Local Government Energy Audit:
Energy Audit Report

Pond Road Middle School

150 Pond Road

Robbinsville, NJ 08691

Robbinsville Board of Education

September 5, 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 the Pond Road Middle School.

The goal of an LGEA report is to provide you with information on how your building 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 public schools in controlling energy costs and protecting our environment by offering a wide range of energy management options and advice.

1.1 Building Summary

The Pond Road Middle School is a 158,000 square foot building comprised of a single building with various space types. The school is a single-story building and includes classrooms, offices, gym, locker rooms, kitchen, and mechanical and storage spaces.

Lighting at the Pond Road Middle School consists of aging and inefficient lighting and some mechanical equipment in need of replacement. Heating is supplied by two hot water boilers, while cooling is supplied by split systems with condenser units on the roof. A thorough description of the building and our observations are in Section 2.

1.2 Your Cost Reduction Opportunities

Energy Conservation Measures

TRC evaluated six measures which together represent an opportunity for the Pond Road Middle School to reduce annual energy costs by $31,588 and annual greenhouse gas emissions by 249,321 lbs. CO_2e. We estimate that if all measures were implemented as recommended, the project would pay for itself in 4.6 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 the Pond Road Middle School's annual energy use by 10%.

Figure 1 – Previous 12 Month Utility Costs

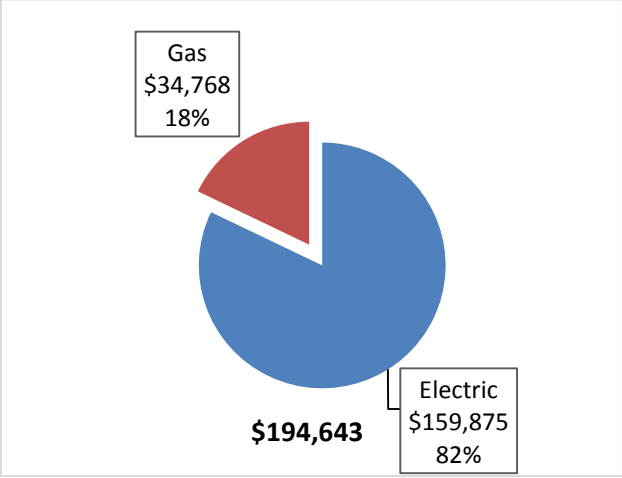
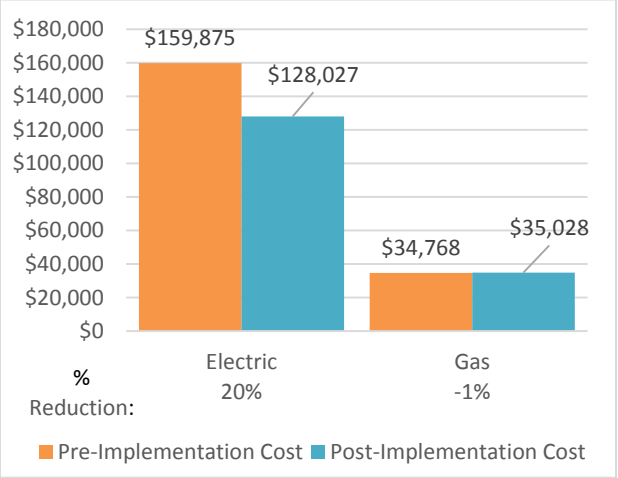


Figure 2 – Potential Post-Implementation Costs



A detailed description of the Pond Road Middle 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			**212,662**	**44.2**	**0.0**	**$26,972.69**	**$138,704.29**	**$20,050.00**	**$118,654.29**	**4.4**	**214,149**
ECM 1	Install LED Fixtures	Yes	31,671	5.8	0.0	$4,016.98	$39,376.25	$2,460.00	$36,916.25	9.2	31,893
ECM 2	Retrofit Fixtures with LED Lamps	Yes	180,991	38.4	0.0	$22,955.70	$99,328.04	$17,590.00	$81,738.04	3.6	182,256
Lighting Control Measures			**26,246**	**4.8**	**0.0**	**$3,328.93**	**$25,550.00**	**$1,785.00**	**$23,765.00**	**7.1**	**26,430**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	17,725	3.2	0.0	$2,248.07	$23,150.00	$1,785.00	$21,365.00	9.5	17,848
ECM 4	Install High/Low Lighitng Controls	Yes	8,522	1.6	0.0	$1,080.86	$2,400.00	$0.00	$2,400.00	2.2	8,581
Domestic Water Heating Upgrade			**12,192**	**4.5**	**-30.2**	**$1,286.10**	**$4,220.77**	**$104.00**	**$4,116.77**	**3.2**	**8,743**
ECM 5	Install High Efficiency Gas Water Heater	Yes	12,192	4.5	-41.6	$1,187.72	$3,084.64	$104.00	$2,980.64	2.5	7,407
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	11.4	$98.39	$1,136.13	$0.00	$1,136.13	11.5	1,336
TOTALS			**251,100**	**53.5**	**-30.2**	**$31,587.72**	**$168,475.06**	**$21,939.00**	**$146,536.06**	**4.6**	**249,321**

* - 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 with improved heating efficiency or reduced standby losses.

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

Energy Efficient Practices

TRC also identified four low cost (or no cost) energy efficient practices. A building's energy performance can be significantly improved by employing certain behavioral or operational adjustments and by performing 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 the Pond Road Middle School include:

- Reduce Air Leakage
- Perform Regular Lighting Maintenance
- Install Plug Load Controls
- 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 the Pond Road Middle 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	150	kW DC STC
Electric Generation	178,705	kWh/yr
Displaced Cost	$15,550	/yr
Installed Cost	$624,000	

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 building 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 in Section 8. You may also check the following website for more details: www.njcleanenergy.com/ci.

2 BUILDING INFORMATION AND EXISTING CONDITIONS

2.1 Project Contacts

Figure 5 – Project Contacts

Name	Role	E-Mail	Phone #
Customer			
Kim Keener	Manager of Facilities and Community Education	kkeener@robbinsville.k12.nj.us	609-632-0910
Designated Representative			
Kim Keener	Manager of Facilities and Community Education	kkeener@robbinsville.k12.nj.us	609-632-0910
TRC Energy Services			
Alexander Klieverik	Auditor	aklieverik@trcsolutions.com	(732) 855-0033

2.2 General Site Information

On December 20, 2017, January 4, 2018 and January 19, 2018, TRC performed an energy audit at the Pond Road Middle School located in Robbinsville, New Jersey. TRC's team met with Kim Keener, Manager of Facilities and Community Education to review the building operations and help focus our investigation on specific energy-using systems.

The Pond Road Middle School is a 158,000 square foot, single story building comprised of various space types including classrooms, offices, gym, locker rooms, kitchen, mechanical spaces and storage spaces.

The building was constructed in 1996 with three additional sections added to the building in 2014. Over the last five years the building has replaced all its existing T12 fluorescent fixtures with T8 fluorescent fixtures.

2.3 Building Occupancy

The building is open Monday through Friday and on Saturdays for student related activities. The typical schedule is presented in the table below. The entire building is used year-round by the community and camps are run throughout the summer. During a typical day, the building is occupied by 150 staff and 1,100 students.

Figure 6 - Building Schedule

Building Name	Weekday/Weekend	Operating Schedule
Pond Rd Middle School	Weekday	6:00 AM - 4:00 PM
Pond Rd Middle School	Weekend	As Needed

2.4 Building Envelope

The building is constructed of concrete block and structural steel with a brick facade. The building has a flat roof covered with a gravel concrete finish. The roof on the additions added in 2014 has a black EPDM membrane finish. The building has double pane windows which are in good condition and show little sign of excessive infiltration. The exterior doors are constructed of aluminum and in good condition.

2.5 On-site Generation

The Pond Road Middle 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 building's equipment.

Lighting System

Lighting at the building is provided mostly by 32-Watt linear fluorescent T8 lamps with electronic ballasts as well as some compact fluorescent lamps (CFL). Most of the fixtures are 2-lamp or 3-lamp, 4-foot long troffers with diffusers. There are also some 2-foot long troffers with diffusers in various classrooms, offices, and storage rooms. The majority of exit signs throughout the building are new LED signs, or older ones with LED retrofit kits.

Lighting control in most spaces is provided by occupancy sensors. The occupancy sensors are either wall or ceiling mounted depending on the space layout. Stairwells, corridors and main lobby areas do not contain any occupancy sensors and are on while the building is open.

The building's exterior lighting consists primarily of high pressure sodium (HPS) fixtures and LED fixtures controlled by timers.

Hot Water Heating System

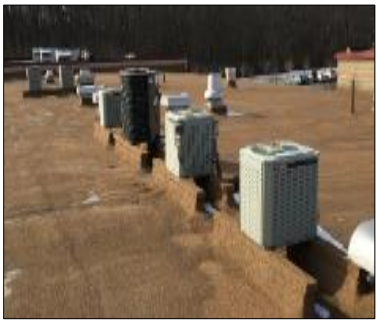
The hot water system consists of two AERCO Benchmark 6000 hot water boilers. Each boiler has an output capacity of 5,640 MBH, and a nominal combustion efficiency of 91%. The boilers are configured in a variable flow primary distribution with two 25 HP hot water pumps controlled with Toshiba variable frequency drives. When the outdoor temperature is below 55°F, water is distributed at 180°F throughout the building to unit ventilators in classrooms and packaged units located on the roof. When the outdoor temperature is above 55°F, the water temperature is reduced to 165°F.

The boilers operate in a lead/lag configuration. Both boilers may be required during cold weather. The lead boiler is rotated based on run hours.

The boilers are in good condition and well maintained.

Air Distribution and Conditioning System

The building is conditioned via indoor air handler units (AHUs), unit ventilators, unit heaters, and rooftop packaged units throughout the building. The air handler units are in mechanical rooms in the old section of the building and contain hot water coils with direct expansion (DX) cooling. There are a total of 21 AHUs which heat and cool wings A, B, C, and D sections of the building. Condenser units for the cooling components are located on the roof of the building. Classrooms in the old section of the building contain unit ventilators with hot water coils and ¼ HP fans.



There are nine AAON packaged units with hot water coils and DX cooling located on the roof of the new section of the building. The units are located above the new sections of the building and service the classrooms and corridors in wings E, F, and G.

Building Energy Management System (BEMS)

Most of the building is controlled with a Honeywell building energy management system (BEMS). The BEMS aggregates the DDC points from throughout the building. Seventy-five percent of the building zones are DDC and the remainder have pneumatic controls which are not tied into the BEMS. The system can provide trends for individual DDC points for up to one-year of historical data.

Domestic Hot Water System

The domestic hot water heating system for most the building consists of two A.O. Smith Burkay Copper Coil gas-fired water heaters with an input rating of 399 kBtu/hr. each and a nominal efficiency of 80%. The water heaters feed into a shared 359-gallon storage tanks. Two 1/12HP recirculation pumps distribute 130°F water to the building. The loop water temperature is controlled by an aquastat.

There is an additional electric water heater located in a storage room at the far end of the building which services the restrooms and sinks in wing G.

Food Service

The building has a commercial kitchen that is used to prepare lunch for the students and staff. The ovens, range tops and griddle are all gas fired. The kitchen staff arrives at 8:00 AM and leaves at 2:00 PM. There is a conveyor dishwasher with an electric booster heater that provides 185°F rinse water.




Refrigeration

The building has two different storage cold storage areas: a walk-in cooler area and a walk-in freezer area. The cooler area is maintained at a constant temperature of 35°F and freezer area is maintained at a constant -5°F. The cooler area is served by one evaporator and the freezer area is served by two evaporators each having a single ½ HP fan. There is one 5 HP condensing unit with reciprocating compressors connected to evaporators serving the cooler section and there is a single 5 HP condensing unit connected to evaporators serving the freezer area.

Building Plug Load

There are 277 computer work stations throughout the building. Ninety percent of the computers are desktop units with LCD monitors. There is no centralized PC power management software installed.


The building has one refrigerated beverage vending machine, and one non-refrigerated snack vending machine. Both vending machine have controls installed.

2.7 Water-using Systems

There are 21 restrooms in the building including the boy's locker room and girl's locker room. A sampling of restrooms found that faucets are rated for 2.5 gallons per minute (gpm) or lower, the toilets are rated at 2.5 gallons per flush (gpf) and the urinals are rated at 2 gpf.

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 many 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

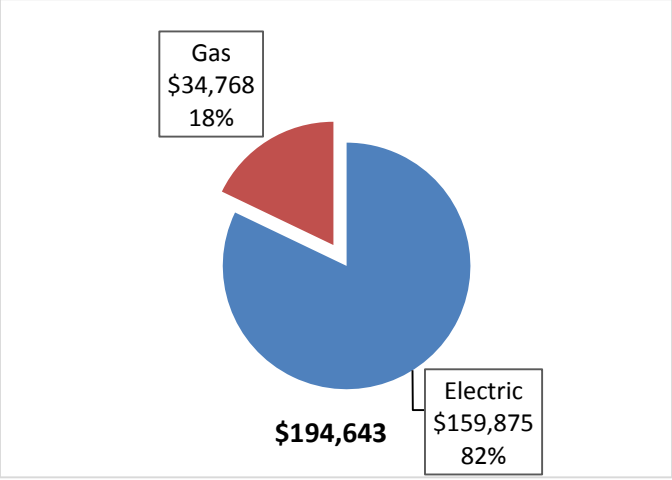
The following energy consumption and cost data is based on the last 12-month period of utility billing data that was provided for each utility. A profile of the annual energy consumption and energy cost of the building was developed from this information.

Figure 7 - Utility Summary

Utility Summary for Pond Road Middle School		
Fuel	**Usage**	**Cost**
Electricity	1,260,507 kWh	$159,875
Natural Gas	40,325 Therms	$34,768
Total		**$194,643**

The current annual energy cost for this building is $194,643 as shown in the chart below.

Figure 8 - Energy Cost Breakdown



3.2 Electricity Usage

Electricity is provided by PSE&G. The average electric cost over the past 12 months was $0.127/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 9 - Electric Usage & Demand

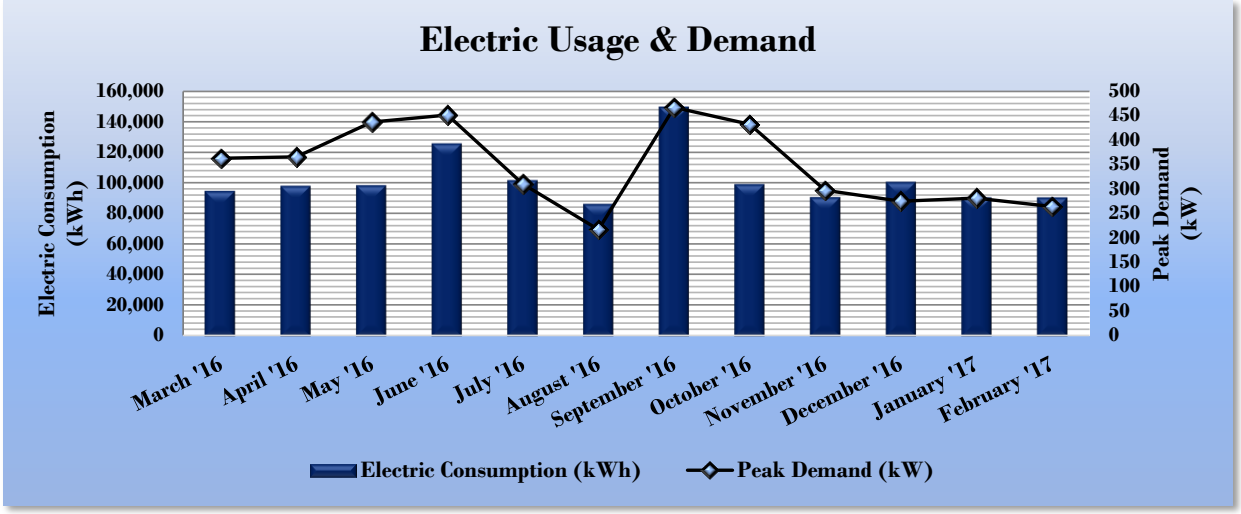


Figure 10 - Electric Usage & Demand

Electric Billing Data for Pond Road Middle School					
Period Ending	Days in Period	Electric Usage (kWh)	Demand (kW)	Demand Cost	Total Electric Cost
3/29/16	31	94,816	363	$1,328	$11,027
4/27/16	28	98,088	366	$1,340	$11,361
5/26/16	28	98,415	437	$1,601	$11,657
6/27/16	31	125,671	451	$1,654	$18,749
7/27/16	29	101,655	310	$1,134	$14,550
8/25/16	28	86,349	217	$794	$11,843
9/26/16	31	149,550	467	$1,734	$21,449
10/25/16	28	99,102	432	$1,610	$11,863
11/23/16	28	90,634	297	$1,106	$10,476
12/27/16	33	100,679	275	$1,024	$11,526
1/26/17	29	90,564	281	$1,045	$10,549
2/27/17	31	90,450	264	$953	$10,444
Totals	**355**	**1,225,973**	**466.9**	**$15,322**	**$155,495**
Annual	**365**	**1,260,507**	**466.9**	**$15,754**	**$159,875**

3.3 Natural Gas Usage

Natural gas is provided by PSE&G. The average gas cost for the past 12 months is $0.862/therm, which is the blended rate used throughout the analyses in this report. The monthly gas consumption is shown in the chart below.

Figure 11 - Natural Gas Usage

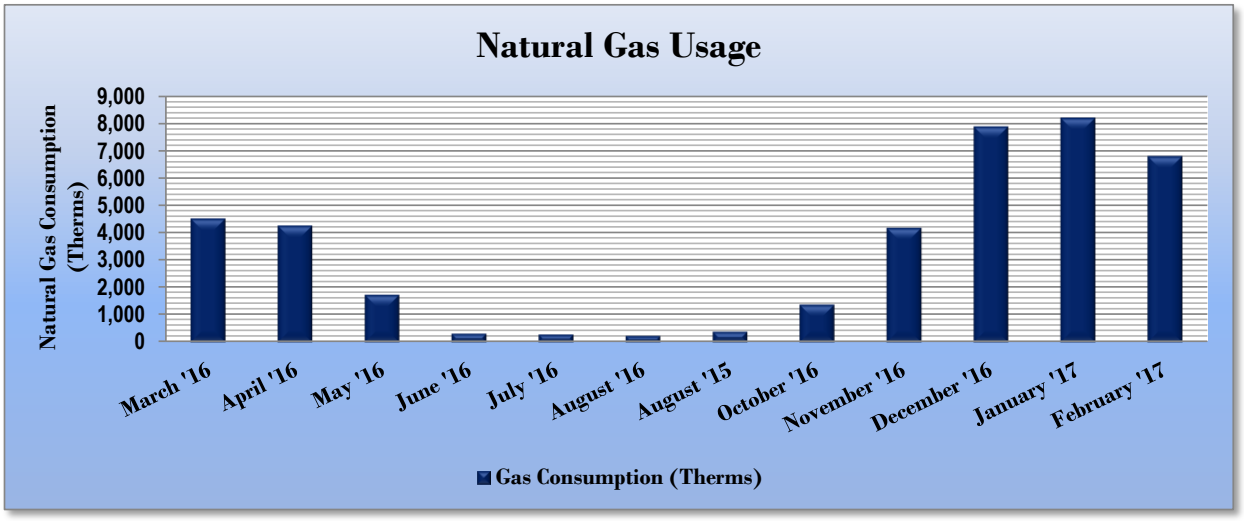


Figure 12 - Natural Gas Usage

Gas Billing Data for Pond Road Middle School			
Period Ending	Days in Period	Natural Gas Usage (Therms)	Natural Gas Cost
4/1/16	30	4,521	$3,551
5/2/16	31	4,262	$2,254
6/1/16	30	1,742	$1,003
6/30/16	29	322	$272
8/1/16	31	287	$283
8/30/16	29	243	$250
9/9/15	30	388	$344
10/28/16	29	1,378	$965
11/30/16	33	4,183	$4,083
12/30/16	30	7,886	$7,170
1/31/17	32	8,197	$8,036
3/2/17	30	6,803	$6,461
Totals	**364**	**40,214**	**$34,673**
Annual	**365**	**40,325**	**$34,768**

3.4 Benchmarking

This building 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 building'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 13 - Energy Use Intensity Comparison – Existing Conditions

Energy Use Intensity Comparison - Existing Conditions		
	Pond Road Middle School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	112.3	141.4
Site Energy Use Intensity (kBtu/ft^2)	52.7	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 14 - Energy Use Intensity Comparison – Following Installation of Recommended Measures

Energy Use Intensity Comparison - Following Installation of Recommended Measures		
	Pond Road Middle School	National Median Building Type: School (K-12)
Source Energy Use Intensity (kBtu/ft^2)	95.4	141.4
Site Energy Use Intensity (kBtu/ft^2)	47.5	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% of all similar buildings nationwide and may be eligible for ENERGY STAR® certification. Your building is one of the building categories that are eligible to receive a score. This building has a current score of 71.

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

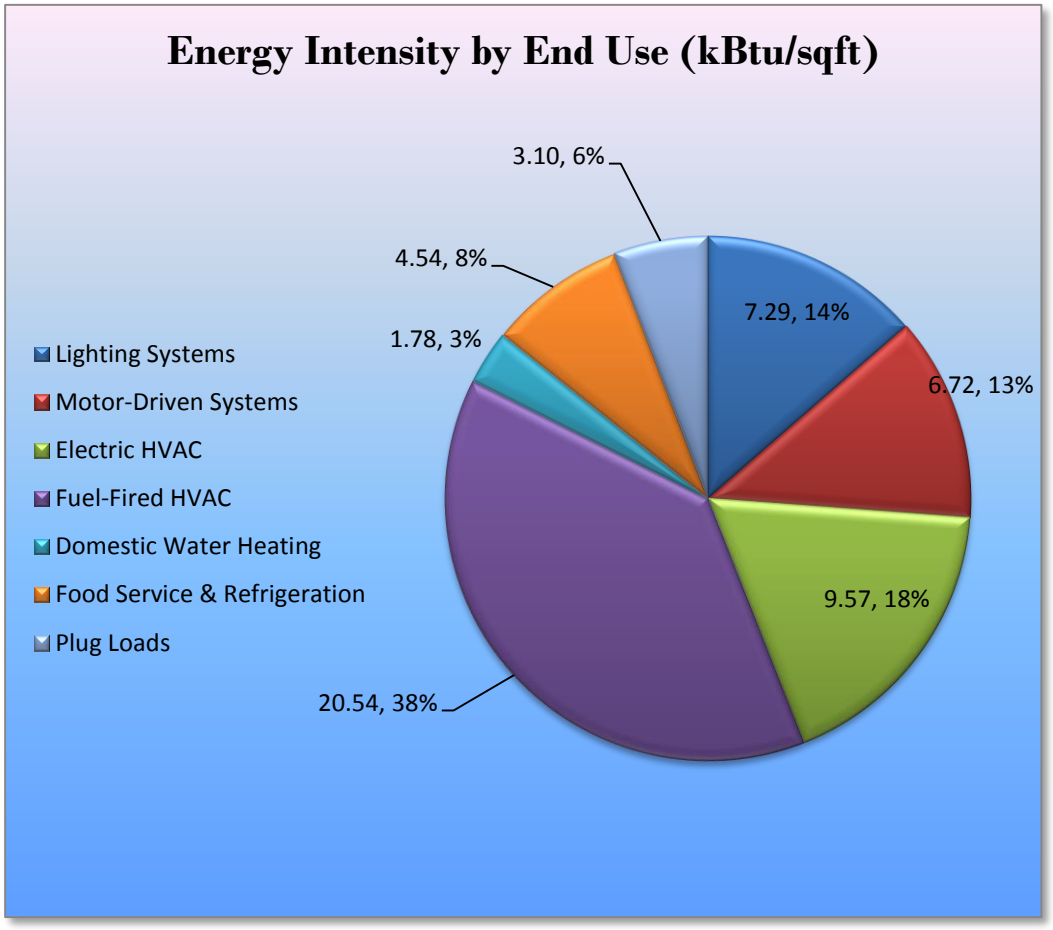
For more information on ENERGY STAR® certification go to: https://www.energystar.gov/buildings/building-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification/how-app-1.

A Portfolio Manager® account has been created online for your building 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

To provide a complete overview of energy consumption across building systems, an energy balance was performed at this building. 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 15 - Energy Balance (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 Pond Road Middle 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 building.

Figure 16 – 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			**212,662**	**44.2**	**0.0**	**$26,972.69**	**$138,704.29**	**$20,050.00**	**$118,654.29**	**4.4**	**214,149**
ECM 1	Install LED Fixtures	Yes	31,671	5.8	0.0	$4,016.98	$39,376.25	$2,460.00	$36,916.25	9.2	31,893
ECM 2	Retrofit Fixtures with LED Lamps	Yes	180,991	38.4	0.0	$22,955.70	$99,328.04	$17,590.00	$81,738.04	3.6	182,256
Lighting Control Measures			**26,246**	**4.8**	**0.0**	**$3,328.93**	**$25,550.00**	**$1,785.00**	**$23,765.00**	**7.1**	**26,430**
ECM 3	Install Occupancy Sensor Lighting Controls	Yes	17,725	3.2	0.0	$2,248.07	$23,150.00	$1,785.00	$21,365.00	9.5	17,848
ECM 4	Install High/Low Lighitng Controls	Yes	8,522	1.6	0.0	$1,080.86	$2,400.00	$0.00	$2,400.00	2.2	8,581
Domestic Water Heating Upgrade			**12,192**	**4.5**	**-30.2**	**$1,286.10**	**$4,220.77**	**$104.00**	**$4,116.77**	**3.2**	**8,743**
ECM 5	Install High Efficiency Gas Water Heater	Yes	12,192	4.5	-41.6	$1,187.72	$3,084.64	$104.00	$2,980.64	2.5	7,407
ECM 6	Install Low-Flow Domestic Hot Water Devices	Yes	0	0.0	11.4	$98.39	$1,136.13	$0.00	$1,136.13	11.5	1,336
TOTALS			**251,100**	**53.5**	**-30.2**	**$31,587.72**	**$168,475.06**	**$21,939.00**	**$146,536.06**	**4.6**	**249,321**

* - 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 17 below.

Figure 17 – 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		**212,662**	**44.2**	**0.0**	**$26,972.69**	**$138,704.29**	**$20,050.00**	**$118,654.29**	**4.4**	**214,149**
ECM 1	Install LED Fixtures	31,671	5.8	0.0	$4,016.98	$39,376.25	$2,460.00	$36,916.25	9.2	31,893
ECM 2	Retrofit Fixtures with LED Lamps	180,991	38.4	0.0	$22,955.70	$99,328.04	$17,590.00	$81,738.04	3.6	182,256

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	22,389	4.1	0.0	$2,839.69	$30,000.00	$60.00	$29,940.00	10.5	22,546
Exterior	9,282	1.7	0.0	$1,177.29	$9,376.25	$2,400.00	$6,976.25	5.9	9,347

Measure Description

We recommend replacing existing fixtures containing fluorescent, HID, or incandescent lamps 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 are more than twice that of fluorescent tubes and more than ten times longer than many incandescent lamps.

ECM 2: 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	180,991	38.4	0.0	$22,955.70	$99,328.04	$17,590.00	$81,738.04	3.6	182,256
Exterior	0	0.0	0.0	$0.00	$0.00	$0.00	$0.00	0.0	0

Measure Description

We recommend retrofitting existing incandescent, halogen, HID or other lighting technologies with LED lamps. Many LED 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 fluorescent tubes and more than ten times longer than many incandescent lamps.

4.1.2 Lighting Control Measures

Our recommendations for upgrades to lighting control measures are summarized in Figure 18 below.

Figure 18 – 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		**26,246**	**4.8**	**0.0**	**$3,328.93**	**$25,550.00**	**$1,785.00**	**$23,765.00**	**7.1**	**26,430**
ECM 3	Install Occupancy Sensor Lighting Controls	17,725	3.2	0.0	$2,248.07	$23,150.00	$1,785.00	$21,365.00	9.5	17,848
ECM 4	Install High/Low Lighitng Controls	8,522	1.6	0.0	$1,080.86	$2,400.00	$0.00	$2,400.00	2.2	8,581

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 3: 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)
17,725	3.2	0.0	$2,248.07	$23,150.00	$1,785.00	$21,365.00	9.5	17,848

Measure Description

We recommend installing occupancy sensors to control lighting fixtures that are currently controlled by manual switches in all restrooms, storage rooms, classrooms, offices areas, and mechanical rooms. 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 4: 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)
8,522	1.6	0.0	$1,080.86	$2,400.00	$0.00	$2,400.00	2.2	8,581

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. 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 19 below.

Figure 19 - 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		**12,192**	**4.5**	**-30.2**	**$1,286.10**	**$4,220.77**	**$104.00**	**$4,116.77**	**3.2**	**8,743**
ECM 5	Install High Efficiency Gas Water Heater	12,192	4.5	-41.6	$1,187.72	$3,084.64	$104.00	$2,980.64	2.5	7,407
ECM 6	Install Low-Flow Domestic Hot Water Devices	0	0.0	11.4	$98.39	$1,136.13	$0.00	$1,136.13	11.5	1,336

ECM 5: Install High Efficiency Gas-Fired Water Heater

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)
12,192	4.5	-41.6	$1,187.72	$3,084.64	$104.00	$2,980.64	2.5	7,407

Measure Description

We recommend replacing the existing tank water heater with a high efficiency tank water heater. Improvements in combustion efficiency and reductions in heat losses have improved the overall efficiency of storage water heaters. Energy savings results from using less gas to heat water, due to higher unit efficiency, and fewer run hours to maintain the tank water temperature.

ECM 6: 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	11.4	$98.39	$1,136.13	$0.00	$1,136.13	11.5	1,336

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 providing adequate pressure for washing. This reduces the amount of water used per day resulting in energy and water savings.

5 ENERGY EFFICIENT PRACTICES

In addition to the quantifiable savings estimated in Section 4, a building'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 building. Consult with qualified equipment specialists for details on proper maintenance and system operation.

Reduce Air Leakage

Air leakage, or infiltration, occurs when outside air enters a building uncontrollably through cracks and openings. Properly sealing such cracks and openings can significantly reduce heating and cooling costs, improve building durability, and create a healthier indoor environment. This includes caulking or installing weather stripping around leaky doors and windows allowing for better control of indoor air quality through controlled ventilation.

Perform Regular Lighting Maintenance

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.

Plug Load Controls

There are a variety of ways to limit the energy use of plug loads including increasing occupant awareness, removing under-utilized equipment, installing hardware controls, and using software controls. Some control steps to take are to enable the most aggressive power settings on existing devices or install load sensing or occupancy sensing (advanced) power strips. For additional information refer to "Plug Load Best Practices Guide" http://www.advancedbuildings.net/plug-load-best-practices-guide-offices.

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 gpf and toilets that use as little as 1.28 gpf (this is lower than the current 1.6 gpf federal standard).

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 building, 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 building. Before deciding 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.

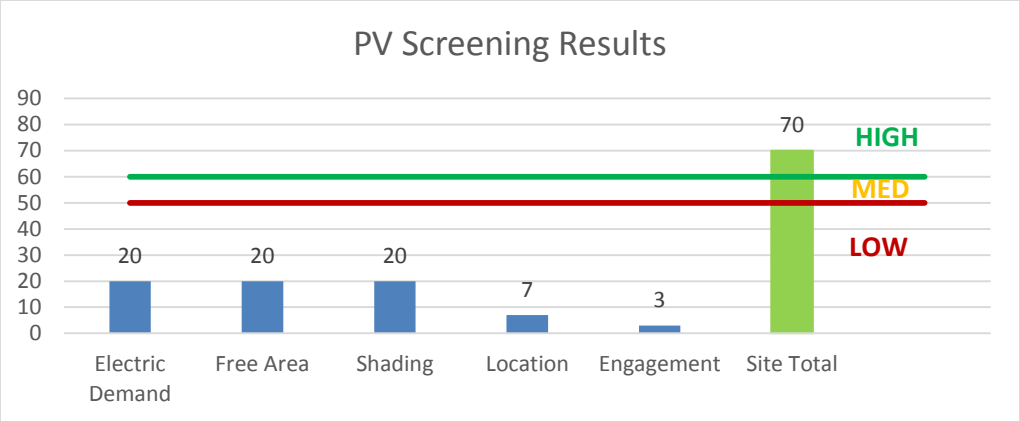
6.1 Photovoltaic

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 building'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 building's electric demand, size and location of free area, and shading elements shows that the building 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/ground next to the building/over the main parking lot may be feasible. If the Pond Road Middle School is interested in pursuing the installation of PV, we recommended a full feasibility study be conducted.

Figure 20 - Photovoltaic Screening



Potential	High	
System Potential	150	kW DC STC
Electric Generation	178,705	kWh/yr
Displaced Cost	$15,550	/yr
Installed Cost	$624,000	

Solar projects must register their projects in the SREC (Solar Renewable Energy Certificate) Registration Program (SRP) prior to the start of construction 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.

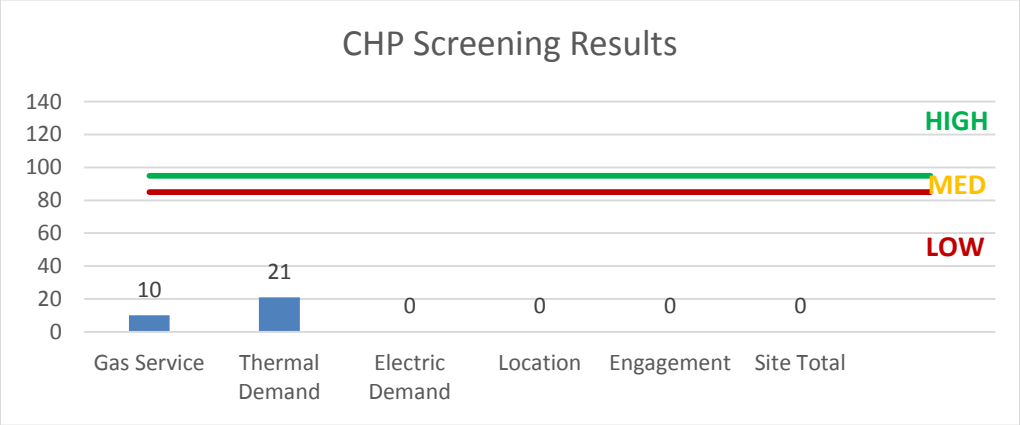
CHP systems are typically used to produce a portion of the electric power used onsite by a building, with the balance of electric power needs supplied by grid purchases. The heat is used to supplement (or supplant) existing boilers for space heating and/or domestic hot water heating. Waste heat can also be routed through absorption chillers for space cooling. The key criteria used for screening, however, is the amount of time the system operates at full load and the building'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 building has a Low potential for installing a cost-effective CHP system.

Lack of gas service, low or infrequent thermal load, and lack of space near the existing boilers are the most significant factors contributing to the potential for CHP at the site. In our opinion, the building does not appear to meet the minimum requirements for a cost-effective CHP installation.

For a list of qualified firms in New Jersey specializing in commercial CHP cost assessment and installation, go to: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/.

Figure 21 - 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.

8 PROJECT FUNDING / INCENTIVES

The NJCEP can 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 22 for a list of the eligible programs identified for each recommended ECM.

Figure 22 - 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 Fixtures with LED Lamps	X					
ECM 3	Install Occupancy Sensor Lighting Controls	X					
ECM 4	Install High/Low Lighitng Controls	X					
ECM 5	Install High Efficiency Gas Water Heater						
ECM 6	Install Low-Flow Domestic Hot Water Devices	X					

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 building 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 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 building. 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 building 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. SRECs 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 SRECs 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 description 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 building's interconnection to the grid and repair to local power distribution will still reside with the traditional utility company serving your region.

If your building is not purchasing electricity from a third-party supplier, consider shopping for a reduced rate from third party electric suppliers. If your building is purchasing electricity from a third-party supplier, review and compare prices at the end of the current contract or every couple of 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 building is not purchasing natural gas from a third-party supplier, consider shopping for a reduced rate from third party natural gas suppliers. If your building is purchasing natural gas from a third-party supplier, review and compare prices at the end of the current contract or every couple of 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
A Wing Hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.22	1,197	0.0	$151.81	$668.00	$80.00	3.87
A Wing Hallway	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
E Wing Hallway	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.33	1,795	0.0	$227.72	$902.00	$120.00	3.43
E Wing Hallway	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
E Wing Hallway	12	Compact Fluorescent: Pin Style: (18W) 1L	Wall Switch	18	3,120	Relamp	No	12	LED Screw-In Lamps: Pin Style: (9.5W) 1L	Wall Switch	10	3,120	0.07	366	0.0	$46.42	$528.61	$0.00	11.39
E Wing Hallway Display	1	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	32	3,120	Relamp	No	1	LED - Linear Tubes: (1) 4' Lamp	Wall Switch	15	3,120	0.01	63	0.0	$7.96	$35.90	$5.00	3.88
D Wing Hallway	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	15	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.41	2,244	0.0	$284.65	$1,077.50	$150.00	3.26
D Wing Hallway	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
G Wing Hallway	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	21	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.57	3,142	0.0	$398.51	$1,428.50	$210.00	3.06
G Wing Hallway	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
G Wing Hallway	4	Compact Fluorescent: Pin Style: (18W) 1L	Wall Switch	18	3,120	Relamp	No	4	LED Screw-In Lamps: Pin Style: (9.5W) 1L	Wall Switch	10	3,120	0.02	122	0.0	$15.47	$176.20	$0.00	11.39
B Wing Hallway	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	21	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.57	3,142	0.0	$398.51	$1,428.50	$210.00	3.06
B Wing Hallway	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
Boys Locker Room	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.46	2,544	0.0	$322.61	$1,264.50	$205.00	3.28
Boys Locker Room	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
Boys Locker Room Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Boys Locker Room Office RR	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.03	151	0.0	$19.20	$366.40	$20.00	18.04
C114	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
C Wing Hallway	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	21	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.57	3,142	0.0	$398.51	$1,428.50	$210.00	3.06
C Wing Hallway	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
M Block	33	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	33	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.90	4,937	0.0	$626.23	$2,130.50	$330.00	2.88
M Block	8	Exit Signs: LED - 2 W Lamp	None	6	8,760	None	No	8	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
M Block Display Cabinets	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.09	474	0.0	$60.07	$234.00	$40.00	3.23
F Wing Hallway	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.27	1,496	0.0	$189.77	$785.00	$100.00	3.61
F Wing Hallway	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

	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
A Wing Hallway	17	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	17	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.46	2,544	0.0	$322.61	$1,194.50	$170.00	3.18
A Wing Hallway	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
A Wing Hallway (Main Office)	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.22	1,197	0.0	$151.81	$668.00	$80.00	3.87
A Wing Hallway (Main Office)	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 Hall (A)	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	0.49	2,693	0.0	$341.58	$1,253.00	$180.00	3.14
Main Hall (A)	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 Hall (A) Display Cabinet	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.04	237	0.0	$30.04	$117.00	$20.00	3.23
E Block Electrical Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11
E102	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.17	663	0.0	$84.10	$468.00	$80.00	4.61
E104	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E101	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.04	166	0.0	$21.02	$117.00	$20.00	4.61
E103	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E105	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E107	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E106	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E108	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E109	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E111	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E110	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
E112	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
M Block Boys RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$75.00	10.10
M Block Custodial Closet	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
M Block Girls RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$75.00	10.10
M Block Faculty RR	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
M106	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.13	497	0.0	$63.07	$351.00	$60.00	4.61

	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
M105	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
Manino Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
D101	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.19	746	0.0	$94.61	$526.50	$90.00	4.61
D103	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.17	663	0.0	$84.10	$468.00	$80.00	4.61
D103	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
D105	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.39	1,492	0.0	$189.22	$902.40	$180.00	3.82
D107	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.39	1,492	0.0	$189.22	$902.40	$180.00	3.82
D102 Tech Room	7	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Wall Switch	176	3,120	Relamp	Yes	7	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	2,184	0.53	2,891	0.0	$366.66	$1,209.56	$245.00	2.63
D102 Tech Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Tech Room Storage	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.14	748	0.0	$94.88	$562.50	$50.00	5.40
Tech Room Storage	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
D104	19	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	19	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.62	2,362	0.0	$299.60	$1,428.80	$285.00	3.82
D104 Storage	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
D104 Storage	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
D104 Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.09	332	0.0	$42.05	$234.00	$40.00	4.61
D109	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.39	1,492	0.0	$189.22	$902.40	$180.00	3.82
D106	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.49	1,865	0.0	$236.53	$1,128.00	$225.00	3.82
G109	21	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	21	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.45	1,741	0.0	$220.76	$1,228.50	$210.00	4.61
G Wing Men's RR	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
Assistant Principal's Office	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.19	1,047	0.0	$132.84	$679.50	$105.00	4.32
Work Room	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.14	748	0.0	$94.88	$562.50	$85.00	5.03
G Wing Electrical Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,120	Relamp	Yes	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.08	449	0.0	$56.93	$420.40	$30.00	6.86
G108	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.19	746	0.0	$94.61	$526.50	$90.00	4.61
G107	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.39	1,492	0.0	$189.22	$1,053.00	$180.00	4.61
G105	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.28	1,077	0.0	$136.66	$760.50	$130.00	4.61

	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
G106	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.28	1,077	0.0	$136.66	$760.50	$130.00	4.61
G106	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
G104	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,160	0.0	$147.17	$819.00	$140.00	4.61
G104 RR	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
G102	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,160	0.0	$147.17	$819.00	$140.00	4.61
G102 RR	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
G101	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,160	0.0	$147.17	$819.00	$140.00	4.61
G101 RR	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
G103	14	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	14	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,160	0.0	$147.17	$819.00	$140.00	4.61
G103 RR	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
Entry Area (15)	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
M104	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
C101	16	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	16	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.52	1,989	0.0	$252.30	$1,203.20	$240.00	3.82
C101 Storage	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.14	748	0.0	$94.88	$562.50	$50.00	5.40
C101 Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.04	237	0.0	$30.04	$117.00	$20.00	3.23
C2 Storage	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11
C Block Hallway Storage	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
C103	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.49	1,865	0.0	$236.53	$1,128.00	$225.00	3.82
C103 Storage	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$30.00	7.30
C102	10	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	10	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.32	1,243	0.0	$157.68	$752.00	$150.00	3.82
C102	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.02	80	0.0	$10.19	$96.40	$20.00	7.49
C Wing Electrical Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,120	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Wall Switch	44	3,120	0.03	178	0.0	$22.53	$75.20	$15.00	2.67
C Wing Server Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
C Wing Janitor Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
C104	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61

	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
C Wing Boys RR	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
C Wing Girls RR	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
C106	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
C105	23	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	23	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.50	1,906	0.0	$241.78	$1,345.50	$230.00	4.61
C105	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
C108	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
C110	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
C Wing Storage 1	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
C107 Prep Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
C Wing Storage 2	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
C109	23	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	23	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.50	1,906	0.0	$241.78	$1,345.50	$230.00	4.61
C112	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.26	995	0.0	$126.15	$702.00	$120.00	4.61
A Block Custodial Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
A Block Womens RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$75.00	10.10
A105	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.32	1,243	0.0	$157.68	$877.50	$150.00	4.61
A106	13	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	13	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.28	1,077	0.0	$136.66	$760.50	$130.00	4.61
Faculty Bathroom Mens	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
Faculty Bathroom Womens	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
Electrical Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
A107	5	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	5	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.16	622	0.0	$78.84	$376.00	$75.00	3.82
A107	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.02	83	0.0	$10.51	$58.50	$10.00	4.61
A101	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.32	1,243	0.0	$157.68	$877.50	$150.00	4.61
A102	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	93	2,184	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.39	1,492	0.0	$189.22	$902.40	$180.00	3.82
A Block Boys RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$75.00	10.10
A Block Girls RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$75.00	10.10

	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
Custodial Closet	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
Gym	24	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Wall Switch	176	3,120	Relamp	Yes	24	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	2,184	1.81	9,911	0.0	$1,257.11	$3,491.36	$755.00	2.18
Gym	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
Gym Storage 1	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.16	898	0.0	$113.86	$621.00	$60.00	4.93
CST Office 1	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
CST Office 2	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
Health Suite	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.27	1,496	0.0	$189.77	$855.00	$135.00	3.79
Health Suite	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
Health Suite RR	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
Nurse's Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
Nurse's Office Wait Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Nurse's Office Wait Room	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
Mechanical Room (Main Office)	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
A Block Testing/Supply Closet	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
R.E.D. Room	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.03	151	0.0	$19.20	$366.40	$55.00	16.22
Entry Area (4)	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
M1	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
M112	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.17	663	0.0	$84.10	$468.00	$80.00	4.61
M111	16	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	16	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.35	1,326	0.0	$168.20	$936.00	$160.00	4.61
Conference Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
Conference Room	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Wall Switch	93	3,120	Relamp	Yes	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,184	0.12	673	0.0	$85.40	$495.60	$80.00	4.87
A104	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.32	1,243	0.0	$157.68	$877.50	$150.00	4.61
A103	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.39	1,492	0.0	$189.22	$1,053.00	$180.00	4.61
A Block Mens RR	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.06	303	0.0	$38.41	$462.80	$40.00	11.01
Gym Storage 2	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11

	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
Outdoor Storage	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
F102	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
F102	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
F104	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
F104	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
F106	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
F106	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
F108	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
F108	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
F1 Storage/Electrical	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Entry Area (20)	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$248.20	$45.00	21.16
M110	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.22	829	0.0	$105.12	$585.00	$100.00	4.61
M109	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
M109	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
M108	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
M108	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
M107	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.24	912	0.0	$115.64	$643.50	$110.00	4.61
M107	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	33	2,184	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	40	0.0	$5.10	$48.20	$10.00	7.49
VP Office	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.22	1,197	0.0	$151.81	$738.00	$115.00	4.10
Mechanical Room	7	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	7	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.19	1,047	0.0	$132.84	$679.50	$105.00	4.32
Mechanical Room	1	Exit Signs: LED - 2 W Lamp	Wall Switch	6	8,760	None	No	1	Exit Signs: LED - 2 W Lamp	Wall Switch	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Electrical/Security Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23
Generator Room	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Back Stage AHU Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11
Back Stage AHU Room	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.02	118	0.0	$15.02	$58.50	$10.00	3.23

	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
Back Stage Storage	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$30.00	7.30
Room 103	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
Room 102	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.22	1,197	0.0	$151.81	$738.00	$115.00	4.10
Music Room	25	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	25	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.68	3,740	0.0	$474.42	$1,732.50	$285.00	3.05
Music 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
Music Room Hallway	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Music Room Hallway	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
Music Room Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Practice Room 1	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Practice Room 2	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Practice Room 3	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Music Room Closet	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11
Faculty Room	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,646	0.0	$208.74	$913.50	$145.00	3.68
Central Receiving	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.22	1,197	0.0	$151.81	$738.00	$115.00	4.10
Central Receiving	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
Faculty Bathroom 1	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
Faculty Bathroom 2	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.01	76	0.0	$9.60	$318.20	$10.00	32.10
Maintenance Area	9	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	9	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.25	1,347	0.0	$170.79	$796.50	$125.00	3.93
Maintenance Area	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
Maintenance Area	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
Caferia	89	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	89	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,184	2.43	13,316	0.0	$1,688.94	$5,406.50	$890.00	2.67
Caferia	7	Exit Signs: LED - 2 W Lamp	Wall Switch	6	8,760	None	No	7	Exit Signs: LED - 2 W Lamp	Wall Switch	6	8,760	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Stage Lighting in Cafeteria	12	Halogen Incandescent: Elipsodal (750W) 1L	Wall Switch	750	3,120	Fixture Replacement	No	12	LED - Fixtures: Other	Wall Switch	230	3,120	4.09	22,389	0.0	$2,839.69	$30,000.00	$60.00	10.54
Stage Lighting in Cafeteria	15	Incandescent: Screw-In (60W) 1L	Wall Switch	60	3,120	Relamp	No	15	LED Screw-In Lamps: Screw-in: (9.5W) 1L	Wall Switch	10	3,120	0.50	2,718	0.0	$344.72	$806.30	$75.00	2.12
Caferia Storage	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$40.00	6.11

	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
Stage	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
Stage	40	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	No	40	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,120	0.87	4,736	0.0	$600.70	$2,340.00	$400.00	3.23
Media Center	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
Media Center	26	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Wall Switch	234	3,120	Relamp	Yes	26	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	2,184	2.95	16,148	0.0	$2,048.13	$3,759.81	$815.00	1.44
Media Center	12	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	12	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.17	908	0.0	$115.23	$848.40	$155.00	6.02
Seminar Room 102	12	Linear Fluorescent - T5: 4' T5 (28W) - 2L	Wall Switch	60	3,120	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.31	1,709	0.0	$216.80	$972.00	$155.00	3.77
100 Computer Lab	12	Linear Fluorescent - T5: 4' T5 (28W) - 2L	Wall Switch	60	3,120	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.31	1,709	0.0	$216.80	$972.00	$155.00	3.77
101 Computer Lab	12	Linear Fluorescent - T5: 4' T5 (28W) - 2L	Wall Switch	60	3,120	Relamp	Yes	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.31	1,709	0.0	$216.80	$972.00	$155.00	3.77
Media Center Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Recording Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Copy Room	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.30	1,646	0.0	$208.74	$913.50	$145.00	3.68
Curriculum Library	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	62	2,184	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.09	332	0.0	$42.05	$234.00	$40.00	4.61
Media Center	32	LED - Fixtures: Downlight Recessed	Wall Switch	20	3,120	None	No	32	LED - Fixtures: Downlight Recessed	Wall Switch	20	3,120	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	28	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	28	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.77	4,189	0.0	$531.35	$1,908.00	$315.00	3.00
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
Kitchen Bathroom	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	33	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,184	0.03	151	0.0	$19.20	$366.40	$20.00	18.04
Kitchen Office	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.05	299	0.0	$37.95	$387.00	$20.00	9.67
Main Office	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.49	2,693	0.0	$341.58	$1,323.00	$215.00	3.24
Main Office	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 Office Work Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Principal's Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Guidance Office	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Main Offce Conference Room	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.11	598	0.0	$75.91	$504.00	$75.00	5.65
Curriculum Office	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.08	449	0.0	$56.93	$445.50	$65.00	6.68
Exterior Wall Packs	7	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	30	3,120	None	No	7	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	30	3,120	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 Packs	17	High-Pressure Sodium: (1) 100W Lamp	Wall Switch	138	3,120	Fixture Replacement	No	17	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	20	3,120	1.31	7,198	0.0	$912.89	$6,641.51	$1,700.00	5.41
Exterior Wall Packs	7	High-Pressure Sodium: (1) 70W Lamp	Wall Switch	95	3,120	Fixture Replacement	No	7	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Wall Switch	12	3,120	0.38	2,085	0.0	$264.40	$2,734.74	$700.00	7.70
Entry Canopy	10	LED - Fixtures: Ambient - 3' - Indirect/Direct Fixture	Wall Switch	20	3,120	None	No	10	LED - Fixtures: Ambient - 3' - Indirect/Direct Fixture	Wall Switch	20	3,120	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Entry Canopy	8	LED - Fixtures: Ambient 1x1 Fixture	Wall Switch	15	3,120	None	No	8	LED - Fixtures: Ambient 1x1 Fixture	Wall Switch	15	3,120	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Rooftop Room	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	62	3,120	Relamp	Yes	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,184	0.14	748	0.0	$94.88	$562.50	$85.00	5.03
Rooftop Room	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

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	Administration Office	7	Exhaust Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Music Room/Central Receiving/Lockers/Kitchen /Dishwasher/Stage/ Cafetorium/ Corridors/	11	Exhaust Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Kitchen/Mechanical Room	3	Supply Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechancial Room	Administration Office	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechancial Room	Administration Office	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Cafetorium	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Cafetorium	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Stage	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Stage	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Room	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Room	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Practice Rooms	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Practice Rooms	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Office	1	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Music Office	1	Return Fan	0.8	75.0%	No	2,745	No	75.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room Behind Stage	Mechanical Room Behind Stage / Maintenance Shop / Mechanical Room B110	4	Supply Fan	1.0	82.5%	No	2,745	No	82.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room B110	Whole Building	2	Heating Hot Water Pump	25.0	92.4%	Yes	4,067	No	92.4%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	G Wing	1	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	G Wing	2	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	F Wing	1	Supply Fan	2.0	84.0%	No	2,745	No	84.0%	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	F Wing	1	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	F Wing	1	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Supply Fan	3.0	84.0%	No	2,745	No	84.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Supply Fan	5.0	87.5%	No	2,745	No	87.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room M200	Compressor	1	Air Compressor	5.0	89.5%	No	1,084	No	89.5%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Media Center/M Wing	6	Exhaust Fan	0.5	70.0%	No	2,745	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	D Wing	15	Exhaust Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Kitchen Hoods	2	Kitchen Hood Exhaust Fan	0.5	70.0%	No	5,250	No	70.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	9	Exhaust Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Whole Building	Whole Building	31	Supply Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	4	Exhaust Fan	0.3	60.0%	No	2,745	No	60.0%	No		0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Whole Building	VAV Boxes	38	Ventilation Fan	0.1	60.0%	No	2,745	No	60.0%	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	Administration Offices	2	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Administration Offices	1	Split-System AC	5.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Whole Building	29	Split-System AC	4.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Cafeteria	1	Split-System AC	60.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	Classroom	1	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	Classroom	1	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	G Wing	1	Packaged AC	15.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	G Wing	2	Packaged AC	16.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	F Wing	1	Packaged AC	6.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	F Wing	1	Packaged AC	25.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	F Wing	1	Packaged AC	20.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Packaged AC	13.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Packaged AC	15.00		No							No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Roof	E Wing	1	Packaged AC	15.00		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
Mechanical Room	Whole Building	2	Condensing Hot Water Boiler	5,670.00	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Cafeteria Storage Room	Cafeteria	1	Furnace	120.00	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
Mechanical Room	Whole Building	2	Storage Tank Water Heater (> 50 Gal)	No						0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Mechanical Room	G Wing	1	Storage Tank Water Heater (> 50 Gal)	Yes	1	Storage Tank Water Heater (> 50 Gal)	Natural Gas	67.00%	EF	4.50	12,192	-41.6	$1,187.72	$3,084.64	$104.00	2.51

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
Boys Locker Room	12	Showerhead	2.50	2.00	0.00	0	8.1	$70.03	$1,071.60	$0.00	15.30
Classrooms/Copy Room/Custodial Rooms	9	Faucet Aerator (Kitchen)	2.50	2.20	0.00	0	3.3	$28.36	$64.53	$0.00	2.28

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	Medium Temp Freezer (0F to 30F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Cooler (35F to 55F)	No	No	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00

Commercial Ice Maker Inventory & Recommendations

	Existing Conditions			Proposed Condi	Energy Impact & Financial Analysis						
Location	Quantity	Ice Maker 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	1	Self-Contained Unit (<175 lbs/day), Batch	Yes	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	2	Gas Rack Oven (Single)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Gas Convection Oven (Half Size)	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	2	Electric Fryer	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Electric Steamer	Yes	No	0.00	0	0.0	$0.00	$0.00	$0.00	0.00
Kitchen	1	Electric Griddle (≤2 Feet Width)	Yes	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
Kitchen	1	Door Type (Low Temp)	Natural Gas	Electric	Yes	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?
Whole Building	277	Desktop Computers	150.0	Yes
Whole Building	49	Tube TV	120.0	Yes
Whole Building	543	Chromebooks	40.0	Yes
Whole Building	52	Desk Printer	60.0	Yes
Whole Building	60	Projector	200.0	Yes
Whole Building	11	Microwave	1,000.0	Yes
Whole Building	6	Mini Fridge	153.0	Yes
Whole Building	3	LCD TV	71.0	Yes
Whole Building	4	Refrigerator	172.0	Yes
Kitchen	3	Reach-In Refrigerator	200.0	Yes
Kitchen	2	ice cream chest	120.0	Yes
Kitchen	2	Drink cabinet	150.0	Yes

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
Faculty Room	1	Refrigerated	No	0.00	0	0.0	$0.00	$230.00	$0.00	0.00
Faculty Room	1	Non-Refrigerated	No	0.00	0	0.0	$0.00	$230.00	$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]

Pond Road Middle School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 158,000
Built: 1996

For Year Ending: January 31, 2017
Date Generated: March 14, 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
Pond Road Middle School 150 Pond Road Robbinsville, New Jersey 08691	Robbinsville Board of Education 155 Robbinsville-Edinburg Road Robbinsville, NJ 08691 609-632-0910	Kimberly Keener 155 Robbinsville-Edinburg Road Robbinsville, NJ 08691 609-632-0910 ext 3022 kkeener@robbinsville.k12.nj.us

Property ID: 6253851

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
52.5 kBtu/ft²

Source EUI
110.7 kBtu/ft²

Annual Energy by Fuel	
Electric - Grid (kBtu)	4,198,712 (51%)
Natural Gas (kBtu)	4,099,640 (49%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	64.3
National Median Source EUI (kBtu/ft²)	135.5
% Diff from National Median Source EUI	-18%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	684

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)