Local Government Energy Audit:
Energy Audit Report

Woodstown Middle/High School

Woodstown-Pilesgrove Regional School District

15 Lincoln Avenue
Woodstown, New Jersey 08098

October 24, 2018

Final Report by:

TRC Energy Services

Disclaimer

The intent of this energy analysis report is to identify energy savings opportunities and recommend upgrades to the facility's energy using equipment and systems. Approximate saving are included in this report to help make decisions about reducing energy use at the facility. This report, however, is not intended to serve as a detailed engineering design document. Further design and analysis may be necessary in order to implement some of the measures recommended in this report.

The energy conservation measures and estimates of energy savings have been reviewed for technical accuracy. However, estimates of final energy savings are not guaranteed, because final savings may depend on behavioral factors and other uncontrollable variables. TRC Energy Services (TRC) and New Jersey Board of Public Utilities (NJBPU) shall in no event be liable should the actual energy savings vary.

Estimated installation costs are based on TRC's experience at similar facilities, pricing from local contractors and vendors, and/or cost estimates from RS Means. The owner of the facility is encouraged to independently confirm these cost estimates and to obtain multiple estimates when considering measure installations. Since actual installed costs can vary widely for certain measures and conditions, TRC and NJBPU do not guarantee installed cost estimates and shall in no event be held liable should actual installed costs vary from estimates.

New Jersey's Clean Energy Program (NJCEP) incentive values provided in this report are estimates based on program information available at the time of the report. Incentive levels are not guaranteed. The NJBPU reserves the right to extend, modify, or terminate programs without prior notice. The owner of the facility should review available program incentives and eligibility requirements prior to selecting and installing any energy conservation measures.

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1 EXECUTIVE SUMMARY

The New Jersey Board of Public Utilities (NJBPU) has sponsored this Local Government Energy Audit (LGEA) Report for Woodstown Middle/High School.

The goal of an LGEA report is to provide you with information on how your facility uses energy, identify energy conservation measures (ECMs) that can reduce your energy use, and provide information and assistance to help facilities implement ECMs. The LGEA report also contains valuable information on financial incentives from New Jersey's Clean Energy Program (NJCEP) for implementing ECMs.

This study was conducted by TRC Energy Services (TRC), as part of a comprehensive effort to assist New Jersey local schools in controlling energy costs and protecting our environment by offering a wide range of energy management options and advice.

1.1 Facility Summary

Woodstown Middle School-High School (MS-HS) is a 212,000 square foot, three-story commercial building originally constructed in 1915. The school has since undergone several expansions and renovations. The facility is comprised of interior spaces typically found in educational facilities including classrooms, kitchens, gymnasiums, library, cafeteria, auditorium, administration offices, meeting rooms, hallways, locker rooms and restrooms.

Lighting at the facility consists of an array of lighting technologies that include incandescent, fluorescent, metal halide (MH), high pressure sodium (HPS), and LED lighting. However, the majority of interior lighting is comprised of T8 linear fluorescent fixtures controlled by manual switches. Most exterior fixtures have been replaced with new LED fixtures or retrofitted with LED lamps and are controlled by photocells.

Cooling and ventilation is mostly provided by an array of split-system air conditioners, heat pumps and packaged air conditioning units that range in capacity from 0.75 to 54-tons. Heating is provided by three condensing hot water boilers feeding hot water coils.

A thorough description of the facility and our observations can be found in Section 2.

1.2 Your Cost Reduction Opportunities

Energy Conservation Measures

TRC evaluated and recommends eight measures which together represent an opportunity for Woodstown Middle/High School to reduce annual energy costs by roughly $31,303 and annual greenhouse gas emissions by 211,640 lbs CO_2e. We estimate that if all measures were implemented as recommended, the project would pay for itself in 4.1 years. The breakdown of existing and potential utility costs after project implementation are illustrated in Figure 1 and Figure 2, respectively. Together these measures represent an opportunity to reduce Woodstown Middle/High School's annual energy use by 8%.

Figure 1 – Previous 12 Month Utility Costs

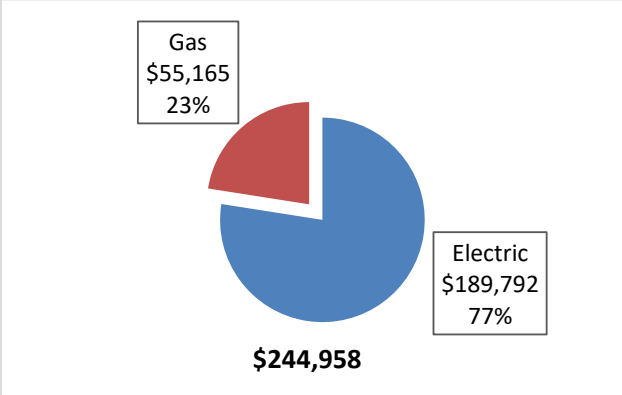
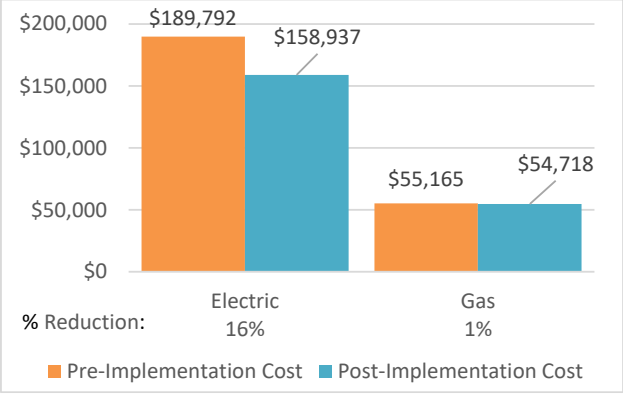


Figure 2 – Potential Post-Implementation Costs



A detailed description of Woodstown Middle/High School's existing energy use can be found in Section 3.

Estimates of the total cost, energy savings, and financial incentives for the proposed energy efficient upgrades are summarized below in Figure 3. A brief description of each category can be found below and a description of savings opportunities can be found in Section 4.

Figure 3 – Summary of Energy Reduction Opportunities

	Energy Conservation Measure	Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
	Lighting Upgrades		**163,114**	**34.4**	**0.0**	**$24,487.68**	**$87,672.91**	**$14,455.00**	**$73,217.91**	**3.0**	**164,255**
ECM 1	Install LED Fixtures	Yes	1,043	0.3	0.0	$156.60	$1,172.03	$300.00	$872.03	5.6	1,050
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	298	0.1	0.0	$44.69	$404.00	$0.00	$404.00	9.0	300
ECM 3	Retrofit Fixtures with LED Lamps	Yes	161,423	33.9	0.0	$24,233.79	$85,666.66	$14,155.00	$71,511.66	3.0	162,552
ECM 4	Install LED Exit Signs	Yes	350	0.0	0.0	$52.60	$430.22	$0.00	$430.22	8.2	353
	Lighting Control Measures		**35,971**	**7.4**	**0.0**	**$5,400.16**	**$59,862.00**	**$4,890.00**	**$54,972.00**	**10.2**	**36,222**
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	30,141	6.2	0.0	$4,524.89	$40,062.00	$4,890.00	$35,172.00	7.8	30,351
ECM 6	Install High/Low Lighting Controls	Yes	5,830	1.2	0.0	$875.28	$19,800.00	$0.00	$19,800.00	22.6	5,871
	Domestic Water Heating Upgrade		**0**	**0.0**	**39.9**	**$447.63**	**$157.74**	**$0.00**	**$157.74**	**0.4**	**4,671**
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	39.9	$447.63	$157.74	$0.00	$157.74	0.4	4,671
	Plug Load Equipment Control - Vending Machine		**6,447**	**0.0**	**0.0**	**$967.92**	**$920.00**	**$0.00**	**$920.00**	**1.0**	**6,492**
ECM 8	Vending Machine Control	Yes	6,447	0.0	0.0	$967.92	$920.00	$0.00	$920.00	1.0	6,492
	TOTALS FOR ALL EVALUATED MEASURES		**205,532**	**41.8**	**39.9**	**$31,303.40**	**$148,612.65**	**$19,345.00**	**$129,267.65**	**4.1**	**211,640**

* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.
** - Simple Payback Period is based on net measure costs (i.e. after incentives).

Lighting Upgrades generally involve the replacement of existing lighting components such as lamps and ballasts (or the entire fixture) with higher efficiency lighting components. These measures save energy by reducing the power used by the lighting components due to improved electrical efficiency.

Lighting Controls measures generally involve the installation of automated controls to turn off lights or reduce light output when not needed. Automated control reduces reliance on occupant behavior for adjusting lights. These measures save energy by reducing the amount of time lights are on.

Domestic Hot Water upgrade measures generally involve replacing older inefficient domestic water heating systems with modern energy efficient systems. New domestic hot water heating systems can provide equivalent, or greater, water heating capacity compared to older systems at a reduced energy cost. These measures save energy by reducing the fuel used for domestic hot water heating due to improved heating efficiency or reducing standby losses.

Plug Load Equipment control measures generally involve installing automated devices that limit the power usage or operation of equipment that is plugged into an electric outlets when not in use.

Energy Efficient Practices

TRC also identified 12 low cost (or no cost) energy efficient practices. A facility's energy performance can be significantly improved by employing certain behavioral or operational adjustments and by performing better routine maintenance on building systems. These practices can extend equipment lifetime, improve occupant comfort, provide better health and safety, as well as reduce annual energy and O&M costs. Potential opportunities identified at Woodstown Middle/High School include:

- Close Doors and Windows
- Use Window Treatments/Coverings
- Perform Proper Lighting Maintenance
- Develop a Lighting Maintenance Schedule
- Ensure Lighting Controls Are Operating Properly
- Perform Routine Motor Maintenance
- Practice Proper Use of Thermostat Schedules and Temperature Resets
- Clean Evaporator/Condenser Coils on AC Systems
- Clean and/or Replace HVAC Filters
- Perform Proper Boiler Maintenance
- Perform Proper Water Heater Maintenance
- Water Conservation

For details on these energy efficient practices, please refer to Section 5.

On-Site Generation Measures

TRC evaluated the potential for installing on-site generation for Woodstown Middle/High School. Based on the configuration of the site and its loads there is a high potential for installing a photovoltaic (PV) array.

Figure 4 – Photovoltaic Potential

Potential	High	
System Potential	133	kW DC STC
Electric Generation	158,452	kWh/yr
Displaced Cost	$13,790	/yr
Installed Cost	$345,800	

For details on our evaluation and on-site generation potential, please refer to Section 6.

1.3 Implementation Planning

To realize the energy savings from the ECMs listed in this report, a project implementation plan must be developed. Available capital must be considered and decisions need to be made whether it is best to pursue individual ECMs separately, groups of ECMs, or a comprehensive approach where all ECMs are implemented together, possibly in conjunction with other facility upgrades or improvements.

Rebates, incentives, and financing are available from NJCEP, as well as other sources, to help reduce the costs associated with the implementation of energy efficiency projects. Prior to implementing any measure, please review the relevant incentive program guidelines before proceeding. This is important because in most cases you will need to submit applications for the incentives prior to purchasing materials or commencing with installation.

The ECMs outlined in this report may qualify under the following program(s):

- SmartStart
- SREC (Solar Renewable Energy Certificate) Registration Program (SRP)
- Energy Savings Improvement Program (ESIP)

For facilities wanting to pursue only selected individual measures (or planning to phase implementation of selected measures over multiple years), incentives are available through the SmartStart program. To participate in this program you may utilize internal resources, or an outside firm or contractor, to do the final design of the ECM(s) and do the installation. Program pre-approval is required for some SmartStart incentives, so only after receiving pre-approval should you proceed with ECM installation. The incentive estimates listed above in Figure 3 are based on the SmartStart program. More details on this program and others are available in Section 8.

For larger facilities with limited capital availability to implement ECMs, project financing may be available through the Energy Savings Improvement Program (ESIP). Supported directly by the NJBPU, ESIP provides government agencies with project development, design, and implementation support services, as well as, attractive financing for implementing ECMs. An LGEA report (or other approved energy audit) is required for participation in ESIP. Please refer to Section 8.3 for additional information on the ESIP Program.

The Demand Response Energy Aggregator is a (non-NJCEP) program designed to reduce electric loads at commercial facilities, when wholesale electricity prices are high or when the reliability of the electric grid is threatened due to peak power demand. Demand Response (DR) service providers (a.k.a. Curtailment Service Providers) are registered with PJM, the independent system operator (ISO) for mid-Atlantic state region that is charged with maintaining electric grid reliability. By enabling grid operators to call upon commercial facilities to reduce their electric usage during times of peak demand, the grid is made more reliable and overall transmission costs are reduced for all ratepayers. Curtailment Service Providers provide regular payments to medium and large consumers of electric power for their participation in DR programs. Program participation is voluntary and facilities receive payments whether or not they are called upon to curtail their load during times of peak demand. Refer to Section 7 for additional information on this program.

Additional information on relevant incentive programs is located in Section 8 or: www.njcleanenergy.com/ci.

2 FACILITY INFORMATION AND EXISTING CONDITIONS

2.1 Project Contacts

Figure 5 – Project Contacts

Name	Role	E-Mail	Phone #
Customer			
Rose Wang Chin	Business Admin/Board Secretary	chin.r@woodstown.org	(856) 769-0144 Ext. 22251
Designated Representative			
Bryan McGair	Account Executive	bryan.mcgair@schneider-electric.com	(609) 654-4831
TRC Energy Services			
Moussa Traore	Auditor	MTraore@trcsolutions.com	(732) 855-0033

2.2 General Site Information

On April 12, 2018, TRC performed an energy audit at Woodstown Middle/High School located in Woodstown, New Jersey. TRC's auditor met with Larry Hitchner to review the facility operations and help focus our investigation on specific energy-using systems.

2.3 Building Occupancy

Woodstown Middle/High School is open Monday through Friday and partially on weekends. The typical schedule is presented in the table below. During a typical day school day, the school is occupied by approximately 1,057 students and staff.

Figure 6 - Building Schedule

Building Name	Weekday/Weekend	Operating Schedule
Woodstown Middle/High School	Weekday	7:30 AM - 10:00 PM
Woodstown Middle/High School	Saturday	8:00 AM - 4:00 PM
Woodstown Middle/High School	Sunday	Closed

2.4 Building Envelope

Woodstown Middle/High School is a three-story building constructed of concrete masonry block with brick exterior. The building has clear, double-pane windows with aluminum frames and metal doors which are in very good condition as they were replaced in summer 2017. The roof is flat and constructed of built-up material, also in good condition.

Figure 7 – Building Façade

2.5 On-Site Generation

Woodstown Middle/High School does not have any on-site electric generation capacity.

2.6 Energy-Using Systems

Please see Appendix A: Equipment Inventory & Recommendations for an inventory of the facility's equipment.

Lighting System

Interior lighting mostly consists of T8 linear fluorescent and U-bend fixtures in 2-lamp configurations; T-5, 4-lamp linear fluorescent fixtures provide illumination in the main and auxiliary gymnasiums. A large number of incandescent screw-in lamps are used in the library and auditorium; a few others are found in various spaces across the school. Lighting in various areas has been retrofitted with LED linear tubes and screw-in lamps, and LED high/low bay fixtures illuminate the new Middle School gymnasium and portions of the auditorium. Although occupancy sensors were noted in various spaces, the majority of interior lighting is still controlled by manual switches.

Exterior lighting is mainly comprised of LED wall-mounted fixtures and fixtures retrofitted with LED screw-in lamps. Few incandescent, fluorescent, MH and HPS fixtures still exist. With the exception of few LED screw-in lamps controlled by manual switches in the courtyard, exterior lighting is all controlled by photocells.

Overall, the majority of existing lighting sources are inefficient in performance when compared to the latest lighting technology available in the market.

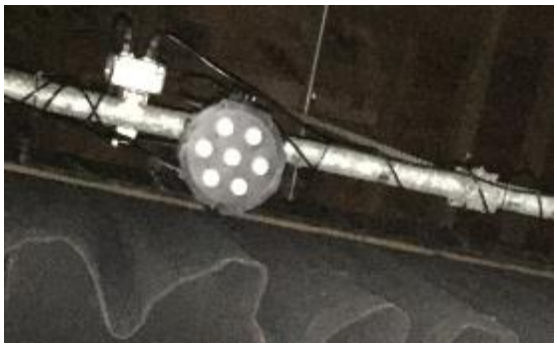
Figure 8 - Building Lighting Systems

Interior 2-Lamp T8 Fixtures

Interior 4-Lamp T5 Fixtures

Interior LED High Bay Fixtures

Auditorium LED and Halogen Incandescent Lamps



Exterior MH Wall-Mounted Fixture

Exterior LED Screw-in Lamps

Exterior Incandescent Lamps

Rooftop Incandescent Lamps

Exterior LED Fixtures

Hot Water Heating System

The heating hot water system consists of three Aerko, 2,337.5 kBtu/hr condensing hot water boilers with 93.5% nominal thermal efficiency.

The boilers are configured in a primary-secondary distribution loop with three 1.5-hp constant speed pumps and two 25-hp variable speed pumps that distribute hot water to hot water coils located in various distribution devices, including package units and unit ventilators. The hot water system enable setpoint is set to 60°F and space heating setpoints are set to maintain 70°F. The boilers are in fairly new condition, and the lead boiler is currently rotated automatically by the building energy management system (BEMS) on Tuesdays.

Figure 9 – Building Hot Water Heating System

Aerko Condensing Water Boiler	*Heating Hot Water Primary Loop Pump*	*Heating Hot Water Secondary Loop Pump with VFD*
		

Direct Expansion Air Conditioning System (DX)

Space conditioning is provided by 32 split system air conditioners and heat pumps that range in capacity from 0.75 to 20-tons, and 16 packaged air conditioning units that range in capacity from 4 to 54-tons. The high capacity air conditioning units serve large common areas such as the gymnasiums and cafeteria. A single 1.5-ton window mounted air conditioning unit serves the women's athletic director's office.

Most air conditioning equipment is tied in to the facility's building energy management system (BEMS) and each room and common area has its own thermostat; cooling set-points are uniformly set to 75°F on the BEMS. Almost all air conditioning equipment is in very good condition and under seven years old. Most equipment is only between two and five years old.

Figure 10 - Building AC Systems

12-ton Split –System HP Condensing Units

2-ton Split-System HP Condensing Unit

3.5-ton Split –System AC Condensing Unit

7.5-ton Packaged AC Unit

4-ton Packaged AC Unit	54-ton Packaged AC Unit
	

Building Energy Management System (BEMS)

The majority of the facility's mechanical equipment is controlled with by a Trane building energy management system (BEMS). The BEMS aggregates the DDC points from various areas throughout the building and provides scheduling and global setpoint adjustment capabilities, as well as monitoring and control over a majority of cooling, heating, and ventilation systems. BEMS expansion is currently in progress.

Domestic Hot Water Heating (DHW) System

The domestic hot water heating system is comprised of two natural gas and five electric water heaters.

The Bradford-White natural gas water heaters have input ratings of 125 and 300 kBtu/hr, nominal thermal efficiencies of 96% and 92%, and storage tanks of 60 and 100-gallons respectively. The electric water heaters include two 50-gallon Bradford-White water heaters with 6 and 9 kW input capacity, one 40-gallon Bradford-White water heater with 4.5 kW input capacity, one 40-gallon Whirpool water heater with 3.38 kW input capacity, and one 40-gallon State water heater with 4.5 kW input capacity.

With the exception of the two 50-gallon Bradford-White electric water heaters, most domestic hot water heating equipment is in very good condition and only between two and five years old.

Figure 11 - Domestic Hot Water System

Bradford-White 60-gal Natural Gas DHW Heater 	*Bradford-White 100-gal Natural Gas DHW Heater* 
Bradford-White 50-gal Electric DHW Heater 	*Whirpool 40-gal Electric DHW Heater* 

State 40-gal Electric DHW Heater 	*Bradford-White 40-gal Electric DHW Heater* 
Bradford-White 50-gal Electric DHW Heater 	*DHW Booster Pump* 

Food Service Equipment

The school has a kitchen that is used to serve over 300 lunches. The kitchen is equipped with gas convection and steam ovens, stoves, and hot food cabinets. The kitchen has a medium-sized conveyor-type dishwater.

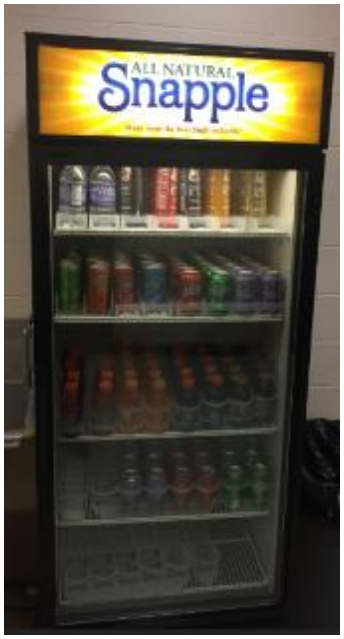
Figure 12 – Food Service Equipment

Gas Convection Ovens and Stove Top 	*Gas Steamer* 
Dishwasher 	*Food Holding Cabinet* 

Refrigeration

The school has kitchen refrigerators and freezers of multiple types and sizes. In addition, the kitchen has two walk-in cooler areas served by a single ton compressor; each area has its own evaporator with two fans. A walk-in 0.6-ton medium temperature freezer is located in the science department and is used to store temperature sensitive items.

Figure 13 – Refrigeration Equipment

Stand-up Refrigerator with Glass Door 	*Refrigerated Chest* 
Medium Stand-up Refrigerator 	*Large Stand-up Refrigerator* 

Walk-in Cooler Areas	*Science Dept Walk-in Freezer*
	

Building Plug Load

There are roughly 299 computer workstations and 26 printers/copiers throughout the facility. Approximately 11 small freezers and eight residential-type refrigerators are found in various areas of the school. Other items that contribute to the plug load of the facility include a number of residential-type appliances such as microwaves, coffee machines, and toasters.

2.7 Water-Using Systems

There are approximately 22 faucets throughout the facility that each have an estimated flow rate of 2.5 gallons per minute (gpm).

3 SITE ENERGY USE AND COSTS

Utility data for electricity and natural gas was analyzed to identify opportunities for savings. In addition, data for electricity and natural gas was evaluated to determine the annual energy performance metrics for the building in energy cost per square foot and energy usage per square foot. These metrics are an estimate of the relative energy efficiency of this building. There are a number of factors that could cause the energy use of this building to vary from the "typical" energy usage profile for facilities with similar characteristics. Local weather conditions, building age and insulation levels, equipment efficiency, daily occupancy hours, changes in occupancy throughout the year, equipment operating hours, and energy efficient behavior of occupants all contribute to benchmarking scores. Please refer to the Benchmarking section within Section 3.4 for additional information.

3.1 Total Cost of Energy

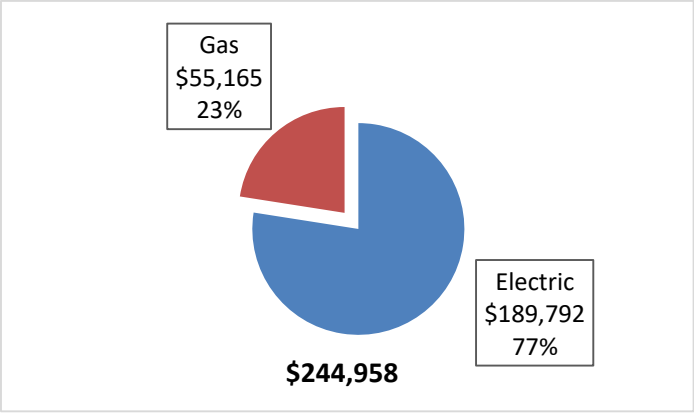
The following energy consumption and cost data is based on the last 12-month period of utility billing data that was provided for each utility. A profile of the annual energy consumption and energy cost of the facility was developed from this information.

Figure 14 - Utility Summary

Utility Summary for Woodstown Middle/High School		
Fuel	**Usage**	**Cost**
Electricity	1,264,220 kWh	$189,792
Natural Gas	49,164 Therms	$55,165
Total		**$244,958**

The current annual energy cost for this facility is $244,958 as shown in the chart below.

Figure 15 - Energy Cost Breakdown



3.2 Electricity Usage

Electricity is provided by Atlantic City Electric. The average electric cost over the past 12 months was $0.150/kWh, which is the blended rate that includes energy supply, distribution, and other charges. This rate is used throughout the analyses in this report to assess energy costs and savings. The monthly electricity consumption and peak demand are shown in the chart below.

Figure 16 - Electric Usage & Demand

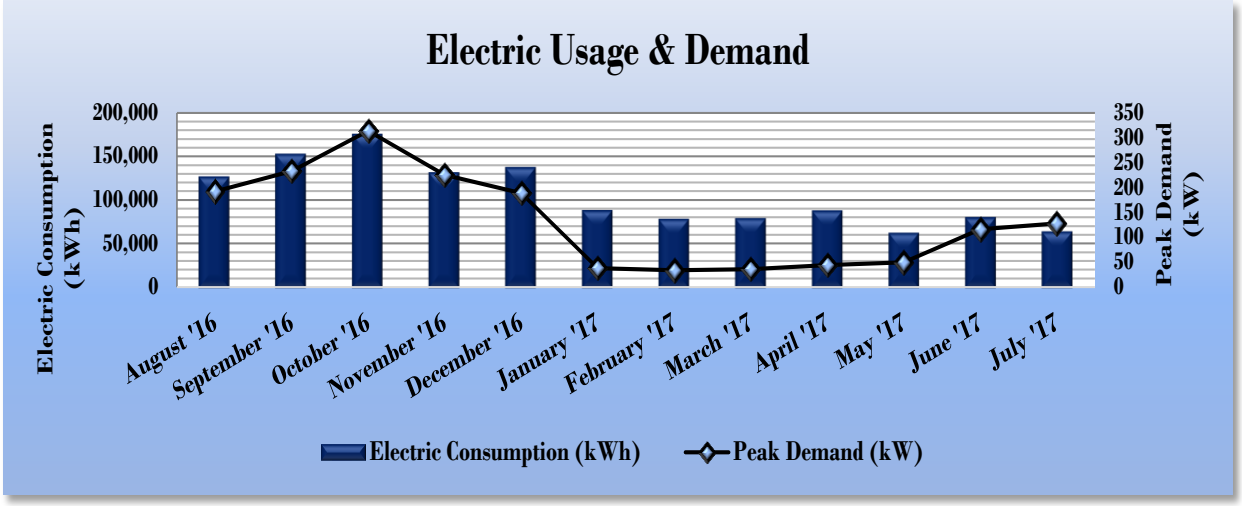


Figure 17 - Electric Usage & Demand

Electric Billing Data for Woodstown Middle/High School				
Period Ending	Days in Period	Electric Usage (kWh)	Demand (kW)	Total Electric Cost
8/15/16	28	126,480	192	$20,744
9/16/16	32	152,240	233	$24,057
10/17/16	31	174,560	314	$26,898
11/12/16	26	131,280	225	$19,538
12/13/16	31	136,920	189	$20,476
1/17/17	35	88,640	38	$12,518
2/14/17	28	78,740	34	$9,890
3/15/17	29	79,520	36	$10,947
4/17/17	33	88,200	44	$12,445
5/16/17	29	62,680	50	$8,637
6/15/17	30	80,440	116	$12,329
7/18/17	33	64,520	128	$11,314
Totals	**365**	**1,264,220**	**314**	**$189,792**
Annual	**365**	**1,264,220**	**314**	**$189,792**

3.3 Natural Gas Usage

Natural gas is provided by South Jersey Gas. The average gas cost for the past 12 months is $1.122/therm, which is the blended rate used throughout the analyses in this report. The monthly gas consumption is shown in the chart below.

Figure 18 - Natural Gas Usage

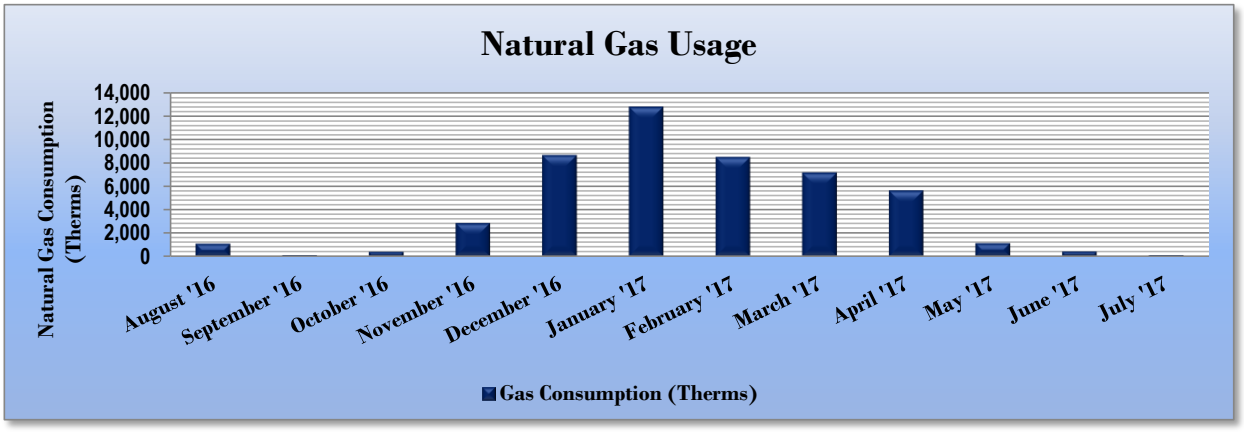


Figure 19 - Natural Gas Usage

Gas Billing Data for Woodstown Middle/High School			
Period Ending	**Days in Period**	**Natural Gas Usage (Therms)**	**Natural Gas Cost**
8/17/16	31	1,075	$1,047
9/16/16	30	108	$131
10/17/16	31	393	$424
11/12/16	26	2,841	$2,998
12/13/16	31	8,671	$9,164
1/17/17	35	12,811	$15,428
2/14/17	28	8,509	$9,746
3/15/17	29	7,183	$7,639
4/17/17	33	5,644	$6,347
5/16/17	29	1,133	$1,292
6/15/17	30	416	$495
7/15/17	30	111	$154
Totals	**363**	**48,895**	**$54,863**
Annual	**365**	**49,164**	**$55,165**

3.4 Benchmarking

This facility was benchmarked using Portfolio Manager®, an online tool created and managed by the United States Environmental Protection Agency (EPA) through the ENERGY STAR® program. Portfolio Manager® analyzes your building's consumption data, cost information, and operational use details and then compares its performance against a national median for similar buildings of its type. Metrics provided by this analysis are Energy Use Intensity (EUI) and an ENERGY STAR® score for select building types.

The EUI is a measure of a facility's energy consumption per square foot, and it is the standard metric for comparing buildings' energy performance. Comparing the EUI of a building with the national median EUI for that building type illustrates whether that building uses more or less energy than similar buildings of its type on a square foot basis. EUI is presented in terms of "site energy" and "source energy." Site energy is the amount of fuel and electricity consumed by a building as reflected in utility bills. Source energy includes fuel consumed to generate electricity consumed at the site, factoring in electric production and distribution losses for the region.

Figure 20 - Energy Use Intensity Comparison – Existing Conditions

Energy Use Intensity Comparison - Existing Conditions		
	Woodstown Middle/High School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	88.2	141.4
Site Energy Use Intensity (kBtu/ft^2)	43.5	58.2

Implementation of all recommended measures in this report would improve the building's estimated EUI significantly, as shown in the table below:

Figure 21 - Energy Use Intensity Comparison – Following Installation of Recommended Measures

Energy Use Intensity Comparison - Following Installation of Recommended Measures		
	Woodstown Middle/High School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	77.6	141.4
Site Energy Use Intensity (kBtu/ft^2)	40.0	58.2

Many types of commercial buildings are also eligible to receive an ENERGY STAR® score. This score is a percentile ranking from 1 to 100. It compares your building's energy performance to similar buildings nationwide. A score of 50 represents median energy performance, while a score of 75 means your building performs better than 75 percent of all similar buildings nationwide and may be eligible for ENERGY STAR® certification. This facility has a current score of 94.

A Portfolio Manager® Statement of Energy Performance (SEP) was generated for this facility, see Appendix B: ENERGY STAR® Statement of Energy Performance.

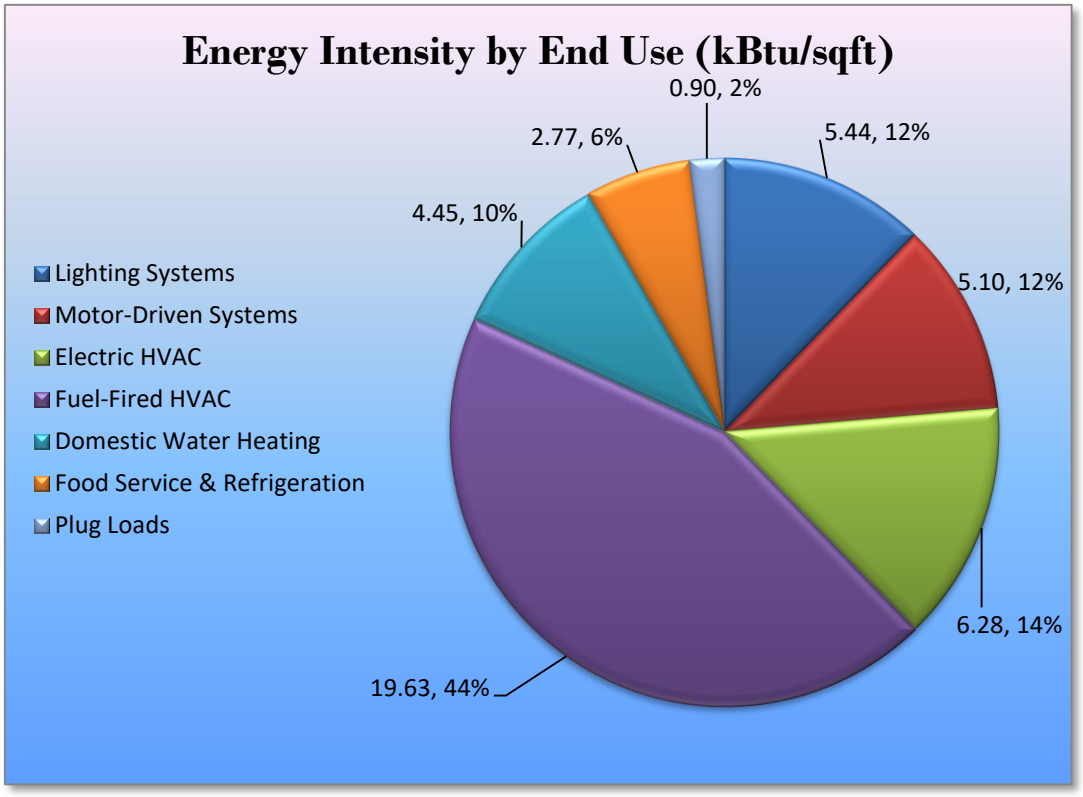
For more information on ENERGY STAR® certification go to: https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification/how-app-1.

A Portfolio Manager® account has been created online for your facility and you will be provided with the login information for the account. We encourage you to update your utility information in Portfolio Manager® regularly, so that you can keep track of your building's performance. Free online training is available to help you use ENERGY STAR® Portfolio Manager® to track your building's performance at: https://www.energystar.gov/buildings/training.

3.5 Energy End-Use Breakdown

In order to provide a complete overview of energy consumption across building systems, an energy balance was performed at this facility. An energy balance utilizes standard practice engineering methods to evaluate all components of the various electric and fuel-fired systems found in a building to determine their proportional contribution to overall building energy usage. This chart of energy end uses highlights the relative contribution of each equipment category to total energy usage. This can help determine where the greatest benefits might be found from energy efficiency measures.

Figure 22 - Energy Balance (% and kBtu/SF)



4 ENERGY CONSERVATION MEASURES

Level of Analysis

The goal of this audit report is to identify potential energy efficiency opportunities, help prioritize specific measures for implementation, and provide information to the Woodstown Middle/High School regarding financial incentives for which they may qualify to implement the recommended measures. For this audit report, most measures have received only a preliminary analysis of feasibility which identifies expected ranges of savings and costs. This level of analysis is usually considered sufficient to demonstrate project cost-effectiveness and help prioritize energy measures. Savings are based on the New Jersey Clean Energy Program Protocols to Measure Resource Savings dated June 29, 2016, approved by the New Jersey Board of Public Utilities. Further analysis or investigation may be required to calculate more precise savings based on specific circumstances. A higher level of investigation may be necessary to support any custom SmartStart or Pay for Performance, or Direct Install incentive applications. Financial incentives for the ECMs identified in this report have been calculated based the NJCEP prescriptive SmartStart program. Some measures and proposed upgrade projects may be eligible for higher incentives than those shown below through other NJCEP programs as described in Section 8.

The following sections describe the evaluated measures.

4.1 Recommended ECMs

The measures below have been evaluated by the auditor and are recommended for implementation at the facility.

Figure 23 – Summary of Recommended ECMs

	Energy Conservation Measure	Recommend?	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Lighting Upgrades			**163,114**	**34.4**	**0.0**	**$24,487.68**	**$87,672.91**	**$14,455.00**	**$73,217.91**	**3.0**	**164,255**
ECM 1	Install LED Fixtures	Yes	1,043	0.3	0.0	$156.60	$1,172.03	$300.00	$872.03	5.6	1,050
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	Yes	298	0.1	0.0	$44.69	$404.00	$0.00	$404.00	9.0	300
ECM 3	Retrofit Fixtures with LED Lamps	Yes	161,423	33.9	0.0	$24,233.79	$85,666.66	$14,155.00	$71,511.66	3.0	162,552
ECM 4	Install LED Exit Signs	Yes	350	0.0	0.0	$52.60	$430.22	$0.00	$430.22	8.2	353
Lighting Control Measures			**35,971**	**7.4**	**0.0**	**$5,400.16**	**$59,862.00**	**$4,890.00**	**$54,972.00**	**10.2**	**36,222**
ECM 5	Install Occupancy Sensor Lighting Controls	Yes	30,141	6.2	0.0	$4,524.89	$40,062.00	$4,890.00	$35,172.00	7.8	30,351
ECM 6	Install High/Low Lighting Controls	Yes	5,830	1.2	0.0	$875.28	$19,800.00	$0.00	$19,800.00	22.6	5,871
Domestic Water Heating Upgrade			**0**	**0.0**	**39.9**	**$447.63**	**$157.74**	**$0.00**	**$157.74**	**0.4**	**4,671**
ECM 7	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	39.9	$447.63	$157.74	$0.00	$157.74	0.4	4,671
Plug Load Equipment Control - Vending Machine			**6,447**	**0.0**	**0.0**	**$967.92**	**$920.00**	**$0.00**	**$920.00**	**1.0**	**6,492**
ECM 8	Vending Machine Control	Yes	6,447	0.0	0.0	$967.92	$920.00	$0.00	$920.00	1.0	6,492
TOTALS FOR ALL EVALUATED MEASURES			**205,532**	**41.8**	**39.9**	**$31,303.40**	**$148,612.65**	**$19,345.00**	**$129,267.65**	**4.1**	**211,640**

* - All incentives presented in this table are based on NJ Smart Start Building equipment incentives and assume proposed equipment meets minimum performance criteria for that program.
** - Simple Payback Period is based on net measure costs (i.e. after incentives).

4.1.1 Lighting Upgrades

Our recommendations for upgrades to existing lighting fixtures are summarized in Figure 24 below.

Figure 24 – Summary of Lighting Upgrade ECMs

Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Lighting Upgrades		**163,114**	**34.4**	**0.0**	**$24,487.68**	**$87,672.91**	**$14,455.00**	**$73,217.91**	**3.0**	**164,255**
ECM 1	Install LED Fixtures	1,043	0.3	0.0	$156.60	$1,172.03	$300.00	$872.03	5.6	1,050
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers	298	0.1	0.0	$44.69	$404.00	$0.00	$404.00	9.0	300
ECM 3	Retrofit Fixtures with LED Lamps	161,423	33.9	0.0	$24,233.79	$85,666.66	$14,155.00	$71,511.66	3.0	162,552
ECM 4	Install LED Exit Signs	350	0.0	0.0	$52.60	$430.22	$0.00	$430.22	8.2	353

During lighting upgrade planning and design, we recommend a comprehensive approach that considers both the efficiency of the lighting fixtures and how they are controlled

ECM 1: Install LED Fixtures

Summary of Measure Economics

Interior/ Exterior	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Interior	0	0.0	0.0	$0.00	$0.00	$0.00	$0.00	0.0	0
Exterior	1,043	0.3	0.0	$156.60	$1,172.03	$300.00	$872.03	5.6	1,050

Measure Description

We recommend replacing exterior fixtures containing metal halide (MH) and high-pressure sodium (HPS) lamps located in the courtyard, at the front entrance, and on the exterior wall with new high performance LED light fixtures. This measure saves energy by installing LEDs which use less power than other technologies with a comparable light output.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which may be twice as long as MH and HPS lamps.

ECM 2: Retrofit Fluorescent Fixtures with LED Lamps and Drivers

Summary of Measure Economics

Interior/ Exterior	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Interior	0	0.0	0.0	$0.00	$0.00	$0.00	$0.00	0.0	0
Exterior	298	0.1	0.0	$44.69	$404.00	$0.00	$404.00	9.0	300

Measure Description

We recommend retrofitting existing T12 fluorescent fixtures by removing fluorescent tubes and ballasts and replacing them with LEDs and LED drivers (if necessary), which are designed to be used retrofitted fluorescent fixtures. The measure uses the existing fixture housing but replaces the rest of the components with more efficient lighting technology. This measure saves energy by installing LEDs which use less power than other lighting technologies yet provide equivalent lighting output for the space.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which are more than twice that of a fluorescent tube.

ECM 3: Retrofit Fixtures with LED Lamps

Summary of Measure Economics

Interior/ Exterior	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Interior	159,878	33.4	0.0	$24,001.89	$84,914.11	$14,085.00	$70,829.11	3.0	160,996
Exterior	1,545	0.5	0.0	$231.90	$752.54	$70.00	$682.54	2.9	1,555

Measure Description

We recommend retrofitting existing incandescent, halogen, and fluorescent lamps with LED lamps. Many LED tube lamps are direct replacements for existing fluorescent lamps and can be installed while leaving the fluorescent fixture ballast in place. LED bulbs can be used in existing fixtures as a direct replacement for most other lighting technologies. This measure saves energy by installing LEDs which use less power than other lighting technologies yet provide equivalent lighting output for the space.

Additional savings from lighting maintenance can be anticipated since LEDs have lifetimes which are more than twice that of a fluorescent tube and more than 10 times longer than many incandescent lamps.

ECM 4: Install LED Exit Signs

Summary of Measure Economics

Interior/ Exterior	Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Interior	350	0.0	0.0	$52.60	$430.22	$0.00	$430.22	8.2	353
Exterior	0	0.0	0.0	$0.00	$0.00	$0.00	$0.00	0.0	0

Measure Description

We recommend replacing existing compact fluorescent exit signs with LED exit signs. LED exit signs require virtually no maintenance and have a life expectancy of at least 20 years. This measure saves energy by installing LED fixtures, which use less power than other technologies with an equivalent lighting output.

4.1.2 Lighting Control Measures

Our recommendations for lighting control measures are summarized in Figure 24 below.

Figure 25 – Summary of Lighting Control ECMs

Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Lighting Control Measures		**35,971**	**7.4**	**0.0**	**$5,400.16**	**$59,862.00**	**$4,890.00**	**$54,972.00**	**10.2**	**36,222**
ECM 5	Install Occupancy Sensor Lighting Controls	30,141	6.2	0.0	$4,524.89	$40,062.00	$4,890.00	$35,172.00	7.8	30,351
ECM 6	Install High/Low Lighitng Controls	5,830	1.2	0.0	$875.28	$19,800.00	$0.00	$19,800.00	22.6	5,871

During lighting upgrade planning and design, we recommend a comprehensive approach that considers both the efficiency of the lighting fixtures and how they are controlled.

ECM 5: Install Occupancy Sensor Lighting Controls

Summary of Measure Economics

Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
30,141	6.2	0.0	$4,524.89	$40,062.00	$4,890.00	$35,172.00	7.8	30,351

Measure Description

We recommend installing occupancy sensors to control lighting fixtures that are currently controlled by manual switches in restrooms, locker rooms, storage rooms, classrooms, meeting rooms and office areas as noted in Appendix A. Lighting sensors detect occupancy using ultrasonic and/or infrared sensors. For most spaces, we recommend lighting controls use dual technology sensors, which can eliminate the possibility of any lights turning off unexpectedly. Lighting systems are enabled when an occupant is detected. Fixtures are automatically turned off after an area has been vacant for a preset period. Some controls also provide dimming options and all modern occupancy controls can be easily over-ridden by room occupants to allow them to manually turn fixtures on or off, as desired. Energy savings results from only operating lighting systems when they are required.

Occupancy sensors may be mounted on the wall at existing switch locations, mounted on the ceiling, or in remote locations. In general, wall switch replacement sensors are recommended for single occupant offices and other small rooms. Ceiling-mounted or remote mounted sensors are used in locations without local switching or where wall switches are not in the line-of-sight of the main work area and in large spaces. We recommend a comprehensive approach to lighting design that upgrades both the lighting fixtures and the controls together for maximum energy savings and improved lighting for occupants.

ECM 6: Install High/Low Lighting Controls

Summary of Measure Economics

Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
5,830	1.2	0.0	$875.28	$19,800.00	$0.00	$19,800.00	22.6	5,871

Measure Description

We recommend installing occupancy sensors to provide dual level lighting control for lighting fixtures in spaces that are infrequently occupied but may require some level of continuous lighting for safety or security reasons. Typical areas for such lighting control are stairwells, interior corridors, parking lots, and parking garages.

Lighting fixtures with these controls operate at default low levels when the area is not occupied to provide minimal lighting to meet security or safety requirements. Sensors detect occupancy using ultrasonic and/or infrared sensors. The lighting systems are switched to full lighting levels whenever an occupant is detected. Fixtures are automatically switched back to low level after an area has been vacant for a preset period of time. In corridors and stairwells with significant ambient lighting this control can sometimes be combined with photocell controls to turn the lights off when there is sufficient daylighting. Energy savings results from only providing full lighting levels when it is required.

For this type of measure the occupancy sensors will generally be ceiling or fixture mounted. Sufficient sensor coverage needs to be provided to ensure that lights turn on in each area as an occupant approaches.

Additional savings from reduced lighting maintenance may also result from this measure, due to reduced lamp operation.

4.1.3 Domestic Hot Water Heating System Upgrades

Our recommendations for domestic water heating system improvements are summarized in Figure 26 below.

Figure 26 - Summary of Domestic Water Heating ECMs

Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
Domestic Water Heating Upgrade		**0**	**0.0**	**39.9**	**$447.63**	**$157.74**	**$0.00**	**$157.74**	**0.4**	**4,671**
ECM 7	Install Low-Flow Domestic Hot Water Devices	0	0.0	39.9	$447.63	$157.74	$0.00	$157.74	0.4	4,671

ECM 7: Install Low-Flow DHW Devices

Summary of Measure Economics

Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
0	0.0	39.9	$447.63	$157.74	$0.00	$157.74	0.4	4,671

Measure Description

We recommend installing low-flow domestic hot water devices to reduce overall hot water demand. Energy demand from domestic hot water heating systems can be reduced by reducing water usage in general. Faucet aerators can reduce hot water usage relative to standard aerators, which saves energy. Low-flow devices reduce the overall water flow from the fixture, while still adequate pressure for washing. This reduces the amount of water used per day resulting in energy and water savings.

4.1.4 Plug Load Equipment Control - Vending Machines

Our recommendations for plug load equipment control measures are summarized in Figure 27 below.

Figure 27-Summary of Plug Load Equipment Control ECMs

Energy Conservation Measure		Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)*	Estimated Net Cost ($)	Simple Payback Period (yrs)**	CO_2e Emissions Reduction (lbs)
Plug Load Equipment Control - Vending Machine		**6,447**	**0.0**	**0.0**	**$967.92**	**$920.00**	**$0.00**	**$920.00**	**1.0**	**6,492**
ECM 8	Vending Machine Control	6,447	0.0	0.0	$967.92	$920.00	$0.00	$920.00	1.0	6,492

ECM 8: Vending Machine Control

Summary of Measure Economics

Annual Electric Savings (kWh)	Peak Demand Savings (kW)	Annual Fuel Savings (MMBtu)	Annual Energy Cost Savings ($)	Estimated Install Cost ($)	Estimated Incentive ($)	Estimated Net Cost ($)	Simple Payback Period (yrs)	CO_2e Emissions Reduction (lbs)
6,447	0.0	0.0	$967.92	$920.00	$0.00	$920.00	1.0	6,492

Measure Description

Vending machines operate continuously, even during non-business hours. It is recommended to install occupancy sensor controls to reduce the energy use. These controls power down vending machines when the vending machine area has been vacant for some time, then power up at regular intervals, as needed, to turn machine lights on or keep the product cool. Energy savings are a dependent on vending machine and activity level in the area surrounding the machines.

5 ENERGY EFFICIENT PRACTICES

In addition to the quantifiable savings estimated in Section 4, a facility's energy performance can also be improved through application of many low cost or no-cost energy efficiency strategies. By employing certain behavioral and operational changes and performing routine maintenance on building systems, equipment lifetime can be extended; occupant comfort, health and safety can be improved; and energy and O&M costs can be reduced. The recommendations below are provided as a framework for developing a whole building maintenance plan that is customized to your facility. Consult with qualified equipment specialists for details on proper maintenance and system operation.

Close Doors and Windows

Ensure doors and windows are closed in conditioned spaces. Leaving doors and windows open leads to a significant increase in heat transfer between conditioned spaces and the outside air. Reducing a facility's air changes per hour (ACH) can lead to increased occupant comfort as well as significant heating and cooling savings, especially when combined with proper HVAC controls and adequate ventilation.

Use Window Treatments/Coverings

A substantial amount of heat gain can occur through uncovered or untreated windows, especially older single pane windows and east or west-facing windows. Treatments such as high-reflectivity films or covering windows with shades or shutters can reduce solar heat gain and, consequently, cooling load and can reduce internal heat loss and the associated heating load.

Perform Proper Lighting Maintenance

In order to sustain optimal lighting levels, lighting fixtures should undergo routine maintenance. Light levels decrease over time due to lamp aging, lamp and ballast failure, and buildup of dirt and dust on lamps, fixtures and reflective surfaces. Together, these factors can reduce total illumination by 20% - 60% or more, while operating fixtures continue drawing full power. To limit this reduction, lamps, reflectors and diffusers should be thoroughly cleaned of dirt, dust, oil, and smoke film buildup approximately every 6 – 12 months.

Develop a Lighting Maintenance Schedule

In addition to routine fixture cleaning, development of a maintenance schedule can both ensure maintenance is performed regularly and can reduce the overall cost of fixture re-lamping and re-ballasting. By re-lamping and re-ballasting fixtures in groups, lighting levels are better maintained and the number of site visits by a lighting technician or contractor can be minimized, decreasing the overall cost of maintenance.

Ensure Lighting Controls Are Operating Properly

Lighting controls are very cost effective energy efficient devices, when installed and operating correctly. As part of a lighting maintenance schedule, lighting controls should be tested annually to ensure proper functioning. For occupancy sensors, this requires triggering the sensor and verifying that the sensor's timer settings are correct. For daylight sensors, maintenance involves cleaning of sensor lenses and confirming setpoints and sensitivity are appropriately configured.

Perform Routine Motor Maintenance

Motors consist of many moving parts whose collective degradation can contribute to a significant loss of motor efficiency. In order to prevent damage to motor components, routine maintenance should be performed. This maintenance consists of cleaning surfaces and ventilation openings on motors to prevent overheating, lubricating moving parts to reduce friction, inspecting belts and pulleys for wear and to ensure they are at proper alignment and tension, and cleaning and lubricating bearings. Consult a licensed technician to assess these and other motor maintenance strategies.

Practice Proper Use of Thermostat Schedules and Temperature Resets

Ensure thermostats are correctly set back. By employing proper set back temperatures and schedules, facility heating and cooling costs can be reduced dramatically during periods of low or no occupancy. As such, thermostats should be programmed for a setback of 5-10°F during low occupancy hours (reduce heating setpoints and increase cooling setpoints). Cooling load can be reduced further by increasing the facility's occupied setpoint temperature. In general, during the cooling season, thermostats should be set as high as possible without sacrificing occupant comfort.

Clean Evaporator/Condenser Coils on AC Systems

Dirty evaporators and condensers coils cause a restriction to air flow and restrict heat transfer. This results in increased evaporator and condenser fan load and a decrease in cooling system performance. Keeping the coils clean allows the fans and cooling system to operate more efficiently.

Clean and/or Replace HVAC Filters

Air filters work to reduce the amount of indoor air pollution and increase occupant comfort. Over time, filters become less and less effective as particulate buildup increases. In addition to health concerns related to clogged filters, filters that have reached saturation also restrict air flow through the facility's air conditioning or heat pump system, increasing the load on the distribution fans and decreasing occupant comfort levels. Filters should be checked monthly and cleaned or replaced when appropriate.

Perform Proper Boiler Maintenance

Many boiler problems develop slowly over time, so regular inspection and maintenance is essential to retain proper functionality and efficiency of the heating system. Fuel burning equipment should undergo yearly tune-ups to ensure they are operating as safely and efficiently as possible from a combustion standpoint. A tune-up should include a combustion analysis to analyze the exhaust from the boilers and to ensure the boiler is operating safely. Buildup of dirt, dust, or deposits on the internal surfaces of a boiler can greatly affect its heat transfer efficiency. These deposits can accumulate on the water side or fire side of the boiler. Boilers should be cleaned regularly according to the manufacturer's instructions to remove this build up in order to sustain efficiency and equipment life.

Perform Proper Water Heater Maintenance

At least once a year, drain a few gallons out of the water heater using the drain valve. If there is a lot of sediment or debris, then a full flush is recommended. Turn the temperature down and then completely drain the tank. Once a year check for any leaks or heavy corrosion on the pipes and valves. For gas water heaters, check the draft hood and make sure it is placed properly, with a few inches of air space between the tank and where it connects to the vent. Look for any corrosion or wear on the gas line and on the piping. If you noticed any black residue, soot or charred metal, this is a sign you may be having combustion issues and you should have the unit serviced by a professional. For electric water heaters, look for any signs of leaking such as rust streaks or residue around the upper and lower panels covering the electrical components on the tank. For water heaters over three to four years old have a technician inspect the sacrificial anode annually.

Water Conservation

Installing low-flow faucets or faucet aerators, low-flow showerheads, and kitchen sink pre-rinse spray valves saves both energy and water. These devices save energy by reducing the overall amount of hot water used hence reducing the energy used to heat the water. The flow ratings for EPA WaterSense™ (http://www3.epa.gov/watersense/products) labeled devices are 1.5 gpm for bathroom faucets, 2.0 gpm for showerheads, and 1.28 gpm for pre-rinse spray valves.

Installing dual flush or low-flow toilets and low-flow or waterless urinals are additional ways to reduce the sites water use, however, these devices do not provide energy savings at the site level. Any reduction in water use does however ultimately reduce grid level electricity use since a significant amount of electricity is used to deliver water from reservoirs to end users. The EPA WaterSense™ ratings for urinals is 0.5 gallons per flush (gpf) and toilets that use as little as 1.28 gpf (this is lower than the current 1.6 gpf federal standard).

Refer to Section 4.1.3 for any low-flow ECM recommendations.

6 On-Site Generation Measures

On-site generation measure options include both renewable (e.g., solar, wind) and non-renewable (e.g., fuel cells) on-site technologies that generate power to meet all or a portion of the electric energy needs of a facility, often repurposing any waste heat where applicable. Also referred to as distributed generation, these systems contribute to Greenhouse Gas (GHG) emission reductions, demand reductions and reduced customer electricity purchases, resulting in the electric system reliability through improved transmission and distribution system utilization.

The State of New Jersey's Energy Master Plan (EMP) encourages new distributed generation of all forms and specifically focuses on expanding use of combined heat and power (CHP) by reducing financial, regulatory and technical barriers and identifying opportunities for new entries. The EMP also outlines a goal of 70% of the State's electrical needs to be met by renewable sources by 2050.

Preliminary screenings were performed to determine the potential that a generation project could provide a cost-effective solution for your facility. Before making a decision to implement, a feasibility study should be conducted that would take a detailed look at existing energy profiles, siting, interconnection, and the costs associated with the generation project including interconnection costs, departing load charges, and any additional special facilities charges.

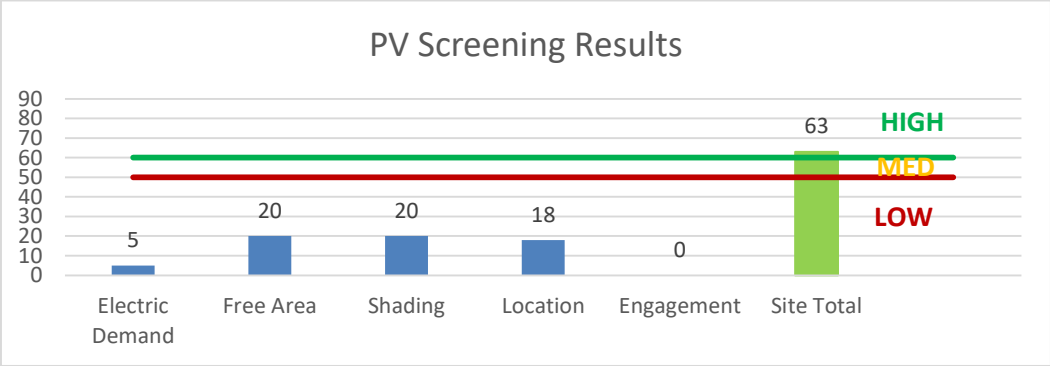
6.1 Photovoltaic

Sunlight can be converted into electricity using photovoltaics (PV) modules. Modules are racked together into an array that produces direct current (DC) electricity. The DC current is converted to alternating current (AC) through an inverter. The inverter is interconnected to the facility's electrical distribution system. The amount of unobstructed area available determines how large of a solar array can be installed. The size of the array combined with the orientation, tilt, and shading elements determines the energy produced.

A preliminary screening based on the facility's electric demand, size and location of free area, and shading elements shows that the facility has a **High** potential for installing a PV array.

The amount of free area, ease of installation (location), and the lack of shading elements contribute to the high potential for PV at the site. A PV array located on the roof of the main building may be feasible. If Woodstown Middle/High School is interested in pursuing the installation of PV, we recommended a full feasibility study be conducted.

Figure 28 - Photovoltaic Screening



Solar projects must register their projects in the SREC (Solar Renewable Energy Certificate) Registration Program (SRP) prior to the start of construction in order to establish the project's eligibility to earn SRECs. Registration of the intent to participate in New Jersey's solar marketplace provides market participants with information about developed new solar projects and insight into future SREC pricing. Refer to Section 8.2 for additional information.

For more information on solar PV technology and commercial solar markets in New Jersey, or to find a qualified solar installer, who can provide a more detailed assessment of the specific costs and benefits of solar develop of the site, please visit the following links below:

- **Basic Info on Solar PV in NJ**: http://www.njcleanenergy.com/whysolar
- **NJ Solar Market FAQs**: http://www.njcleanenergy.com/renewable-energy/program-updates-and-background-information/solar-transition/solar-market-faqs
- **Approved Solar Installers in the NJ Market**: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/?id=60&start=1

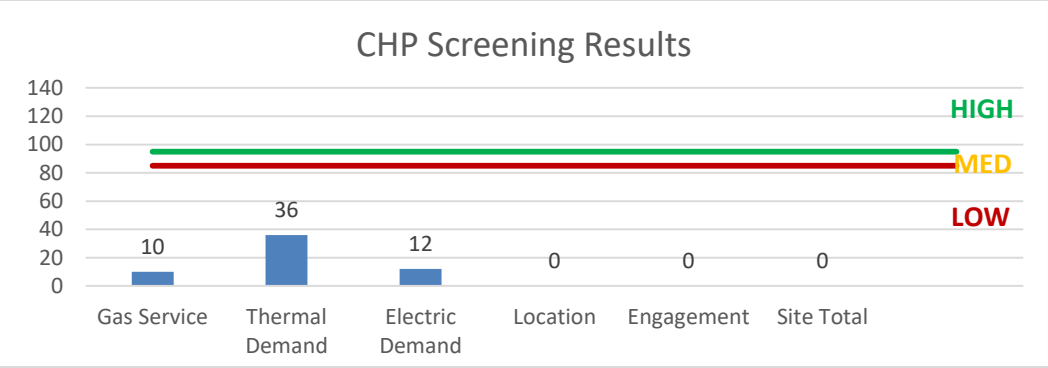
6.2 Combined Heat and Power

Combined heat and power (CHP) is the on-site generation of electricity along with the recovery of heat energy, which is put to beneficial use. Common technologies for CHP include reciprocating engines, microturbines, fuel cells, backpressure steam turbines, and (at large facilities) gas turbines. Electric generation from a CHP system is typically interconnected to local power distribution systems. Heat is recovered from exhaust and ancillary cooling systems and interconnected to the existing hot water (or steam) distribution systems.

CHP systems are typically used to produce a portion of the electric power used onsite by a facility, with the balance of electric power needs supplied by grid purchases. The heat is used to supplement (or supplant) existing boilers for the purpose of space heating and/or domestic hot water heating. Waste heat can also be routed through absorption chillers for the purpose of space cooling. The key criteria used for screening, however, is the amount of time the system operates at full load and the facility's ability to use the recovered heat. Facilities with continuous use for large quantities of waste heat are the best candidates for CHP.

A preliminary screening based on heating and electrical demand, siting, and interconnection shows that the facility has a **Low** potential for installing a cost-effective CHP system.

Figure 29 - Combined Heat and Power Screening



7 DEMAND RESPONSE

Demand Response (DR) is a program designed to reduce the electric load of commercial facilities when electric wholesale prices are high or when the reliability of the electric grid is threatened due to peak demand. Demand Response service providers (a.k.a. Curtailment Service Providers) are registered with PJM, the independent system operator (ISO) for mid-Atlantic state region that is charged with maintaining electric grid reliability.

By enabling grid operators to call upon Curtailment Service Providers and commercial facilities to reduce electric usage during times of peak demand, the grid is made more reliable and overall transmission costs are reduced for all ratepayers. Curtailment Service Providers provide regular payments to medium and large consumers of electric power for their participation in DR programs. Program participation is voluntary and participants receive payments whether or not their facility is called upon to curtail their electric usage.

Typically an electric customer needs to be capable of reducing their electric demand, within minutes, by at least 100 kW or more in order to participate in a DR program. Customers with a greater capability to quickly curtail their demand during peak hours will receive higher payments. Customers with back-up generators onsite may also receive additional DR payments for their generating capacity if they agree to run the generators for grid support when called upon. Eligible customers who have chosen to participate in a DR programs often find it to be a valuable source of revenue for their facility because the payments can significantly offset annual electric costs.

Participating customers can often quickly reduce their peak load through simple measures, such as temporarily raising temperature set points on thermostats, so that air conditioning units run less frequently, or agreeing to dim or shut off less critical lighting. This usually requires some level of building automation and controls capability to ensure rapid load reduction during a DR curtailment event. DR program participants may need to install smart meters or may need to also sub-meter larger energy-using equipment, such as chillers, in order to demonstrate compliance with DR program requirements.

DR does not include the reduction of electricity consumption based on normal operating practice or behavior. For example, if a company's normal schedule is to close for a holiday, the reduction of electricity due to this closure or scaled-back operation is not considered a demand response activity in most situations.

The first step toward participation in a DR program is to contact a Curtailment Service Provider. A list of these providers is available on PJM's website and it includes contact information for each company, as well as the states where they have active business (http://www.pjm.com/markets-and-operations/demand-response/csps.aspx). PJM also posts training materials that are developed for program members interested in specific rules and requirements regarding DR activity (http://www.pjm.com/training/training%20material.aspx), along with a variety of other DR program information.

Curtailment Service Providers typically offer free assessments to determine a facility's eligibility to participate in a DR program. They will provide details regarding program rules and requirements for metering and controls, assess a facility's ability to temporarily reduce electric load, and provide details on payments to be expected for participation in the program. Providers usually offer multiple options for DR to larger facilities and may also install controls or remote monitoring equipment of their own to help ensure compliance with all terms and conditions of a DR contract.

Although this facility has centralized controls, there is a limited potential for DR curtailment based on a monthly peak load of under 200 kW throughout most of the year.

8 PROJECT FUNDING / INCENTIVES

The NJCEP is able to provide the incentive programs described below, and other benefits to ratepayers, because of the Societal Benefits Charge (SBC) Fund. The SBC was created by the State of New Jersey's Electricity Restructuring Law (1999), which requires all customers of investor-owned electric and gas utilities to pay a surcharge on their monthly energy bills. As a customer of a state-regulated electric or gas utility and therefore a contributor to the fund your organization is eligible to participate in the LGEA program and also eligible to receive incentive payment for qualifying energy efficiency measures. Also available through the NJBPU are some alternative financing programs described later in this section. Please refer to Figure 30 for a list of the eligible programs identified for each recommended ECM.

Figure 30 - ECM Incentive Program Eligibility

Energy Conservation Measure		SmartStart Prescriptive	SmartStart Custom	Direct Install	Pay For Performance Existing Buildings	Large Energy Users Program	Combined Heat & Power and Fuel Cell
ECM 1	Install LED Fixtures	x					
ECM 2	Retrofit Fluorescent Fixtures with LED Lamps and Drivers						
ECM 3	Retrofit Fixtures with LED Lamps	x					
ECM 4	Install LED Exit Signs						
ECM 5	Install Occupancy Sensor Lighting Controls	x					
ECM 6	Install Daylight Dimming Controls	x					
ECM 7	Install High/Low Lighitng Controls						
ECM 8	Install Low-Flow Domestic Hot Water Devices						
ECM 9	Vending Machine Control						

SmartStart is generally well-suited for implementation of individual measures or small group of measures. It provides flexibility to install measures at your own pace using in-house staff or a preferred contractor. Direct Install caters to small to mid-size facilities that can bundle multiple ECMs together. This can greatly simplify participation and may lead to higher incentive amounts, but requires the use of pre-approved contractors. The Pay for Performance (P4P) program is a "whole-building" energy improvement program designed for larger facilities. It requires implementation of multiple measures meeting minimum savings thresholds, as well as use of pre-approved consultants. The Large Energy Users Program (LEUP) is available to New Jersey's largest energy users giving them flexibility to install as little or as many measures, in a single facility or several facilities, with incentives capped based on the entity's annual energy consumption. LEUP applicants can use in-house staff or a preferred contractor.

Generally, the incentive values provided throughout the report assume the SmartStart program is utilized because it provides a consistent basis for comparison of available incentives for various measures, though in many cases incentive amounts may be higher through participation in other programs.

Brief descriptions of all relevant financing and incentive programs are located in the sections below. Further information, including most current program availability, requirements, and incentive levels can be found at: www.njcleanenergy.com/ci.

8.1 SmartStart

Overview

The SmartStart program offers incentives for installing prescriptive and custom energy efficiency measures at your facility. Routinely the program adds, removes or modifies incentives from year to year for various energy efficiency equipment based on market trends and new technologies.

Equipment with Prescriptive Incentives Currently Available:

Electric Chillers
Electric Unitary HVAC
Gas Cooling
Gas Heating
Gas Water Heating
Ground Source Heat Pumps
Lighting
Lighting Controls
Refrigeration Doors
Refrigeration Controls
Refrigerator/Freezer Motors
Food Service Equipment
Variable Frequency Drives

Most equipment sizes and types are served by this program. This program provides an effective mechanism for securing incentives for energy efficiency measures installed individually or as part of a package of energy upgrades.

Incentives

The SmartStart prescriptive incentive program provides fixed incentives for specific energy efficiency measures, whereas the custom SmartStart program provides incentives for more unique or specialized technologies or systems that are not addressed through prescriptive incentive offerings for specific devices.

Since your facility is an existing building, only the retrofit incentives have been applied in this report. Custom measure incentives are calculated at $0.16/kWh and $1.60/therm based on estimated annual savings, capped at 50% of the total installed incremental project cost, or a project cost buy down to a one year payback (whichever is less). Program incentives are capped at $500,000 per electric account and $500,000 per natural gas account, per fiscal year.

How to Participate

To participate in the SmartStart program you will need to submit an application for the specific equipment to be installed. Many applications are designed as rebates, although others require application approval prior to installation. Applicants may work with a contractor of their choosing and can also utilize internal personnel, which provides added flexibility to the program. Using internal personnel also helps improve the economics of the ECM by reducing the labor cost that is included in the tables in this report.

Detailed program descriptions, instructions for applying and applications can be found at: www.njcleanenergy.com/SSB.

8.2 SREC Registration Program

The SREC (Solar Renewable Energy Certificate) Registration Program (SRP) is used to register the intent to install solar projects in New Jersey. Rebates are not available for solar projects, but owners of solar projects MUST register their projects in the SRP prior to the start of construction in order to establish the project's eligibility to earn SRECs. Registration of the intent to participate in New Jersey's solar marketplace provides market participants with information about the pipeline of anticipated new solar capacity and insight into future SREC pricing.

After the registration is accepted, construction is complete, and final paperwork has been submitted and is deemed complete, the project is issued a New Jersey certification number which enables it to generate New Jersey SRECs. SREC's are generated once the solar project has been authorized to be energized by the Electric Distribution Company (EDC).

Each time a solar installation generates 1,000 kilowatt-hours (kWh) of electricity, an SREC is earned. Solar project owners report the energy production to the SREC Tracking System. This reporting allows SREC's to be placed in the customer's electronic account. SRECs can then be sold on the SREC Tracking System, providing revenue for the first 15 years of the project's life.

Electricity suppliers, the primary purchasers of SRECs, are required to pay a Solar Alternative Compliance Payment (SACP) if they do not meet the requirements of New Jersey's Solar RPS. One way they can meet the RPS requirements is by purchasing SRECs. As SRECs are traded in a competitive market, the price may vary significantly. The actual price of an SREC during a trading period can and will fluctuate depending on supply and demand.

Information about the SRP can be found at: www.njcleanenergy.com/srec.

8.3 Energy Savings Improvement Program

The Energy Savings Improvement Program (ESIP) is an alternate method for New Jersey's government agencies to finance the implementation of energy conservation measures. An ESIP is a type of "performance contract," whereby school districts, counties, municipalities, housing authorities and other public and state entities enter in to contracts to help finance building energy upgrades. This is done in a manner that ensures that annual payments are lower than the savings projected from the ECMs, ensuring that ESIP projects are cash flow positive in year one, and every year thereafter. ESIP provides government agencies in New Jersey with a flexible tool to improve and reduce energy usage with minimal expenditure of new financial resources. NJCEP incentive programs can be leveraged to help further reduce the total project cost of eligible measures.

This LGEA report is the first step to participating in ESIP. Next, you will need to select an approach for implementing the desired ECMs:

(1) Use an Energy Services Company or "ESCO."
(2) Use independent engineers and other specialists, or your own qualified staff, to provide and manage the requirements of the program through bonds or lease obligations.
(3) Use a hybrid approach of the two options described above where the ESCO is utilized for some services and independent engineers, or other specialists or qualified staff, are used to deliver other requirements of the program.

After adopting a resolution with a chosen implementation approach, the development of the Energy Savings Plan (ESP) can begin. The ESP demonstrates that the total project costs of the ECMs are offset by the energy savings over the financing term, not to exceed 15 years. The verified savings will then be used to pay for the financing.

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Entities should carefully consider all alternatives to develop an approach that best meets their needs. A detailed program descriptions and application can be found at: www.njcleanenergy.com/ESIP.

Please note that ESIP is a program delivered directly by the NJBPU and is not an NJCEP incentive program. As mentioned above, you may utilize NJCEP incentive programs to help further reduce costs when developing the ESP. You should refer to the ESIP guidelines at the link above for further information and guidance on next steps.

9 ENERGY PURCHASING AND PROCUREMENT STRATEGIES

9.1 Retail Electric Supply Options

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 deregulated the retail electric markets, allowing all consumers to shop for service from competitive electric suppliers. The intent was to create a more competitive market for electric power supply in New Jersey. As a result, utilities were allowed to charge Cost of Service and customers were given the ability to choose a third-party (i.e. non-utility) energy supplier.

Energy deregulation in New Jersey has increased energy buyers' options by separating the function of electricity distribution from that of electricity supply. So, though you may choose a different company from which to buy your electric power, responsibility for your facility's interconnection to the grid and repair to local power distribution will still reside with the traditional utility company serving your region.

If your facility is not purchasing electricity from a third-party supplier, consider shopping for a reduced rate from third-party electric suppliers. If your facility is purchasing electricity from a third-party supplier, review and compare prices at the end of the current contract or every couple years.

A list of third-party electric suppliers, who are licensed by the state to provide service in New Jersey, can be found online at: www.state.nj.us/bpu/commercial/shopping.html.

9.2 Retail Natural Gas Supply Options

The natural gas market in New Jersey has also been deregulated. Most customers that remain with the utility for natural gas service pay rates that are market-based and that fluctuate on a monthly basis. The utility provides basic gas supply service (BGSS) to customers who choose not to buy from a third-party supplier for natural gas commodity.

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

If your facility is not purchasing natural gas from a third-party supplier, consider shopping for a reduced rate from third-party natural gas suppliers. If your facility is purchasing natural gas from a third-party supplier, review and compare prices at the end of the current contract or every couple years.

A list of third-party natural gas suppliers, who are licensed by the state to provide service in New Jersey, can be found online at: www.state.nj.us/bpu/commercial/shopping.html.

Appendix A: Equipment Inventory & Recommendations

Lighting Inventory & Recommendations

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boiler Room	9	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	No	9	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boiler Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Maintenance Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$445.50	$65.00	6.36
Rooftop	12	Incandescent: Screw-in Lamp	Daylight Dimming	75	1,731	Relamp	No	12	LED Screw-In Lamps: LED Screw-in Lamp	Daylight Dimming	11	1,731	0.50	1,523	0.0	$228.59	$645.04	$60.00	2.56
Kitchen	41	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	41	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	1.12	5,445	0.0	$817.39	$3,478.50	$550.00	3.58
Kitchen Storage	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.14	664	0.0	$99.68	$408.50	$50.00	3.60
Kitchen Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Kitchen	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Dishwasher Area	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	1,938	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	1,938	0.06	221	0.0	$33.13	$150.40	$30.00	3.63
Toilet	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.02	74	0.0	$11.04	$58.50	$10.00	4.39
Electrical Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Kitchen Hood	4	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	4	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	4	Incandescent: Screw-in Lamp	Wall Switch	120	2,769	Relamp	Yes	4	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	18	1,938	0.28	1,368	0.0	$205.39	$485.01	$55.00	2.09
Walk-in Units	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
MS Kitchen	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
MS Kitchen	8	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	None	No	8	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
MS Kitchen	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Office	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
New MS Gym	24	LED - Fixtures: High-Bay	Occupancy Sensor	165	1,938	None	No	24	LED - Fixtures: High-Bay	Occupancy Sensor	165	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
New MS Gym	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	147	0.0	$22.09	$117.00	$20.00	4.39
Office	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Storage Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.06	221	0.0	$33.13	$175.50	$30.00	4.39
Office	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	147	0.0	$22.09	$117.00	$20.00	4.39

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boys Locker Room	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.15	515	0.0	$77.31	$409.50	$70.00	4.39
Boys Locker Room	1	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	None	No	1	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Room	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.15	515	0.0	$77.31	$409.50	$70.00	4.39
Girls Locker Room	1	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	None	No	1	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Cafeteria	49	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	49	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.28	1,358	0.0	$203.81	$1,080.00	$140.00	4.61
Cafeteria	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	1,938	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.03	107	0.0	$16.06	$144.60	$30.00	7.13
Boys Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	1,938	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.03	107	0.0	$16.06	$144.60	$30.00	7.13
Trainer Office	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.19	930	0.0	$139.55	$679.50	$105.00	4.12
Basement Corridor	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Basement Corridor	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 19	24	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	24	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.52	1,766	0.0	$265.05	$1,404.00	$240.00	4.39
Room 19	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 18	30	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	30	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.65	2,207	0.0	$331.32	$1,755.00	$300.00	4.39
Room 18	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 18	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 18 Restroom	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	1	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	1,938	0.03	124	0.0	$18.60	$179.20	$0.00	9.64
Courtyard	4	LED - Fixtures: Stairwell/Passageway Lighting	Daylight Dimming	65	1,731	None	No	4	LED - Fixtures: Stairwell/Passageway Lighting	Daylight Dimming	65	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Mechanical Room	3	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	Yes	3	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	0.01	29	0.0	$4.30	$116.00	$0.00	26.96
Gym Mechanical Room	1	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	1	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.04	203	0.0	$30.48	$53.75	$5.00	1.60
Girls Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	147	0.0	$22.09	$117.00	$20.00	4.39
NPR Corridor	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
NPR Corridor	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Corridor	16	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	16	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.09	443	0.0	$66.55	$3,200.00	$0.00	48.08
Main Corridor	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
East Corridor	16	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	16	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.09	443	0.0	$66.55	$3,200.00	$0.00	48.08
East Corridor	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
West Corridor	25	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	25	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.14	693	0.0	$103.98	$5,000.00	$0.00	48.08
West Corridor	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	2,769	None	Yes	1	LED - Linear Tubes: (2) 2' Lamps	High/Low Control	17	1,938	0.00	16	0.0	$2.44	$200.00	$0.00	82.03
West Corridor	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
MS Corridor	27	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	27	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.15	748	0.0	$112.30	$1,000.00	$0.00	8.90
MS Corridor	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Aux Gym	11	Linear Fluorescent - T5: 4' T5 (28W) - 4L	Wall Switch	120	2,769	Relamp	Yes	11	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	1,938	0.57	2,781	0.0	$417.56	$1,316.47	$255.00	2.54
Aux Gym	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Gym	48	Linear Fluorescent - T5: 4' T5 (28W) - 4L	Wall Switch	120	2,769	Relamp	Yes	48	LED - Linear Tubes: (4) 4' Lamps	Occupancy Sensor	58	1,938	2.50	12,137	0.0	$1,822.09	$5,646.40	$1,100.00	2.50
Main Gym	4	Exit Signs: Fluorescent	None	16	8,760	Fixture Replacement	No	4	LED Exit Signs: 2 W Lamp	None	6	8,760	0.03	403	0.0	$60.49	$430.22	$0.00	7.11
Mrs Kim Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
HS Boys Locker Room	3	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	1,938	0.08	372	0.0	$55.79	$459.60	$35.00	7.61
HS Boys Locker Room	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.41	1,992	0.0	$299.04	$1,417.50	$220.00	4.00
HS Boys Locker Room	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Shower Room	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Coach Offices	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.14	664	0.0	$99.68	$562.50	$85.00	4.79
Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Coach Offices	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Boys Team Locker	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Storage	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Back Corridor	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.11	531	0.0	$79.75	$1,034.00	$40.00	12.46
Back Corridor	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Ladies Locker Room Office	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.14	664	0.0	$99.68	$562.50	$85.00	4.79

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Gym Lobby	8	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	1,938	0.20	991	0.0	$148.78	$775.60	$35.00	4.98
Gym Lobby	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Men Restroom	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$445.50	$65.00	6.36
Women Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Girls Team Locker	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Shower Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$387.00	$20.00	9.20
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Corridor	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.05	266	0.0	$39.87	$517.00	$20.00	12.46
Corridor	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Locker Room	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.36	1,726	0.0	$259.17	$1,030.50	$165.00	3.34
Shower Room	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.13	631	0.0	$94.66	$351.00	$60.00	3.07
Restroom	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Restroom	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$445.50	$65.00	6.36
Corridor	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.05	266	0.0	$39.87	$517.00	$20.00	12.46
Corridor	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Storage Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Basement Corridor	77	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	77	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.44	2,133	0.0	$320.27	$2,400.00	$0.00	7.49
Basement Corridor	14	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	14	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Maintenance Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Room 10	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.38	1,859	0.0	$279.11	$1,089.00	$175.00	3.27
Wood Shop	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood Shop	48	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	48	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	1.04	5,044	0.0	$757.29	$2,808.00	$480.00	3.07
Office	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Boys Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.04	202	0.0	$30.26	$260.60	$30.00	7.62

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Custodian	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	Yes	2	LED Screw-In Lamps: Screw-in Lamp	Occupancy Sensor	10	1,938	0.00	19	0.0	$2.87	$116.00	$0.00	40.44
Room 17	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.41	1,992	0.0	$299.04	$1,417.50	$220.00	4.00
Room 17 Storage	4	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	4	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.18	855	0.0	$128.37	$331.01	$20.00	2.42
Girls Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.04	202	0.0	$30.26	$260.60	$30.00	7.62
Closet	4	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	4	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.18	855	0.0	$128.37	$331.01	$20.00	2.42
Room 9	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 8	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.25	1,195	0.0	$179.43	$796.50	$125.00	3.74
Room 6	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.38	1,859	0.0	$279.11	$1,089.00	$175.00	3.27
Room 5	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Faculty Room	7	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	194	0.0	$29.12	$270.00	$35.00	8.07
Storage Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$291.50	$30.00	4.37
Room 7	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.25	1,195	0.0	$179.43	$796.50	$125.00	3.74
Phone Booth	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Phone Booth	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	2	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.09	428	0.0	$64.18	$223.51	$30.00	3.01
Room 4	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.49	2,390	0.0	$358.85	$1,593.00	$250.00	3.74
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Room 3	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Room 2	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.49	2,390	0.0	$358.85	$1,593.00	$250.00	3.74
Room 1	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Room 12A	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.30	1,461	0.0	$219.30	$913.50	$145.00	3.50
Room 12A	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.08	406	0.0	$60.96	$107.51	$10.00	1.60
Room 13	2	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	2	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.04	185	0.0	$27.73	$126.40	$0.00	4.56
Room 13	25	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	25	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.68	3,320	0.0	$498.41	$2,002.50	$320.00	3.38
Room 14B	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Room 12B	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.16	797	0.0	$119.62	$621.00	$95.00	4.40

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Teacher Room	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Copy Room	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 14A	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Health Office	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Health Office	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	None	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Health Office	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	2	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.09	428	0.0	$64.18	$223.51	$30.00	3.01
Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Office	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 15	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	20	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.55	2,656	0.0	$398.73	$1,710.00	$270.00	3.61
Room 16	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.49	2,390	0.0	$358.85	$1,593.00	$250.00	3.74
Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Elevator Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.04	210	0.0	$31.55	$117.00	$20.00	3.07
Elevator Room	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 28	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 28	3	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) U-Lamp	Occupancy Sensor	33	1,938	0.08	372	0.0	$55.79	$459.60	$35.00	7.61
MS Office	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Principal's Office	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.16	797	0.0	$119.62	$621.00	$95.00	4.40
Principal's Office	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	2	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.09	428	0.0	$64.18	$223.51	$30.00	3.01
Boys Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	147	0.0	$22.09	$117.00	$20.00	4.39
Girls Restroom	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.04	147	0.0	$22.09	$117.00	$20.00	4.39
Room 25	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 24	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 23	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 22	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Roome 21	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room 20	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Exit 4 Stairwell	6	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.03	166	0.0	$24.96	$200.00	$0.00	8.01
Exit 4 Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 126	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Boys Restroom	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
MS Faculty Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	1,938	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.06	221	0.0	$33.13	$175.50	$30.00	4.39
Girls Restroom	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 128	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Hogan's Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
MS Guidance	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Library	81	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	81	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	2.21	10,757	0.0	$1,614.84	$6,898.50	$1,090.00	3.60
Library	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	3	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Library	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Library	39	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	39	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	1.72	8,337	0.0	$1,251.58	$3,176.37	$335.00	2.27
Audio Visual Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Classroom	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 100	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 101	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 102	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 103	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
D1 Stairwell	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.03	139	0.0	$20.80	$200.00	$0.00	9.62
D1 Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
HS Office	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Emf Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
HS Office	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.04	202	0.0	$30.26	$260.60	$50.00	6.96

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Assistant Principal's Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Student Registration	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Restroom	1	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	1	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.04	203	0.0	$30.48	$53.75	$5.00	1.60
Mrs Knorr's Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Mrs Heyel Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Corridor	3	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) U-Lamp	High/Low Control	33	1,938	0.08	372	0.0	$55.79	$789.60	$0.00	14.15
Restroom	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.02	105	0.0	$15.78	$58.50	$10.00	3.07
Mrs Stradian	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Mrs Du Bois	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Mrs Hathaway	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
HS Guidance	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.16	797	0.0	$119.62	$467.00	$80.00	3.24
Room 104	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Electrical Panel Room	1	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	1	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Auditorium	20	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	20	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.43	2,102	0.0	$315.54	$1,170.00	$200.00	3.07
Auditorium	6	LED - Fixtures: Low-Bay	Wall Switch	175	2,769	None	No	6	LED - Fixtures: Low-Bay	Wall Switch	175	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Auditorium	16	Incandescent: Screw-in Lamp	Wall Switch	100	2,769	Relamp	No	16	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	15	2,769	0.89	4,331	0.0	$650.20	$860.05	$80.00	1.20
Auditorium	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Auditorium	12	Halogen Incandescent: Floodlight	Wall Switch	750	2,769	Relamp	No	12	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	113	2,769	5.01	24,362	0.0	$3,657.38	$645.04	$60.00	0.16
Auditorium Stage	19	LED - Fixtures: Low-Bay	Wall Switch	125	2,769	None	No	19	LED - Fixtures: Low-Bay	Wall Switch	125	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boys Dressing Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.03	133	0.0	$19.94	$174.50	$10.00	8.25
Girls Dressing Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.03	133	0.0	$19.94	$174.50	$10.00	8.25
Security Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Bq Stairwell	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.03	139	0.0	$20.80	$200.00	$0.00	9.62
Bq Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Book Storage	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$291.50	$30.00	4.37

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room 105	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Facilitator Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Girls Restroom	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Custodial	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	Yes	2	LED Screw-In Lamps: LED Screw-in Lamp	Occupancy Sensor	11	1,938	0.09	428	0.0	$64.18	$223.51	$10.00	3.33
Boys Restroom	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	None	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 106	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Principal's Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Principal's Office	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Secretary Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Secretary Office	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
B14 Stairwell	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.03	139	0.0	$20.80	$200.00	$0.00	9.62
B14 Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 107	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 107	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.08	406	0.0	$60.96	$107.51	$10.00	1.60
Room 108	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.44	2,125	0.0	$318.98	$1,476.00	$230.00	3.91
Room 109	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.44	2,125	0.0	$318.98	$1,476.00	$230.00	3.91
Prep Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$445.50	$65.00	6.36
Stairwell	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.03	139	0.0	$20.80	$200.00	$0.00	9.62
Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Closet	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Tech Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$40.00	4.84
Room 111	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.49	2,390	0.0	$358.85	$1,593.00	$250.00	3.74
Prep Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$445.50	$65.00	6.36
Room 113	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.41	1,992	0.0	$299.04	$1,147.50	$185.00	3.22
Room 116	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.03	134	0.0	$20.18	$212.40	$40.00	8.55

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room 112	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.49	2,390	0.0	$358.85	$1,593.00	$250.00	3.74
Storage Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.05	266	0.0	$39.87	$233.00	$20.00	5.34
Room 116	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.52	2,523	0.0	$378.79	$1,651.50	$260.00	3.67
Room 116	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 116	1	U-Bend Fluorescent - T8: U T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	1	LED - Linear Tubes: (2) U-Lamp	Wall Switch	33	2,769	0.02	92	0.0	$13.86	$63.20	$0.00	4.56
Storage Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.08	398	0.0	$59.81	$291.50	$30.00	4.37
Stairwell	5	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	5	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.03	139	0.0	$20.80	$200.00	$0.00	9.62
Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 115	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Stairwell	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	4	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.02	111	0.0	$16.64	$200.00	$0.00	12.02
Stairwell	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 007	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.01	55	0.0	$8.32	$116.00	$20.00	11.54
3rd Floor Corridor	45	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	None	Yes	45	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	1,938	0.26	1,247	0.0	$187.17	$1,600.00	$0.00	8.55
3rd Floor Corridor	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	6	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 216	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.44	2,125	0.0	$318.98	$1,206.00	$195.00	3.17
Room 216	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.08	406	0.0	$60.96	$107.51	$10.00	1.60
Room 215B	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 215B	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.08	406	0.0	$60.96	$107.51	$10.00	1.60
Room 215A	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.16	797	0.0	$119.62	$621.00	$95.00	4.40
Room 214	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Room 214	2	Incandescent: Screw-in Lamp	Wall Switch	75	2,769	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Wall Switch	11	2,769	0.08	406	0.0	$60.96	$107.51	$10.00	1.60
3rd Faculty Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.11	531	0.0	$79.75	$504.00	$75.00	5.38
Room 213	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 211	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 212	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boys Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	1,938	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.03	107	0.0	$16.06	$144.60	$30.00	7.13
Room 210	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Auditorium Balcony	24	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	No	24	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	2,769	0.52	2,522	0.0	$378.65	$1,404.00	$240.00	3.07
Room 209	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 208	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Closet	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	2	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	1,938	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	1,938	0.03	107	0.0	$16.06	$144.60	$30.00	7.13
Room 207	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.16	797	0.0	$119.62	$621.00	$95.00	4.40
Room 205	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Room 206	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.22	1,062	0.0	$159.49	$738.00	$115.00	3.91
Room 204	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Room 203	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.38	1,859	0.0	$279.11	$1,089.00	$175.00	3.27
Room 202	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 201	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.27	1,328	0.0	$199.36	$855.00	$135.00	3.61
Room 200	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	2,769	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	1,938	0.33	1,594	0.0	$239.24	$972.00	$155.00	3.42
Attic Floor	14	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	None	No	14	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	2,769	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Courtyard	11	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	65	1,731	None	No	11	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	65	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Courtyard	1	Metal Halide: (1) 175W Lamp	Daylight Dimming	215	1,731	Fixture Replacement	No	1	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	65	1,731	0.10	300	0.0	$44.97	$390.68	$100.00	6.46
Courtyard	16	LED Screw-In Lamps: Screw-in Lamp	Wall Switch	10	8,760	None	Yes	16	LED Screw-In Lamps: Screw-in Lamp	Daylight Dimming	10	4,380	0.05	806	0.0	$120.99	$250.00	$720.00	-3.88
Front Entrance	8	LED Screw-In Lamps: Screw-in Lamp	Daylight Dimming	25	1,731	None	No	8	LED Screw-In Lamps: Screw-in Lamp	Daylight Dimming	25	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Front Entrance	1	Metal Halide: (1) 400W Lamp	Daylight Dimming	458	1,731	Fixture Replacement	No	1	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	137	1,731	0.21	638	0.0	$95.80	$390.68	$100.00	3.03
Front Entrance	4	LED Screw-In Lamps: Screw-in Lamp	Daylight Dimming	10	1,731	None	No	4	LED Screw-In Lamps: Screw-in Lamp	Daylight Dimming	10	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Exterior Wall Perimeter	2	Incandescent: Screw-in Lamp	Daylight Dimming	75	1,731	Relamp	No	2	LED Screw-In Lamps: LED Screw-in Lamp	Daylight Dimming	11	1,731	0.08	254	0.0	$38.10	$107.51	$10.00	2.56
Exterior Wall Perimeter	1	High-Pressure Sodium: (1) 150W Lamp	Daylight Dimming	188	1,731	Fixture Replacement	No	1	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	56	1,731	0.09	262	0.0	$39.32	$390.68	$100.00	7.39
Exterior Wall Perimeter	15	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	15	1,731	None	No	15	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	15	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

	Existing Conditions					Proposed Conditions							Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Exterior Wall Perimeter	2	Linear Fluorescent - T12: 8' T12 (75W) - 2L	Daylight Dimming	158	1,731	Relamp & Reballast	No	2	LED - Linear Tubes: (2) 8' Lamps	Daylight Dimming	72	1,731	0.11	342	0.0	$51.39	$404.00	$0.00	7.86
Exterior Wall Perimeter	18	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	65	1,731	None	No	18	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	65	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Parking Lot Pole	4	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	85	1,731	None	No	4	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Daylight Dimming	85	1,731	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Motor Inventory & Recommendations

		Existing Conditions						Proposed Conditions				Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Annual Operating Hours	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof	HRU1	1	Supply Fan	7.2	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU1	1	Exhaust Fan	7.2	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU1	1	Other	0.2	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU5	1	Supply Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU5	1	Exhaust Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU5	1	Other	0.2	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU2	1	Supply Fan	7.2	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU2	1	Exhaust Fan	10.9	91.7%	No	3,052	No	91.7%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU2	1	Other	0.3	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boiler Room	Heating System	2	Heating Hot Water Pump	25.0	93.6%	Yes	1,274	No	93.6%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Boiler Room	Heating System	3	Heating Hot Water Pump	1.5	87.5%	No	1,274	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU6	1	Supply Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU6	1	Exhaust Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU6	1	Other	0.2	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Restroom	4	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Restroom	2	Exhaust Fan	0.1	66.0%	No	1,373	No	66.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Kitchen	1	Exhaust Fan	5.0	89.5%	No	1,373	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU4	1	Supply Fan	7.2	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU4	1	Exhaust Fan	7.2	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU4	1	Other	0.2	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00

		Existing Conditions						Proposed Conditions				Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Annual Operating Hours	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof	Corridors	3	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU3	1	Supply Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU3	1	Exhaust Fan	3.6	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	HRU3	1	Other	0.2	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Gym	1	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Gym	5	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Main Gym	2	Exhaust Fan	0.8	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Aux Gym	1	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Locker Room	1	Exhaust Fan	0.2	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Locker Room	1	Exhaust Fan	0.1	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Locker Room	4	Exhaust Fan	0.2	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Art Classroom	1	Exhaust Fan	0.8	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Chemistry Classroom	1	Exhaust Fan	0.8	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Chemistry Classroom	2	Exhaust Fan	0.3	70.0%	No	1,373	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Mechanical Room	DHW	1	Other	0.3	70.0%	Yes	1,922	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Main Gym	Main Gym	5	Other	0.3	70.0%	No	20	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood shop	Wood Shop	4	Other	0.5	70.0%	No	720	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood shop	Wood Shop	3	Other	1.5	84.0%	No	720	No	84.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood shop	EF	1	Exhaust Fan	1.5	84.0%	No	720	No	84.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood shop	Air Compressor WOODSHOP	1	Air Compressor	0.8	70.0%	No	720	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00

		Existing Conditions						Proposed Conditions				Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	Motor Quantity	Motor Application	HP Per Motor	Full Load Efficiency	VFD Control?	Annual Operating Hours	Install High Efficiency Motors?	Full Load Efficiency	Install VFDs?	Number of VFDs	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Elevator Room	Elevator	1	Other	20.0	91.0%	No	540	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Wood shop	EF	1	Exhaust Fan	5.0	87.5%	No	720	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
School	Miscellaneous	4	Supply Fan	0.3	70.0%	No	2,471	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	3	Supply Fan	2.0	86.5%	No	2,471	No	86.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	3	Supply Fan	3.0	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	1	Supply Fan	3.8	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	1	Supply Fan	7.5	91.0%	No	3,052	No	91.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	5	Supply Fan	5.0	89.5%	No	2,471	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	1	Supply Fan	15.0	93.0%	No	3,052	No	93.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	1	Supply Fan	2.0	86.5%	No	2,471	No	86.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Package Unit	1	Supply Fan	1.0	85.5%	No	2,471	No	85.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Electric HVAC Inventory & Recommendations

		Existing Conditions				Proposed Conditions								Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Install Dual Enthalpy Economizer?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof	RTU 2	1	Packaged AC	10.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Office	1	Split-System AC	0.75		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Office	2	Split-System Air-Source HP	1.00	13.60	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	NPR Gym	1	Packaged AC	54.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Main Gym	4	Packaged AC	10.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Aux Gym	1	Packaged AC	10.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Locker Room	1	Packaged AC	7.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Locker Room	1	Packaged AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Gym Office	1	Split-System Air-Source HP	2.00	26.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria	1	Split-System AC	3.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria AC8	1	Packaged AC	30.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria AC9	1	Packaged AC	7.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria AC11	1	Packaged AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Art Classroom	1	Packaged AC	20.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Chemistry Classroom	1	Packaged AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Classroom	1	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Office	2	Split-System Air-Source HP	1.00	13.60	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Office	1	Split-System AC	3.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Girls Athletic Directors Office	Office	1	Window AC	1.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	School	9	Split-System Air-Source HP	12.00	160.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

		Existing Conditions				Proposed Conditions								Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (kBtu/hr)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	Install Dual Enthalpy Economizer?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Roof	School	3	Split-System Air-Source HP	8.00	108.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU1	1	Split-System AC	12.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU5	1	Split-System AC	6.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	School	1	Split-System Air-Source HP	6.00	80.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	School	1	Split-System Air-Source HP	2.00	26.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU2	1	Split-System AC	20.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	School	2	Split-System Air-Source HP	10.00	135.00	No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU6	1	Split-System AC	6.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU3	1	Split-System AC	6.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Room 116	1	Split-System AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	CU4	1	Split-System AC	20.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Gym	1	Packaged AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Gym	1	Packaged AC	7.50		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Fuel Heating Inventory & Recommendations

		Existing Conditions			Proposed Conditions						Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Output Capacity per Unit (MBh)	Install High Efficiency System?	System Quantity	System Type	Output Capacity per Unit (MBh)	Heating Efficiency	Heating Efficiency Units	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Boiler Room	School	3	Condensing Hot Water Boiler	2,337.50	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00

DHW Inventory & Recommendations

		Existing Conditions		Proposed Conditions						Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Replace?	System Quantity	System Type	Fuel Type	System Efficiency	Efficiency Units	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Storage room	New Gym Locker Room	1	Storage Tank Water Heater (> 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Gym Mech Room	Kitchen	1	Storage Tank Water Heater (> 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Custodian Closet	MS Restroom	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 12A	Room 13	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Closet	school	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Custodial Closet	HS	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Custodial Closet	HS	1	Storage Tank Water Heater (≤ 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Low-Flow Device Recommendations

	Recommedation Inputs				Energy Impact & Financial Analysis						
Location	Device Quantity	Device Type	Existing Flow Rate (gpm)	Proposed Flow Rate (gpm)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
School	22	Faucet Aerator (Lavatory)	2.50	1.00	0.00	0	39.9	$447.63	$157.74	$0.00	0.35

Walk-In Cooler/Freezer Inventory & Recommendations

	Existing Conditions		Proposed Conditions			Energy Impact & Financial Analysis						
Location	Cooler/ Freezer Quantity	Case Type/Temperature	Install EC Evaporator Fan Motors?	Install Electric Defrost Control?	Install Evaporator Fan Control?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	1	Cooler (35F to 55F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Room 18	1	Medium Temp Freezer (0F to 30F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Commercial Refrigerator/Freezer Inventory & Recommendations

	Existing Conditions			Proposed Condit	Energy Impact & Financial Analysis						
Location	Quantity	Refrigerator/ Freezer Type	ENERGY STAR Qualified?	Install ENERGY STAR Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	3	Stand-Up Refrigerator, Glass Door (16 - 30 cu. ft.)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Freezer Chest	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	4	Refrigerator Chest	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Stand-Up Freezer, Solid Door (16 - 30 cu. ft.)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Stand-Up Refrigerator, Solid Door (31 - 50 cu. ft.)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Stand-Up Freezer, Solid Door (31 - 50 cu. ft.)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Middle School	2	Stand-Up Freezer, Solid Door (16 - 30 cu. ft.)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Cooking Equipment Inventory & Recommendations

	Existing Conditions			Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Equipment Type	High Efficiency Equipement?	Install High Efficiency Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Kitchen	3	Insulated Food Holding Cabinet (Full Size)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Gas Convection Oven (Full Size)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Gas Convection Oven (Full Size)	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Gas Steamer	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Dishwasher Inventory & Recommendations

	Existing Conditions					Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Dishwasher Type	Water Heater Fuel Type	Booster Heater Fuel Type	ENERGY STAR Qualified?	Install ENERGY STAR Equipment?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Payback w/ Incentives in Years
Dishwasher Room	1	Multi-Tank Conveyor (High Temp)	Electric	N/A	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Plug Load Inventory

	Existing Conditions			
Location	Quantity	Equipment Description	Energy Rate (W)	ENERGY STAR Qualified?
School	13	Printer	13.0	No
School	22	Microwave	800.0	No
School	11	small freezer	24.0	No
School	13	copy machine	335.0	No
School	8	coffee machine	900.0	No
School	3	toaster	850.0	No
Kitchen	2	kitchen coffee machine	1,570.0	No
School	1	washing machine	900.0	No
School	1	dryer machine	1,600.0	No
School	37	TV- flat screen	120.0	No
School	8	refrigerator	50.0	No
School	19	old tv	120.0	No
School	2	electric stove	1,000.0	No
school	299	computers	120.0	No

Vending Machine Inventory & Recommendations

	Existing Conditions		Proposed Conditions	Energy Impact & Financial Analysis						
Location	Quantity	Vending Machine Type	Install Controls?	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Machine Lobby	1	Refrigerated	Yes	0.00	1,612	0.0	$241.98	$230.00	$0.00	0.95
Faculty Room	3	Refrigerated	Yes	0.00	4,836	0.0	$725.94	$690.00	$0.00	0.95
Faculty Room	3	Non-Refrigerated	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Appendix B: ENERGY STAR® Statement of Energy Performance

ENERGY STAR® Statement of Energy Performance

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ENERGY STAR® Score[1]

Woodstown Middle/High School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 212,000
Built: 1915

For Year Ending: June 30, 2017
Date Generated: May 02, 2018

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address	Property Owner	Primary Contact
Woodstown Middle/High School 15 Lincoln Ave Woodstown, New Jersey 08098	Woodstown-Pilesgrove Regional SD E Lake Road Woodstown, NJ 08098 (____)____-_____	Rose Chin E Lake Road Woodstown, NJ 08098 856-769-0144 x22251 chin.r@woodstown.org

Property ID: 6264440

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
43.6 kBtu/ft²

Source EUI
88.8 kBtu/ft²

Annual Energy by Fuel	
Natural Gas (kBtu)	4,888,116 (53%)
Electric - Grid (kBtu)	4,361,789 (47%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	78.3
National Median Source EUI (kBtu/ft²)	159.3
% Diff from National Median Source EUI	-44%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	744

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Licensed Professional

____ _____
,
(____)____-_____
_____

Professional Engineer Stamp (if applicable)