http://www.designlights.org/solidstate.about.QualifiedProductsList_Publicv2.php

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE _____

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com/ssb



Prescriptive Lighting Measures and Incentives

NEW FIXTURE INCENTIVES

Type of Fixture		Incentive	
Compact Fluorescent			
Recessed and Surface-Mounted Compact Fluorescents (New Fixtures Replacing Incandescent Fixtures Only): Only available for hard-wired, electronically ballasted new fixtures with rare earth phosphor lamps and 4-pin based tubes (including: twin tube, quad tube, triple tube, 2D or circline lamps) or GU24 based lamps, THD<33% and BF>0.9		\$25 per 1-lamp fixture \$30 per 2-lamp or more fixture	
Linear Fluorescent			
Type of Old Fixture	Wattage of Old Fixture	Type of New Fixture	Incentive Per Fixture Replaced
HID, T-12, Incandescent	≥ 1000 Watts	T-5, T-8	\$200
HID, T-12, Incandescent	400-999 Watt	T-5, T-8	\$100
HID, T-12, Incandescent	250-399 Watt	T-5, T-8	\$50
HID only	175-249 Watt	T-5, T-8	\$43
HID only	100-174 Watt	T-5, T-8	\$30
HID only	75-99 Watt	T-5, T-8	\$16
T-12 only	<250 Watt	T-5, T-8 (1-4 lamps)	\$25
Induction Lighting			
Replacement of HID		\$70 per HID (≥100w) fixture replaced with a new induction fixture. Replacement unit must use 30% less wattage per fixture than existing HID system.	
LED Lighting			
LED Exit Signs (new fixtures only): For existing facilities with connected load <75 kW For existing facilities with connected load ≥ 75 kW		\$20 per fixture \$10 per fixture	
LED Display Case Lighting		\$30 per display case	
LED Shelf-Mounted Display and Task Lights		\$15 per linear foot	
LED Portable Desk Lamps		\$20 per fixture	
LED Wall-Wash Lights		\$30 per fixture	
LED Recessed Down Lights		\$35 per fixture	
LED Outdoor Pole/Arm-Mounted Area and Roadway Luminaires		\$175 per fixture	
LED Outdoor Pole/Arm-Mounted Decorative Luminaires		\$175 per fixture	
LED Outdoor Wall-Mounted Area Luminaires		\$100 per fixture	
LED Parking Garage Luminaires		\$100 per fixture	
LED Track or Mono-Point Directional Lighting Fixtures		\$50 per fixture	
LED High-Bay and Low-Bay Fixtures for Commercial & Industrial Buildings		\$150 per fixture	
LED High-Bay-Aisle Lighting		\$150 per fixture	
LED Bollard Fixtures		\$50 per fixture	
LED Linear Panels (1x4, 2x2, 2x4 Troffers Only)		\$50 per fixture	
LED Fuel Pump Canopy		\$100 per fixture	
LED Screw-based & Pin-based (PAR, MR, BR, R) Standards (A-Style) and Decorative (globe, candelabra, etc.) Lamps		\$20 per lamp	
LED Refrigerated/Freezer Case Lighting: Incentive for replacement of fluorescent lighting systems in medium or low temperature display cases		\$30 per 4' fixture \$42 per 5' fixture \$65 per 6' fixture	
LED Retrofit Kits		To be evaluated through the custom measures path	
Pulse-Start Metal Halide			
Pulse Start metal Halide (for fixtures ≥ 150 watts)		\$25 per fixture (includes parking lot lighting)	
RETROFIT INCENTIVES			
Compact Fluorescent			
Screw-in PAR 38 or PAR 30 (CFL) as per requirement 7.		\$7 per lamp replaced	
Linear Fluorescent Lighting			
High-Efficiency Fluorescent Fixtures: For retrofit of T-12 fixtures to T-5 or T-8 with electric ballasts		\$10 per fixture (1-4 lamps retrofits)	
For retrofit of T-8 fixtures by permanent delamping & new reflectors. Electronic ballast replacement required for all eligible delamped fixtures.		\$15 per fixture	
T-12 to T-8 fixtures by permanent delamping & new reflectors. Electronic ballast replacement required for all eligible delamped fixtures.		\$20 per fixture	
Retrofit of existing 32 watt T-8 system to reduced wattage (28w/25w 4')		\$10 per fixture (1-4 lamps)	
Induction Lighting			
\$50 per HID (≥100w) fixture retrofitted with induction lamp		\$50 per HID (≥100w) fixture retrofitted with induction lamp, power coupler and generator. Replacement unit must use 30% less wattage per fixture than existing HID system.	
New Construction & Complete Renovation - Performance based only			

Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”.) In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Electric Chillers Application

Customer Information

Company		Electric Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	
										Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	
										Fax No. ()	

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital;
 Government-Municipality; Government-Other than Municipality; Farm; Non-Profit; Other

Electric Chiller Equipment Information

Reason N - New R-Replaced	Type A - Air Cooled (w/Condenser) B - Air Cooled (w/o Condenser) WCR - Water Cooled (Reciprocating) WCS - Water Cooled (Screw/Scroll) WCC - Water Cooled (Centrifugal)	VFD Y/N	Manufacturer	Model	Location (Bldg/Rm)	Full Load kW/ton	Part Load kW/ton	A Unit Size (Tons)	B Incentive Per Ton (Table)	C # of Units	Total Incentives (AxBxC)
(Example) N	W	N	ACME	RRC/1957	Mech Rm #4	0.54	0.49	200	\$26	1	200 x \$26 x 1 = \$5,200
N	W	Y	ACME	RRC/1958	MechRm #5	0.55	0.40	250	\$79	1	250 x \$79 x 1 = \$19,750
										Total	

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Please submit manufacturer's certified AHRI performance sheet with the application package and mail or fax directly to the Commercial/ Industrial Program Manager.
3. Incentive is available for meeting either the full load kW/ton level or the partial load kW/ton, but not both.
4. Incentives are available for new centrifugal chillers outfitted at the factory with Variable Frequency Drives (VFDs) calculated at the appropriate partial load kW/ton level. There is no extra incentive for the VFD.
5. All water cooled chillers must be submitted at AHRI conditions of:
 - Evaporator - 54 degrees entering water temperature (EWT) and 44 degrees leaving water temperature (LWT)
 - Condenser - 85 degrees EWT and 95 degrees LWT
6. Efficiency requirements to comply with ASHRAE standard 90.1-2007

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included

☐ Manufacturer's specification sheets for proposed technology are included

☐ A copy (all pages) of a recent month's utility bill is included

☐ Check this box if you are applying for an ARRA Block Grant.

☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Electric Chillers Efficiency Levels and Incentives*

Water-Cooled Chillers			Water-Cooled Chillers					Air-Cooled Chillers		
All Compressor Types	Incentives (<70 tons)	Incentives (70 to <150 tons)	All Compressor Types	Incentives (150 to <300 tons)		Incentives (≥300 tons)		All Compressor Types	Incentives (<150 tons)	Incentives (≥150 tons)
kW/Ton	Full Load \$/Ton	Full Load \$/Ton	kW/Ton	Full Load \$/Ton	(PLV) \$/Ton	Full Load \$/Ton	(PLV) \$/Ton	kW/Ton	Full Load \$/Ton	Full Load \$/Ton
0.75	\$16	\$25	0.56	\$16				1.20	\$14	\$8
0.74	\$18	\$26	0.55	\$21				1.19	\$16	\$10
0.73	\$20	\$27	0.54	\$26				1.18	\$18	\$12
0.72	\$22	\$28	0.53	\$31				1.17	\$20	\$14
0.71	\$24	\$30	0.52	\$36				1.16	\$22	\$16
0.70	\$26	\$32	0.51	\$41				1.15	\$24	\$18
0.69	\$28	\$34	0.50	\$46	\$16			1.14	\$26	\$20
0.68	\$30	\$36	0.49	\$51	\$22			1.13	\$28	\$22
0.67	\$32	\$38	0.48	\$56	\$29			1.12	\$30	\$24
0.66	\$34	\$40	0.47	\$61	\$35	\$12		1.11	\$32	\$26
0.65	\$36	\$42	0.46	\$66	\$41	\$14	\$12	1.10	\$34	\$28
0.64	\$38	\$44	0.45	\$71	\$47	\$16	\$14	1.09	\$36	\$30
0.63	\$40	\$46	0.44	\$76	\$54	\$18	\$16	1.08	\$38	\$32
0.62	\$42	\$48	0.43	\$81	\$60	\$20	\$18	1.07	\$40	\$34
0.61	\$44	\$50	0.42	\$86	\$66	\$25	\$20	1.06	\$42	\$36
0.60	\$46	\$52	0.41	\$91	\$72	\$30	\$25	1.05	\$44	\$38
0.59	\$48	\$54	0.40	\$96	\$79	\$40	\$30	1.04	\$46	\$40
0.58	\$50	\$56	0.39	\$101	\$85	\$50	\$42	1.03	\$48	\$42
0.57	\$52	\$58	0.38	\$106	\$91	\$60	\$53	1.02	\$50	\$44
0.56	\$54	\$60	0.37	\$111	\$97	\$70	\$65	1.01	\$52	\$46
			0.36	\$116	\$104	\$80	\$77			
			0.35	\$121	\$110	\$90	\$89			
			0.34	\$126	\$116	\$100	\$100			
			0.33	\$131	\$122	\$110	\$112			
			0.32	\$136	\$129	\$120	\$124			
			0.31	\$141		\$130				
			0.30			\$140				
			0.29			\$150				
			0.28			\$160				
			0.27			\$170				
			0.26							

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New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

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Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

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Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Gas Cooling Application

Customer Information

Company		Gas Utility Serving Applicant		Gas Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	Fax No. ()

Contractor/Vendor Information (if different from Payee)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	Fax No. ()

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital;
Government-Municipality; Government-Other than Municipality; Farm; Non-Profit;Other

Gas Cooling Equipment Information

Reason N-New R-Replaced	Type A-Absorption D-Desiccant	Manufacturer/ Model	Vaccum Boiler Effic.	Boiler Input Rating Therms/hr	Parasitic Load kW/Ton	A Unit Size (Tons)	B Unit Efficiency (C.O.P.)	C Incentive \$/ton (Table)	D Quantity	E Total Incentives (AxCxD)
(Example) N	A	ACME/GF1011	80%	100	0.1	10	1.1	\$450	1	10 x \$450 x 1 = \$4,500
									Total	

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Chiller full and part load efficiencies are determined in accordance with A.H.R.I standard 550/590-2003.
4. Efficiency requirements to comply with ASHRAE 90.1-2007.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT**CUSTOMER'S SIGNATURE**

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Gas Cooling Equipment Efficiency Levels and Incentives*

Gas Absorption Chillers			Regenerative Desiccant Units
Size Range	Indirect-Fired (Incentive & Efficiency Threshold)	Direct-Fired (Incentive & Efficiency Threshold)	Incentive per CFM (based on process airflow)
<100 tons	≥1.1 F.L. COP \$450/ton	≥1.1 F.L. COP \$450/ton	\$1.00 per CFM
100 to 400 tons	≥1.1 F.L. COP \$230/ton	≥1.1 F.L. COP \$230/ton	Eligible when matched with core gas or electric cooling equipment
>400 tons (only two-stage chillers)	≥1.1 F.L. COP \$185/ton	≥1.1 F.L. COP \$185/ton	

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com

New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

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Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.

2012 Electric Unitary HVAC Application

Customer Information

Company		Electric Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	Fax No. ()

Contractor/Vendor Information (if different from Payee)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State	Zip	Telephone No. ()	Fax No. ()

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital;
Government-Municipality; Government-Other than Municipality; Farm; Non-Profit; Other

Electric Unitary HVAC Equipment Information

Reason N-New R-Replaced	Type A-ASHP D-DXAC P-PTS S-Split U-Unitary W-WSHP	Manuf.	Model	A Unit Size Cooling (Btuh)	B Cooling Efficiency (EER or SEER)	C Has Dual Enthalpy Economizer? 0-No 1-Yes	D Incentive \$/ton (Table)	ASHP or WSHP Unit Size Heating (Btuh)	Heating Efficiency (COP or HSPF)	E Quantity	F Total Incentives (Ax DxEx) + CxEx250 12,000
(Example) N	U	ACME	HV1011	120,000	11.5	1	\$73	N/A	N/A	2	$\frac{120,000 \times \$73 \times 2}{12,000} + (1)(2)(250) = \$1,960$

*Split Systems: List matching Indoor and Outdoor Components **AHRI Certified Net Capacity and Rating

Total: \$

Occupancy Controlled Thermostats

T _h =Heating Season Facility Temp. (°F)	T _c =Cooling Season Facility Temp. (°F)	H=Weekly Occupied Hours	Cap _{hp} = Connected load capacity of heat pump/AC (Tons)	Cap _h = Connected heating Load capacity (Btu/hr)	AFUE _h = Heating Equipment Efficiency	EER _{hp} =Heat Pump/AC Equipment Efficiency	Number of OCC. Controlled Thermostats	Total Incentives - \$75/OCT x # of units
(Example) 72 deg F	70 deg F	56	N/A	200,000 btu	95%	12 EER	10	\$750
						Total		

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet and AHRI Certified Net Capacity with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Both indoor and outdoor components of a split system must be replaced to qualify for an incentive.
4. Incentive calculation is based on the Electric Unitary HVAC equipment capacity at AHRI Certified Net Capacity and Rating at operating conditions; it is not based on the nominal Electric Unitary HVAC equipment capacity.
5. Dual Enthalpy Economizer Control incentive is available with new installation on qualifying Electric Unitary HVAC equipment.
6. Efficiency requirements to comply with ASHRAE 90.1-2007.
7. Incentives for qualifying Central DX AC Systems >63 tons for existing buildings only. New construction ineligible

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Electric Unitary HVAC Efficiency Levels and Incentives*

Unitary HVAC/Split Systems		Water Source Heat Pumps	
<5.4 tons	14.0 SEER \$92/ton	≤5.4 tons	14.0 EER \$81/ton
≥5.4 to <11.25 tons	11.5 EER \$73/ton	>5.4 tons	14.0 EER \$81/ton
Air-to-Air Heat Pump Systems		Central DX AC Systems	
≥11.25 to <20 tons	11.5 EER \$79/ton	>30 to 63 tons	≥9.5 EER \$40/ton
≥20 to 30 tons	10.5 EER \$79/ton	> 63 tons	≥9.5 EER \$72/ton
Packaged Terminal Systems		Dual Enthalpy Economizer Controls	
<9,000 BTUH	12.0 EER \$65/ton	All	\$250/unit
≥9,000 to 12,000 BTUH	11.0 EER \$65/ton	Occupancy Controlled Thermostats for Hospitality/Institutional Facilities	
>12,000 BTUH	10.0 EER \$65/ton	All	\$75/unit

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New Jersey's Clean Energy Program
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Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

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Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

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Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Ground Source Heat Pump Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City		State	Zip	Telephone No. ()	Fax No. ()

Contractor/Vendor Information (if different from Payee)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City		State	Zip	Telephone No. ()	Fax No. ()

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital; Government-Municipality; Government-Other than Municipality; Farm; Non-Profit; Other

Ground Source Heat Pump Equipment Information

Manuf.	Model	A Unit Size Cooling (Btuh)	B Cooling Efficiency (EER)	C Incentive \$/ton (Table)	D Unit Size Heating (Btuh)	E Heating Efficiency (COP or HSPF)	F Quantity	G Equipment Incentive (AxCxF) 12,000
ACME	HV1011	51,000	16	\$450	45,000	3.5	4	$\frac{51,000 \times \$450 \times 4}{12,000} = \$7,650$
Total								

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Performance ratings (EER, Btuh) for qualifying closed loop Ground Source Heat Pump equipment are calculated at 77 degrees Fahrenheit entering water temperature per test procedure ISO-13256-1.
4. No incentives are available for open loop Ground Source Heat Pump equipment.
5. Efficiency requirements to comply with ASHRAE 90.1-2007.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Ground Source Heat Pump Equipment Efficiency Levels and Incentives*

Ground Loop & Ground Water Heat Pumps

Type	Qualifying Efficiency Level	Incentive
Closed Loop ≥ 16 EER	≥ 16 EER	Up to \$450 per ton
ENERGY STAR® rated equipment only	≥ 18 EER	Up to \$600 per ton
	≥ 20 EER	Up to \$750 per ton

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com

New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Gas Heating Application

Customer Information

Company		Gas Utility Serving Applicant		Gas Account No.		Anticipated Installation Date	
Facility Address			City		State		Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address			City		State		Zip
Contact Person (Name/Title)			Telephone No. ()		Fax No. ()		
Incorporated? ☐ Yes ☐ No ☐ Exempt			Federal Tax ID# or SSN		E-mail Address		
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other			Please assign payment to contractor/vendor/other indicated below Customer Signature				

Payee Information (must submit W-9 form with application)

E-mail Address							
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City		State	Zip	Telephone No. ()	Fax No. ()

Contractor/Vendor Information (if different from Payee)

E-mail Address							
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City		State	Zip	Telephone No. ()	Fax No. ()

Building Type (circle one)

Education; Food Sales; Food Service; Health Care; Lodging; Retail; Office; Public Assembly; Public Order/Safety; Religious Worship; Service; Warehouse/Storage; Other

Building Location (circle the city closest to building site)

Atlantic City, NJ; Newark, NJ; Philadelphia, PA; Monticello, NY

Gas Heating Equipment Information

Reason N–New R–Replaced	Type B–Boiler F–Furnace	Manufacturer	Model	A Unit Size (MBH Input)	B Unit Efficiency (AFUE) (%)	C Incentive \$/Unit (Table)	D Quantity	E Total Incentives (CxD)
(Example) N	F	ACME	GF1011	100	95	\$400	2	\$400 x 2 = \$800
R	B	ACME	B1500	1,500 MBH	85	\$1.75	2	1500 x \$1.75 x 2 = \$5,250
Total								

Specific Program Requirements* (These requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the Program Guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT**CUSTOMER'S SIGNATURE**

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Gas Heating Equipment Efficiency Levels and Incentives***Gas Fired Boilers**

Capacity - MBH	Minimum Efficiency	Incentive
<300 MBH	85% AFUE	\$2.00 per MBH but not less than \$300 per unit
≥ 300 MBH - 1500 MBH	85% AFUE for Hot Water boilers 84% AFUE for Steam boilers	\$1.75 per MBH
>1500 - ≤ 4000 MBH	84% AFUE for Hot Water boilers 83% AFUE for Steam boilers	\$1.00 per MBH
> 4000 MBH	See Custom Measure Path	

Gas Furnaces – Minimum Efficiency ≥ 95% AFUE,
≥ 2.0% Fan Efficiency, ENERGY STAR®

Capacity	Incentive
No size/capacity limitation	\$400 per furnace

Mail or fax your application package DIRECTLY to the Commercial/Industrial Market Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our web site: NJCleanEnergy.com



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

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Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Variable Frequency Drives Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State Zip	
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State Zip	
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State Zip		Federal Tax ID#	
										Telephone No. ()	
										Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State Zip		Federal Tax ID#	
										Telephone No. ()	
										Fax No. ()	

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital;
Government-Municipality; Government-Other than Municipality; Farm; Non-Profit; Other

Variable Frequency Drive Information

Reason N-New R-Retrofit	Type of Usage F – Airfoil/Backward Inclined fan C – Forward Curved Fan P – Chilled Water Pump A – Air Compressor T – Cooling Tower	Manufacturer	Model	Annual Operating Hours	Drive Efficiency %	Motor Efficiency %	Location (Bldg/Rm)	A HP of Controlled Motors	B Incentive per HP (Table)	C # of Units	Total Incentives (AxBxC)
(Example) N	F	ACME	RR/C1957	4,000	97	94.1	Mech. Rm. #4	30	\$65	2	30 x \$65 x 2 = \$3,900
Total											

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
 2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
 3. Incentives for VFDs in HVAC VAV systems, are available only for installing a VFD on existing VAV systems as an add-on measure. Replacement of an existing VFD on VAV systems and installations on VAV systems in new construction are not eligible for incentives.
 4. The Variable Frequency Drive (VFD) incentive for cooling towers is available for existing single speed motors only. Replacement of two speed motor with single speed/VFD motor, replacement of existing VFD and new construction do not qualify.
 5. The Variable Frequency Drive (VFD) incentive for pumps is available only for VFDs installed on centrifugal chilled water pump motors for HVAC systems.
 6. The VFDs must be installed in a system (VAV air supply or chilled water pumping systems) that incorporates pressure sensors (or other applicable sensor devices) in the flow stream.
 7. Incentives are available for new air or water cooled, single or double stage, oil lubricated or oil free twin rotor screw air compressors outfitted with VFDs (providing compressed air for typical plant air use).
 8. Replacement of VFD on an existing air compressor that had VFD control is not eligible for incentives.
 9. Incentives for retrofitting an existing qualified air compressor with VFD control may be available through the custom electric equipment program.
 10. VFD controlled compressors with premium efficiency motors may be eligible for a premium motor incentive in addition to this prescriptive VFD incentive.
 11. Only one VFD controlled air compressor will be eligible for an incentive for each compressed air system.
 12. The applicant shall provide sufficient documentation to demonstrate that a VFD controlled air compressor operates, at a minimum, for 2000 hours annually. Documentation may include P&IDs, Control Logic Diagrams, and Plant Operating Schedules.
- For All VFDs:
13. The VFD must have either an input line reactor or isolation transformer.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Variable Frequency Drive Incentives*

Centrifugal Fan Applications on Variable Air Volume HVAC Systems

Cumulative Motor HP Controlled by Each VFD	Incentive \$/Cumulative HP Controlled
5 to <10 hp	\$155 per hp
10 to <20 hp	\$120 per hp
20+ hp	\$65 per hp

Cooling Tower Fan Systems

≥ 10 hp	\$60 per VFD rated hp
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Chilled Water Pump Motors for HVAC Systems

20+ hp	\$60 per VFD rated hp
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Rotary Screw Air Compressors

25 to 29 hp	Up to \$5,250
30 to 39 hp	Up to \$6,000
40 to 49 hp	Up to \$7,200
50 to 59 hp	Up to \$8,000
60 to 199 hp	Up to \$9,000
200 to 249 hp	Up to \$10,000
≥ 250 hp	Up to \$12,500

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com

New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Gas Water Heating Application

Customer Information

Company	Gas Utility Serving Applicant	Gas Account No.	Anticipated Installation Date
Facility Address	City	State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement		Size of Building	
Company Mailing Address	City	State	Zip
Contact Person (Name/Title)	Telephone No. ()	Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt	Federal Tax ID# or SSN	E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other	Please assign payment to contractor/vendor/other indicated below Customer Signature		

Payee Information (must submit W-9 form with application)

Company	Contact Name	Incorporated? ☐ Yes ☐ No	E-mail Address
Street Address	City	State Zip	Federal Tax ID#
		Telephone No. ()	Fax No. ()

Contractor/Vendor Information (if different from Payee)

Company	Contact Name	Incorporated? ☐ Yes ☐ No	E-mail Address
Street Address	City	State Zip	Federal Tax ID#
		Telephone No. ()	Fax No. ()

Building Type (circle one)

Education; Food Sales; Food Service; Health Care; Lodging; Retail; Office; Public Assembly; Public Order/Safety; Religious Worship; Service; Warehouse/Storage; Other

Building Location (circle the city closest to building site)

Atlantic City, NJ; Newark, NJ; Philadelphia, PA; Monticello, NY

Gas Water Heating Equipment Information

Reason N-New R-Replaced	Type 0 - Booster Heater 1 - Water Heater 2 - Tankless	Manuf.	Model	Area Served by Heater (1-13, see legend)	A Unit Size B-MBHH Input W-Size Gallons	B Efficiency (EF or AFUE)	C Incentive (Table)	D Quantity	Total Incentive Booster = AxCxD WH≤50 G = CxD WH>50 G = AxCxD Tankless = CxD
(Example) N	0	ACME	GF1011	13	100	N/A	\$35	1	\$35 x 100 = \$3,500
R	1	ACME	DHW1500	1	1,500	85	\$1.75	2	1,500 x 1.75 x 2 = \$5,250
R	2	ACME	BWH50	7	50	82	\$300	1	\$300 x 1 = \$300
Total									

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Area Legend

- | | | |
|-----------------|-----------------------------|---------------------------|
| 1- Education | 6- Retail (Other than Mall) | 11- Service |
| 2- Food Sales | 7- Office | 12- Warehouse and Storage |
| 3- Food Service | 8- Public Assembly | 13- Other |
| 4- Health Care | 9- Public Order and Safety | |
| 5- Lodging | 10- Religious Worship | |

Gas Water Heating Efficiency Levels and Incentives*

Gas-Fired Water Booster Heaters		Gas Water Heaters ≤ 50 Gallons	
Capacity - MBH	Incentive	Capacity - MBH	Incentive
≤100 MBH	\$35 per MBH	0.67 or better Energy Factor	\$50 per water heater
>100 MBH	\$17 per MBH	Size limit: ≤50 gallons	

Gas Water Heaters > 50 Gallons			Tankless Water Heater	
Capacity - MBH	Minimum Efficiency	Incentive	Minimum Efficiency	Incentive
>50 gallons - <300 MBH	85% AFUE	\$2.00 per MBH but not less than \$50/unit	≥ 82% energy factor or 90% Thermal Efficiency	\$300 per tankless water heater
≥ 300 MBH - 1500 MBH	85% AFUE	\$1.75 per MBH		
>1500 - ≤ 4000 MBH	84% AFUE	\$1.00 per MBH		

This incentive is only available for the replacement of existing, free-standing water heaters.

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
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Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com/ssb

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*Incentives/Requirements subject to change.



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Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

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Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Premium Motors Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Federal Tax ID# ()	

Contractor/Vendor Information (if different from Payee)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Federal Tax ID# ()	

Building Type (circle one)

Commercial-Retail; Commercial-Other than Retail; Office; School-Public K-12; School-University-Public; School-University-Private; School-Other; Hospital;
Government-Municipality; Government-Other than Municipality; Farm; Non-Profit; Other

Premium Motor Information

Reason*	Type* ODP, TEFC or ECM	Manuf.*	Model*	Function*	Location	Size* (HP)	Speed (RPM)	NEMA Nominal Efficiency (%)	Has VFD	Annual Run Hours Y/N (2,000 min.)	Incentive Per Motor - Hours	Quantity (Table)	Total Incentives
(Example) N	TEFC	ACME	RR/C1957	HVAC Pump	Mech. Rm. #4	30	1800	93.6	N	4400	\$150	1	\$150
R	ECM	GE	26-ECM-6	Ref/Freezer	Freezer Case #2	1/15				6000	\$40	3	\$120
°Required fields for ECM												Total	

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Incentives are only available for qualifying Premium Motors that operate at least 2000 run hours annually.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Qualifying Premium Motor Efficiencies and Incentives*

Premium Motor Incentives Open Drip-Proof (ODP)						Premium Motor Incentives Totally Enclosed Fan-Cooled (TEFC)				
Size HP	Speed (RPM)			Customer Incentive (\$/Motor)	Size HP	Speed (RPM)			Customer Incentive (\$/Motor)	
	1200	1800	3600			1200	1800	3600		
	NEMA Nominal Efficiency					NEMA Nominal Efficiency				
1	82.5%	85.5%	77.0%	\$45	1	82.5%	85.5%	77.0%	\$50	
1.5	86.5%	86.5%	84.0%	\$45	1.5	87.5%	86.5%	84.0%	\$50	
2	87.5%	86.5%	85.5%	\$54	2	88.5%	86.5%	85.5%	\$60	
3	88.5%	89.5%	85.5%	\$54	3	89.5%	89.5%	86.5%	\$60	
5	89.5%	89.5%	86.5%	\$54	5	89.5%	89.5%	88.5%	\$60	
7.5	90.2%	91.0%	88.5%	\$81	7.5	91.0%	91.7%	89.5%	\$90	
10	91.7%	91.7%	89.5%	\$90	10	91.0%	91.7%	90.2%	\$100	
15	91.7%	93.0%	90.2%	\$104	15	91.7%	92.4%	91.0%	\$115	
20	92.4%	93.0%	91.0%	\$113	20	91.7%	93.0%	91.0%	\$125	
25	93.0%	93.6%	91.7%	\$117	25	93.0%	93.6%	91.7%	\$130	
30	93.6%	94.1%	91.7%	\$135	30	93.0%	93.6%	91.7%	\$150	
40	94.1%	94.1%	92.4%	\$162	40	94.1%	94.1%	92.4%	\$180	
50	94.1%	94.5%	93.0%	\$198	50	94.1%	94.5%	93.0%	\$220	
60	94.5%	95.0%	93.6%	\$234	60	94.5%	95.0%	93.6%	\$260	
75	94.5%	95.0%	93.6%	\$270	75	94.5%	95.4%	93.6%	\$300	
100	95.0%	95.4%	93.6%	\$360	100	95.0%	95.4%	94.1%	\$400	
125	95.0%	95.4%	94.1%	\$540	125	95.0%	95.4%	95.0%	\$600	
150	95.4%	95.8%	94.1%	\$630	150	95.8%	95.8%	95.0%	\$700	
200	95.4%	95.8%	95.0%	\$630	200	95.8%	96.2%	95.4%	\$700	

Fractional Motor Incentives Electronic Commutated Motors (ECM)

Size HP	Customer Incentive (\$/Motor)
<1 HP	\$40 per ECM for replacement of existing shaded-pole motor in refrigerated/freezer cases

Motors > 200 HP must follow the Custom Electric Equipment Path
Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
 c/o TRC Energy Services
 900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
 Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com/ssb

New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

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Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

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Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

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Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

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Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Prescriptive Lighting Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Payee Information (must submit W-9 form with application)						E-mail Address	
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Contractor/Vendor Information (if different from Payee)						E-mail Address	
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Prescriptive Lighting Incentive

\$_____ Total Incentive (per attached worksheet calculations)

Note: Prescriptive Lighting Worksheet must accompany this application.



Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Incentives for T-5 and T-8 lamps with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
4. Incentives for retrofits/replacement of existing fixtures $\leq 250W$ to T-8 lighting requires high performance or reduced wattage lamps (4' only) and ballasts qualified by CEE.
<http://www.cee1.org/com/com-lt/com-lt-main.php3>
 - Incentives for delamped T-8 lamps with new reflectors are available only for fixtures with a total Harmonic Distortion of $< 20\%$. Electronic ballast replacement required for all eligible de-lamped fixtures. Eligible de-lamping can include reduction in linear lamp feet from existing conditions. For example, 1-8' linear fluorescent lamp can be considered as 2-4' linear lamps. U-bend lamps 4' in total length can be considered as 2-F17/T8 lamps.
 - Electronic ballast replacement is necessary for all eligible de-lamped fixtures.
 - Reduced wattage T8 (28W/25W 4') (1-4 lamps) retrofit requires lamp and ballast replacement.
5. For all eligible lighting devices, fixture or lamp must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
6. Requirements for CFL fixtures (must meet all requirements):
 - Fixtures must be new and ENERGY STAR® qualified
 - Fixtures must have replaceable electronic ballasts
 - Total Harmonic Distortion (THD) must not exceed 33%
 - Power factor of the ballast must be no less than 90%
 - The manufacturer must warrant all fixtures for a minimum of 3 years. Warranty does not pertain to lamps or photocells not physically part of the fixture.
 - The installer must warrant installation of fixtures for a minimum of 1 year.
7. Screw-in PAR 38 or 30 Compact Fluorescent Lamps (CFL) with Aluminum Reflectors replacing existing incandescent fixtures.
 - Lamp must be ENERGY STAR® qualified where applicable. For ENERGY STAR® qualified and non-qualified product, ALL the following requirements must be met:
 - The lamp must be new and warranted by the manufacturer for 12 months, or one year
 - Average rated lamp life must be $\geq 8,000$ hours
 - Power factor of the ballast must be $> 50\%$
8. Pulse Start Metal Halide (including pole-mounted parking lot lighting) must have a 12% minimum wattage reduction.
9. T-5 or T-8 Fixtures replacing incandescent or T-12 fluorescent fixtures greater than 250 watt or High Intensity Discharge shall comply as follows:
 - T-5 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.0; have reflectivity greater than or equal to 91%; have a minimum 2 lamps; and be designated as F54T5 HO.
 - T-8 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.14; have reflectivity greater than or equal to 91%; have a minimum of 4 lamps; and be designated as F32T8, minimum 32 watts.
10. Incentive requirements for LED fixtures and lamps (excluding LED Exit Signs)
 - LED fixture or lamp must be listed on ENERGY STAR® or Design Lights Consortium Qualified (DLC) Product Lists.
 - For replacement of incandescent, fluorescent and HID only
 - LEDs categories not listed by ENERGY STAR®⁽¹⁾⁽²⁾ or DLC⁽³⁾ qualified products will not be evaluated through Custom for incentive eligibility.
 - (1) http://www.energystar.gov/index.cfm?c=ssl.pr_commercial
 - (2) http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=LB
 - (3) http://www.designlights.org/solidstate.about.QualifiedProductsList_Publicv2.php

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

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Prescriptive Lighting Measures and Incentives

NEW FIXTURE INCENTIVES

Type of Fixture		Incentive	
Compact Fluorescent			
Recessed and Surface-Mounted Compact Fluorescents (New Fixtures Replacing Incandescent Fixtures Only): Only available for hard-wired, electronically ballasted new fixtures with rare earth phosphor lamps and 4-pin based tubes (including: twin tube, quad tube, triple tube, 2D or circline lamps) or GU24 based lamps, THD<33% and BF>0.9		\$25 per 1-lamp fixture \$30 per 2-lamp or more fixture	
Linear Fluorescent			
Type of Old Fixture	Wattage of Old Fixture	Type of New Fixture	Incentive Per Fixture Replaced
HID, T-12, Incandescent	≥ 1000 Watts	T-5, T-8	\$200
HID, T-12, Incandescent	400-999 Watt	T-5, T-8	\$100
HID, T-12, Incandescent	250-399 Watt	T-5, T-8	\$50
HID only	175-249 Watt	T-5, T-8	\$43
HID only	100-174 Watt	T-5, T-8	\$30
HID only	75-99 Watt	T-5, T-8	\$16
T-12 only	<250 Watt	T-5, T-8 (1-4 lamps)	\$25
Induction Lighting			
Replacement of HID		\$70 per HID (≥100w) fixture replaced with a new induction fixture. Replacement unit must use 30% less wattage per fixture than existing HID system.	
LED Lighting			
LED Exit Signs (new fixtures only):			
For existing facilities with connected load <75 kW		\$20 per fixture	
For existing facilities with connected load ≥ 75 kW		\$10 per fixture	
LED Display Case Lighting		\$30 per display case	
LED Shelf-Mounted Display and Task Lights		\$15 per linear foot	
LED Portable Desk Lamps		\$20 per fixture	
LED Wall-Wash Lights		\$30 per fixture	
LED Recessed Down Lights		\$35 per fixture	
LED Outdoor Pole/Arm-Mounted Area and Roadway Luminaires		\$175 per fixture	
LED Outdoor Pole/Arm-Mounted Decorative Luminaires		\$175 per fixture	
LED Outdoor Wall-Mounted Area Luminaires		\$100 per fixture	
LED Parking Garage Luminaires		\$100 per fixture	
LED Track or Mono-Point Directional Lighting Fixtures		\$50 per fixture	
LED High-Bay and Low-Bay Fixtures for Commercial & Industrial Buildings		\$150 per fixture	
LED High-Bay-Aisle Lighting		\$150 per fixture	
LED Bollard Fixtures		\$50 per fixture	
LED Linear Panels (1x4, 2x2, 2x4 Troffers Only)		\$50 per fixture	
LED Fuel Pump Canopy		\$100 per fixture	
LED Screw-based & Pin-based (PAR, MR, BR, R) Standards (A-Style) and Decorative (globe, candelabra, etc.) Lamps		\$20 per lamp	
LED Refrigerated/Freezer Case Lighting: Incentive for replacement of fluorescent lighting systems in medium or low temperature display cases		\$30 per 4' fixture \$42 per 5' fixture \$65 per 6' fixture	
LED Retrofit Kits		To be evaluated through the custom measures path	
Pulse-Start Metal Halide			
Pulse Start metal Halide (for fixtures ≥ 150 watts)		\$25 per fixture (includes parking lot lighting)	
RETROFIT INCENTIVES			
Compact Fluorescent			
Screw-in PAR 38 or PAR 30 (CFL) as per requirement 7.		\$7 per lamp replaced	
Linear Fluorescent Lighting			
High-Efficiency Fluorescent Fixtures: For retrofit of T-12 fixtures to T-5 or T-8 with electric ballasts		\$10 per fixture (1-4 lamps retrofits)	
For retrofit of T-8 fixtures by permanent delamping & new reflectors. Electronic ballast replacement required for all eligible delamped fixtures.		\$15 per fixture	
T-12 to T-8 fixtures by permanent delamping & new reflectors. Electronic ballast replacement required for all eligible delamped fixtures.		\$20 per fixture	
Retrofit of existing 32 watt T-8 system to reduced wattage (28w/25w 4')		\$10 per fixture (1-4 lamps)	
Induction Lighting			
\$50 per HID (≥100w) fixture retrofitted with induction lamp		\$50 per HID (≥100w) fixture retrofitted with induction lamp, power coupler and generator. Replacement unit must use 30% less wattage per fixture than existing HID system.	
New Construction & Complete Renovation - Performance based only			

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Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

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Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

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Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Lighting Controls Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Payee Information (must submit W-9 form with application)						E-mail Address	
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Contractor/Vendor Information (if different from Payee)						E-mail Address	
Company		Contact Name		Incorporated? ☐ Yes ☐ No		Federal Tax ID#	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Lighting Control Incentive

\$_____ Total Incentive (per attached worksheet calculations)

Note: Lighting Controls Incentive Worksheet must accompany this application.



Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements, including special requirements for lighting controls.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. All lighting controls must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
4. If more than one eligible lighting control device is associated with the same eligible fixture, the incentive paid will be for the lighting control device that yields the largest incentive only.
5. Occupancy Sensor Controls (existing facilities only):
 - There is no incentive available for occupancy sensors installed in a space where they are prohibited by state or local building or safety code. Additionally, no incentive is eligible for occupancy sensors in the following specific spaces in all cases: stairways, restrooms (remote mounted only allowed), elevators, corridors/hallways, lobbies, and closets/storage areas.
 - Incentives will only be paid for eligible occupancy sensors (OSW & OSR) controlling at least 2 eligible lighting fixtures and, for OSR installations, a minimum total connected load of 180 watts.
 - Incentives will only be paid for eligible OSRH occupancy sensors controlling eligible fixtures when the controlled wattage is greater than 180 watts.
 - Occupancy sensors with manual override to the "ON" position are ineligible for incentive.
6. High-Low Controls (OHLF and OHLH):
 - Incentives will not be paid for high-low controls on eligible fluorescent fixtures where daylight dimming controls can be effectively employed.
 - Incentives will not be paid for spaces where the bottom of the fixture does not comply with the appropriate Prescriptive Lighting 2012 incentives, nor in spaces smaller than 250 square feet.
 - Incentives available only when "low level" is no more than 60% of "high level."
 - Incentives are not available for the following spaces: stairways, elevators, corridors/hallways, or lobbies.
 - OHLF will control fixtures that have a ballast factor less than 1.0 for T-5s, induction lighting and 1.14 for T-8s.
 - OHLH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s, induction lighting and 1.14 for T-8s.
7. Daylight Dimming Controls for eligible fixtures:
 - Incentives will only be paid for eligible daylight dimming controls operating at least 4 eligible ballasts with a minimum total connected load of 240 watts.
 - Dimming shall be continuous or stepped at 4 or more levels.
 - Incentives will be paid only for eligible daylight dimming control systems designed in accordance with IESNA practice as delineated in "RP-5-99, IESNA Recommended Practice of Daylighting."
 - DLD will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - DDH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
 - ☐ Manufacturer's specification sheets for proposed technology are included
 - ☐ A copy (all pages) of a recent month's utility bill is included
 - ☐ Check this box if you are applying for an ARRA Block Grant.

- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Lighting Control Prescriptive Incentives*

Control Device Type	Incentive per Unit
OSW – Occupancy Sensor Wall Mounted (Existing facilities only)	\$20 per control
OSR – Occupancy Sensor Remote Mounted (Existing facilities only)	\$35 per control
DLD – Fluorescent Daylight Dimming	\$25 per fixture controlled
DLD – Fluorescent Daylight Dimming (Office Applications)	\$50 per fixture controlled
OHLF – Occupancy Controlled High-Low with Step Ballast	\$25 per fixture controlled
OSRH – Occupancy Sensor Remote Mounted	\$35 per control
OHLH – Occupancy Controlled High-Low with Step Ballast	\$75 per fixture controlled
DDH – Daylight Dimming	\$75 per fixture controlled

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Performance Lighting Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State Zip	
Type of Project ☐ New Construction (Renovation and Equipment Replacement are no longer eligible for Performance Lighting Incentives)						Size of Building	
Company Mailing Address				City		State Zip	
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State Zip		Federal Tax ID#	
										Telephone No. ()	
										Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Company						Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address						City		State Zip		Federal Tax ID#	
										Telephone No. ()	
										Fax No. ()	

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Performance Lighting Incentive

\$_____ Total Incentive (per attached worksheet calculations)

- 1. Attach Performance Lighting Incentive Worksheet.**
- 2. Data must be provided to indicate that installed lighting exceeds ASHRAE performance standard by the program incentive threshold (refer to table on next page).**

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements, including special requirements for compact fluorescent fixtures.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Incentives for T-5 and T-8 fluorescent lighting fixtures with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
4. All eligible lighting devices must be UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
5. Incentives are available for new construction only.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Performance Lighting Incentives*

Indoor Lighting Outdoor Lighting (attached to building only)	\$1.00 per watt per square foot below program incentive threshold
Maximum Incentive	\$30 per qualified fixture
Baseline	New Jersey Code (ASHRAE 90.1-2007)
Incentive Threshold New Construction	5% more energy-efficient than ASHRAE 90.1-2007
Minimum Lighting Levels- Applicant shall be responsible for confirming light levels	Lighting installed under the performance incentive path should comply with the following minimum lighting levels: ■ Lighting level requirements as specified by New Jersey's non-residential construction code, or ■ For publicly supported schools, minimum lighting levels as specified in the New Jersey Administrative Code Title 6-NJAC 6:22-5.4, g1-h1.

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com

New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Performance Lighting Incentive Worksheet

Customer Information

Company	Facility Address
☐ Check here if multiple worksheets are being submitted for one project/building.	Date Submitted

Code and Program Limit

A	B	C	D	E	F
Space Type	Gross Lighted Area (sq.ft.)	Unit Lighting Power Allowance (Watts/sq. ft.)	New Construction Program Limit (Watts/sq. ft.) [C x 0.95]	Lighting Power Limit (W) [B x D]	Composite Program Limit [ΣE/ ΣB]
	Σ			Σ	

Installed Lighting Levels

G	H	I	J	K	L
Space ID	Luminaire Tag	Luminaire Description	Number of Luminaires	Watts per Luminaire	Connected Watts [J x K]
			Σ		Σ

M. Composite Connected Watts/Square Foot [ΣL/ΣB]

Incentive Calculation

N. Incentive Margin [F-M] (If less than zero, enter 0; no incentive)

O. Lighting Level Incentive [ΣB x N x \$1]

P. Fixture Maximum Incentive [ΣJ x \$30]

Q. Program Incentive [Enter lesser of O or P]

* To ensure correct incentive calculations, do not include any spaces that exceed the program limit (watts/sq. ft.) in Column D.

Performance Lighting Incentive Worksheet — Instructions

This worksheet is intended for use in assessing incentives that may be available for meeting Performance Lighting criteria of the New Jersey SmartStart Buildings® Program. It is modeled after the lighting worksheets/forms in the ASHRAE 90.1-2007 User's Manual and is intended to be used in conjunction with ASHRAE Standard 90.1-2007 for Lighting Power Densities by building area (Table 9.5.1 - page 62) and space type (Table 9.6.1 - pages 63-64).

1. Applicants must select building types from Table 9.5.1 and space types from Table 9.6.1.
2. Each space type must be listed separately on the worksheet with a corresponding 'Space ID' (see Column G) of sufficient detail for an auditor to find the associated luminaires (see Column H).
3. For each space type with multiple luminaire types (i.e. 2x4 3L and 2x2 2U), list each luminaire type on a separate line. List the 'space type,' 'gross lighted area' and 'space ID' only once and on the first line describing that 'space type.'
4. Interior lighting and exterior lighting must appear on separate worksheets.
5. Incentives are available for new construction only.

Specific Instructions

1. At the top of the page in the space provided, enter the 'building type' (as listed ASHRAE 90.1-2007 Table 9.5.1). Enter in Column A the 'space type' (as listed in ASHRAE 90.1-2007 Table 9.6.1).
2. Enter the floor area of the space in Column B.
3. Select the Unit Lighting Power Allowance (ULPA) from ASHRAE Standard 90.1-2007 for the appropriate space/building using any of the Tables: 9.5.1 (for interior lighting), or 9.4.5 (for exterior lighting) in the standard. Enter this in Column C.
4. Calculate D for New Construction.
5. Calculate E and F.
6. In the lower table in the worksheet, enter installed lighting equipment by type in Columns H and I, indicating spaces where installed in Column G. Enter all lighting fixtures/ luminaires in the building/space, including new and retrofit fixtures, and pre-existing fixtures that remain in use.
7. Enter the number of each type of luminaire in Column J and the watts per luminaire unit in Column K.
8. Calculate Column L.
9. Calculate M and N. If N is zero or less, no incentive is available for this building/space.
10. Calculate O and P.
11. Enter the estimated incentive (lesser amount of O or P) in Line Q.

Performance Lighting Incentives*

Indoor Lighting Outdoor Lighting (attached to building only)	\$1.00 per watt per square foot below program incentive threshold
Maximum Incentive	\$30 per qualified fixture
Baseline	New Jersey Code (ASHRAE 90.1-2007)
Incentive Threshold New Construction	5% more energy-efficient than ASHRAE 90.1-2007
Minimum Lighting Levels – Applicant shall be responsible for confirming light levels	Lighting installed under the performance incentive path should comply with the following minimum lighting levels: ■ Lighting level requirements as specified by New Jersey's non-residential construction code, or ■ For publicly supported schools, minimum lighting levels as specified in the New Jersey Administrative Code Title 6-NJAC 6:22-5.4, g1-h1.

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095
Phone: 866-657-6278 • Fax: 732-855-0422

Visit our website: NJCleanEnergy.com



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

Design Services – Services that may be offered to design professionals under the Program.

Energy-Efficient Measures – Any device eligible to receive a Program Incentive payment through the NJ Clean Energy Commercial and Industrial Program (New Jersey SmartStart Buildings).

New Jersey Utilities – The regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.

Administrator – New Jersey Board of Public Utilities, Office of Clean Energy

Participating Customers – Those non-residential electric and/or gas service customers of the New Jersey Utilities who participate in this Program.

Product Installation or Equipment Installation – Installation of the Energy-Efficient Measures.

Program – The Commercial and Industrial Energy-Efficient Construction Program (New Jersey SmartStart Buildings) offered herein by the New Jersey Board of Public Utilities, Office of Clean Energy pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

Program Incentives – Refers to the amount or level of incentive that the Program provides to Participating Customers pursuant to the Program offered herein (see description under “Incentive Amount” heading).

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above. Program Incentives for new construction are available only for projects in areas designated for growth in the State Plan. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers, or their trade allies, can determine if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Program Manager if you are uncertain about project eligibility.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Refrigeration Doors/Covers Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Refrigeration Doors/Covers Information

Reason Type	Type	Manufacturer	Location	Refrigeration Case Temperature	Hours Store Closed Per Day-For Covers Only	# of Energy-Efficient Doors (A ¹)	Width of Protected Opening In Linear Feet (A ²)	Incentive (Table) (B)	Total Incentives (A ¹ or A ² x B)
N-New	C- Aluminum Night Covers D- Energy-Efficient Doors			Low Temperature (-35°F to -5°F) Medium Temperature (0°F to 30°F) High Temperature (35°F to 55°F)					
(example) N	C	Acme	Non-Dairy Refrigerated Foods	High	6	N/A	40 feet	\$3.50	40 x \$3.50 = \$140
N	D	Acme	Open Dairy Cases	High	N/A	10	30 feet	\$100	10 x \$100 = \$1,000

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Replacement of existing doors/covers not eligible for incentive.
4. Incentives for existing open refrigerated cases only.
5. Doors must have either heat reflective treated glass, be gas filled, or both.
6. Aluminum night curtains incentive applicable for existing refrigerated cases, used for non-frozen products which do not have doors or other means of full or partial closure to reduce cold air loss to ambient room air.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE	By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).
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Refrigeration Covers/Doors Incentives

Type	Incentive
Energy-Efficient Doors/Covers for Open Refrigerated Cases	\$100 per door
Aluminum Night Curtains for Open Refrigerated Cases	\$3.50 per linear foot

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Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.



2012 Refrigeration Controls Application

Customer Information

Company		Electric Utility Serving Applicant		Electric Account No.		Anticipated Installation Date	
Facility Address				City		State	Zip
Type of Project ☐ New Construction ☐ Renovation ☐ Equipment Replacement						Size of Building	
Company Mailing Address				City		State	Zip
Contact Person (Name/Title)				Telephone No. ()		Fax No. ()	
Incorporated? ☐ Yes ☐ No ☐ Exempt				Federal Tax ID# or SSN		E-mail Address	
Incentive Payment to ☐ Customer ☐ Contractor ☐ Other				Please assign payment to contractor/vendor/other indicated below Customer Signature			

Payee Information (must submit W-9 form with application)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Contractor/Vendor Information (if different from Payee)

Company		Contact Name		Incorporated? ☐ Yes ☐ No		E-mail Address	
Street Address		City	State	Zip	Telephone No. ()	Fax No. ()	

Building Type (circle one)

Education-Primary School; Education-Community College; Education-University; Grocery; Medical-Hospital; Medical-Clinic; Lodging Hotel(Guest Rooms); Lodging Motel; Manufacturing-Light Industrial; Office-Large; Office-Small; Restaurant-Sit Down; Restaurant-Fast Food; Retail-3 Story Large; Retail- Single Story Large; Retail-Small; Storage Conditioned; Storage Unconditioned; Warehouse; Other

Refrigeration Controls Information

Reason Type	Type	Manufacturer	Location	Refrigeration Case Temperature	Equipment Info	# of Units (A)	Incentive (Table) (B)	Total Incentives (AxB)
N-New	D - Door Heater Control E - Electric Defrost Control EF - Evaporator Fan Control N - Novelty Cooler Shutoff			Low Temperature (-35°F to -5°F) Medium Temperature (0°F to 30°F) High Temperature (35°F to 55°F)	Door Heater / Electric Defrost - Enter nameplate kW Evaporator Fan - Enter fan and compressor (Amps/Volts/Phase) Novelty Cooler - Enter (Amps/Volts/Phase)			
(Example) N	D	Acme	Dairy Cooler	Low	0.5 kW	4	\$50	4 x \$50 = \$200
N	N	Acme	Open Dairy Cases	Medium	0.9A / 230V / 3-phase	5	\$50	5 x \$50 = \$250

Specific Program Requirements* (these requirements are in addition to the Program Terms and Conditions.)

1. Please refer to the program guide for additional applicable technical requirements.
2. Include the manufacturer's specification sheet with the application package and mail or fax directly to the Commercial/Industrial Program Manager.
3. Replacement of existing refrigeration controls not eligible for incentive.
4. All eligible refrigeration control devices must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.

Application Checklist (before submitting your application, please make sure you have signed in the space below and completed the following items.)

- ☐ Payee Information is filled out and a W-9 form of the payee is included
- ☐ Manufacturer's specification sheets for proposed technology are included
- ☐ A copy (all pages) of a recent month's utility bill is included
- ☐ Check this box if you are applying for an ARRA Block Grant.
- ☐ Check the box if an Energy Savings Improvement Program (ESIP) will be a source of funding. ESIP allows government agencies to pay for energy related improvements using the value of the resulting energy savings.

ACKNOWLEDGEMENT

CUSTOMER'S SIGNATURE

By signing, I certify that I have read, understand and agree to the Specific Program Requirements/Terms and Conditions listed on this application form, I will also submit for approval a properly completed application package, which includes this signed application, worksheet (if applicable), manufacturer's specification sheets and complete utility bill (name and address on utility bill must match name and address on application).

Refrigeration Controls Incentives

Type	Incentive
Door Heater Control	\$50 per control
Electric Defrost Control	\$50 per control
Evaporator Fan Control	\$75 per control
Novelty Cooler Shutoff	\$50 per control

Mail or fax your application package DIRECTLY to the Commercial/Industrial Program Manager.

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New Jersey SmartStart Buildings® is a registered trademark. Use of the mark without the permission of the New Jersey Board of Public Utilities, Office of Clean Energy is prohibited.

*Incentives/Requirements subject to change.



Program Terms and Conditions

Definitions:

Design Incentives – Incentives that may be offered to design professionals by the Program.

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Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient measures that were pre-approved (for exceptions to this condition, please refer to “Exceptions for Approval”). In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer’s cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before December 31, 2012 in order to be eligible for 2012 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager’s approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Unitary HVAC or Motors having an incentive amount less than \$5,000. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

Post-Installation Approval – After installation is completed, the Customer, or an agent authorized by the Customer, must finalize and submit an invoice for the purchase of the equipment (material cost must be broken out from labor costs), and any other required documentation as specified on the equipment application or in the Program Manager’s initial approval letter.

Please refer to the program guide on the NJCleanEnergy.com/ssb website for the complete Application and Eligibility Process.

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures installed under this Program, either prior to issuing incentives or at a later time.

Energy-Efficient Measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the Participating Customer's incentive application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program materials and incentive applications. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease. Design Incentives are available to design professionals as described in the Program materials and applications. A different and separate agreement must be executed by participating design professionals to be eligible for this type of incentive. The design professional does not need to be based in New Jersey.

Equipment procured by Participating Customers through another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, is not eligible for incentives through this program. Customers who have not contributed to the Societal Benefits Charge of the applicable New Jersey Utility are not eligible for incentives offered through this program.

Incentive Amount – Program Incentives will equal either: a) the approved Program Incentive amount, or b) the actual equipment cost of the Energy-Efficient Measure, whichever is less, as determined by the Program Manager. Products offered at no direct cost to the customer are ineligible. Incomplete application submissions, applications requiring inspections and unanticipated high volume of activities may cause processing delays. Program Incentives are limited to \$500,000 per utility account in a calendar year. Contact the Program Manager regarding any questions.

Tax Liability – The Program Manager will not be responsible for any tax liability that may be imposed on any Participating Customer as a result of the payment of Program Incentives. All Participating Customers must supply their federal tax identification number or social security number to the Program Manager on the application form in order to receive a Program Incentive. In addition, Participating Customers must also provide a Tax Clearance Form (entitled "Business Assistance or Incentive Clearance Certificate") that is dated within 90 days of equipment installation.

Endorsement – The Program Manager and Administrator do not endorse, support or recommend any particular manufacturer, product or system design in promoting this Program.

Warranties – THE PROGRAM MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITLY. NO WARRANTIES OR REPRESENTATIONS OF ANY KIND, WHETHER STATUTORY, EXPRESSED, OR IMPLIED, INCLUDING, WITHOUT LIMITATIONS, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE REGARDING EQUIPMENT OR SERVICES PROVIDED BY A MANUFACTURER OR VENDOR. CONTACT YOUR VENDOR/SERVICES PROVIDER FOR DETAILS REGARDING PERFORMANCE AND WARRANTIES.

Limitation of Liability – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against the Program Manager or the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Program Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Program Manager, its representatives, or subcontractors, or the Administrator, be liable for any lost profits, special, punitive, consequential or incidental damages or for any other damages or claims connected with or resulting from participation in this Program. Further, any liability attributed to the Program Manager under this Program shall be individual, and not joint and/or several.

Assignment – The Participating Customer may assign Program Incentive payments to a specified vendor.

Participating Customer's Certification – Participating Customer certifies that he/she purchased and installed the equipment listed in their application at their defined New Jersey location. Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements listed in the application.

Termination – The New Jersey Board of Public Utilities reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

Acknowledgement – I have read, understood and am in compliance with all rules and regulations concerning this incentive program. I certify that all information provided is correct to the best of my knowledge, and I give the Program Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the NJ SmartStart Buildings Program. Additionally, I allow reasonable access to my property to inspect the installation and performance of the technologies and installations that are eligible for incentives under the guidelines of New Jersey's Clean Energy Program.

The graphic consists of a large, light blue rectangle on the left side of the page. A thin blue vertical line separates this rectangle from the rest of the page. A thin blue horizontal line crosses the page, passing through the vertical line. The text "Appendix G" is located in the bottom right quadrant, where the light blue rectangle, the vertical line, and the horizontal line intersect.

Appendix G



2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

- ☒ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Administration Building</u>			
Address <u>163 Monmouth Rd.</u>		City <u>Oakhurst</u>	State <u>NJ</u>
County <u>Monmouth</u>		Zip <u>07755</u>	
Total Sq. Ft. <u>24,000</u>		Year Built <u>1900</u>	Hours/Week Occupied <u> </u>
Facility's Description <u> </u>		Number of Employees <u> </u>	

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☒ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☐ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

Buildings with maximum demand of under 150 kW will not be eligible for the LGEA Program, unless applicant demonstrates need for envelope measures to be evaluated. Direct Install should be considered for the buildings instead of the LGEA Program.

Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100012968028

Annual kWh Use

148,640

Annual Electricity Cost

\$22,517.19

Max Summer kW ⁽²⁾

71.3

Max Winter kW ⁽²⁾

50.0

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas 05-3123-3160-25

Annual Use in Therms

33,535

Annual Natural Gas Cost

\$37,692.94

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

Please mail, fax, or e-mail your completed application to:
New Jersey's Clean Energy Program c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422 • E-mail: LGEA@trcsolutions.com

For further questions, please call 866-657-6278 x4 or visit our website at NJCleanEnergy.com/LGEA

Staff Use Only: Date Received: _____

Project No. _____



2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

☒ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Ocean Township High School</u>			
Address <u>550 West Park Avenue</u>		City <u>Oakhurst</u>	State <u>NJ</u>
County <u>Monmouth</u>		Zip <u>07755</u>	
Total Sq. Ft. <u>200,215</u>		Year Built <u>1964</u>	Hours/Week Occupied
		Number of Employees 	

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☐ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☒ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

Buildings with maximum demand of under 150 kW will not be eligible for the LGEA Program, unless applicant demonstrates need for envelope measures to be evaluated. Direct Install should be considered for the buildings instead of the LGEA Program.

Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100013403629 + 100013657679

Annual kWh Use

2,004,129

Annual Electricity Cost

\$278,333.05

Max Summer kW ⁽²⁾

550.5

Max Winter kW ⁽²⁾

489.9

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas 07-3114-1595-23

Annual Use in Therms

129,596

Annual Natural Gas Cost

\$155,137.63

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

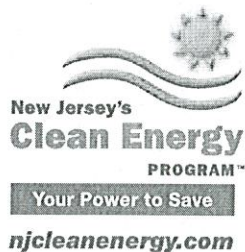
Please mail, fax, or e-mail your completed application to:
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900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422 • E-mail: LGEA@trcsolutions.com

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Staff Use Only: Date Received: _____

Project No. _____



2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

- ☐ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Ocean Township Intermediate School</u>			
Address <u>1200 West Park Avenue</u>		City <u>Ocean</u>	State <u>NJ</u>
County <u>Monmouth</u>		Zip <u>07712</u>	
Total Sq. Ft <u>257,400</u>		Year Built <u>1974</u>	Hours/Week Occupied
Facility's Description 		Number of Employees 	

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☐ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☒ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

Buildings with maximum demand of under 150 kW will not be eligible for the LGEA Program, unless applicant demonstrates need for envelope measures to be evaluated. Direct Install should be considered for the buildings instead of the LGEA Program.

Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100011461552

Annual kWh Use

2,970,031

Annual Electricity Cost

\$421,182.51

Max Summer kW ⁽²⁾

991.2

Max Winter kW ⁽²⁾

1440.0

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas

Annual Use in Therms

93,500

Annual Natural Gas Cost

\$108,440.38

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

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900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422 • E-mail: LGEA@trcsolutions.com

For further questions, please call 866-657-6278 x4 or visit our website at NJCleanEnergy.com/LGEA

Staff Use Only: Date Received: _____

Project No. _____



2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

☒ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Ocean Township Elementary School</u>			
Address <u>555 Dow Avenue</u>		City <u>Oakhurst</u>	State <u>NJ</u>
County <u>Monmouth</u>		Zip <u>07755</u>	
Facility's Description			
Total Sq. Ft <u>76,160</u>	Year Built <u>1957</u>	Hours/Week Occupied	Number of Employees

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☐ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☒ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

Buildings with maximum demand of under 150 kW will not be eligible for the LGEA Program, unless applicant demonstrates need for envelope measures to be evaluated. Direct Install should be considered for the buildings instead of the LGEA Program.

Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100012157705

Annual kWh Use

461,160

Annual Electricity Cost

\$67,511.38

Max Summer kW ⁽²⁾

165.8

Max Winter kW ⁽²⁾

140.6

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas 05-3123-7679-26

Annual Use in Therms

35,828

Annual Natural Gas Cost

\$46,754.92

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

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Project No. _____



2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

- ☒ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Wanamassa Elementary School</u>			
Address <u>901 Bendermere Avenue</u>		City <u>Wanamassa</u>	State <u>NS</u>
County <u>Monmouth</u>		Zip <u>07712</u>	
Facility's Description			
Total Sq. Ft. <u>59,580</u>	Year Built <u>1930</u>	Hours/Week Occupied	Number of Employees

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☐ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☒ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

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Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100058803717

Annual kWh Use

549,306

Annual Electricity Cost

\$77,682.36

Max Summer kW ⁽²⁾

162.7

Max Winter kW ⁽²⁾

134.7

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas

Annual Use in Therms

43024

Annual Natural Gas Cost

\$52,817.29

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

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2012 Local Government Energy Audit Program Facility Data Form

Complete one Facility Data Form for each building that you would like to have audited.

Applying Entity: Ocean Township Board of Education

- ☐ This Entity owns the facility described below or has provided documentation to show that the applicant pays the utility bills and has permission from the building owner to perform audit and install energy-efficient equipment.

Utility Serving Applicant (check all that apply):

- ☐ Atlantic City Electric ☒ Jersey Central Power & Light ☒ New Jersey Natural Gas
☐ Elizabethtown Gas ☐ South Jersey Gas ☐ Public Service Electric & Gas
☐ Rockland Electric Company
☐ Non-regulated energy company (oil, propane, municipal, cooperative, etc.⁽¹⁾): _____

⁽¹⁾ Note: buildings that are NOT served by at least one regulated utility will be eligible to receive incentives on a limited basis, depending on federal funding availability. Applicant must check off the appropriate box above for buildings in this situation.

Facility Information (please complete the info below for this specific facility that is seeking enrollment in the Program.)

Facility Name <u>Wayside Elementary School</u>			
Address <u>733 Bowne Rd.</u>		City <u>Ocean</u>	State <u>NJ</u>
County <u>Monmouth</u>		Zip <u>07712</u>	
Facility's Description			
Total Sq. Ft <u>147,375</u>	Year Built <u>1969</u>	Hours/Week Occupied	Number of Employees

Building Type (check one of the following):

- | | |
|---|--|
| ☐ Emergency Services | ☐ Garage |
| ☐ Center/Meeting Hall/Library | ☐ Offices |
| ☐ Recreation/Entertainment/Parks | ☐ Religious |
| ☒ School | ☐ School: College or University |
| ☐ Water Treatment/Pumping | ☐ Other: _____ |

Energy Data

Please complete the energy information below for the most recent 12 month period available. In order to gain a complete picture of the facility's energy use, be sure to include all types of energy used by the facility. Do not include vehicle fuel.

The data below is for the 12 month period: 1 / 1 / 11 to 12 / 31 / 11

Buildings with maximum demand of under 150 kW will not be eligible for the LGEA Program, unless applicant demonstrates need for envelope measures to be evaluated. Direct Install should be considered for the buildings instead of the LGEA Program.

Electricity

Electricity Utility Name & Account Number(s)

Jersey Central Power and Light 100011531108

Annual kWh Use

759,680

Annual Electricity Cost

\$107,563.97

Max Summer kW ⁽²⁾

242.4

Max Winter kW ⁽²⁾

199.2

⁽²⁾ These numbers are DEMAND. If the max demand is less than 150 kW, please provide additional documentation to demonstrate that the building needs envelope measures considered. Alternatively, the building may be submitted to the Direct Install Program.

Natural Gas

Natural Gas Utility Name & Account Number(s)

New Jersey Natural Gas

Annual Use in Therms

57,529

Annual Natural Gas Cost

\$104,891.81

Fuel Oil

Fuel Oil Utility Name & Account Number(s)

Annual Use in Gallons

Annual Fuel Oil Cost

Propane

Propane Utility Name & Account Number(s)

Annual Use in Gallons

Annual Propane Cost

Other

In this section please indicate any other fuel type that the facility uses, such as: solar energy, wind energy, bio-fuel, cogeneration, fuel cells.

Other Fuel Type:

Annual Energy Use (indicate units)

Annual Energy Cost

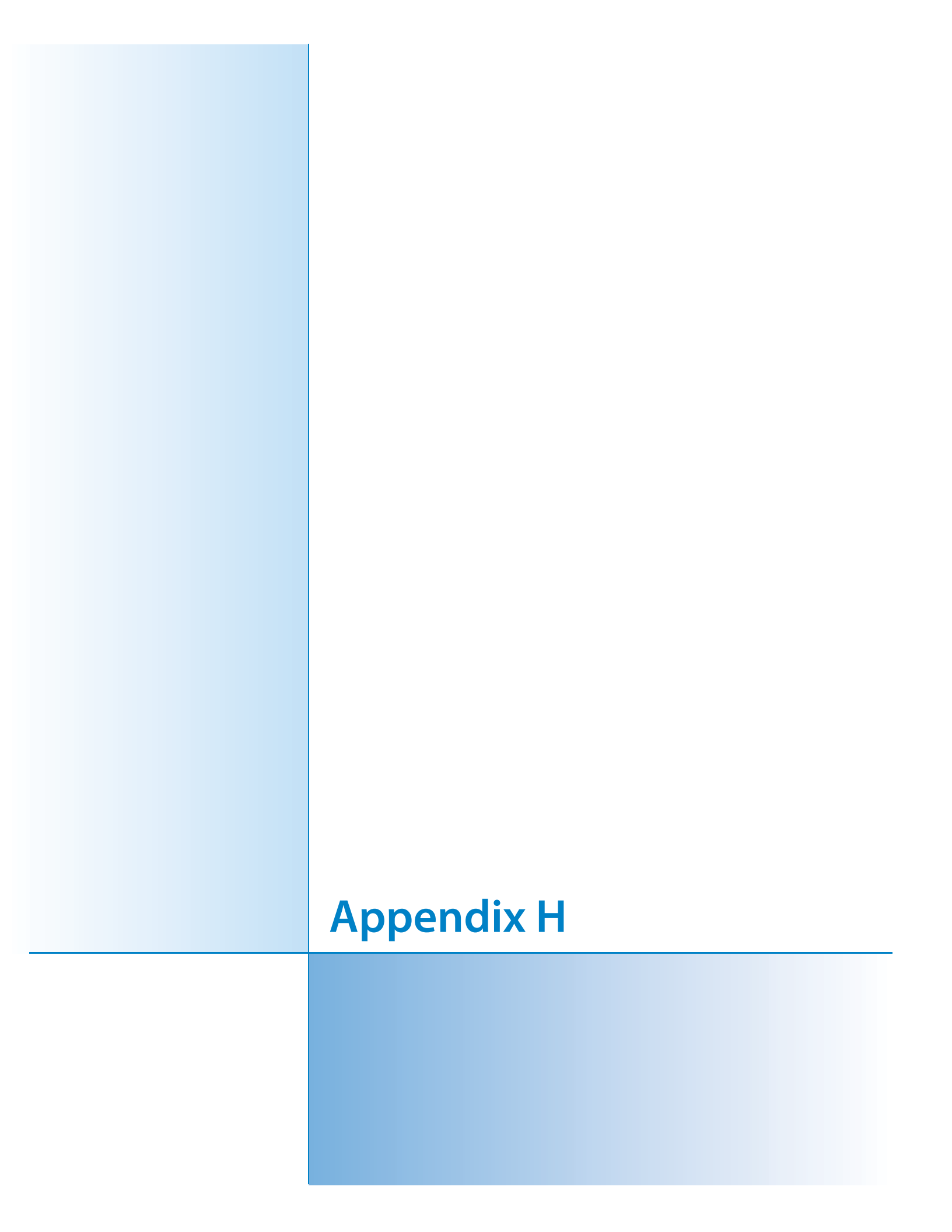
Please mail, fax, or e-mail your completed application to:
New Jersey's Clean Energy Program c/o TRC Energy Services
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422 • E-mail: LGEA@trcsolutions.com

For further questions, please call 866-657-6278 x4 or visit our website at NJCleanEnergy.com/LGEA

Staff Use Only: Date Received: _____

Project No. _____

The graphic consists of a large light blue rectangle on the left side of the page. A thin blue vertical line separates this rectangle from the rest of the page. A thin blue horizontal line crosses the vertical line, extending to the right edge of the page. The text "Appendix H" is positioned to the right of the vertical line, just above the horizontal line. A medium blue rectangle is located at the bottom right of the page, below the horizontal line and to the right of the vertical line.

Appendix H

CDMSmith

11 British American Blvd
Latham, NY 12110
Phone (518) 782-4500
Fax (518) 786-3810

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Administration - Total									
	Lighting Upgrades	1	ea.	\$ 25,022.40	\$ 25,022.40	1	ea.	\$ 15,819.50	\$ 15,819.50	\$ 40,841.90
	Subtotal				\$ 25,022.40				\$ 15,819.50	

Notes:

1. CDM has no control over the cost of labor, materials, equipment, services furnished or market conditions.
2. CDM does not guarantee that this opinion will not vary from actual cost, or contractor's bids.
3. Bonds not included in estimate
4. Escalation not included in estimate.

o "This is an Opinion of Probable Construction Cost only. CDM has no control over the cost of labor, materials, equipment, or services furnished, over schedules, over contractor's methods of determining prices, competitive bidding, market conditions or negotiating terms. CDM does not guarantee that this opinion will not vary from actual cost, or contractor's bids. There are not any costs provided for: Change Orders, Design Engineering, Construction Oversight, Client Costs, Finance or Funding Costs, Legal Fees, Land Acquisition or temporary/permanent Easements, Operations, or any other costs associated with this project that are not specifically part of the bidding contractor's proposed scope.

SUBTOTAL =	\$	40,841.90
MARKUP % =	\$	0.15
MARKUP =	\$	6,126.29
SUB-TOTAL w/ OH & P =	\$	46,968.19
CONTINGENCY % =		0.25
CONTINGENCY =	\$	11,742.05
BUDGET COST ESTIMATE =	\$	58,710.23

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	High School - Total									
	Lighting Upgrades	1	ea.	\$ 23,480.20	\$ 23,480.20	1	ea.	\$ 15,303.50	\$ 15,303.50	\$ 38,783.70
	Subtotal				\$ 23,480.20				\$ 15,303.50	

Notes:

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3. Bonds not included in estimate
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SUBTOTAL =	\$	38,783.70
MARKUP % =	\$	0.15
MARKUP =	\$	5,817.56
SUB-TOTAL w/ OH & P =	\$	44,601.26
CONTINGENCY % =		0.25
CONTINGENCY =	\$	11,150.31
BUDGET COST ESTIMATE =	\$	55,751.57

CDMSmith

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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Town of Ocean Intermediate School - Total									
	Lighting Upgrades	1	ea.	\$ 28,351.65	\$ 28,351.65	1	ea.	\$ 18,006.00	\$ 18,006.00	\$ 46,357.65
	Subtotal				\$ 28,351.65				\$ 18,006.00	

Notes:

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3. Bonds not included in estimate
4. Escalation not included in estimate.

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SUBTOTAL =	\$	46,357.65
MARKUP % =	\$	0.15
MARKUP =	\$	6,953.65
SUB-TOTAL w/ OH & P =	\$	53,311.30
CONTINGENCY % =		0.25
CONTINGENCY =	\$	13,327.82
BUDGET COST ESTIMATE =	\$	66,639.12

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Ocean Township Elementary School - Total									
	Lighting Upgrades	1	ea.	\$ 8,316.00	\$ 8,316.00	1	ea.	\$ 5,242.00	\$ 5,242.00	\$ 13,558.00
	Subtotal				\$ 8,316.00				\$ 5,242.00	

Notes:

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3. Bonds not included in estimate
4. Escalation not included in estimate.

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SUBTOTAL =	\$	13,558.00
MARKUP % =	\$	0.15
MARKUP =	\$	2,033.70
SUB-TOTAL w/ OH & P =	\$	15,591.70
CONTINGENCY % =		0.25
CONTINGENCY =	\$	3,897.93
BUDGET COST ESTIMATE =	\$	19,489.63

CDMSmith

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Fax (518) 786-3810

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Wanamassa - Total									
	Lighting Upgrades	1	ea.	\$ 15,794.00	\$ 15,794.00	1	ea.	\$ 8,181.00	\$ 8,181.00	\$ 23,975.00
	Subtotal				\$ 15,794.00				\$ 8,181.00	

Notes:

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3. Bonds not included in estimate
4. Escalation not included in estimate.

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SUBTOTAL =	\$	23,975.00
MARKUP % =	\$	0.15
MARKUP =	\$	3,596.25
SUB-TOTAL w/ OH & P =	\$	27,571.25
CONTINGENCY % =		0.25
CONTINGENCY =	\$	6,892.81
BUDGET COST ESTIMATE =	\$	34,464.06

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Wayside - Total									
	Lighting Upgrades	1	ea.	\$ 20,968.00	\$ 20,968.00	1	ea.	\$ 9,997.50	\$ 9,997.50	\$ 30,965.50
	Subtotal				\$ 20,968.00				\$ 9,997.50	

Notes:

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3. Bonds not included in estimate
4. Escalation not included in estimate.

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SUBTOTAL =	\$	30,965.50
MARKUP % =	\$	0.15
MARKUP =	\$	4,644.83
SUB-TOTAL w/ OH & P =	\$	35,610.33
CONTINGENCY % =		0.25
CONTINGENCY =	\$	8,902.58
BUDGET COST ESTIMATE =	\$	44,512.91

CDMSmith

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Fax (518) 786-3810

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Administration - Total									
	Solar	1	ea.	\$ 542,500.00	\$ 542,500.00	1	ea.	\$ 232,500.00	\$ 232,500.00	\$ 775,000.00
	Subtotal				\$ 542,500.00				\$ 232,500.00	

SUBTOTAL = \$ 775,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 193,750.00
BUDGET COST ESTIMATE = \$ 968,750.00

- Notes:
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 3. Bonds not included in estimate
 4. Escalation not included in estimate

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ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	High School - Total									
	Solar	1	ea.	\$ 1,204,000.00	\$ 1,204,000.00	1	ea.	\$ 516,000.00	\$ 516,000.00	\$ 1,720,000.00
	Subtotal				\$ 1,204,000.00				\$ 516,000.00	

SUBTOTAL = \$ 1,720,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 430,000.00
BUDGET COST ESTIMATE = \$ 2,150,000.00

- Notes:
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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Town of Ocean Intermediate School - Total									
	Solar	1	ea.	\$ 1,645,000.00	\$ 1,645,000.00	1	ea.	\$ 705,000.00	\$ 705,000.00	\$ 2,350,000.00
	Subtotal				\$ 1,645,000.00				\$ 705,000.00	

SUBTOTAL = \$ 2,350,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 587,500.00
BUDGET COST ESTIMATE = \$ 2,937,500.00

- Notes:
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 3. Bonds not included in estimate
 4. Escalation not included in estimate

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ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Ocean Township Elementary School - Total									
	Solar	1	ea.	\$ 2,086,000.00	\$ 2,086,000.00	1	ea.	\$ 894,000.00	\$ 894,000.00	\$ 2,980,000.00
	Subtotal				\$ 2,086,000.00				\$ 894,000.00	

SUBTOTAL = \$ 2,980,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 745,000.00
BUDGET COST ESTIMATE = \$ 3,725,000.00

- Notes:
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 3. Bonds not included in estimate
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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Board of Education
Estimate by: RG
Checked by: JM

ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Wanamassa - Total									
	Solar	1	ea.	\$ 511,000.00	\$ 511,000.00	1	ea.	\$ 219,000.00	\$ 219,000.00	\$ 730,000.00
	Subtotal				\$ 511,000.00				\$ 219,000.00	

SUBTOTAL = \$ 730,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 182,500.00
BUDGET COST ESTIMATE = \$ 912,500.00

- Notes:
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 3. Bonds not included in estimate
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ITEM	DESCRIPTION	QTY	UNIT	MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	LABOR COST	LABOR SUBTOTAL	TOTAL
1	Wayside - Total									
	Solar	1	ea.	\$ 889,000.00	\$ 889,000.00	1	ea.	\$ 381,000.00	\$ 381,000.00	\$ 1,270,000.00
	Subtotal				\$ 889,000.00				\$ 381,000.00	

SUBTOTAL = \$ 1,270,000.00
CONTINGENCY % = 0.25
CONTINGENCY = \$ 317,500.00
BUDGET COST ESTIMATE = \$ 1,587,500.00

- Notes:
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CDM Smith

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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

Location: Ocean Township Elementary School
Estimate by: BRM
Checked by: CDW

ITEM	DESCRIPTION	QTY	UNIT	*MATERIAL UNIT COST	MATERIAL SUBTOTAL	QTY	UNIT	**LABOR COST	LABOR SUBTOTAL	TOTAL
	Ocean Elementary: DHW Replacement									
1	Condensing Water Heater, 280 MBH	1	Ea.	\$ 5,900.00	\$ 5,900.00	1	Ea.	\$220.00	\$220.00	\$ 6,120.00
2	Water Heater Removal, 120 Gallon	3	Ea.	\$ -	\$ -	3	Ea.	\$70.00	\$210.00	\$ 210.00
3	Copper pipe, 1-1/2" Type L, with Hangers	35	L.F.	\$ 21.50	\$ 752.50	35	L.F.	\$10.95	\$383.25	\$ 1,135.75
4	Steel pipe, 2" Schedule 40, with Hangers	110	L.F.	\$ 15.10	\$ 1,661.00	110	L.F.	\$15.40	\$1,694.00	\$ 3,355.00
2	Fiberglass Pipe Insulation, 1" wall	35	L.F.	\$ 2.00	\$ 70.00	35	L.F.	\$3.99	\$139.65	\$ 209.65
3	Pipe Demolition, 1-1/2" or less	35	L.F.	\$ -	\$ -	35	L.F.	\$3.00	\$105.00	\$ 105.00
	Subtotal				8,383.50				2,751.90	

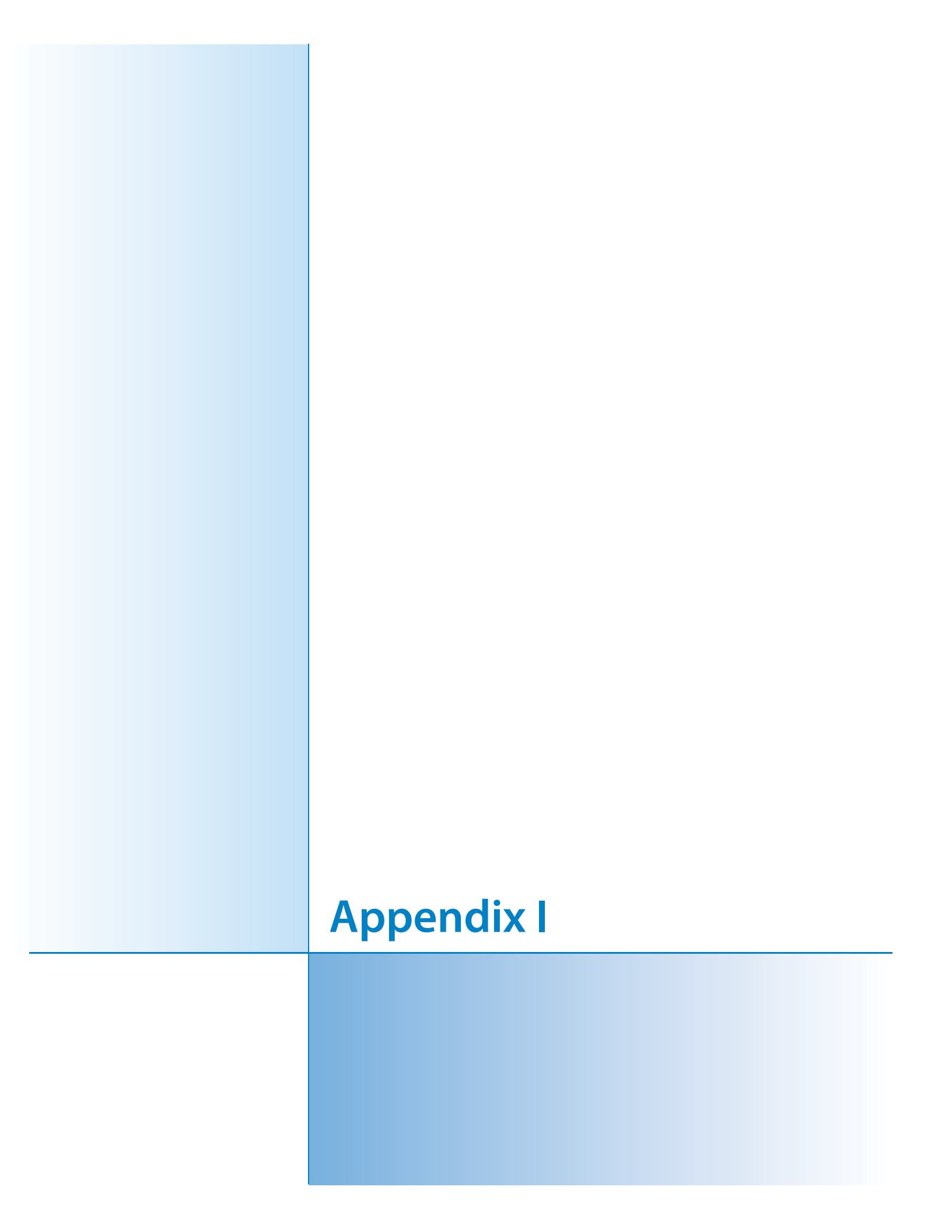
*Pricing per RS Means COSTWORKS and Vender. Does not include new connection to the existing natural gas service, pressure regulation valves and electrical modification.

**Includes installation cost per RS Means COSTWORKS.

Notes:

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- Escalation not included in estimate.
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SUBTOTAL =	\$	11,135.40
MARKUP % =	\$	0.15
MARKUP =	\$	1,670.31
SUB-TOTAL w/ OH & P =	\$	12,805.71
CONTINGENCY % =		0.25
CONTINGENCY =	\$	3,201.43
BUDGET COST ESTIMATE =	\$	16,007.14

The graphic consists of a large, light blue rectangle in the top-left corner and a smaller, medium blue rectangle in the bottom-right corner. A thin blue line runs vertically from the top of the page to the bottom of the medium blue rectangle, and a thin blue line runs horizontally from the left edge of the page to the right edge of the medium blue rectangle. The text "Appendix I" is positioned at the intersection of these lines, centered between the two rectangles.

Appendix I

IRR, NPV, AROI - Wind Energy Systems

Financial Calculations

Based on inflation of: 3%

O&M inflation: 3%

Wind Turbine - Minimum Wind Speed				Wind Turbine - Maximum Wind Speed				Wind Turbine - Average Wind Speed			
REIP Incentive: \$0				REIP Incentive: \$0				REIP Incentive: \$0			
Year	Energy Savings	REC Sales	Cash Flow	Year	Energy Savings	REC Sales	Cash Flow	Year	Energy Savings	REC Sales	Cash Flow
0			(\$450,000)	0			(\$450,000)	0			(\$450,000)
1	\$12,401.6	\$1,938	\$14,339	1	\$25,253.4	\$3,946	\$29,199	1	\$19,875.2	\$3,106	\$22,981
2	\$12,709.8	\$1,928	\$14,638	2	\$25,881.0	\$3,926	\$29,807	2	\$20,369.1	\$3,090	\$23,459
3	\$13,025.6	\$1,918	\$14,944	3	\$26,524.1	\$3,906	\$30,431	3	\$20,875.3	\$3,075	\$23,950
4	\$13,349.3	\$1,909	\$15,258	4	\$27,183.3	\$3,887	\$31,070	4	\$21,394.0	\$3,059	\$24,453
5	\$13,681.0	\$1,899	\$15,580	5	\$27,858.8	\$3,868	\$31,726	5	\$21,925.7	\$3,044	\$24,970
6	\$14,021.0	\$1,890	\$15,911	6	\$28,551.0	\$3,848	\$32,399	6	\$22,470.5	\$3,029	\$25,499
7	\$14,369.4	\$1,880	\$16,250	7	\$29,260.5	\$3,829	\$33,089	7	\$23,028.9	\$3,013	\$26,042
8	\$14,726.5	\$1,871	\$16,597	8	\$29,987.7	\$3,810	\$33,797	8	\$23,601.2	\$2,998	\$26,600
9	\$15,092.5	\$1,862	\$16,954	9	\$30,732.9	\$3,791	\$34,524	9	\$24,187.7	\$2,983	\$27,171
10	\$15,467.5	\$1,852	\$17,320	10	\$31,496.6	\$3,772	\$35,268	10	\$24,788.7	\$2,969	\$27,757
11	\$15,851.9	\$1,843	\$17,695	11	\$32,279.3	\$3,753	\$36,032	11	\$25,404.7	\$2,954	\$28,358
12	\$16,245.8	\$1,834	\$18,080	12	\$33,081.4	\$3,734	\$36,816	12	\$26,036.0	\$2,939	\$28,975
13	\$16,649.5	\$1,825	\$18,474	13	\$33,903.5	\$3,716	\$37,619	13	\$26,683.0	\$2,924	\$29,607
14	\$17,063.2	\$1,816	\$18,879	14	\$34,746.0	\$3,697	\$38,443	14	\$27,346.1	\$2,910	\$30,256
15	\$17,487.3	\$1,806	\$19,294	15	\$35,609.4	\$3,678	\$39,288	15	\$28,025.7	\$2,895	\$30,921
16	\$17,921.8	\$1,797	\$19,719	16	\$36,494.3	\$3,660	\$40,154	16	\$28,722.1	\$2,881	\$31,603
17	\$18,367.2	\$1,788	\$20,156	17	\$37,401.2	\$3,642	\$41,043	17	\$29,435.8	\$2,866	\$32,302
18	\$18,823.6	\$1,779	\$20,603	18	\$38,330.6	\$3,624	\$41,954	18	\$30,167.3	\$2,852	\$33,019
19	\$19,291.4	\$1,771	\$21,062	19	\$39,283.1	\$3,605	\$42,889	19	\$30,917.0	\$2,838	\$33,755
20	\$19,770.8	\$1,762	\$21,532	20	\$40,259.3	\$3,587	\$43,847	20	\$31,685.3	\$2,823	\$34,509
21	\$20,262.1	\$1,753	\$22,015	21	\$41,259.8	\$3,569	\$44,829	21	\$32,472.6	\$2,809	\$35,282
22	\$20,765.6	\$1,744	\$22,510	22	\$42,285.1	\$3,552	\$45,837	22	\$33,279.6	\$2,795	\$36,075
23	\$21,281.6	\$1,735	\$23,017	23	\$43,335.8	\$3,534	\$46,870	23	\$34,106.6	\$2,781	\$36,888
24	\$21,810.5	\$1,727	\$23,537	24	\$44,412.7	\$3,516	\$47,929	24	\$34,954.1	\$2,767	\$37,721
25	\$22,352.4	\$1,718	\$24,071	25	\$45,516.4	\$3,499	\$49,015	25	\$35,822.7	\$2,754	\$38,576
IRR 0.29%				IRR 6.16%				IRR 3.98%			
NPV (\$134,340.84)				NPV \$192,778.33				NPV \$55,885.45			
AROI -0.81%				AROI 2.49%				AROI 1.11%			

ECM	Ocean Township Board of Education - Minimum Wind Speed	Ocean Township Board of Education - Maximum Wind Speed	Ocean Township Board of Education - Average Wind Speed
Assumed Inflation (Gas)			
Initial Yearly Savings (Gas)			
Assumed Inflation (Electricity)	3%	3%	3%
Initial Yearly Savings (Electricity)	\$12,401.60	\$25,253.44	\$19,875.20
Assumed Average Useful Life (Years)	25	25	25
Lifetime Savings	\$452,153.21	\$920,721.84	\$724,635.17
<u>Year</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
1	\$12,401.60	\$25,253.44	\$19,875.20
2	\$12,773.65	\$26,011.04	\$20,471.46
3	\$13,156.86	\$26,791.37	\$21,085.60
4	\$13,551.56	\$27,595.12	\$21,718.17
5	\$13,958.11	\$28,422.97	\$22,369.71
6	\$14,376.85	\$29,275.66	\$23,040.80
7	\$14,808.16	\$30,153.93	\$23,732.03
8	\$15,252.40	\$31,058.55	\$24,443.99
9	\$15,709.98	\$31,990.30	\$25,177.31
10	\$16,181.28	\$32,950.01	\$25,932.63
11	\$16,666.71	\$33,938.51	\$26,710.61
12	\$17,166.71	\$34,956.67	\$27,511.93
13	\$17,681.72	\$36,005.37	\$28,337.28
14	\$18,212.17	\$37,085.53	\$29,187.40
15	\$18,758.53	\$38,198.09	\$30,063.02
16	\$19,321.29	\$39,344.04	\$30,964.91
17	\$19,900.93	\$40,524.36	\$31,893.86
18	\$20,497.96	\$41,740.09	\$32,850.68
19	\$21,112.89	\$42,992.29	\$33,836.20
20	\$21,746.28	\$44,282.06	\$34,851.28
21	\$22,398.67	\$45,610.52	\$35,896.82
22	\$23,070.63	\$46,978.84	\$36,973.73
23	\$23,762.75	\$48,388.20	\$38,082.94
24	\$24,475.63	\$49,839.85	\$39,225.43
25	\$25,209.90	\$51,335.04	\$40,402.19

ECM	Administration - Total	High School - Total	Town of Ocean Intermediate School - Total	Ocean Township Elementary School - Total	Wanamassa - Total	Wayside - Total
Assumed Inflation (Gas)	2%	2%	2%	2%	2%	2%
Initial Yearly Savings (Gas)						
Assumed Inflation (Electricity)	3%	3%	3%	3%	3%	3%
Initial Yearly Savings (Electricity)	\$7,949.48	\$26,723.04	\$33,905.26	\$7,609.75	\$8,125.61	\$9,435.60
Assumed Average Useful Life (Years)	15	15	15	15	15	15
Lifetime Savings	\$147,851.67	\$497,019.52	\$630,600.96	\$141,533.15	\$151,127.56	\$175,491.86
<u>Year</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
1	\$7,949.48	\$26,723.04	\$33,905.26	\$7,609.75	\$8,125.61	\$9,435.60
2	\$8,187.96	\$27,524.73	\$34,922.41	\$7,838.05	\$8,369.38	\$9,718.67
3	\$8,433.60	\$28,350.47	\$35,970.09	\$8,073.19	\$8,620.46	\$10,010.23
4	\$8,686.61	\$29,200.99	\$37,049.19	\$8,315.38	\$8,879.08	\$10,310.53
5	\$8,947.21	\$30,077.02	\$38,160.67	\$8,564.84	\$9,145.45	\$10,619.85
6	\$9,215.62	\$30,979.33	\$39,305.49	\$8,821.79	\$9,419.81	\$10,938.44
7	\$9,492.09	\$31,908.71	\$40,484.65	\$9,086.44	\$9,702.41	\$11,266.60
8	\$9,776.86	\$32,865.97	\$41,699.19	\$9,359.04	\$9,993.48	\$11,604.59
9	\$10,070.16	\$33,851.95	\$42,950.17	\$9,639.81	\$10,293.28	\$11,952.73
10	\$10,372.27	\$34,867.51	\$44,238.67	\$9,929.00	\$10,602.08	\$12,311.31
11	\$10,683.43	\$35,913.53	\$45,565.83	\$10,226.87	\$10,920.14	\$12,680.65
12	\$11,003.94	\$36,990.94	\$46,932.81	\$10,533.68	\$11,247.75	\$13,061.07
13	\$11,334.06	\$38,100.66	\$48,340.79	\$10,849.69	\$11,585.18	\$13,452.91
14	\$11,674.08	\$39,243.68	\$49,791.01	\$11,175.18	\$11,932.74	\$13,856.49
15	\$12,024.30	\$40,421.00	\$51,284.74	\$11,510.44	\$12,290.72	\$14,272.19
ECM	Administration - Interior	High School - Interior	Town of Ocean Intermediate School - Interior	Ocean Township Elementary School - Interior	Wanamassa - Interior	Wayside - Interior
Assumed Inflation (Gas)	2%	2%	2%	2%	2%	2%
Initial Yearly Savings (Gas)						
Assumed Inflation (Electricity)	3%	3%	3%	3%	3%	3%
Initial Yearly Savings (Electricity)	\$7,809.84	\$25,652.48	\$32,772.15	\$7,052.75	\$7,233.49	\$7,916.21
Assumed Average Useful Life (Years)	15	15	15	15	15	15
Lifetime Savings	\$145,254.59	\$477,108.35	\$609,526.47	\$131,173.42	\$134,535.09	\$147,233.00
<u>Year</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
1	\$7,809.84	\$25,652.48	\$32,772.15	\$7,052.75	\$7,233.49	\$7,916.21
2	\$8,044.14	\$26,422.06	\$33,755.32	\$7,264.33	\$7,450.50	\$8,153.70
3	\$8,285.46	\$27,214.72	\$34,767.98	\$7,482.26	\$7,674.01	\$8,398.31
4	\$8,534.03	\$28,031.16	\$35,811.02	\$7,706.73	\$7,904.23	\$8,650.26
5	\$8,790.05	\$28,872.10	\$36,885.35	\$7,937.93	\$8,141.36	\$8,909.77
6	\$9,053.75	\$29,738.26	\$37,991.91	\$8,176.07	\$8,385.60	\$9,177.06
7	\$9,325.36	\$30,630.41	\$39,131.67	\$8,421.35	\$8,637.17	\$9,452.37
8	\$9,605.12	\$31,549.32	\$40,305.62	\$8,673.99	\$8,896.28	\$9,735.95
9	\$9,893.27	\$32,495.80	\$41,514.78	\$8,934.21	\$9,163.17	\$10,028.02
10	\$10,190.07	\$33,470.67	\$42,760.23	\$9,202.23	\$9,438.07	\$10,328.86
11	\$10,495.78	\$34,474.79	\$44,043.03	\$9,478.30	\$9,721.21	\$10,638.73
12	\$10,810.65	\$35,509.04	\$45,364.33	\$9,762.65	\$10,012.84	\$10,957.89
13	\$11,134.97	\$36,574.31	\$46,725.26	\$10,055.53	\$10,313.23	\$11,286.63
14	\$11,469.02	\$37,671.54	\$48,127.01	\$10,357.20	\$10,622.63	\$11,625.23
15	\$11,813.09	\$38,801.68	\$49,570.82	\$10,667.91	\$10,941.31	\$11,973.98

ECM	Administration - Exterior	High School - Exterior	Town of Ocean Intermediate School - Exterior	Ocean Township Elementary School - Exterior	Wanamassa - Exterior	Wayside - Exterior
Assumed Inflation (Gas)	2%	2%	2%	2%	2%	2%
Initial Yearly Savings (Gas)						
Assumed Inflation (Electricity)	3%	3%	3%	3%	3%	3%
Initial Yearly Savings (Electricity)	\$139.64	\$1,070.56	\$1,133.10	\$557.01	\$892.12	\$1,519.38
Assumed Average Useful Life (Years)	15	15	15	15	15	15
Lifetime Savings	\$2,597.08	\$19,911.17	\$21,074.48	\$10,359.73	\$16,592.47	\$28,258.87
<u>Year</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
1	\$139.64	\$1,070.56	\$1,133.10	\$557.01	\$892.12	\$1,519.38
2	\$143.83	\$1,102.67	\$1,167.10	\$573.72	\$918.88	\$1,564.96
3	\$148.14	\$1,135.75	\$1,202.11	\$590.93	\$946.45	\$1,611.91
4	\$152.58	\$1,169.82	\$1,238.17	\$608.66	\$974.84	\$1,660.27
5	\$157.16	\$1,204.92	\$1,275.32	\$626.92	\$1,004.09	\$1,710.08
6	\$161.88	\$1,241.07	\$1,313.58	\$645.72	\$1,034.21	\$1,761.38
7	\$166.73	\$1,278.30	\$1,352.98	\$665.10	\$1,065.24	\$1,814.22
8	\$171.73	\$1,316.65	\$1,393.57	\$685.05	\$1,097.20	\$1,868.65
9	\$176.89	\$1,356.15	\$1,435.38	\$705.60	\$1,130.11	\$1,924.71
10	\$182.19	\$1,396.83	\$1,478.44	\$726.77	\$1,164.01	\$1,982.45
11	\$187.66	\$1,438.74	\$1,522.80	\$748.57	\$1,198.94	\$2,041.92
12	\$193.29	\$1,481.90	\$1,568.48	\$771.03	\$1,234.90	\$2,103.18
13	\$199.09	\$1,526.36	\$1,615.53	\$794.16	\$1,271.95	\$2,166.28
14	\$205.06	\$1,572.15	\$1,664.00	\$817.98	\$1,310.11	\$2,231.26
15	\$211.21	\$1,619.31	\$1,713.92	\$842.52	\$1,349.41	\$2,298.20

IRR, NPV, AROI

Inflation Rate: 3%

Lighting Upgrades Administration - Total		Lighting Upgrades High School - Total		Lighting Upgrades Town of Ocean Intermediate School - Total		Lighting Upgrades Ocean Township Elementary School - Total		Lighting Upgrades Wanamassa - Total		Lighting Upgrades Wayside - Total	
Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$55,345.23)	0	(\$48,956.57)	0	(\$57,619.12)	0	(\$16,619.63)	0	(\$29,784.06)	0	(\$38,467.91)
1	\$9,359.74	1	\$27,772.74	1	\$34,918.97	1	\$7,545.74	1	\$7,514.25	1	\$8,211.20
2	\$9,640.53	2	\$28,605.92	2	\$35,966.54	2	\$7,772.12	2	\$7,739.68	2	\$8,457.53
3	\$9,929.75	3	\$29,464.10	3	\$37,045.53	3	\$8,005.28	3	\$7,971.87	3	\$8,711.26
4	\$10,227.64	4	\$30,348.02	4	\$38,156.90	4	\$8,245.44	4	\$8,211.03	4	\$8,972.60
5	\$10,534.47	5	\$31,258.46	5	\$39,301.60	5	\$8,492.80	5	\$8,457.36	5	\$9,241.77
6	\$10,850.50	6	\$32,196.22	6	\$40,480.65	6	\$8,747.58	6	\$8,711.08	6	\$9,519.03
7	\$11,176.02	7	\$33,162.10	7	\$41,695.07	7	\$9,010.01	7	\$8,972.41	7	\$9,804.60
8	\$11,511.30	8	\$34,156.97	8	\$42,945.92	8	\$9,280.31	8	\$9,241.58	8	\$10,098.74
9	\$11,856.64	9	\$35,181.68	9	\$44,234.30	9	\$9,558.72	9	\$9,518.83	9	\$10,401.70
10	\$12,212.34	10	\$36,237.13	10	\$45,561.33	10	\$9,845.48	10	\$9,804.39	10	\$10,713.75
11	\$12,578.71	11	\$37,324.24	11	\$46,928.17	11	\$10,140.85	11	\$10,098.53	11	\$11,035.16
12	\$12,956.07	12	\$38,443.97	12	\$48,336.02	12	\$10,445.07	12	\$10,401.48	12	\$11,366.22
13	\$13,344.75	13	\$39,597.29	13	\$49,786.10	13	\$10,758.43	13	\$10,713.53	13	\$11,707.20
14	\$13,745.09	14	\$40,785.20	14	\$51,279.68	14	\$11,081.18	14	\$11,034.93	14	\$12,058.42
15	\$14,157.44	15	\$42,008.76	15	\$52,818.07	15	\$11,413.61	15	\$11,365.98	15	\$12,420.17
IRR	17.59%	IRR	59.65%	IRR	63.48%	IRR	47.66%	IRR	27.16%	IRR	22.82%
NPV	\$80,961.65	NPV	\$355,500.81	NPV	\$450,849.52	NPV	\$93,069.85	NPV	\$79,646.79	NPV	\$81,112.64
AROI	10.24%	AROI	50.06%	AROI	53.87%	AROI	38.20%	AROI	18.56%	AROI	14.68%
Lighting Upgrades Administration - Interior		Lighting Upgrades High School - Interior		Lighting Upgrades Town of Ocean Intermediate School - Interior		Lighting Upgrades Ocean Township Elementary School - Interior		Lighting Upgrades Wanamassa - Interior		Lighting Upgrades Wayside - Interior	
Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$53,415.67)	0	(\$38,125.54)	0	(\$47,932.09)	0	(\$13,123.13)	0	(\$14,772.03)	0	(\$14,654.16)
1	\$9,322.10	1	\$26,879.40	1	\$34,049.88	1	\$7,052.75	1	\$7,404.13	1	\$7,916.21
2	\$9,601.77	2	\$27,685.79	2	\$35,071.38	2	\$7,264.33	2	\$7,626.26	2	\$8,153.70
3	\$9,889.82	3	\$28,516.36	3	\$36,123.52	3	\$7,482.26	3	\$7,855.04	3	\$8,398.31
4	\$10,186.51	4	\$29,371.85	4	\$37,207.23	4	\$7,706.73	4	\$8,090.69	4	\$8,650.26
5	\$10,492.11	5	\$30,253.01	5	\$38,323.44	5	\$7,937.93	5	\$8,333.42	5	\$8,909.77
6	\$10,806.87	6	\$31,160.60	6	\$39,473.15	6	\$8,176.07	6	\$8,583.42	6	\$9,177.06
7	\$11,131.08	7	\$32,095.41	7	\$40,657.34	7	\$8,421.35	7	\$8,840.92	7	\$9,452.37
8	\$11,465.01	8	\$33,058.28	8	\$41,877.06	8	\$8,673.99	8	\$9,106.15	8	\$9,735.95
9	\$11,808.96	9	\$34,050.03	9	\$43,133.37	9	\$8,934.21	9	\$9,379.33	9	\$10,028.02
10	\$12,163.23	10	\$35,071.53	10	\$44,427.38	10	\$9,202.23	10	\$9,660.71	10	\$10,328.86
11	\$12,528.13	11	\$36,123.67	11	\$45,760.20	11	\$9,478.30	11	\$9,950.53	11	\$10,638.73
12	\$12,903.97	12	\$37,207.38	12	\$47,133.00	12	\$9,762.65	12	\$10,249.05	12	\$10,957.89
13	\$13,291.09	13	\$38,323.60	13	\$48,546.99	13	\$10,055.53	13	\$10,556.52	13	\$11,286.63
14	\$13,689.82	14	\$39,473.31	14	\$50,003.40	14	\$10,357.20	14	\$10,873.22	14	\$11,625.23
15	\$14,100.52	15	\$40,657.51	15	\$51,503.50	15	\$10,667.91	15	\$11,199.41	15	\$11,973.98
IRR	18.25%	IRR	73.47%	IRR	74.01%	IRR	56.64%	IRR	52.99%	IRR	56.92%
NPV	\$82,343.11	NPV	\$353,322.10	NPV	\$447,940.01	NPV	\$89,586.77	NPV	\$93,055.13	NPV	\$100,630.52
AROI	10.79%	AROI	63.84%	AROI	64.37%	AROI	47.08%	AROI	43.46%	AROI	47.35%
Lighting Upgrades Administration - Exterior		Lighting Upgrades High School - Exterior		Lighting Upgrades Town of Ocean Intermediate School - Exterior		Lighting Upgrades Ocean Township Elementary School - Exterior		Lighting Upgrades Wanamassa - Exterior		Lighting Upgrades Wayside - Exterior	
Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15		Life of ECRM (Yrs): 15	
Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow	Year	Cash Flow
0	(\$1,929.56)	0	(\$10,831.03)	0	(\$9,747.03)	0	(\$3,696.50)	0	(\$15,012.03)	0	(\$23,813.75)
1	\$37.64	1	\$893.34	1	\$869.08	1	\$493.00	1	\$110.12	1	\$294.98
2	\$38.77	2	\$920.14	2	\$895.16	2	\$507.79	2	\$113.42	2	\$303.83
3	\$39.93	3	\$947.74	3	\$922.01	3	\$523.02	3	\$116.83	3	\$312.95
4	\$41.13	4	\$976.17	4	\$949.67	4	\$538.71	4	\$120.33	4	\$322.34
5	\$42.36	5	\$1,005.46	5	\$978.16	5	\$554.87	5	\$123.94	5	\$332.01
6	\$43.63	6	\$1,035.62	6	\$1,007.51	6	\$571.52	6	\$127.66	6	\$341.97
7	\$44.94	7	\$1,066.69	7	\$1,037.73	7	\$588.66	7	\$131.49	7	\$352.22
8	\$46.29	8	\$1,098.69	8	\$1,068.86	8	\$606.32	8	\$135.43	8	\$362.79
9	\$47.68	9	\$1,131.65	9	\$1,100.93	9	\$624.51	9	\$139.50	9	\$373.68
10	\$49.11	10	\$1,165.60	10	\$1,133.96	10	\$643.25	10	\$143.68	10	\$384.89
11	\$50.58	11	\$1,200.57	11	\$1,167.97	11	\$662.55	11	\$147.99	11	\$396.43
12	\$52.10	12	\$1,236.59	12	\$1,203.01	12	\$682.42	12	\$152.43	12	\$408.32
13	\$53.66	13	\$1,273.68	13	\$1,239.10	13	\$702.90	13	\$157.01	13	\$420.57
14	\$55.27	14	\$1,311.89	14	\$1,276.28	14	\$723.98	14	\$161.72	14	\$433.19
15	\$56.93	15	\$1,351.25	15	\$1,314.57	15	\$745.70	15	\$166.57	15	\$446.19
IRR	-10.13%	IRR	5.46%	IRR	6.56%	IRR	13.03%	IRR	-17.77%	IRR	-13.86%
NPV	(\$1,381.46)	NPV	\$2,178.71	NPV	\$2,909.52	NPV	\$3,483.07	NPV	(\$13,408.34)	NPV	(\$19,517.89)
AROI	-4.72%	AROI	1.58%	AROI	2.25%	AROI	6.67%	AROI	-5.93%	AROI	-5.43%

IRR, NPV, AROI - PV Solar Energy Systems

Financial Calculations

Based on inflation of: 3%

O&M inflation: 3%

Administration					High School					Town of Ocean Intermediate School					Ocean Township Elementary School				
Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow	Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow	Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow	Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow
0				(\$968,750)	0				(\$2,150,000)	0				(\$3,725,000)	0				(\$2,937,500)
1	\$16,551.0	\$27,585	(\$1,839)	\$42,297	1	\$33,102.0	\$66,204	(\$4,414)	\$94,892	1	\$58,848.0	\$117,696	(\$7,846)	\$168,698	1	\$49,040.0	\$91,950	(\$6,130)	\$134,860
2	\$16,962.3	\$27,447	(\$1,830)	\$42,580	2	\$33,924.6	\$66,873	(\$4,392)	\$95,406	2	\$60,310.4	\$117,108	(\$7,807)	\$169,611	2	\$50,258.6	\$91,490	(\$6,099)	\$135,650
3	\$17,383.8	\$27,310	(\$1,821)	\$42,873	3	\$34,767.6	\$66,544	(\$4,370)	\$95,942	3	\$61,809.1	\$116,522	(\$7,768)	\$170,563	3	\$51,507.6	\$91,033	(\$6,069)	\$136,472
4	\$17,815.8	\$27,173	(\$1,812)	\$43,178	4	\$35,631.6	\$66,216	(\$4,348)	\$96,500	4	\$63,345.0	\$115,939	(\$7,729)	\$171,555	4	\$52,787.5	\$90,578	(\$6,039)	\$137,327
5	\$18,258.5	\$27,037	(\$1,802)	\$43,493	5	\$36,517.0	\$64,890	(\$4,326)	\$97,081	5	\$64,919.2	\$115,360	(\$7,691)	\$172,588	5	\$54,099.3	\$90,125	(\$6,008)	\$138,216
6	\$18,712.2	\$26,902	(\$1,793)	\$43,821	6	\$37,424.5	\$64,565	(\$4,304)	\$97,685	6	\$66,532.4	\$114,783	(\$7,652)	\$173,663	6	\$55,443.7	\$89,674	(\$5,978)	\$139,140
7	\$19,177.2	\$26,768	(\$1,785)	\$44,160	7	\$38,354.5	\$64,243	(\$4,283)	\$98,314	7	\$68,185.7	\$114,209	(\$7,614)	\$174,781	7	\$56,821.4	\$89,226	(\$5,948)	\$140,099
8	\$19,653.8	\$26,634	(\$1,776)	\$44,512	8	\$39,307.6	\$63,921	(\$4,261)	\$98,967	8	\$69,880.2	\$113,638	(\$7,576)	\$175,942	8	\$58,233.5	\$88,780	(\$5,919)	\$141,094
9	\$20,142.2	\$26,501	(\$1,767)	\$44,876	9	\$40,284.4	\$63,602	(\$4,240)	\$99,646	9	\$71,616.7	\$113,070	(\$7,538)	\$177,148	9	\$59,680.6	\$88,336	(\$5,889)	\$142,127
10	\$20,642.7	\$26,368	(\$1,758)	\$45,253	10	\$41,285.4	\$63,284	(\$4,219)	\$100,350	10	\$73,396.3	\$112,504	(\$7,500)	\$178,400	10	\$61,163.6	\$87,894	(\$5,860)	\$143,198
11	\$21,155.7	\$26,236	(\$1,749)	\$45,643	11	\$42,311.4	\$62,967	(\$4,198)	\$101,081	11	\$75,220.2	\$111,942	(\$7,463)	\$179,699	11	\$62,683.5	\$87,455	(\$5,830)	\$144,308
12	\$21,681.4	\$26,105	(\$1,740)	\$46,046	12	\$43,362.8	\$62,652	(\$4,177)	\$101,838	12	\$77,089.5	\$111,382	(\$7,425)	\$181,046	12	\$64,241.2	\$87,017	(\$5,801)	\$145,457
13	\$22,220.2	\$25,975	(\$1,732)	\$46,463	13	\$44,440.4	\$62,339	(\$4,156)	\$102,624	13	\$79,005.1	\$110,825	(\$7,388)	\$182,442	13	\$65,837.6	\$86,582	(\$5,772)	\$146,648
14	\$22,772.4	\$25,845	(\$1,723)	\$46,894	14	\$45,544.7	\$62,028	(\$4,135)	\$103,437	14	\$80,968.4	\$110,271	(\$7,351)	\$183,888	14	\$67,473.7	\$86,149	(\$5,743)	\$147,880
15	\$23,338.3	\$25,716	(\$1,714)	\$47,339	15	\$46,676.5	\$61,717	(\$4,114)	\$104,279	15	\$82,980.5	\$109,720	(\$7,315)	\$185,386	15	\$69,150.4	\$85,719	(\$5,715)	\$149,154
16	\$23,918.2	\$25,587	(\$1,706)	\$47,804	16	\$47,836.4	\$61,417	(\$4,094)	\$105,144	16	\$85,042.6	\$109,168	(\$7,278)	\$186,922	16	\$70,868.8	\$85,297	(\$5,686)	\$150,472
17	\$24,512.6	\$25,458	(\$1,697)	\$48,293	17	\$48,925.2	\$61,127	(\$4,073)	\$106,044	17	\$87,155.9	\$108,625	(\$7,242)	\$188,466	17	\$72,629.9	\$84,876	(\$5,658)	\$151,830
18	\$25,121.7	\$25,329	(\$1,689)	\$48,800	18	\$50,043.4	\$60,846	(\$4,053)	\$106,967	18	\$89,321.7	\$108,097	(\$7,205)	\$189,997	18	\$74,434.7	\$84,457	(\$5,629)	\$153,232
19	\$25,746.0	\$25,200	(\$1,680)	\$49,326	19	\$51,192.0	\$60,571	(\$4,033)	\$107,900	19	\$91,541.3	\$107,576	(\$7,169)	\$191,522	19	\$76,284.4	\$84,040	(\$5,601)	\$154,678
20	\$26,385.8	\$25,070	(\$1,672)	\$49,870	20	\$52,371.6	\$60,300	(\$4,013)	\$108,844	20	\$93,816.1	\$107,051	(\$7,134)	\$193,046	20	\$78,180.1	\$83,625	(\$5,573)	\$156,167
21	\$27,041.5	\$24,940	(\$1,664)	\$50,430	21	\$53,582.9	\$59,991	(\$3,993)	\$109,801	21	\$96,147.5	\$106,526	(\$7,098)	\$194,569	21	\$80,122.9	\$83,210	(\$5,545)	\$157,700
22	\$27,713.5	\$24,810	(\$1,655)	\$51,005	22	\$54,826.9	\$59,726	(\$3,973)	\$110,770	22	\$98,536.7	\$106,001	(\$7,062)	\$196,087	22	\$82,113.9	\$82,795	(\$5,518)	\$159,277
23	\$28,402.1	\$24,680	(\$1,647)	\$51,594	23	\$56,094.3	\$59,456	(\$3,953)	\$111,762	23	\$100,985.4	\$105,476	(\$7,027)	\$197,600	23	\$84,154.5	\$82,380	(\$5,490)	\$160,897
24	\$29,107.9	\$24,550	(\$1,639)	\$52,197	24	\$57,381.9	\$59,181	(\$3,933)	\$112,777	24	\$103,494.8	\$104,951	(\$6,992)	\$199,108	24	\$86,245.7	\$81,965	(\$5,462)	\$162,559
25	\$29,831.3	\$24,420	(\$1,631)	\$52,815	25	\$58,692.5	\$58,906	(\$3,913)	\$113,800	25	\$106,066.7	\$104,426	(\$6,957)	\$199,600	25	\$88,388.9	\$81,550	(\$5,435)	\$164,262
IRR -0.24%					IRR -0.48%					IRR -0.26%					IRR -0.03%				
NPV (\$290,300.24)					NPV (\$673,128.17)					NPV (\$1,099,450.08)					NPV (\$816,193.02)				
AROI 0.37%					AROI 0.41%					AROI 0.53%					AROI 0.59%				

IRR, NPV, AROI - PV Solar Energy Systems

Financial Calculations

Based on inflation of:

O&M inflation:

Wanamassa					Wayside				
Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow	Year	Energy Savings	SREC Sales	Maintenance Cost	Cash Flow
0				(\$912,500)	0				(\$1,587,500)
1	\$13,731.2	\$25,746	(\$1,716)	\$37,761	1	\$22,313.2	\$47,814	(\$3,188)	\$66,940
2	\$14,072.4	\$25,617	(\$1,708)	\$37,982	2	\$22,867.7	\$47,575	(\$3,172)	\$67,271
3	\$14,422.1	\$25,489	(\$1,699)	\$38,212	3	\$23,435.9	\$47,337	(\$3,156)	\$67,617
4	\$14,780.5	\$25,362	(\$1,691)	\$38,451	4	\$24,018.3	\$47,100	(\$3,140)	\$67,979
5	\$15,147.8	\$25,235	(\$1,682)	\$38,700	5	\$24,615.2	\$46,865	(\$3,124)	\$68,356
6	\$15,524.2	\$25,109	(\$1,674)	\$38,959	6	\$25,226.9	\$46,631	(\$3,109)	\$68,749
7	\$15,910.0	\$24,983	(\$1,666)	\$39,228	7	\$25,853.8	\$46,397	(\$3,093)	\$69,158
8	\$16,305.4	\$24,858	(\$1,657)	\$39,506	8	\$26,496.2	\$46,165	(\$3,078)	\$69,584
9	\$16,710.6	\$24,734	(\$1,649)	\$39,796	9	\$27,154.7	\$45,935	(\$3,062)	\$70,027
10	\$17,125.8	\$24,610	(\$1,641)	\$40,095	10	\$27,829.4	\$45,705	(\$3,047)	\$70,487
11	\$17,551.4	\$24,487	(\$1,632)	\$40,406	11	\$28,521.0	\$45,476	(\$3,032)	\$70,966
12	\$17,987.5	\$24,365	(\$1,624)	\$40,728	12	\$29,229.8	\$45,249	(\$3,017)	\$71,462
13	\$18,434.5	\$24,243	(\$1,616)	\$41,061	13	\$29,956.1	\$45,023	(\$3,002)	\$71,977
14	\$18,892.6	\$24,122	(\$1,608)	\$41,406	14	\$30,700.5	\$44,798	(\$2,987)	\$72,512
15	\$19,362.1	\$24,001	(\$1,600)	\$41,763	15	\$31,463.4	\$44,574	(\$2,972)	\$73,066
16	\$19,843.3	\$1,990	(\$1,592)	\$20,241	16	\$32,245.3	\$3,696	(\$2,957)	\$32,984
17	\$20,336.4	\$1,980	(\$1,584)	\$20,732	17	\$33,046.6	\$3,677	(\$2,942)	\$33,782
18	\$20,841.7	\$1,970	(\$1,576)	\$21,236	18	\$33,867.8	\$3,659	(\$2,927)	\$34,600
19	\$21,359.6	\$1,960	(\$1,568)	\$21,752	19	\$34,709.4	\$3,641	(\$2,913)	\$35,438
20	\$21,890.4	\$1,951	(\$1,560)	\$22,281	20	\$35,571.9	\$3,623	(\$2,898)	\$36,296
21	\$22,434.4	\$1,941	(\$1,553)	\$22,823	21	\$36,455.9	\$3,604	(\$2,884)	\$37,177
22	\$22,991.9	\$1,931	(\$1,545)	\$23,378	22	\$37,361.8	\$3,586	(\$2,869)	\$38,079
23	\$23,563.3	\$1,921	(\$1,537)	\$23,948	23	\$38,290.3	\$3,568	(\$2,855)	\$39,004
24	\$24,148.8	\$1,912	(\$1,529)	\$24,531	24	\$39,241.8	\$3,551	(\$2,840)	\$39,952
25	\$24,748.9	\$1,902	(\$1,522)	\$25,129	25	\$40,217.0	\$3,533	(\$2,826)	\$40,924
				IRR -0.90%					IRR -0.99%
				NPV (\$318,534.05)					NPV (\$557,320.32)
				AROI 0.14%					AROI 0.22%

Lifetime Savings Analysis - Photovoltaic Solar Energy Systems						
ECM	Administration	High School	Town of Ocean Intermediate School	Ocean Township Elementary School	Wanamassa	Wayside
Assumed Inflation (Gas)						
Initial Yearly Savings (Gas)						
Assumed Inflation (Electricity)	3%	3%	3%	3%	3%	3%
Initial Yearly Savings (Electricity)	\$16,551.00	\$33,102.00	\$58,848.00	\$49,040.00	\$13,731.20	\$22,313.20
Assumed Average Useful Life (Years)	25	25	25	25	25	25
Lifetime Savings	\$603,437.28	\$1,206,874.57	\$2,145,554.79	\$1,787,962.32	\$500,629.45	\$813,522.86
<u>Year</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>	<u>Annual Savings</u>
1	\$16,551.00	\$33,102.00	\$58,848.00	\$49,040.00	\$13,731.20	\$22,313.20
2	\$17,047.53	\$34,095.06	\$60,613.44	\$50,511.20	\$14,143.14	\$22,982.60
3	\$17,558.96	\$35,117.91	\$62,431.84	\$52,026.54	\$14,567.43	\$23,672.07
4	\$18,085.72	\$36,171.45	\$64,304.80	\$53,587.33	\$15,004.45	\$24,382.24
5	\$18,628.30	\$37,256.59	\$66,233.94	\$55,194.95	\$15,454.59	\$25,113.70
6	\$19,187.15	\$38,374.29	\$68,220.96	\$56,850.80	\$15,918.22	\$25,867.11
7	\$19,762.76	\$39,525.52	\$70,267.59	\$58,556.32	\$16,395.77	\$26,643.13
8	\$20,355.64	\$40,711.28	\$72,375.62	\$60,313.01	\$16,887.64	\$27,442.42
9	\$20,966.31	\$41,932.62	\$74,546.89	\$62,122.40	\$17,394.27	\$28,265.69
10	\$21,595.30	\$43,190.60	\$76,783.29	\$63,986.08	\$17,916.10	\$29,113.67
11	\$22,243.16	\$44,486.32	\$79,086.79	\$65,905.66	\$18,453.58	\$29,987.07
12	\$22,910.45	\$45,820.91	\$81,459.39	\$67,882.83	\$19,007.19	\$30,886.69
13	\$23,597.77	\$47,195.54	\$83,903.18	\$69,919.31	\$19,577.41	\$31,813.29
14	\$24,305.70	\$48,611.40	\$86,420.27	\$72,016.89	\$20,164.73	\$32,767.69
15	\$25,034.87	\$50,069.75	\$89,012.88	\$74,177.40	\$20,769.67	\$33,750.72
16	\$25,785.92	\$51,571.84	\$91,683.27	\$76,402.72	\$21,392.76	\$34,763.24
17	\$26,559.50	\$53,118.99	\$94,433.76	\$78,694.80	\$22,034.55	\$35,806.14
18	\$27,356.28	\$54,712.56	\$97,266.78	\$81,055.65	\$22,695.58	\$36,880.32
19	\$28,176.97	\$56,353.94	\$100,184.78	\$83,487.32	\$23,376.45	\$37,986.73
20	\$29,022.28	\$58,044.56	\$103,190.32	\$85,991.94	\$24,077.74	\$39,126.33
21	\$29,892.95	\$59,785.89	\$106,286.03	\$88,571.69	\$24,800.07	\$40,300.12
22	\$30,789.74	\$61,579.47	\$109,474.61	\$91,228.85	\$25,544.08	\$41,509.12
23	\$31,713.43	\$63,426.86	\$112,758.85	\$93,965.71	\$26,310.40	\$42,754.40
24	\$32,664.83	\$65,329.66	\$116,141.62	\$96,784.68	\$27,099.71	\$44,037.03
25	\$33,644.78	\$67,289.55	\$119,625.87	\$99,688.22	\$27,912.70	\$45,358.14

ECM	Ocean Township Elementary School Condensing DHW
Assumed Inflation (Gas, Oil)	2%
Initial Yearly Savings (Gas, Oil)	-\$835.38
Assumed Inflation (Electricity)	3%
Initial Yearly Savings (Electricity)	\$3,175.20
Assumed Average Useful Life (Years)	15
Lifetime Savings	\$44,608.70
<u>Year</u>	<u>Annual Savings</u>
1	\$2,339.82
2	\$2,418.37
3	\$2,499.44
4	\$2,583.11
5	\$2,669.47
6	\$2,758.60
7	\$2,850.58
8	\$2,945.51
9	\$3,043.47
10	\$3,144.56
11	\$3,248.88
12	\$3,356.53
13	\$3,467.61
14	\$3,582.24
15	\$3,700.51
16	
17	
18	
19	
20	
21	
22	
23	
24	

Ocean Township Elementary School Condensing DHW	
Year	Cash Flow
0	(\$15,650.00)
1	\$2,339.82
2	\$2,418.37
3	\$2,499.44
4	\$2,583.11
5	\$2,669.47
6	\$2,758.60
7	\$2,850.58
8	\$2,945.51
9	\$3,043.47
10	\$3,144.56
11	\$3,248.88
12	\$3,356.53
13	\$3,467.61
14	\$3,582.24
15	\$3,700.51
16	
17	
18	
19	
20	
21	
22	
23	
24	
IRR	15.46%
NPV	\$19,218.05
AROII	8.28%

The graphic consists of a large light blue rectangle on the left side of the page. A horizontal line extends from the right edge of this rectangle across the page. A vertical line extends from the bottom of the light blue rectangle down to the bottom of the page. These two lines intersect at the bottom right corner of the light blue rectangle. In the bottom right corner of the page, there is a smaller, darker blue rectangle. The text "Appendix J" is located in the bottom right corner of the page, overlapping the intersection of the lines and the darker blue rectangle.

Appendix J

Ocean Township Board of Education
(Minimum Site Wind Speed @42.7m - 4.43 m/s)

Annual kWh 77,510
Engineer's Opinion of Probable Cost \$450,000.00

Assumptions
Annual System Degredation 0.50%
Annual Utility Inflation 3.00%
Annual Maintenance Costs \$0.02/kWh Production
REC Factor \$25/MWh Production
REIP Incentive \$3.20/kWh First 16,000 kWh
\$0.50/kWh 16,000 kWh - 750,000 kWh

Year	Utility Price	Annual Wind kWh Production	Utility Savings	Renewable Energy Credits (RECs)	Renewable Energy Incentive Program (REIP)	Maintenance Costs	Annual Cash Flow	Cumulative Cash Flow
1	0.1600	77,510.0	\$12,401.6	\$1,938	\$0	(\$1,550)	\$12,789.2	\$12,789.2
2	0.1648	77,122.5	\$12,709.8	\$1,928	\$0	(\$1,542)	\$13,095.4	\$25,884.5
3	0.1697	76,736.8	\$13,025.6	\$1,918	\$0	(\$1,535)	\$13,409.3	\$39,293.8
4	0.1748	76,353.2	\$13,349.3	\$1,909	\$0	(\$1,527)	\$13,731.1	\$53,024.9
5	0.1801	75,971.4	\$13,681.0	\$1,899	\$0	(\$1,519)	\$14,060.9	\$67,085.8
6	0.1855	75,591.5	\$14,021.0	\$1,890	\$0	(\$1,512)	\$14,399.0	\$81,484.8
7	0.1910	75,213.6	\$14,369.4	\$1,880	\$0	(\$1,504)	\$14,745.5	\$96,230.3
8	0.1968	74,837.5	\$14,726.5	\$1,871	\$0	(\$1,497)	\$15,100.7	\$111,331.0
9	0.2027	74,463.3	\$15,092.5	\$1,862	\$0	(\$1,489)	\$15,464.8	\$126,795.7
10	0.2088	74,091.0	\$15,467.5	\$1,852	\$0	(\$1,482)	\$15,838.0	\$142,633.7
11	0.2150	73,720.5	\$15,851.9	\$1,843	\$0	(\$1,474)	\$16,220.5	\$158,854.2
12	0.2215	73,351.9	\$16,245.8	\$1,834	\$0	(\$1,467)	\$16,612.6	\$175,466.8
13	0.2281	72,985.2	\$16,649.5	\$1,825	\$0	(\$1,460)	\$17,014.4	\$192,481.2
14	0.2350	72,620.3	\$17,063.2	\$1,816	\$0	(\$1,452)	\$17,426.3	\$209,907.5
15	0.2420	72,257.2	\$17,487.3	\$1,806	\$0	(\$1,445)	\$17,848.6	\$227,756.1
16	0.2493	71,895.9	\$17,921.8	\$1,797	\$0	(\$1,438)	\$18,281.3	\$246,037.4
17	0.2568	71,536.4	\$18,367.2	\$1,788	\$0	(\$1,431)	\$18,724.9	\$264,762.3
18	0.2645	71,178.7	\$18,823.6	\$1,779	\$0	(\$1,424)	\$19,179.5	\$283,941.8
19	0.2724	70,822.8	\$19,291.4	\$1,771	\$0	(\$1,416)	\$19,645.5	\$303,587.3
20	0.2806	70,468.7	\$19,770.8	\$1,762	\$0	(\$1,409)	\$20,123.1	\$323,710.4
21	0.2890	70,116.4	\$20,262.1	\$1,753	\$0	(\$1,402)	\$20,612.7	\$344,323.0
22	0.2976	69,765.8	\$20,765.6	\$1,744	\$0	(\$1,395)	\$21,114.4	\$365,437.4
23	0.3066	69,416.9	\$21,281.6	\$1,735	\$0	(\$1,388)	\$21,628.7	\$387,066.1
24	0.3158	69,069.9	\$21,810.5	\$1,727	\$0	(\$1,381)	\$22,155.8	\$409,221.9
25	0.3252	68,724.5	\$22,352.4	\$1,718	\$0	(\$1,374)	\$22,696.1	\$431,918.0

Ocean Township Board of Education
(Maximum Site Wind Speed @42.7m - 6.4 m/s)

Annual kWh 157,834
Engineer's Opinion of Probable Cost \$450,000.00

Assumptions
Annual System Degredation 0.50%
Annual Utility Inflation 3.00%
Annual Maintenance Costs \$0.02/kWh Production
REC Factor \$25/MWh Production
REIP Incentive \$3.20/kWh First 16,000 kWh
\$0.50/kWh 16,000 kWh - 750,000 kWh

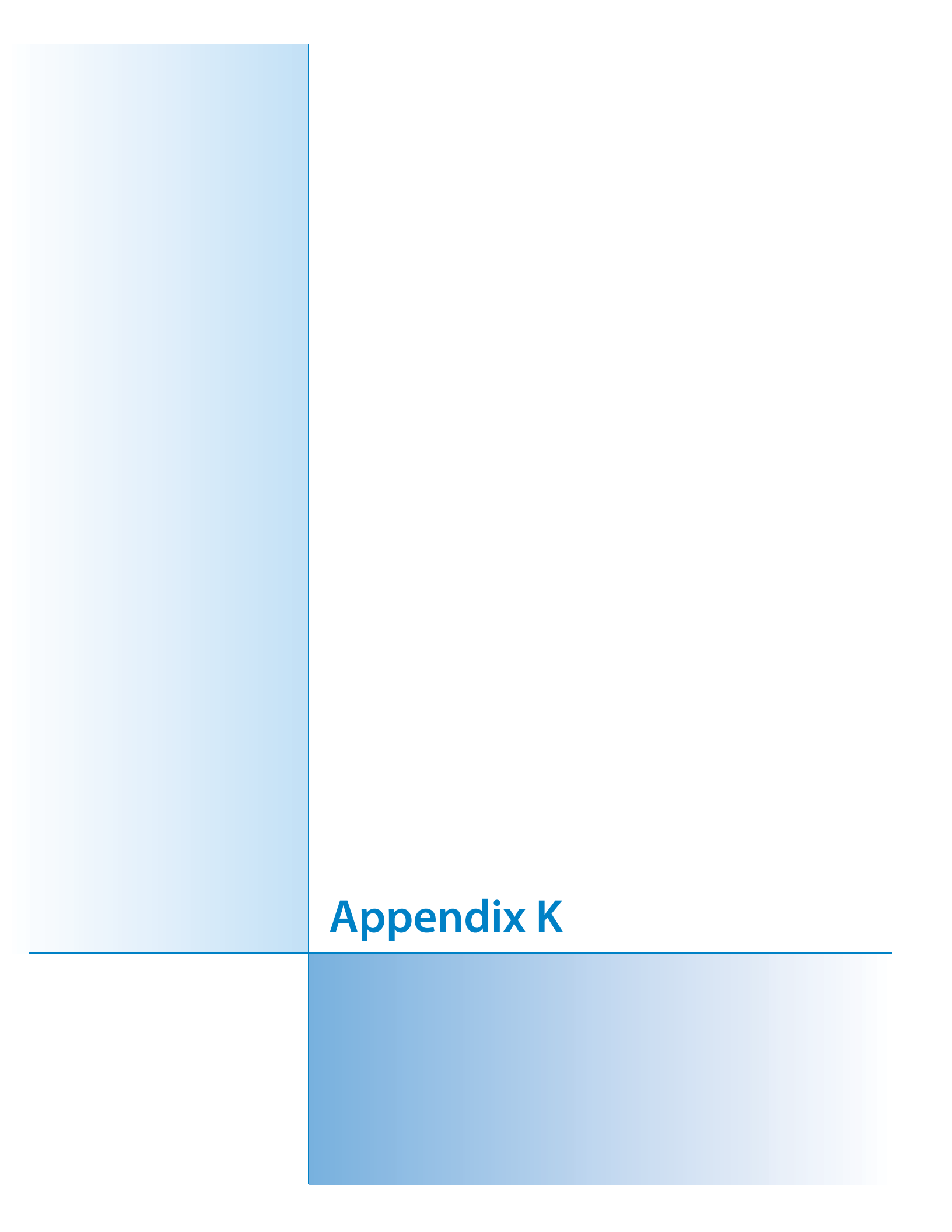
Year	Utility Price	Annual Wind kWh Production	Utility Savings	Renewable Energy Credits (RECs)	Renewable Energy Incentive Program (REIP)	Maintenance Costs	Annual Cash Flow	Cumulative Cash Flow
1	0.1600	157,834.0	\$25,253.4	\$3,946	\$0	(\$3,157)	\$26,042.6	\$26,042.6
2	0.1648	157,044.8	\$25,881.0	\$3,926	\$0	(\$3,141)	\$26,666.2	\$52,708.8
3	0.1697	156,259.6	\$26,524.1	\$3,906	\$0	(\$3,125)	\$27,305.4	\$80,014.3
4	0.1748	155,478.3	\$27,183.3	\$3,887	\$0	(\$3,110)	\$27,960.6	\$107,974.9
5	0.1801	154,700.9	\$27,858.8	\$3,868	\$0	(\$3,094)	\$28,632.3	\$136,607.2
6	0.1855	153,927.4	\$28,551.0	\$3,848	\$0	(\$3,079)	\$29,320.7	\$165,927.8
7	0.1910	153,157.8	\$29,260.5	\$3,829	\$0	(\$3,063)	\$30,026.3	\$195,954.2
8	0.1968	152,392.0	\$29,987.7	\$3,810	\$0	(\$3,048)	\$30,749.6	\$226,703.8
9	0.2027	151,630.0	\$30,732.9	\$3,791	\$0	(\$3,033)	\$31,491.0	\$258,194.8
10	0.2088	150,871.9	\$31,496.6	\$3,772	\$0	(\$3,017)	\$32,250.9	\$290,445.7
11	0.2150	150,117.5	\$32,279.3	\$3,753	\$0	(\$3,002)	\$33,029.8	\$323,475.6
12	0.2215	149,366.9	\$33,081.4	\$3,734	\$0	(\$2,987)	\$33,828.2	\$357,303.8
13	0.2281	148,620.1	\$33,903.5	\$3,716	\$0	(\$2,972)	\$34,646.6	\$391,950.4
14	0.2350	147,877.0	\$34,746.0	\$3,697	\$0	(\$2,958)	\$35,485.4	\$427,435.8
15	0.2420	147,137.6	\$35,609.4	\$3,678	\$0	(\$2,943)	\$36,345.1	\$463,780.9
16	0.2493	146,401.9	\$36,494.3	\$3,660	\$0	(\$2,928)	\$37,226.3	\$501,007.2
17	0.2568	145,669.9	\$37,401.2	\$3,642	\$0	(\$2,913)	\$38,129.5	\$539,136.7
18	0.2645	144,941.6	\$38,330.6	\$3,624	\$0	(\$2,899)	\$39,055.3	\$578,192.0
19	0.2724	144,216.9	\$39,283.1	\$3,605	\$0	(\$2,884)	\$40,004.2	\$618,196.3
20	0.2806	143,495.8	\$40,259.3	\$3,587	\$0	(\$2,870)	\$40,976.8	\$659,173.1
21	0.2890	142,778.3	\$41,259.8	\$3,569	\$0	(\$2,856)	\$41,973.6	\$701,146.7
22	0.2976	142,064.4	\$42,285.1	\$3,552	\$0	(\$2,841)	\$42,995.4	\$744,142.1
23	0.3066	141,354.1	\$43,335.8	\$3,534	\$0	(\$2,827)	\$44,042.6	\$788,184.7
24	0.3158	140,647.3	\$44,412.7	\$3,516	\$0	(\$2,813)	\$45,116.0	\$833,300.7
25	0.3252	139,944.1	\$45,516.4	\$3,499	\$0	(\$2,799)	\$46,216.1	\$879,516.8

Ocean Township Board of Education
(Average Site Wind Speed @42.7m - 5.51 m/s)

Annual kWh 124,220
Engineer's Opinion of Probable Cost \$450,000.00

Assumptions
Annual System Degredation 0.50%
Annual Utility Inflation 3.00%
Annual Maintenance Costs \$0.02/kWh Production
REC Factor \$25/MWh Production
REIP Incentive \$3.20/kWh First 16,000 kWh
\$0.50/kWh 16,000 kWh - 750,000 kWh

Year	Utility Price	Annual Wind kWh Production	Utility Savings	Renewable Energy Credits (RECs)	Renewable Energy Incentive Program (REIP)	Maintenance Costs	Annual Cash Flow	Cumulative Cash Flow
1	0.1600	124,220.0	\$19,875.2	\$3,106	\$0	(\$2,484)	\$20,496.3	\$20,496.3
2	0.1648	123,598.9	\$20,369.1	\$3,090	\$0	(\$2,472)	\$20,987.1	\$41,483.4
3	0.1697	122,980.9	\$20,875.3	\$3,075	\$0	(\$2,460)	\$21,490.2	\$62,973.6
4	0.1748	122,366.0	\$21,394.0	\$3,059	\$0	(\$2,447)	\$22,005.9	\$84,979.4
5	0.1801	121,754.2	\$21,925.7	\$3,044	\$0	(\$2,435)	\$22,534.4	\$107,513.9
6	0.1855	121,145.4	\$22,470.5	\$3,029	\$0	(\$2,423)	\$23,076.2	\$130,590.1
7	0.1910	120,539.7	\$23,028.9	\$3,013	\$0	(\$2,411)	\$23,631.6	\$154,221.7
8	0.1968	119,937.0	\$23,601.2	\$2,998	\$0	(\$2,399)	\$24,200.9	\$178,422.6
9	0.2027	119,337.3	\$24,187.7	\$2,983	\$0	(\$2,387)	\$24,784.4	\$203,206.9
10	0.2088	118,740.6	\$24,788.7	\$2,969	\$0	(\$2,375)	\$25,382.4	\$228,589.3
11	0.2150	118,146.9	\$25,404.7	\$2,954	\$0	(\$2,363)	\$25,995.5	\$254,584.8
12	0.2215	117,556.2	\$26,036.0	\$2,939	\$0	(\$2,351)	\$26,623.8	\$281,208.6
13	0.2281	116,968.4	\$26,683.0	\$2,924	\$0	(\$2,339)	\$27,267.9	\$308,476.5
14	0.2350	116,383.5	\$27,346.1	\$2,910	\$0	(\$2,328)	\$27,928.0	\$336,404.5
15	0.2420	115,801.6	\$28,025.7	\$2,895	\$0	(\$2,316)	\$28,604.7	\$365,009.2
16	0.2493	115,222.6	\$28,722.1	\$2,881	\$0	(\$2,304)	\$29,298.2	\$394,307.4
17	0.2568	114,646.5	\$29,435.8	\$2,866	\$0	(\$2,293)	\$30,009.1	\$424,316.5
18	0.2645	114,073.3	\$30,167.3	\$2,852	\$0	(\$2,281)	\$30,737.7	\$455,054.1
19	0.2724	113,502.9	\$30,917.0	\$2,838	\$0	(\$2,270)	\$31,484.5	\$486,538.6
20	0.2806	112,935.4	\$31,685.3	\$2,823	\$0	(\$2,259)	\$32,249.9	\$518,788.6
21	0.2890	112,370.7	\$32,472.6	\$2,809	\$0	(\$2,247)	\$33,034.5	\$551,823.1
22	0.2976	111,808.9	\$33,279.6	\$2,795	\$0	(\$2,236)	\$33,838.6	\$585,661.7
23	0.3066	111,249.8	\$34,106.6	\$2,781	\$0	(\$2,225)	\$34,662.8	\$620,324.5
24	0.3158	110,693.6	\$34,954.1	\$2,767	\$0	(\$2,214)	\$35,507.6	\$655,832.1
25	0.3252	110,140.1	\$35,822.7	\$2,754	\$0	(\$2,203)	\$36,373.4	\$692,205.6

The graphic consists of a large light blue rectangle on the left side of the page. A thin blue vertical line separates this rectangle from the rest of the page. A thin blue horizontal line extends from the vertical line across the page. The text 'Appendix K' is located at the intersection of these two lines, positioned to the right of the vertical line and above the horizontal line. A medium blue rectangle is located at the bottom right of the page, below the horizontal line and to the right of the vertical line.

Appendix K

WindCad Turbine Performance Model

Endurance S-343 Wind Turbine, Grid - Intertie

Prepared For: **Ocean Township Board of Education**
Site Location: **Ocean Township, NJ**
Data Source: **NASA Atmospheric Science Data Center**
Date: **7/26/2012**

35 kW

Inputs:

Ave. Wind (m/s) = 4.43
Weibull K = 2
Site Altitude (m) = 0
Wind Shear Exp. = 0.180
Anem. Height (m) = 42.7
Tower Height (m) = 42.7
Turbulence Factor = 2.0%

Results:

Hub Average Wind Speed (m/s) = 4.43
Air Density Factor = 0%
Average Output Power (kW) = 8.85
Daily Energy Output (kWh) = 212.4
Annual Energy Output (kWh) = **77,510**
Monthly Energy Output = 6,459
Percent Operating Time = 61.0%

Weibull Performance Calculations

Wind Speed Bin (m/s)	Power (kW)	Wind Probability (f)	Net kW @ V
1	0.00	7.75%	0.000
2	0.00	13.74%	0.000
3	0.00	16.84%	0.000
4	2.45	16.93%	0.415
5	7.45	14.71%	1.096
6	14.70	11.33%	1.665
7	24.50	7.82%	1.916
8	35.28	4.88%	1.721
9	38.22	2.76%	1.056
10	38.22	1.43%	0.545
11	38.22	0.67%	0.257
12	38.22	0.29%	0.111
13	38.22	0.11%	0.044
14	38.22	0.04%	0.016
15	38.22	0.01%	0.005
16	38.22	0.00%	0.002
17	38.22	0.00%	0.000
18	38.22	0.00%	0.000
19	38.22	0.00%	0.000
20	38.22	0.00%	0.000
Totals:		99.32%	8.848

Weibull Calculations:

Wind speed probability is calculated as a Weibull curve defined by the average wind speed and a shape factor, K. To facilitate piece-wise integration, the wind speed range is broken down into "bins" of 1 m/s in width (Column 1). For each wind speed bin, instantaneous wind turbine power (W, Column 2)) is multiplied by the Weibull wind speed probability (f, Column 3). This cross product (Net W, Column 4) is the contribution to average turbine power output contributed by wind speeds in that bin. The sum of these contributions is the average power output of the turbine on a continuous, 24 hour, basis. Best results are achieved using annual or monthly average wind speeds. Use of daily or hourly average speeds is not recommended.

WindCad Turbine Performance Model

Endurance S-343 Wind Turbine, Grid - Intertie

Prepared For: **Ocean Township Board of Education**
Site Location: **Ocean Township, NJ**
Data Source: **NASA Atmospheric Science Data Center**
Date: **7/26/2012**

35 kW

Inputs:

Ave. Wind (m/s) = 6.4
Weibull K = 2
Site Altitude (m) = 0
Wind Shear Exp. = 0.180
Anem. Height (m) = 42.7
Tower Height (m) = 42.7
Turbulence Factor = 2.0%

Results:

Hub Average Wind Speed (m/s) = 6.40
Air Density Factor = 0%
Average Output Power (kW) = 18.02
Daily Energy Output (kWh) = 432.4
Annual Energy Output (kWh) = **157,834**
Monthly Energy Output = 13,153
Percent Operating Time = 78.9%

Weibull Performance Calculations

Wind Speed Bin (m/s)	Power (kW)	Wind Probability (f)	Net kW @ V
1	0.00	3.79%	0.000
2	0.00	7.16%	0.000
3	0.00	9.75%	0.000
4	2.45	11.35%	0.278
5	7.45	11.92%	0.888
6	14.70	11.57%	1.700
7	24.50	10.50%	2.571
8	35.28	8.97%	3.166
9	38.22	7.27%	2.778
10	38.22	5.59%	2.137
11	38.22	4.10%	1.566
12	38.22	2.87%	1.095
13	38.22	1.91%	0.732
14	38.22	1.22%	0.467
15	38.22	0.75%	0.286
16	38.22	0.44%	0.167
17	38.22	0.25%	0.094
18	38.22	0.13%	0.051
19	38.22	0.07%	0.026
20	38.22	0.03%	0.013
2008, BWC	Totals:	99.65%	18.018

Weibull Calculations:

Wind speed probability is calculated as a Weibull curve defined by the average wind speed and a shape factor, K. To facilitate piece-wise integration, the wind speed range is broken down into "bins" of 1 m/s in width (Column 1). For each wind speed bin, instantaneous wind turbine power (W, Column 2)) is multiplied by the Weibull wind speed probability (f, Column 3). This cross product (Net W, Column 4) is the contribution to average turbine power output contributed by wind speeds in that bin. The sum of these contributions is the average power output of the turbine on a continuous, 24 hour, basis. Best results are achieved using annual or monthly average wind speeds. Use of daily or hourly average speeds is not recommended.

WindCad Turbine Performance Model

Endurance S-343 Wind Turbine, Grid - Intertie

Prepared For: **Ocean Township Board of Education**
Site Location: **Ocean Township, NJ**
Data Source: **NASA Atmospheric Science Data Center**
Date: **7/26/2012**

35 kW

Inputs:

Ave. Wind (m/s) = 5.51
Weibull K = 2
Site Altitude (m) = 0
Wind Shear Exp. = 0.180
Anem. Height (m) = 42.7
Tower Height (m) = 42.7
Turbulence Factor = 2.0%

Results:

Hub Average Wind Speed (m/s) = 5.51
Air Density Factor = 0%
Average Output Power (kW) = 14.18
Daily Energy Output (kWh) = 340.3
Annual Energy Output (kWh) = **124,220**
Monthly Energy Output = 10,352
Percent Operating Time = 72.7%

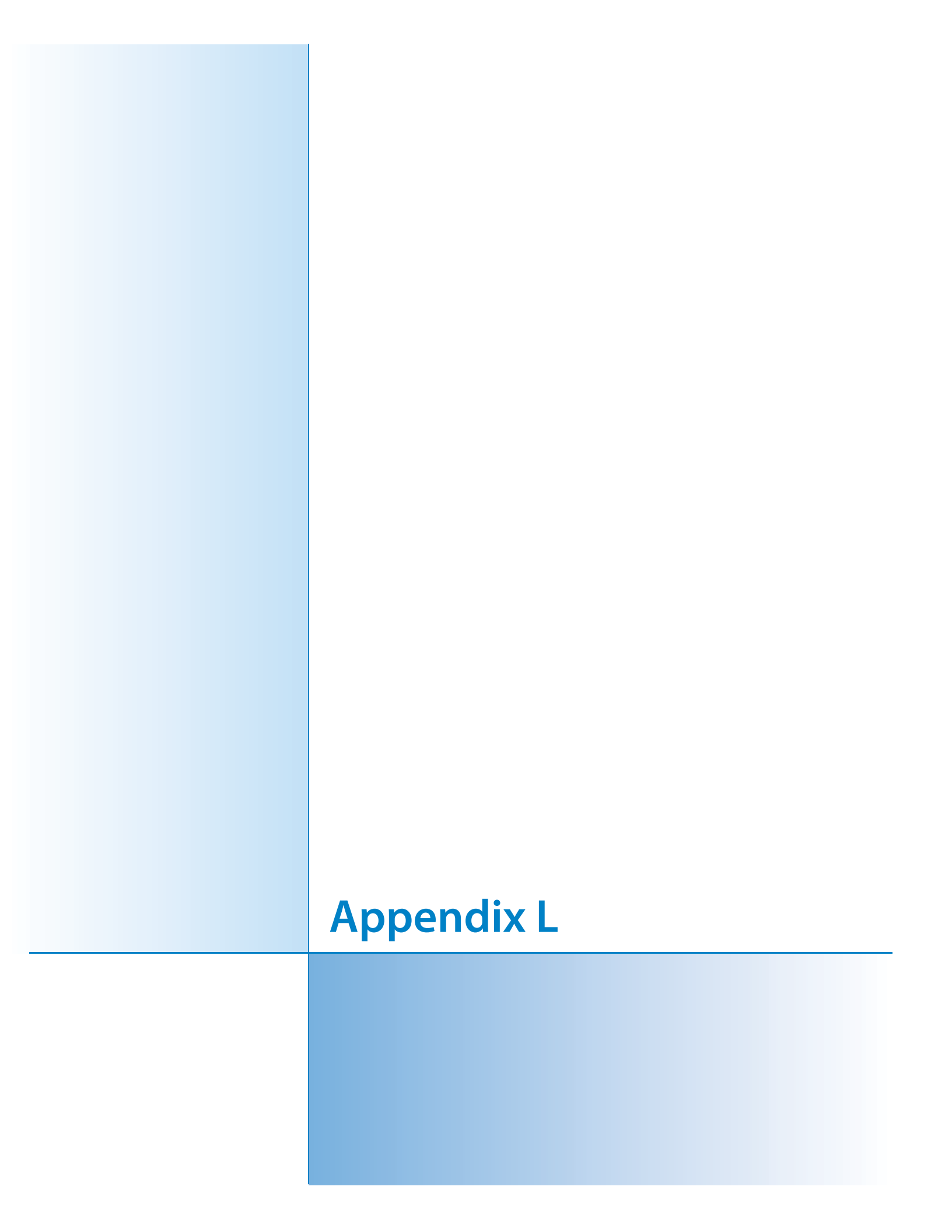
Weibull Performance Calculations

Wind Speed Bin (m/s)	Power (kW)	Wind Probability (f)	Net kW @ V
1	0.00	5.08%	0.000
2	0.00	9.40%	0.000
3	0.00	12.38%	0.000
4	2.45	13.75%	0.337
5	7.45	13.59%	1.012
6	14.70	12.24%	1.799
7	24.50	10.17%	2.492
8	35.28	7.86%	2.773
9	38.22	5.67%	2.169
10	38.22	3.84%	1.468
11	38.22	2.44%	0.934
12	38.22	1.46%	0.559
13	38.22	0.83%	0.315
14	38.22	0.44%	0.168
15	38.22	0.22%	0.084
16	38.22	0.10%	0.040
17	38.22	0.05%	0.018
18	38.22	0.02%	0.008
19	38.22	0.01%	0.003
20	38.22	0.00%	0.001
Totals:		99.56%	14.180

2008, BWC

Weibull Calculations:

Wind speed probability is calculated as a Weibull curve defined by the average wind speed and a shape factor, K. To facilitate piece-wise integration, the wind speed range is broken down into "bins" of 1 m/s in width (Column 1). For each wind speed bin, instantaneous wind turbine power (W, Column 2) is multiplied by the Weibull wind speed probability (f, Column 3). This cross product (Net W, Column 4) is the contribution to average turbine power output contributed by wind speeds in that bin. The sum of these contributions is the average power output of the turbine on a continuous, 24 hour, basis. Best results are achieved using annual or monthly average wind speeds. Use of daily or hourly average speeds is not recommended.

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Appendix L

CLEAN ENERGY... JUST PLUG IT IN

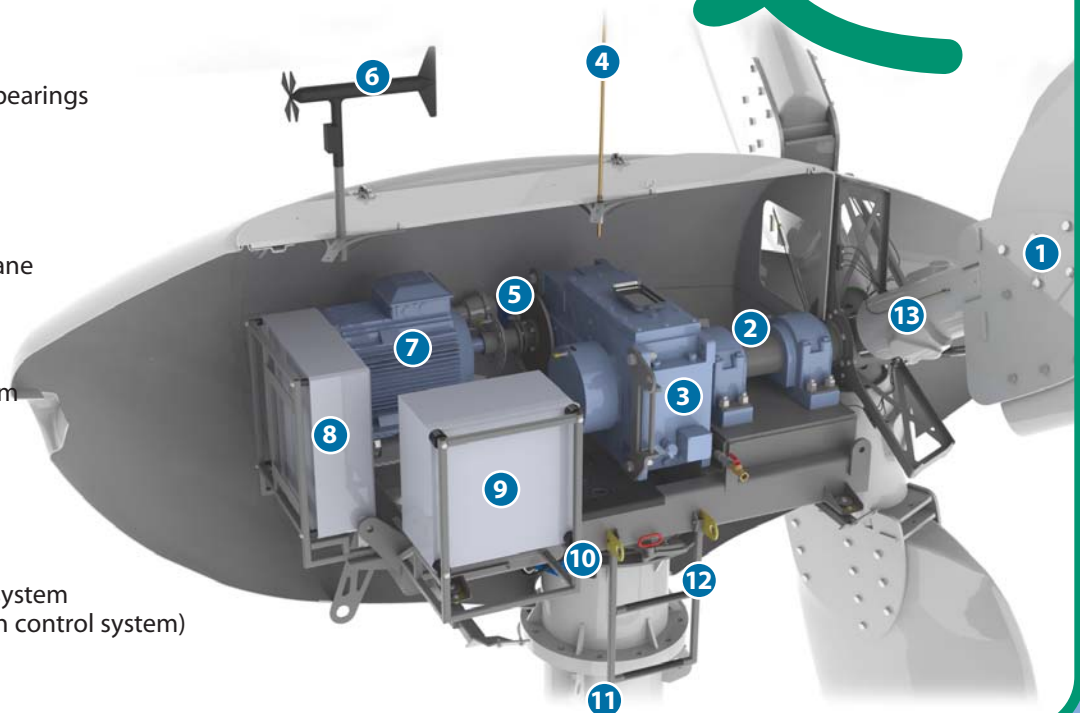
Endurance
wind power

G-3120



G-3120 35 kW model

- 1 9 m blade
- 2 Main shaft with two bearings
- 3 Gearbox
- 4 Lightning protection
- 5 Disk brake
- 6 Anemometer wind vane
- 7 Generator
- 8 Control panel
- 9 Braking control system
- 10 Passive yaw control with brake
- 11 Tower
- 12 Access ladder
- 13 Aerodynamic safety system (patent pending pitch control system)



ENDURANCE WIND TURBINES GREEN ENERGY THAT WORKS

SPECIFICATIONS

G-3120

TURBINE

Configuration	3 blades, horizontal axis, downwind
Rated power @ 11 m/s	35 kW
Applications	Direct grid-tied
Rotor speed	36 rpm
Cut-in wind speed	3.5 m/s (7.8 mph)
Cut-out wind speed	25 m/s (56 mph)
Survival wind speed	52 m/s (116 mph)
Design lifetime	30 years *
Overall weight	4,130 kg (9,105 lbs) - single phase turbine 3,850 kg (8,488 lbs) - three phase turbine

ROTOR

Rotor diameter	19.2 m (63 ft)
Swept area	290 m ² (3,120 ft ²)
Blade length	9 m (29.5 ft)
Blade material	Fiberglass / Epoxy
Power regulation	Stall control (constant speed)

GENERATOR

Frequency	60 Hz
Voltage	240 V - single phase; 480 V - three phase
Phase	Single phase and three phase
Type	Induction generator

BRAKE & SAFETY SYSTEMS

Main brake system	Rapid fail-safe brake on high speed shaft
Secondary safety system	Pitch control system (for over speed regulation) using passive spring loaded mechanism (patent pending)
Automatic shut down triggered by :	- Over speed - High wind speed - Grid failure - All other fault conditions

CONTROLS

PLC based	Includes remote monitoring software
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WARRANTY

Turbine, controls	5 years
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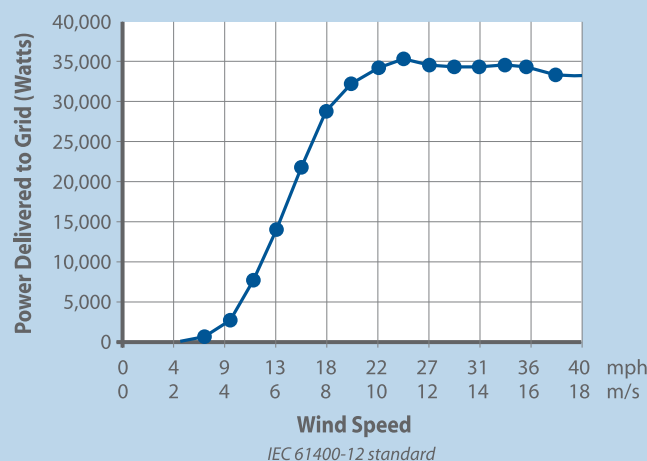
TOWERS

Types and heights	Standard Monopole 30.5 m (100 ft) Standard Lattice 42.7 m (140 ft) Custom heights available
Maintenance Access	Working space inside the nacelle Top work platform and safety cable climbing system

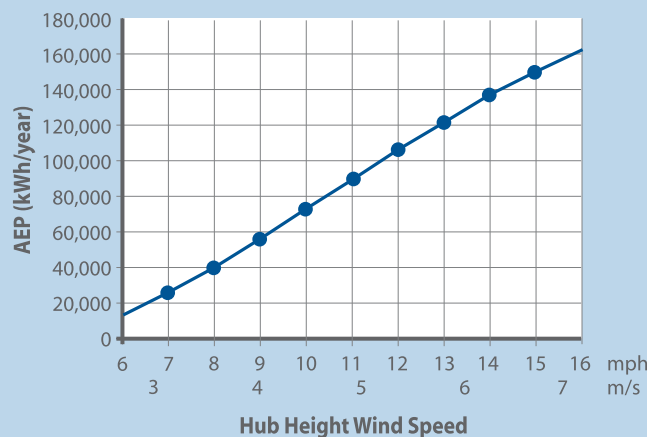
*Provided service and maintenance schedules are strictly followed



POWER CURVE

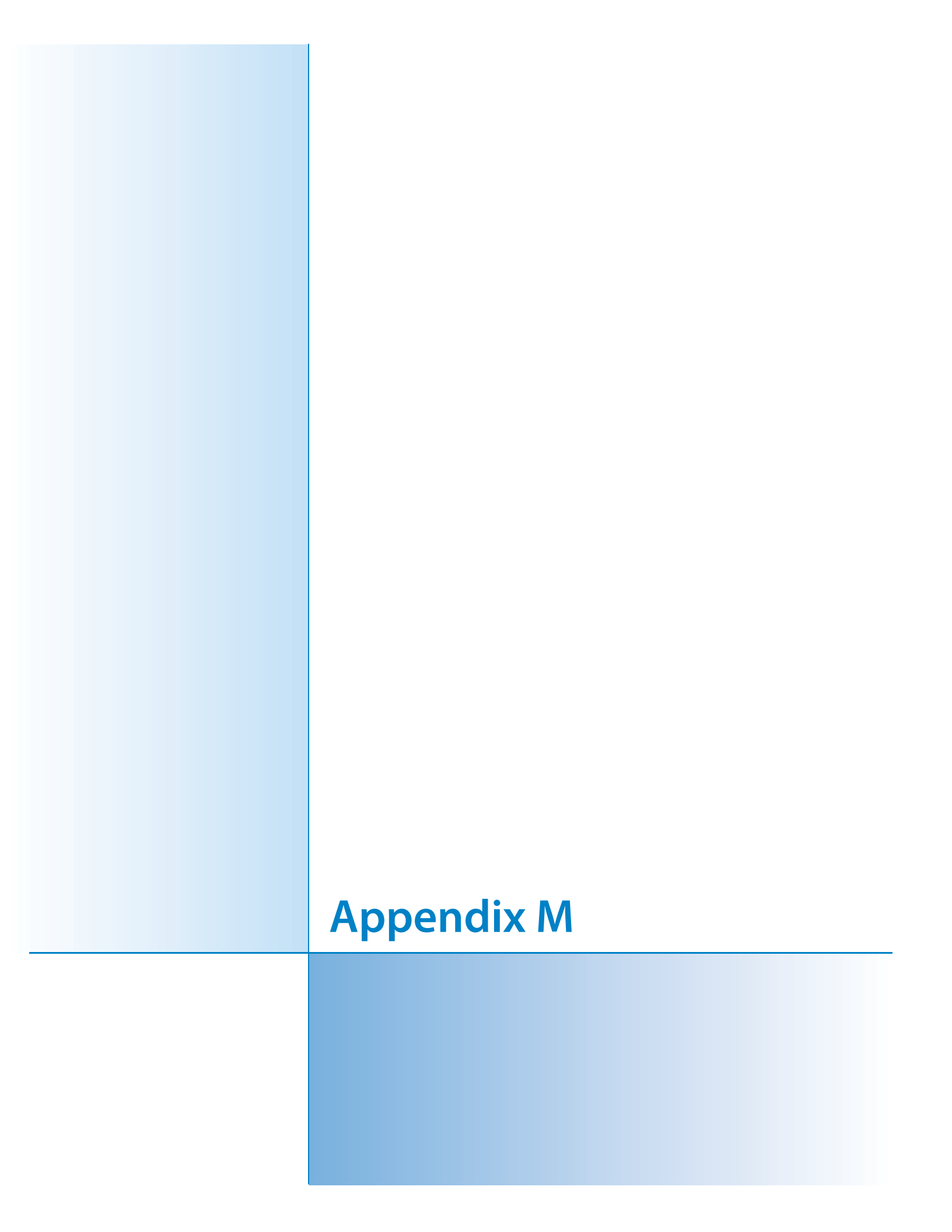


ANNUAL ENERGY PRODUCTION (AEP)



WIND SPEED CONVERSION TABLE

m/s	4	5	6	7	8	9	10	12	14	25	32	45
km/h	14	18	22	25	29	32	36	43	50	90	125	160
mph	9	11	13	16	18	20	22	27	31	56	80	100

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Appendix M

Ocean Township Elementary

Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
RTU	ROOF	OFFICE	YORK	DIEB036A06B	10	2000	3 TONS
AC SPLIT	ROOF	SERVER ROOM	EMI	SCC24DF0000AA0A			2 TONS Insulation poor
RTU	ROOF	LIBRARY	LENNOX	LCA090H2BN1Y	10 EER	2003	7.5 TONS
RTU	ROOF	LIBRARY	LENNOX	LCA090H2BN1Y	10 EER	2003	7.5 TONS
AHU	STAGE	CATWALK	UNKNOWN	HEAT ONLY			2HP
AHU	STAGE	CATWALK	UNKNOWN	HEAT ONLY			2HP
BOILER 1	BOILER	HEAT	AERCO	BENCHMARK 2.0	92%	2008	2000 MBH
BOILER 2	BOILER	HEAT	UNKNOWN	BENCHMARK 2.0	92%	2008	2000 MBH
BOILER			BURNHAM			1957	7115 #/HR
WINDOW AC			UNKNOWN	WAC424230R			24 MBH
DWH	BOILER		AMERICAN	E62-80H-045DV	80 GAL	NEW	4.5 KW
DWH	KITCHEN PANTRY		BRADFORD	M11120R6D513	120 GAL	NEW	4.5 KW
DWH	KITCHEN PANTRY		BRADFORD	M11120R6D513	120 GAL	NEW	4.5 KW
DWH	KITCHEN PANTRY		QUAKER	EFP90-120DL	112 GAL	1990	4.5 KW

Ocean Township Intermediate School

Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
UNIT VENT	5102	5102	AIRDALE	CMX – 4		2003	
ALL	5 TH GRADE WING	5 TH GRADE WING					
AHU	COMP ROOM	COMP ROOM					
AC SPLIT	DATA CLOSET	DATA CLOSET	AIRDALE	SCC24DFA0A0AA0A	12		24 MBH
BOILER 1	BOILER	HEAT 5 TH GRADE	AERCO	BMK 2.0			
BOILER 2	BOILER	HEAT 5 TH GRADE	AERCO	BMK 2.0			
BOILER 3	BOILER	HEAT 5 TH GRADE	AERCO	BMK 2.0			
P-1	BOILER	HEAT 5 TH GRADE			91%		20 HP
P-2	BOILER	HEAT 5 TH GRADE	ON DURING	SUMMER	91%		20 HP

AHU		LIBRARY	TRANE	DUAL TEMP COIL			5 HP
AHU		MUSIC & BAND	TRANE	M-10 K4G269918			
AHU 16		MAIN OFFICE	TRANE	L6			DUAL TEMP 2HP
AHU 15		LIBRARY	TRANE	M-14			DUAL TEMP 2HP
AHU17		COMMONS	TRANE	M-8			DUAL TEMP 3 HP
CHILLER 1	PENT HOUSE		TRANE	RTUA 0804YH01R300		2007	85 TONS
AHU 11	PENT HOUSE	7 TH GRADE	TRANE	V-8			2 HP
COOLING TOWER 1	ROOF	CHILLER 1	TRANE	RTUA 080A0H001300N			8 FANS 1.5 HP EACH
CHILLER 2	PENT HOUSE		TRANE	RTUA 0804YH01R300		2007	85 TONS
AHU 12	PENT HOUSE	7 TH GRADE	TRANE	V-8			2 HP
COOLING TOWER 2	ROOF	CHILLER 1	TRANE	RTUA 080A0H001300N			8 FANS 1.5 HP EACH
CHILLER 3	PENT HOUSE		TRANE	RTUA 0804YH01R300		2007	85 TONS
AHU 13	PENT HOUSE	7 TH GRADE	TRANE	V-8			2 HP
COOLING TOWER 3	ROOF	CHILLER 1	TRANE	RTUA 080A0H001300N			8 FANS 1.5 HP EACH
RTU 2	ROOF	5 TH GRADE	YORK	DIHE060A46EBA	10 EER	2003	5 TONS
RTU 3	ROOF	5 TH GRADE	YORK	DIHE048A46EBA	10 EER	2003	4 TONS
RTU 4	ROOF	5 TH GRADE	YORK	DIHE060A46EBA	10 EER	2003	5 TONS
RTU 5	ROOF	5 TH GRADE	YORK	DIHE060A46EBA	10 EER	2003	5 TONS
RTU 6	ROOF	5 TH GRADE	YORK	DIHE048A46EBA	10 EER	2003	4 TONS
RTU A2	ROOF	GYM	AAON	RM-015-3-0-AB02-369	80%	2004	15 TONS
MAU 1	ROOF	GYM	GREENHECK	DG-108-H10-DB	80%	2004	108 MBH ¾ HP
RTU 8	ROOF	GYM	YORK	DIHE060A46EBA	10 EER	2003	5 TONS
RTU 7	ROOF	GYM	YORK	DIHE048A46EBA	10 EER	2003	4 TONS
AC SPLIT	ROOF	GYM	YORK	H4DB018506A	10 EER	2003	18 MBH
RTU A2	ROOF	GYM	AAON	RM-013-3-0-AB02-347	80%	2004	270 MBH INPUT 13 TONS
RTU 1	ROOF	KITCHEN	YORK	DIHE048A46EBA	10 EER	2004	4 TONS

PV ARRAY	30 KW					2008	30 KW
ERV-1	ROOF	GYM	AAON	RM-025-3-0-AB02-369	80%	2004	HEAT RECOVER RY 25 TONS
ERV-2	ROOF	GYM	AAON	RM-025-3-0-ABO2-369	80%	OLD	HEAT RECOVER RY 25 TONS
AHU-10	MECH	CAFETERIA	TRANE	M-25		OLD	DUAL TEMP 10 HP
AHU-3	MECH	GYM 678	TRANE	F-21		OLD	DUAL TEMP 7.5 HP
AHU-4	MECH	GYM 678	TRANE	F-21		OLD	7.5 HP
RTC	ROOF	MAIN OFFICE	TRANE	SACC-B756-A	8.0	1975	
AC	ROOF	NURSE	AIRDALE	SCC12DMA0A0AA0	11 EER		
AC	ROOF	COMP LAB	YORK	A4DB024506A	11 EER	2004	
RTU-9	ROOF	MUSIC/CONF	YORK	DH090C00C4DAA3H	10 EER	2004	75 TONS
AHCU-1	ROOF	MAIN OFF 5 TH	YORK	3 TON CONDENSOR	10 EER	2004	
AHU-2	MAIN GYM	MAIN GYM	TRANE			OLD	5 HP
AHU-1	MAIN GYM	MAIN GYM	TRANE			OLD	5HP
P-7	BOILER ROOM	DUAL TEMP		5:30am-11pm	89.5%		7.5 HP
P-4	BOILER ROOM	DUAL TEMP		MORE IN HEATING	OLD		7.5 HP
P-3	BOILER ROOM	DUAL TEMP		# NEEDED TO SATISFY	OLD		7.5 HP
P-4	BOILER ROOM	DUAL TEMP			OLD		7.5 HP
CHILLER 5	BOILER ROOM	COOLING DUAL	TRANE	RTUA0804YH0R3D0VF NY		2008	SCROLL S
CHILLER 4	BOILER ROOM	COOLING DUAL	TRANE	RTUA0804YH0R3D0VF NY		2008	
BOILER 2	BOILER ROOM	HEAT	AMERICAN STD	PFA-512	70%		4185 MBH INPUT
BOILER 1	BOILER ROOM	HEAT	WEIL MCLAIN	1788	80%		4113 MBH INPUT
CT-4	CHILLER 4	COOLING	TRANE	RTCA080A0H001300N			8 FANS 1.25 HP EACH
CT-5	CHILLER 5	COOLING	TRANE	RTCA080A0H001300N		2008	
AHU-7	MUSIC	MUSIC	TRANE	HEAT ONLY		1973	1.5 HP
AHU-8	WOOD SHOP	WOOD SHOP	TRANE	HEAT ONLY		1973	1.5 HP
AHU-1	MUSIC & COMP	MUSIC & COMP	YORK	K4EU090A33A		2002	DX HOT WATER

DWH			CEMLINE	V1000FTB90C3-RL	1000 GAL	FAIR	90 KW
DWH			AOSMITH	DRE5290	50 GAL	GOOD	15 KW
DWH	SERVES KITCHEN & HOME EC		AOSMITH	H670932	500 GAL	OLD	660 MBH

Wayside							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
AH 1	MECH	GYM		G			
AH3	MECH	CAFETERIA					ELEC REHEAT
AH2	MECH	GYM	NESBIT				ELEC REHEAT
RTU	ROOF	MAIN OFFICE	JOHNSON J	J			15 TONS HEAT & COOL
RTU	ROOF	LIBRARY	AAON	RM-010-3-AB02-000	11 EER		10 TONS
RTU	ROOF	CLUSTER	LENNOX	LCA 102HN1G	9 EER		8.5 TONS
BOILER 1	BOILER ROOM	HEAT	HURST	125 WTR	80		3356 MBH
BOILER 2	BOILER ROOM	HEAT	HURST	125 WTR	80		3356 MBH
BOILER 3	BOILER ROOM	HEAT	HURST	125 WTR	80		3356 MBH
P -	BOILER ROOM				87.5		15 HP
P -	BOILER ROOM				91%		15 HP
P -	BOILER ROOM				82.5		3 HP
P -	BOILER ROOM				82.5		3 HP
DATA				DATA RACK			3000W
DWH	BOILER ROOM	BOILER ROOM	AO SMITH	BTC400A960	100 GAL		

- UNIT VENTS AND FANS IN ALL CLASSROOMS (HEAT ONLY)
- WINDOW AC ONLY AS NEEDED

Wannamassa							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
BOILER 1	NEW BOILER ROOM	HEAT	AERCO	KC 1000	86%	2003	1000 MPH INPUT
BOILER 2	NEW BOILER ROOM	HEAT	AERCO	KC 1000	86%	2003	1000 MPH INPUT
P – 1	NEW BOILER ROOM	HEAT	TACO		87.5	2003	5 HP
P – 2	NEW BOILER ROOM	HEAT	TACO		87.5	2003	5 HP
RTU – 2	ROOF	2003	TRANE	THC060A3R0A0656	9.5 EER	2003	5 TONS
RTU – 3	ROOF	LIBRARY	TRANE	TCD151C30ABA	9.5 EER	2003	ENTHALPY ECONOMIZE
RTU – 1	ROOF	2003	TRANE	THC072A3R0A00656	9.5 EER	2003	6 TONS
AC	SERVER ROOM	SERVER ROOM	AIRDALE	SCCC24DFX0A0AAAA	10 EER	2003	2 TONS
UNIT VENTS			AIRDALE	HW COIL DX			
AC	ROOF	MAIN OFFICE	YORK	H2RA0305060	8.5	1990	2.5 TONS
AC	ROOF	COMP ROOM	CARRIER	38EN030300	8.5	1990	2.5 TONS
AHU – 1	ROOF	GYM	AAON	RM-030-8-0-0000-369	10.5 EER	2008	30 TONS 390 MBH INPUT
BOILER 1	BOILER ROOM	HEAT	WEIL MCLAIN	1088 S	80	2002	3103 MBH
BOILER 2	BOILER ROOM	HEAT	WEIL MCLAIN	1288 S	80	2009	3103 MBH
DWH	BOILER ROOM		B & G	INDIRECT			STEAM
DWH	STORAGE		AO SMITH	EES52917	40 GAL		4.5 KW

Admin							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
AC-D	ATTIC			FAAHF030RA		1992	SPLIT 30 MBH
UNIT VENT	ROOF		NESBIT			1930	STEAM
UNIT VENT							
AC-E	ATTIC			NAMBFD16AC		1992	10 MBH
AC-B	ATTIC			NAMBFD16AC		1992	10 MBH
AC-I	ATTIC			FAAHF036RA		1992	36 MBH
AC-L	ATTIC			FAAHF036RA		1992	36 MBH
ELEC HEAT		OFFICE					2 KW
ELEC HEAT		OFFICE					2 KW
ELEC HEAT		OFFICE					2 KW
ELEC HEAT		OFFICE					2 KW
ELEC HEAT		MAIL					2 KW
ELEC HEAT		CONF					2 KW
BASE							
BOILER 1	BOILER ROOM	HEAT	WEIL	1088 STEAM		1990	2452 MBH GAS
BOILER 2	BOILER ROOM	HEAT	WEIL	1088 STEAM		1990	2452 MBH GAS
AC	BREAK ROOM	BREAK ROOM	FRIGIDAIRE	FAS2262TTA	9.4	2010	22 MBH
AC	CONF ROOM	CONF ROOM	FRIGIDAIRE	FAS2262TTA	9.4	2010	22 MBH
UH			MODINE	STEAM			
RTU	ROOF	MAINT OFFICE	YORK	DIEZ048A06411			48 MBH COOL ONLY

High School							
Description	Unit Location	Service Location	Manufacturer	Model	Estimated Efficiency	Estimated Age (Years)	Notes
B-3	BOILER ROOM	HEAT	CB	CBE 700-150-125		1996	GAS 6300 MBA
B-2	BOILER ROOM	HEAT	CB	CBE 700-150-125		1996	GAS 6300 MBA
B-1	BOILER ROOM	HEAT	CB	CBE 700-200-125		1996	GAS 8400 MBH
P-1		HEAT	25 HP	1760 RPM	88.5		
P-2		HEAT	25 HP	1760 RPM	88.5		
P-3		HEAT	10 HP	1760 RPM	91.7		
P-4		HEAT	10 HP	1760 RPM	91.7		
P-5		HEAT	5 HP	1725	81.5		
P-5		HEAT	5 HP	1725	81.5		
BURNER		HEAT	5 HP	1750			
BURNER		HEAT		1750			
BURNER		BOILER 1	7.5	1750	87.5		
AC		COMP LAB	FREDIRICH	KM24L30A	9.5 EER		2 TONS
OVEN		KITCHEN	BLODGETE	OVEN			4 KW
OVEN		KITCHEN	BLODGETE				4 KW
		KITCHEN	MARKET FORGE				48 KW
		KITCHEN	STEAM KETTLE	OVEN & BOILER			
EF			HOOD				ON DURING DAY
DISH WASHER			INSINGER	ADMIRAL			15 KW
BOOSTER HEATER	HEATER		HATCO				24 KW
HV B-8	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
HV B-7	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
HV B-6	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
EF-9		GYM					2 HP
EF-10		GYM					2 HP
EF-11		GYM					1 HP
EF-12		GYM					1 HP
EF-15,16,17,13,14							2 HP-1 ½ HP
HV	GARAGE	WEIGHT WRESTLING		HOT WATER		1980s	5 HP AND OVEN CONTROL

HV G-8	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
HV G-7	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
HV G-6	MECH ROOM	GYM	NESBIT	HOT WATER		ORIGINAL	~10 HP
AC	SOCIAL STUDIES	WORKROOM	THERMAL ZONE	WAC418230R	9.7		18 MBH
UNIT VENT							
AHU-1A		E WING	TRANE				HW HEAT VFD AC DX
EF-3A			TRANE	QFNA			
P-17					81.5		5 HP
P-18					81.5		5 HP
P-16					81.5		5 HP
P-15					88.5		5 HP
E WING VAV			VAV ON PDC W/REHEAT	PERIMETER RAD			
AC WINDOW	108	108	THERMAL ZONE	WAC 24230R	8.5		24 MBH
AC WINDOW		HOME EC	FRIGIDAIRE	FAS29502A2	8.0	2001	
AHU-2	MECH LIBRARY	LIBRARY	TRANE				DX HOT WATER
P-13	MECH LIBRARY	LIBRARY	HEAT		85.5		7 ½ HD
P-14	MECH LIBRARY	LIBRARY	HEAT		85.5		7 ½ HD
CONDENSER	ROOF	E WING	TRANE	RAUCC804EG132D		1997	DX NEEDS NEW INSULATION
CONDENSER	ROOF	CHILD STUDY	SANYO	CM1972	~13 EER	2008	
CONDENSER	ROOF	LIBRARY	TRANE	RAUCC254EM13D			CHECK CHARGE
CONDENSER	ROOF	SERVER ROOM	SANYO	C3632A			36 MBH
CONDENSER	ROOF	SERVER ROOM	ARCOAIRE	R2A330GKC1		2009	24 MBH
CONDENSER	ROOF	COMP LAB	ARCOAIRE	H2A330GKB200		2009	2 TONS
CONDENSER	ROOF	COMP LAB	ARCOAIRE	H2A330GKB200		2009	2 TONS
CONDENSER	ROOF	LIBRARY WORKROOM		HACO24AKC4	10	2009	2 TONS
RTU-3	BOILER ROOM ROOF	AV ROOM	TRANE	THC092A3R0A1PG001A1B2A600	ZONE	2005	7.5 TON
RTU-2	BOILER ROOM ROOF	CAD ROOM	TRANE	THC043A3R0A09H001A1B700610	ZONE	2005	4 TON
RTU-1	BOILER ROOM ROOF	HEALTH	TRANE	THC063A3R0AAH001A1B20600	ZONE	2005	5 TON
RTU-6	BOILER ROOM ROOF	AUDITORIUM	AAON	RM00630AB9100	ZONE	1995	6 TONS
RTU-5	BOILER ROOM ROOF	AUDITORIUM	AAON	RM03030AA9200	ZONE	1955	30 TONS

RTU-8	BOILER ROOM ROOF	OFFICES	BRYANT	580DEV072115ACAA	ZONE	7/10 YRS	92000 BTU
RTU-7	BOILER ROOM ROOF	OFFICES	YORK	DM120NZ0N4AAA3	ZONE		
RTU-4	BOILER ROOM ROOF	AUDITORIUM	AAON	RM01030AA9200	ZONE	2008	10 TONS
RTU-9	BOILER ROOM ROOF	CAFETERIA ROOMS	YORK	D1EB030A00B	ZONE		3 TONS
DWH	BOILER ROOM	STORAGE	PV1	54N125A-MXG	125 GAL	NEW	540 MBH
DWH	BOILER ROOM	STORAGE	PV1	54N125A-MX	125 GAL	FAIR	540 MBH
DWH	GYM		AOSMITH	MB930261351-916	119 GAL	FAIR	DVE 120 54 KW
DWH	GYM		AOSMITH	DVE 120	119 GAL	FAIR	54 KW
DWH	GYM	STORAGE	BRADFORD	M-11-120-6-35F07	120 GAL		6 KW
DWH	E WING	JANITOR	AO SMITH	DVE80916	80 GAL	FAIR	9 KW
DWH	B WING	JANITOR	WHITE WESTINGHOUSE	TL122LHGX2	120 GAL	FAIR	3 KW

- ALL KITCHEN EQUIPMENT RUNING
- VFD CHILLERS
- VFD FOR AUDITORIUM FOR NOISE
- ROOMS CONDITIONED