Local Government Energy Audit Report

SGT Dominick Pilla Middle School

January 3, 2020

Prepared for:
Vineland Public Schools
3133 S. Lincoln Avenue
Vineland, NJ 08360

Prepared by:
TRC
900 Route 9 North
Woodbridge, NJ 07095

Disclaimer

The goal of this audit report is to identify potential energy efficiency opportunities, help prioritize specific measures for implementation, and provide information about financial incentives that may be available. Most energy conservation measures have received preliminary analysis of feasibility that identifies expected ranges of savings and costs. This level of analysis is usually considered sufficient to establish a basis for further discussion and to help prioritize energy measures.

TRC reviewed the energy conservation measures and estimates of energy savings were reviewed for technical accuracy. Actual, achieved energy savings depend on behavioral factors and other uncontrollable variables and, therefore, estimates of final energy savings are not guaranteed. TRC and the New Jersey Board of Public Utilities (NJBPU) shall in no event be liable should the actual energy savings vary.

TRC bases estimated installation costs on our experience at similar facilities, pricing from local contractors and vendors, and/or cost estimates from RS Means. Cost estimates include material and labor pricing associated with installation of primary recommended equipment only. Cost estimates do not include demolition or removal of hazardous waste. We encourage the owner of the facility to independently confirm these cost estimates and to obtain multiple estimates when considering measure installations. Actual installation costs can vary widely based on individual 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. Please review all available program incentives and eligibility requirements prior to selecting and installing any energy conservation measures.

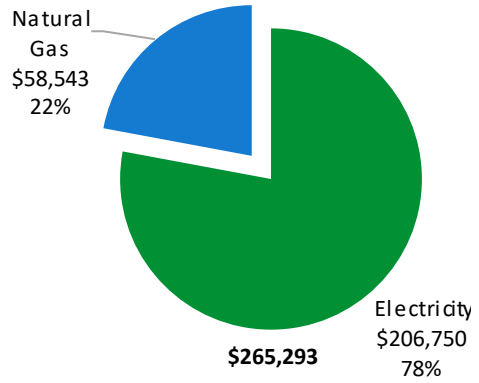
The customer and their respective contractor(s) are responsible to implement energy conservation measures in complete conformance with all applicable local, state and federal requirements.

Table of Contents

1 EXECUTIVE SUMMARY

The New Jersey Board of Public Utilities (NJBPU) has sponsored this Local Government Energy Audit (LGEA) report for SGT Dominick Pilla Middle School. This report provides you with information about your facility's energy use, identifies energy conservation measures (ECMs) that can reduce your energy use, and provides information and assistance to help make changes in your facility. TRC conducted this study as part of a comprehensive effort to assist New Jersey school districts and local governments in controlling their energy costs and to help protect our environment by reducing statewide energy consumption.

BUILDING PERFORMANCE REPORT

Annual Utilities	Costs: $265,293 Electricity: 1,348,055 kWh Natural Gas: 49,939 Therms	
ENERGY STAR® Benchmarking Score	17 *(1-100 scale)*	This building performs at or below the national average. This report contains suggestions about how to improve building performance and reduce energy costs.

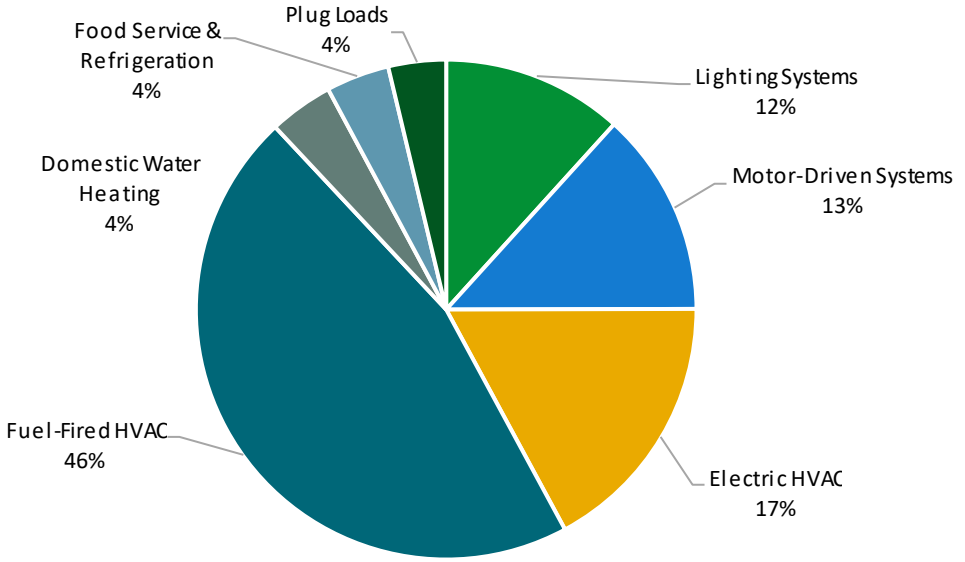


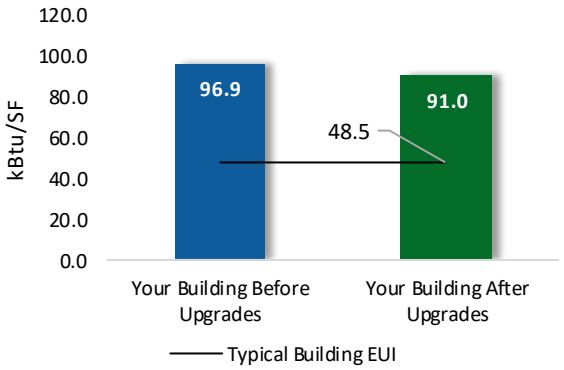
Figure 1 - Energy Use by System

POTENTIAL IMPROVEMENTS

This energy audit considered a range of potential energy improvements in your building. Costs and savings will vary between improvements. Presented below are two potential scopes of work for your consideration.

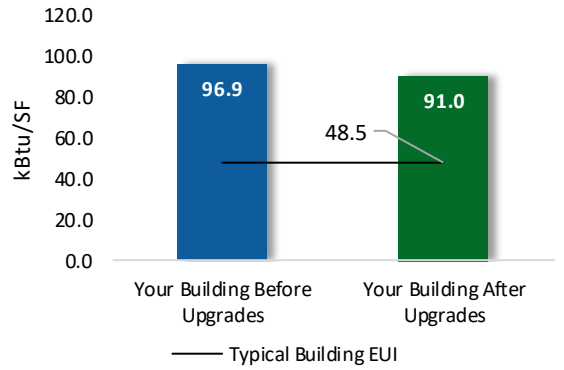
Scenario 1: Full Package (all evaluated measures)

Installation Cost	$108,537
Potential Rebates & Incentives[1]	$35,924
Annual Cost Savings	$26,523
Annual Energy Savings	Electricity: 173,643 kWh
Greenhouse Gas Emission Savings	87 Tons
Simple Payback	2.7 Years
Site Energy Savings (all utilities)	6%



Scenario 2: Cost Effective Package[2]

Installation Cost	$108,537
Potential Rebates & Incentives	$35,924
Annual Cost Savings	$26,523
Annual Energy Savings	Electricity: 173,643 kWh
Greenhouse Gas Emission Savings	87 Tons
Simple Payback	2.7 Years
Site Energy Savings (all utilities)	6%



On-site Generation Potential

Photovoltaic	High
Combined Heat and Power	None

[1] Incentives are based on current SmartStart Prescriptive incentives. Other Program incentives may apply.

[2] A cost-effective measure is defined as one where the simple payback does not exceed two-thirds of the expected proposed equipment useful life. Simple payback is based on the net measure cost after potential incentives.

#	Energy Conservation Measure	Cost Effective?	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			**126,726**	**33.4**	**-26**	**$19,125**	**$53,539**	**$0**	**$53,539**	**2.8**	**124,510**
ECM 1	Retrofit Fixtures with LED Lamps	Yes	126,726	33.4	-26	$19,125	$53,539	$0	$53,539	2.8	124,510
Lighting Control Measures			**632**	**0.1**	**0**	**$95**	**$945**	**$0**	**$945**	**9.9**	**621**
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	211	0.0	0	$32	$270	$0	$270	8.5	207
ECM 3	Install High/Low Lighting Controls	Yes	422	0.1	0	$64	$675	$0	$675	10.6	414
Variable Frequency Drive (VFD) Measures			**45,623**	**14.5**	**0**	**$6,997**	**$48,616**	**$0**	**$48,616**	**6.9**	**45,942**
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	45,623	14.5	0	$6,997	$48,616	$0	$48,616	6.9	45,942
HVAC System Improvements			**661**	**0.0**	**17**	**$305**	**$5,438**	**$0**	**$5,438**	**17.8**	**2,698**
ECM 5	Implement Demand Control Ventilation (DCV)	Yes	661	0.0	17	$305	$5,438	$0	$5,438	17.8	2,698
TOTALS (COST EFFECTIVE MEASURES)			**173,643**	**48.0**	**-9**	**$26,523**	**$108,537**	**$0**	**$108,537**	**4.1**	**173,771**
TOTALS (ALL MEASURES)			**173,643**	**48.0**	**-9**	**$26,523**	**$108,537**	**$0**	**$108,537**	**4.1**	**173,771**

* - All incentives presented in this table are based on NJ SmartStart 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).

Figure 2 – Evaluated Energy Improvements

For more detail on each evaluated energy improvement and a break out of cost-effective improvements, see **Section 4: Energy Conservation Measures**.

1.1 Planning Your Project

Careful planning makes for a successful energy project. When considering this scope of work, you will have some decisions to make, such as:

- How will the project be funded and/or financed?
- Is it best to pursue individual ECMs, groups of ECMs, or use a comprehensive approach where all ECMs are installed together?
- Are there other facility improvements that should happen at the same time?

Pick Your Installation Approach

New Jersey's Clean Energy Programs give you the flexibility to do a little or a lot. Rebates, incentives, and financing are available to help reduce both your installation costs and your energy bills. If you are planning to take advantage of these programs, make sure to review incentive program guidelines before proceeding. This is important because in most cases you will need to submit applications for the incentives before purchasing materials or starting installation.

The potential ECMs identified for this building likely qualify for incentive and funding programs. Based on current program rules and requirements, your measures are likely to qualify for the following programs:

Energy Conservation Measure		SmartStart	Direct Install	Pay For Performance
ECM 1	Retrofit Fixtures with LED Lamps			
ECM 2	Install Occupancy Sensor Lighting Controls			
ECM 3	Install High/Low Lighting Controls			
ECM 4	Install VFDs on Constant Volume (CV) Fans			
ECM 5	Implement Demand Control Ventilation (DCV)			

Figure 3 – Funding Options

New Jersey's Clean Energy Programs At-A-Glance

	SmartStart Flexibility to install at your own pace	**Direct Install** Turnkey installation	**Pay for Performance** Whole building upgrades
Who should use it?	Buildings installing individual measures or small group of measures.	Small to mid-size facilities that can bundle multiple measures together. Average peak demand should be below 200 kW. Not suitable for significant building shell issues.	Mid to large size facilities looking to implement as many measures as possible at one time. Peak demand should be over 200 kW.
How does it work?	Use in-house staff or your preferred contractor.	Pre-approved contractors pass savings along to you via reduced material and labor costs.	Whole-building approach to energy upgrades designed to reduce energy use by at least 15%. The more you save, the higher the incentives.
What are the Incentives?	Fixed incentives for specific energy efficiency measures.	Incentives pay up to 70% of eligible costs, up to $125,000 per project. You pay the remaining 30% directly to the contractor.	Up to 25% of installation cost, calculated based on level of energy savings per square foot.
How do I participate?	Submit an application for the specific equipment to be installed.	Contact a participating contractor in your region.	Contact a pre-qualified Partner to develop your Energy Reduction Plan and set your energy savings targets.

Take the next step by visiting **www.njcleanenergy.com** for program details, applications, and to contact a qualified contractor.

Individual Measures with SmartStart

For facilities wishing 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, you can use internal resources or an outside firm or contractor to perform the final design of the ECM(s) and install the equipment. Program pre-approval is required for some SmartStart incentives, so only after receiving pre-approval should you proceed with ECM installation.

Turnkey Installation with Direct Install

The Direct Install program provides turnkey installation of multiple measures through an authorized network of participating contractors. This program can provide substantially higher incentives than SmartStart, up to 70% of the cost of selected measures. Direct Install contractors will assess and verify individual measure eligibility and, in most cases, they perform the installation work. The Direct Install program is available to sites with an average peak demand of less than 200 kW.

Whole Building Approach with Pay for Performance

Pay for Performance can be a good option for medium to large sized facilities to achieve deep energy savings. Pay for Performance allows you to install as many measures as possible under a single project as well as address measures that may not qualify for other programs. Many facilities pursuing an Energy Savings Improvement Program (ESIP) loan also use this program. Pay for Performance works for larger customers with a peak demand over 200 kW. The minimum installed scope of work must include at least two unique measures resulting in at least 15% energy savings, where lighting cannot make up the majority of the savings.

More Options from Around the State

Financing and Planning Support with the Energy Savings Improvement Program (ESIP)

For larger facilities with limited capital availability to implement ECMs, project financing may be available through the 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. You have already taken the first step as an LGEA customer, because this report is required to participate in ESIP.

Resiliency with Return on Investment through Combined Heat & Power (CHP)

The CHP program provides incentives for combined heat and power (aka cogeneration) and waste heat to power projects. Combined heat and power systems generate power on-site and recover heat from the generation system to meet on-site thermal loads. Waste heat to power systems use waste heat to generate power. You will work with a qualified developer who will design a system that meets your building's heating and cooling needs.

Ongoing Electric Savings with Demand Response

The Demand Response Energy Aggregator program reduces 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. By enabling commercial facilities to reduce electric demand 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 demand response (DR) programs. Program participation is voluntary, and facilities receive payments regardless of whether they are called upon to curtail their load during times of peak demand.

2 EXISTING CONDITIONS

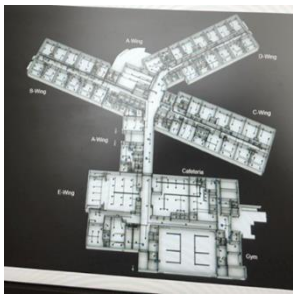
The New Jersey Board of Public Utilities (NJBPU) has sponsored this Local Government Energy Audit (LGEA) Report for SGT Dominick Pilla Middle School. This report provides information on how your facility uses energy, identifies energy conservation measures (ECMs) that can reduce your energy use, and provides information and assistance to help you implement the ECMs. This report also contains valuable information on financial incentives from New Jersey's Clean Energy Program (NJCEP) for implementing ECMs.

TRC conducted this study as part of a comprehensive effort to assist New Jersey educational and local government facilities in controlling energy costs and protecting our environment by offering a wide range of energy management options and advice.

2.1 Site Overview

On August 22, 2019, TRC performed an energy audit at SGT Dominick Pilla Middle School located in Vineland, New Jersey. TRC met with Noel Feliciano to review the facility operations and help focus our investigation on specific energy-using systems.

SGT Dominick Pilla Middle School is a single story, 99,000 square foot building built in 2018. Spaces include: classrooms, gymnasium, auditorium, offices, cafeteria, offices, a commercial kitchen and a mechanical space. The school is 100% cooled and heated. There are no envelope concerns as the building is brand new. The HVAC equipment includes geothermal heat pump systems and AAON roof top units.



Building Map

Front Parking Lot

2.2 Building Occupancy

The facility is occupied from September through June. Typical weekday occupancy including full time staff and students is 620.

Building Name	Weekday/Weekend	Operating Schedule
S.G.T. Dominick Pilla Middle School	Weekday	6:00 AM - 11:00 PM
	Weekend	Saturday: Open sometimes for a few hours Sunday: Closed

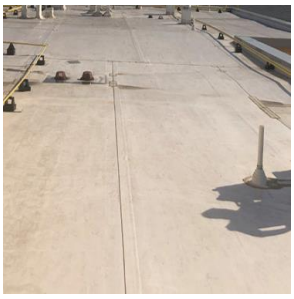
Figure 4 - Building Occupancy Schedule

2.3 Building Envelope

Building walls are concrete block over structural steel with a brick facade. The flat portions of the roof are covered with white TPO membrane, and the pitched portions of the roofs are covered with asphalt shingles. The roof is well maintained and in good condition.

Windows are double glazed with aluminum frames and thermal break. The glass-to-frame seals are in good condition. Exterior doors have aluminum frames and are in good condition with undamaged door seals. There was no excess air infiltration observed at site.

Building Walls



Flat Roof

Pitched Roof

Entrance Doors

Exit Doors

Typical Window

2.4 Lighting Systems

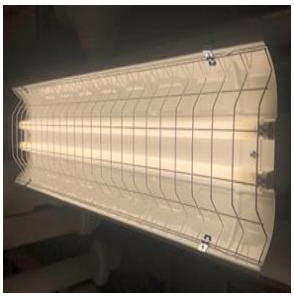
The primary interior lighting system uses 32-Watt linear fluorescent T8 lamps. Additionally, there are some 26-Watt compact fluorescent lamps (CFL). Typically, T8 fluorescent lamps use electronic ballasts. Fixture types include 2-lamp, 3-lamp, 4-lamp or 6-lamp, 2-foot or 4-foot long troffers and surface mounted fixtures.

Most fixtures are in good condition. Most of the fixtures are controlled using either wall mounted or ceiling mounted occupancy sensors, however, lighting in part of the building is manually controlled by wall switches. These spaces are further evaluated for the installation of occupancy sensors.

All exit signs are 2-Watt LED units. Interior lighting levels were generally sufficient.

Exterior wall pack and pole mount fixtures are LED with wattage that varies from 35-Watts to 160-Watts. Most exterior fixtures are controlled by time clock while of the pole mount fixtures are controlled using photocells.

Linear Fluorescent T8 Troffer



Surface Mounted T8

Auditorium Lights

Ceiling Mounted Occupancy Sensor

Wall Mounted Occupancy Sensor

LED Exit Sign

LED Wall Pack

LED Pole Light

Canopy LED Fixture

2.5 Air Handling Systems

Heat Pumps

Ductless mini-split heat pumps and water source heat pumps provide space cooling to smaller spaces such as the classrooms, offices, and hallways. The capacities of these units range from 1 ton to 4 tons with heating capacities ranging from 12 MBh to 36.1 MBh. The units have small fractional horse power supply fans supplying conditioned air to the respective spaces. All of the units are new, installed in 2018 and are in good condition.

Geothermal energy systems take advantage of the fact that subsurface earth temperatures are constant year-round, which makes the earth an ideal heat source and heat sink for heat pumps. The units are controlled using a Trane Summit energy management system (EMS) and programmable thermostats.

Packaged Units

Larger spaces including the kitchen, cafeteria, and gym are cooled using AAON packaged units with cooling capacities that range from 3 tons to 25 tons. The units have EER values ranging from 9.3-10.3. Most of the units are variable air volume units. They are also equipped with an economizer that opens to draw-in outside air for cooling when the outside air temperature is cool and dry enough. This reduces the demand on the cooling system, lowering its usage hours and saving energy

These units have built-in gas-fired furnaces that provide heating to the respective spaces. Heating capacities range from 81 MBh to 328 MBh. Kitchen heating is provided by Rupp Air make-up air units with heating capacities of 120 MBh and 240 MBh. They are 80% efficient.

The units were installed in 2018. The units are in good condition and well maintained. Space temperatures are controlled using an EMS. Refer to Appendix A for detailed information about each unit.

Water Source Heat Pumps

Large AAON RTU

Supply & Return VFDs

2.6 Exhaust Air System

Air is exhausted from facility via roof mounted exhaust fans with motors ranging in size from 0.3 hp to 5 hp. They are controlled by the EMS.

Exhaust Fans

Programmable Thermostats

Make Up Air Unit (MUA)

Split System AC

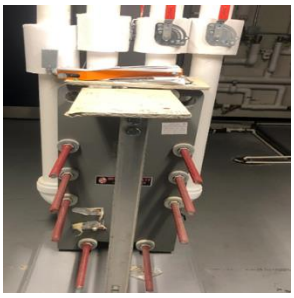
Split System AC Evaporator

2.7 Heating Hot Water Systems

Facility space heating is largely provided using geothermal heat pump loop. Water source heat pump units are distributed throughout the building to provide cooling and heating to the space. Units are connected to a water distribution loop which circulated water throughout the building to transfer heat from one area to another. This common water loop yields what is essentially a heat-recovery system. Units providing heating extract heat from loop water while units providing cooling reject heat to the loop. There is a heat exchanger in the mechanical room.

Also connected to this water loop is an Aerco Benchmark condensing hot water boiler with an output capacity of 950 MBh and a nominal efficiency rating of 95%. The boiler is used to add heat to the water loop during winter months when most units are heating. The boiler is typically enabled when the water loop temperature falls to a minimum value. Conditioned water is circulated using two 30 hp variable speed circulation pumps. The boiler was installed in 2018, new and in good condition. Boilers and pumps are controlled using the EMS. The heating setpoint is 71°F.

Geothermal Loop



Heat Exchanger

Aerco Condensing Boiler

Heating Water Circulating Pumps

Variable Frequency Drives

2.8 Building Energy Management Systems (EMS)

A Tozour Automation EMS controls the HVAC equipment, the boiler, geothermal loop, exhaust fans, and package units. The EMS provides equipment scheduling control and monitors and controls space temperatures, supply air temperatures, humidity, and heating water loop temperatures.

Trane Tozour Building Automation EMS

2.9 Domestic Hot Water

Hot water is produced with a 300-gallon, 399 MBh AO Smith gas-fired storage water heater with an efficiency rating of 80%. Hot water is distributed to end uses using a circulation pump. The water heater was installed in 2018, in good condition and is well maintained.

DHW

2.10 Food Service and Refrigeration Equipment

The kitchen has a mix of gas and electric equipment that is used to prepare lunches for students. Most cooking is done using a convection oven and conventional gas-fired stove. Bulk prepared foods are held in several holding cabinets. Equipment is high efficiency and in good condition.

The dishwasher is an ENERGY STAR® high temperature, rack type unit consists of electric booster.

The kitchen has several stand-up refrigerators and freezers with solid doors. There is also an energy-efficient refrigerator chest. All equipment is standard and in good condition.

The walk-in refrigerator has an estimated 0.6-ton compressor and a single fan evaporator. The walk-in medium temperature freezer has a 0.9-ton compressor and a two-fan evaporator with evaporator control and defrost controls.

Visit https://www.energystar.gov/products/commercial_food_service_equipment for the latest information on high efficiency food service equipment.

Kitchen Equipment

Dishwasher

Reach in Refrigerator

Walk-in Unit

2.11 Plug Load & Vending Machines

The location is doing a great job managing their electrical plug loads. This report makes additional suggestions for ECMs in this area as well as Energy Efficient Best Practices.

There are 20 computer work stations throughout the facility. Plug loads throughout the building include general café and office equipment. There are classroom typical loads such as smart boards, projectors, and fans. There are several residential-style refrigerators throughout the building that are used to store food by staff. Most plug load equipment is energy star qualified.

Copier

Washing and Drying Machines

2.12 Water-Using Systems

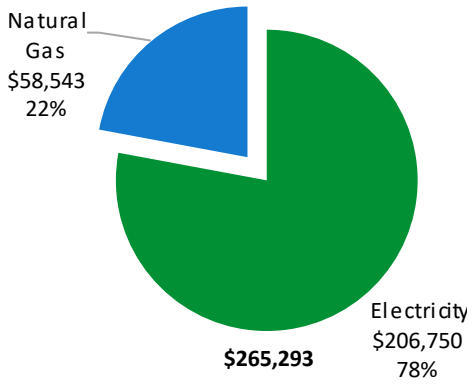
The faucet flow rates are at 2.2 gallons per minute (gpm) or higher. Toilets are rated at 1.6 gallons per flush (gpf) and urinals are rated at 1.0 gpf.

Typical Restroom Lavatory Sink

3 Energy Use and Costs

Twelve months of utility billing data are used to develop annual energy consumption and cost data. This information creates a profile of the annual energy consumption and energy costs.

Utility Summary		
Fuel	**Usage**	**Cost**
Electricity	1,348,055 kWh	$206,750
Natural Gas	49,939 Therms	$58,543
Total		**$265,293**



An energy balance identifies and quantifies energy use in your various building systems. This can highlight areas with the most potential for improvement. This energy balance was developed using calculated energy use for each of the end uses noted in the figure.

The energy auditor collects information regarding equipment operating hours, capacity, efficiency, and other operational parameters from facility staff, drawings, and on-site observations. This information is used as the inputs to calculate the existing conditions energy use for the site. The calculated energy use is then compared to the historical energy use and the initial inputs are revised, as necessary, to balance the calculated energy use to the historical energy use.

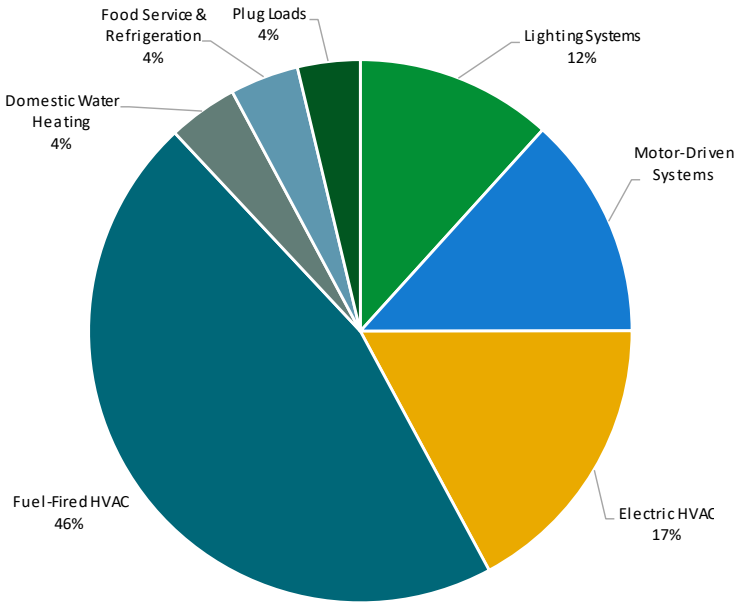
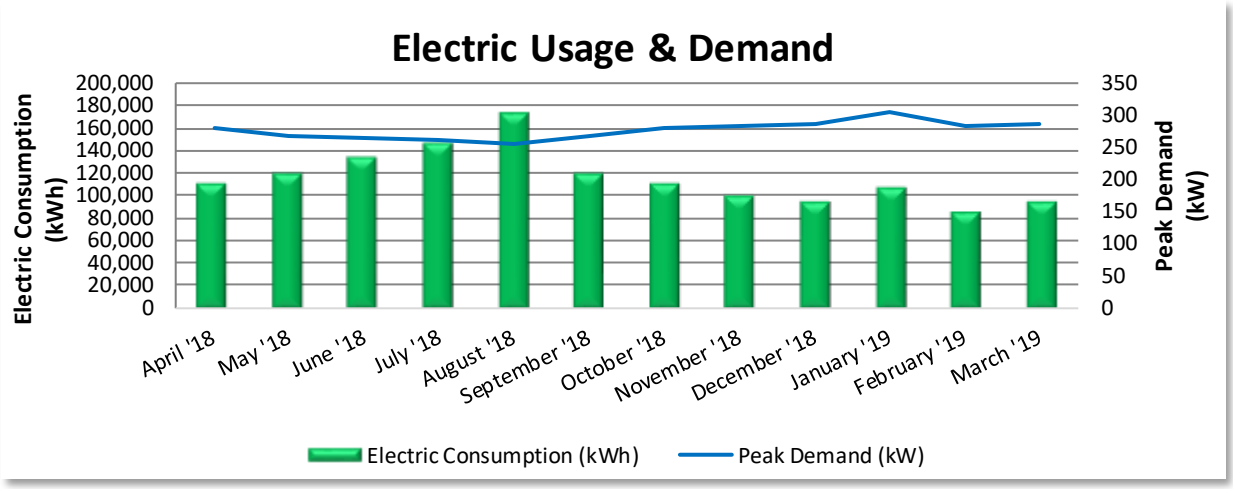


Figure 5 - Energy Balance

3.1 Electricity

City of Vineland supplies and delivers electricity under rate class GLP20.



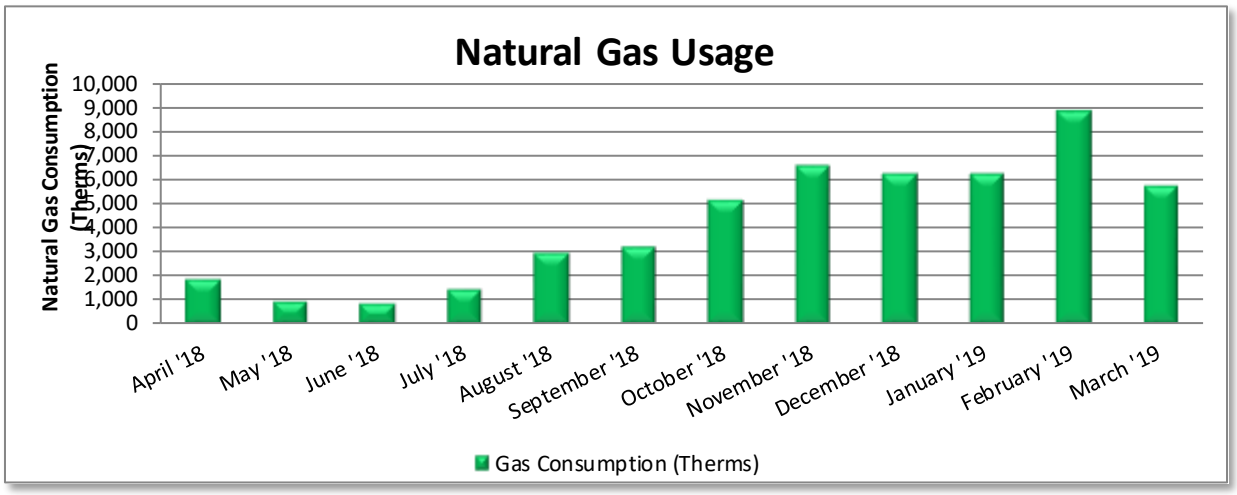
Electric Billing Data					
Period Ending	**Days in Period**	**Electric Usage (kWh)**	**Demand (kW)**	**Demand Cost**	**Total Electric Cost**
4/30/18	30	110,400	279	$2,860	$16,961
5/31/18	31	119,700	267	$2,737	$18,018
6/30/18	30	133,125	264	$2,706	$19,969
7/31/18	31	146,550	261	$2,675	$21,983
9/12/18	43	173,400	255	$2,678	$25,565
10/11/18	29	119,700	267	$2,737	$18,018
11/13/18	33	110,400	279	$2,860	$16,961
12/11/18	28	99,600	282	$2,891	$15,621
1/10/19	30	93,600	288	$2,952	$14,921
2/12/19	33	106,200	306	$3,137	$16,704
3/12/19	28	86,100	282	$2,891	$13,908
4/12/19	31	93,600	288	$2,952	$14,921
Totals	**377**	**1,392,375**	**306**	**$34,073**	**$213,547**
Annual	**365**	**1,348,055**	**306**	**$32,989**	**$206,750**

Notes:

- Peak demand of 306 kW occurred in January 2019.
- Average demand over the past 12 months was 277 kW.
- The average electric cost over the past 12 months was $0.153/kWh, which is the blended rate that includes energy supply, distribution, demand, and other charges. This report uses this blended rate to estimate energy cost savings.

3.2 Natural Gas

South Jersey Gas delivers natural gas under rate class GSGSMOBGSS, with natural gas supply provided by Amerigreen Energy Inc., a third-party supplier.



Gas Billing Data			
Period Ending	**Days in Period**	**Natural Gas Usage (Therms)**	**Natural Gas Cost**
5/9/18	30	1,854	$2,181
6/11/18	33	961	$1,161
7/12/18	31	892	$1,089
8/10/18	29	1,492	$1,807
9/12/18	33	2,965	$3,535
10/10/18	28	3,233	$3,767
11/9/18	30	5,093	$5,750
12/11/18	32	6,541	$7,876
1/11/19	31	6,237	$7,932
2/11/19	31	6,185	$7,225
3/11/19	28	8,804	$9,888
4/9/19	29	5,683	$6,331
Totals	**365**	**49,939**	**$58,543**
Annual	**365**	**49,939**	**$58,543**

Notes:

- The average gas cost for the past 12 months is $1.172/therm, which is the blended rate used throughout the analysis.

3.3 Benchmarking

Your building was benchmarked using the United States Environmental Protection Agency's (EPA) *Portfolio Manager®* software. Benchmarking compares your building's energy use to that of similar buildings across the country, while neutralizing variations due to location, occupancy and operating hours. Some building types can be scored with a 1-100 ranking of a building's energy performance relative to the national building market. A score of 50 represents the national average and a score of 100 is best.

This ENERGY STAR® benchmarking score provides a comprehensive snapshot of your building's energy performance. It assesses the building's physical assets, operations, and occupant behavior, which is compiled into a quick and easy-to-understand score.

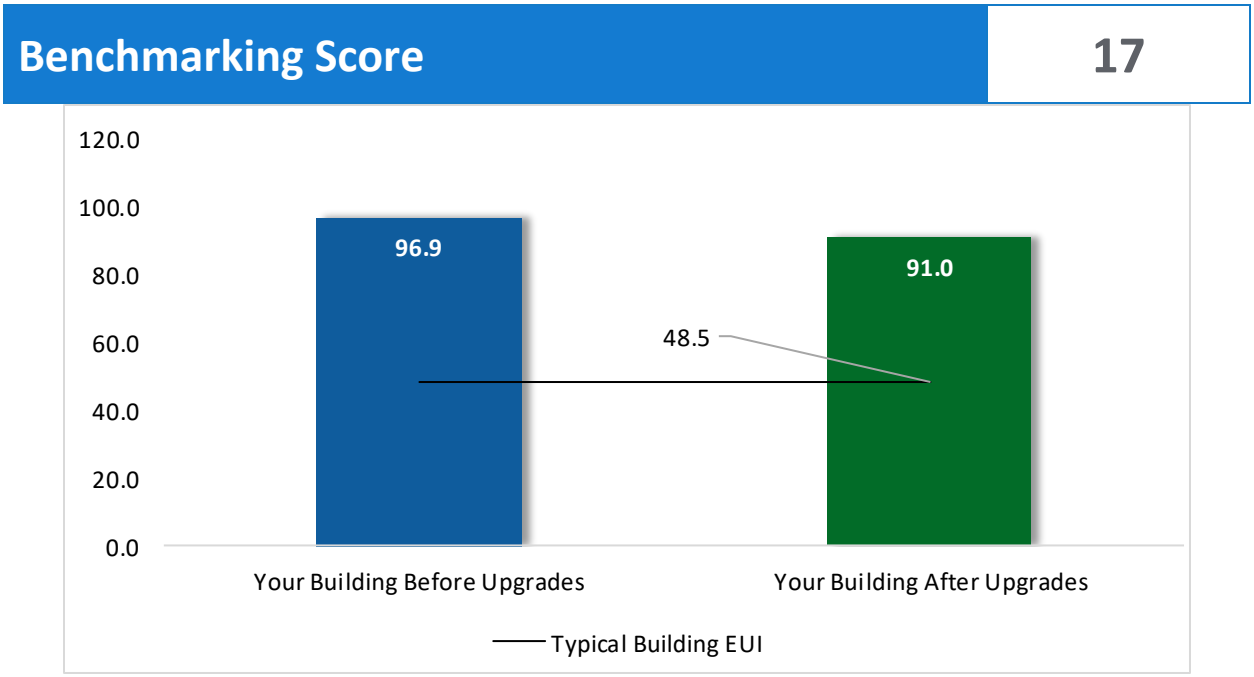


Figure 6 - Energy Use Intensity Comparison[3]

This building performs at, or below the national average. This report contains suggestions about how to improve building performance and reduce energy costs.

Energy use intensity (EUI) measures energy consumption per square foot and is the standard metric for comparing buildings' energy performance. A lower EUI means better performance and less energy consumed. A number of factors can cause a building to vary from the "typical" energy usage. Local weather conditions, building age and insulation levels, equipment efficiency, daily occupancy hours, changes in occupancy throughout the year, equipment operating hours, and occupant behavior all contribute to a building's energy use and the benchmarking score.

[3] Based on all evaluated ECMs

Tracking Your Energy Performance

Keeping track of your energy use on a monthly basis is one of the best ways to keep energy costs in check. Update your utility information in Portfolio Manager® regularly, so that you can keep track of your building's performance.

We have created a Portfolio Manager® account for your facility and we have already entered the monthly utility data shown above for you. Account login information for your account will be sent via email.

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.

For more information on ENERGY STAR® and Portfolio Manager®, visit their website[4].

[4] https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification/how-app-1.

4 Energy Conservation Measures

The goal of this audit report is to identify and evaluate potential energy efficiency improvements, provide information about the cost effectiveness of those improvements, and recognize potential financial incentives from NJBPU. Most energy conservation measures have received preliminary analysis of feasibility which identifies expected ranges of savings and costs. This level of analysis is typically sufficient to demonstrate project cost-effectiveness and help prioritize energy measures.

Calculations of energy use and savings are based on the current version of the *New Jersey's Clean Energy Program Protocols to Measure Resource Savings*, which is approved by the NJBPU. Further analysis or investigation may be required to calculate more precise savings based on specific circumstances.

Operation and maintenance costs for the proposed new equipment will generally be lower than the current costs for the existing equipment—especially if the existing equipment is at or past its normal useful life. We have conservatively assumed there to be no impact on overall maintenance costs over the life of the equipment.

Financial incentives are based on the current NJCEP prescriptive SmartStart program. A higher level of investigation may be necessary to support any SmartStart Custom, Pay for Performance, or Direct Install incentive applications. Some measures and proposed upgrades may be eligible for higher incentives than those shown below through other NJCEP programs described in a following section of this report.

For a detailed list of the locations and recommended energy conservation measures for all inventoried equipment, see Appendix A: Equipment Inventory & Recommendations

#	Energy Conservation Measure	Cost Effective?	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			**126,726**	**33.4**	**-26**	**$19,125**	**$53,539**	**$0**	**$53,539**	**2.8**	**124,510**
ECM 1	Retrofit Fixtures with LED Lamps	Yes	126,726	33.4	-26	$19,125	$53,539	$0	$53,539	2.8	124,510
Lighting Control Measures			**632**	**0.1**	**0**	**$95**	**$945**	**$0**	**$945**	**9.9**	**621**
ECM 2	Install Occupancy Sensor Lighting Controls	Yes	211	0.0	0	$32	$270	$0	$270	8.5	207
ECM 3	Install High/Low Lighting Controls	Yes	422	0.1	0	$64	$675	$0	$675	10.6	414
Variable Frequency Drive (VFD) Measures			**45,623**	**14.5**	**0**	**$6,997**	**$48,616**	**$0**	**$48,616**	**6.9**	**45,942**
ECM 4	Install VFDs on Constant Volume (CV) Fans	Yes	45,623	14.5	0	$6,997	$48,616	$0	$48,616	6.9	45,942
HVAC System Improvements			**661**	**0.0**	**17**	**$305**	**$5,438**	**$0**	**$5,438**	**17.8**	**2,698**
ECM 5	Implement Demand Control Ventilation (DCV)	Yes	661	0.0	17	$305	$5,438	$0	$5,438	17.8	2,698
TOTALS			**173,643**	**48.0**	**-9**	**$26,523**	**$108,537**	**$0**	**$108,537**	**4.1**	**173,771**

* - All incentives presented in this table are based on NJ SmartStart 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).

Figure 7 – All Evaluated 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		**126,726**	**33.4**	**-26**	**$19,125**	**$53,539**	**$0**	**$53,539**	**2.8**	**124,510**
ECM 1	Retrofit Fixtures with LED Lamps	126,726	33.4	-26	$19,125	$53,539	$0	$53,539	2.8	124,510
Lighting Control Measures		**632**	**0.1**	**0**	**$95**	**$945**	**$0**	**$945**	**9.9**	**621**
ECM 2	Install Occupancy Sensor Lighting Controls	211	0.0	0	$32	$270	$0	$270	8.5	207
ECM 3	Install High/Low Lighting Controls	422	0.1	0	$64	$675	$0	$675	10.6	414
Variable Frequency Drive (VFD) Measures		**45,623**	**14.5**	**0**	**$6,997**	**$48,616**	**$0**	**$48,616**	**6.9**	**45,942**
ECM 4	Install VFDs on Constant Volume (CV) Fans	45,623	14.5	0	$6,997	$48,616	$0	$48,616	6.9	45,942
HVAC System Improvements		**661**	**0.0**	**17**	**$305**	**$5,438**	**$0**	**$5,438**	**17.8**	**2,698**
ECM 5	Implement Demand Control Ventilation (DCV)	661	0.0	17	$305	$5,438	$0	$5,438	17.8	2,698
TOTALS		**173,643**	**48.0**	**-9**	**$26,523**	**$108,537**	**$0**	**$108,537**	**4.1**	**173,771**

* - All incentives presented in this table are based on NJ SmartStart 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).

Figure 8 – Cost Effective ECMs

4.1 Lighting

#	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		**126,726**	**33.4**	**-26**	**$19,125**	**$53,539**	**$0**	**$53,539**	**2.8**	**124,510**
ECM 1	Retrofit Fixtures with LED Lamps	126,726	33.4	-26	$19,125	$53,539	$0	$53,539	2.8	124,510

When considering lighting upgrades, we suggest using a comprehensive design approach that simultaneously upgrades lighting fixtures and controls to maximize energy savings and improve occupant lighting. Comprehensive design will also consider appropriate lighting levels for different space types to make sure that the right amount of light is delivered where needed. If conversion to LED light sources are proposed, we suggest converting all of a specific lighting type (e.g. linear fluorescent) to LED lamps to minimize the number of lamp types in use at the facility, which should help reduce future maintenance costs.

ECM 1: Retrofit Fixtures with LED Lamps

Replace fluorescent or CFL lamps with LED lamps. Many LED tubes are direct replacements for existing fluorescent tubes and can be installed while leaving the fluorescent fixture ballast in place. LED lamps 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. Maintenance savings may also be available, as longer-lasting LEDs lamps will not need to be replaced as often as the existing lamps.

Affected building areas: all areas with fluorescent fixtures with T8 tubes and CFL

4.2 Lighting Controls

#	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		**632**	**0.1**	**0**	**$95**	**$945**	**$0**	**$945**	**9.9**	**621**
ECM 2	Install Occupancy Sensor Lighting Controls	211	0.0	0	$32	$270	$0	$270	8.5	207
ECM 3	Install High/Low Lighting Controls	422	0.1	0	$64	$675	$0	$675	10.6	414

Lighting controls reduce energy use by turning off or lowering lighting fixture power levels when not in use. A comprehensive approach to lighting design should upgrade the lighting fixtures and the controls together for maximum energy savings and improved lighting for occupants.

ECM 2: Install Occupancy Sensor Lighting Controls

Install occupancy sensors to control lighting fixtures in areas that are frequently unoccupied, even for short periods. For most spaces, we recommend that lighting controls use dual technology sensors, which reduce the possibility of lights turning off unexpectedly.

Occupancy sensors detect occupancy using ultrasonic and/or infrared sensors. When an occupant enters the space, the lighting fixtures switch to full lighting levels. Most occupancy sensor lighting controls allow users to manually turn fixtures on/off, as needed. Some controls can also provide dimming options.

Occupancy sensors can be mounted on the wall at existing switch locations, mounted on the ceiling, or in remote locations. In general, wall switch replacement sensors are best suited to single occupant offices and other small rooms. Ceiling-mounted or remote mounted sensors are used in large spaces, locations without local switching, and where wall switches are not in the line-of-sight of the main work area.

This measure provides energy savings by reducing the lighting operating hours.

Affected building areas: a few offices and classrooms

ECM 3: Install High/Low Lighting Controls

Install 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.

Lighting fixtures with these controls operate at default low levels when the area is unoccupied to provide minimal lighting to meet security or safety code requirements for egress. Sensors detect occupancy using ultrasonic and/or infrared sensors. When an occupant enters the space, the lighting fixtures switch to full lighting levels. Fixtures automatically switch back to low level after a predefined period of vacancy. In parking lots and parking garages with significant ambient lighting, this control can sometimes be combined with photocell controls to turn the lights off when there is sufficient daylight.

The controller lowers the light level by dimming the fixture output. Therefore, the controlled fixtures need to have a dimmable ballast or driver. This will need to be taken into account when selecting retrofit lamps and bulbs for the areas proposed for high/low control.

This measure provides energy savings by reducing the light fixture power draw when reduced light output is appropriate.

Affected building areas: hallways

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

4.3 Variable Frequency Drives (VFD)

#	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)
Variable Frequency Drive (VFD) Measures		**45,623**	**14.5**	**0**	**$6,997**	**$48,616**	**$0**	**$48,616**	**6.9**	**45,942**
ECM 4	Install VFDs on Constant Volume (CV) Fans	45,623	14.5	0	$6,997	$48,616	$0	$48,616	6.9	45,942

Variable frequency drives control motors for fans, pumps, and process equipment based on the actual output required of the driven equipment. Energy savings result from more efficient control of motor energy usage when equipment operates at partial load. The magnitude of energy savings depends on the estimated amount of time that the motor would operate at partial load. For equipment with proposed VFDs, we have included replacing the controlled motor with a new inverter duty rated motor to conservatively account for the cost of an inverter duty rated motor.

ECM 4: Install VFDs on Constant Volume (CV) Fans

Install VFDs to control constant volume fan motor speeds. This converts a constant-volume, single-zone air handling system into a variable-air-volume (VAV) system. A separate VFD is usually required to control the return fan motor or dedicated exhaust fan motor, if the air handler has one.

Zone thermostats signal the VFD to adjust fan speed to maintain the appropriate temperature in the zone, while maintaining a constant supply air temperature.

For air handlers with direct expansion (DX) cooling systems, the minimum air flow across the cooling coil required to prevent the coil from freezing must be determined during the final project design. The control system programming should maintain the minimum air flow whenever the compressor is operating. Prior to implementation, verify minimum fan speed in cooling mode with the manufacturer. Note that savings will vary depending on the operating characteristics of each AHU.

Energy savings result from reducing the fan speed (and power) when conditions allow for reduced air flow.

Affected air handlers: all AAON units

4.4 HVAC Improvements

#	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)
HVAC System Improvements		**661**	**0.0**	**17**	**$305**	**$5,438**	**$0**	**$5,438**	**17.8**	**2,698**
ECM 5	Implement Demand Control Ventilation (DCV)	661	0.0	17	$305	$5,438	$0	$5,438	17.8	2,698

ECM 5: Implement Demand Control Ventilation (DCV)

Demand control ventilation (DCV) monitors the indoor air's carbon dioxide (CO_2) content to measure room occupancy. This data is used to regulate the amount of outdoor air provided to the space for ventilation.

Standard ventilation systems often provide outside air based on a space's estimated maximum occupancy but not actual occupancy. During low occupancy periods, the space may then be over ventilated. This wastes energy through heating and cooling the excess outside air flow. DCV reduces unnecessary outdoor air intake by regulating ventilation based on actual occupancy levels. DCV is most suited for facilities where occupancy levels vary significantly from hour to hour and day to day.

Energy savings associated with DCV are based on hours of operation, space occupancy, outside air reduction, and other factors. Energy savings results from eliminating unnecessary ventilation and space conditioning.

Affected building areas: two, 11-ton AAON units serving the gym.

5 Energy Efficient Best Practices

A whole building maintenance plan will extend equipment life; improve occupant comfort, health, and safety; and reduce energy and maintenance costs. You may already be doing some of these things— see our list below for potential additions to your maintenance plan. Be sure to consult with qualified equipment specialists for details on proper maintenance and system operation.

Energy Tracking with ENERGY STAR® Portfolio Manager®

You've heard it before - you can't manage what you don't measure. ENERGY STAR® Portfolio Manager® is an online tool that you can use to measure and track energy and water consumption, as well as greenhouse gas emissions[5]. Your account has already been established. Now you can continue to keep tabs on your energy performance every month.

Lighting Maintenance

Clean lamps, reflectors and lenses of dirt, dust, oil, and smoke buildup every six to twelve months. Light levels decrease over time due to lamp aging, lamp and ballast failure, and buildup of dirt and dust. Together, this can reduce total light output by up to 60% while still drawing full power.

In addition to routine cleaning, developing a maintenance schedule can ensure that maintenance is performed regularly, and it can reduce the overall cost of fixture re-lamping and re-ballasting. Group re-lamping and re-ballasting maintains lighting levels and minimizes the number of site visits by a lighting technician or contractor, decreasing the overall cost of maintenance.

Motor Maintenance

Motors have many moving parts. As these parts degrade over time, the efficiency of the motor is reduced. Routine maintenance prevents damage to motor components. Routine maintenance should include cleaning surfaces and ventilation openings on motors to prevent overheating, lubricating moving parts to reduce friction, inspecting belts and pulleys for wear and to ensure they are at proper alignment and tension, and cleaning and lubricating bearings. Consult a licensed technician to assess these and other motor maintenance strategies.

Thermostat Schedules and Temperature Resets

Use thermostat setback temperatures and schedules to reduce heating and cooling energy use during periods of low or no occupancy. Thermostats should be programmed for a setback of 5°F-10°F during low occupancy hours (reduce heating setpoints and increase cooling setpoints). Cooling load can be reduced by increasing the facility's occupied setpoint temperature. In general, during the cooling season, thermostats should be set as high as possible without sacrificing occupant comfort.

[5] https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager.

AC System Evaporator/Condenser Coil Cleaning

Dirty evaporator and condenser coils restrict air flow and restrict heat transfer. This increases the loads on the evaporator and condenser fan and decreases overall cooling system performance. Keeping the coils clean allows the fans and cooling system to operate more efficiently.

HVAC Filter Cleaning and Replacement

Air filters should be checked regularly (often monthly) and cleaned or replaced when appropriate. Air filters reduce indoor air pollution, increase occupant comfort, and help keep equipment operating efficiently. If the building has a building management system, consider installing a differential pressure switch across filters to send an alarm about premature fouling or overdue filter replacement. Over time, filters become less and less effective as particulate buildup increases. Dirty filters also restrict air flow through the air conditioning or heat pump system, which increases the load on the distribution fans.

Boiler Maintenance

Many boiler problems develop slowly over time, so regular inspection and maintenance is essential to keeping the heating system running efficiently and preventing expensive repairs. Annual tune-ups should include a combustion analysis to analyze the exhaust from the boilers and to ensure the boiler is operating safely. Boilers should be cleaned according to the manufacturer's instructions to remove soot and scale from the water side or fire side of the boiler.

Furnace Maintenance

Preventative maintenance can extend the life of the system, maintain energy efficiency, and ensure safe operation. Following the manufacturer's instructions, a yearly tune-up should: check for gas / carbon monoxide leaks; change the air and fuel filters; check components for cracks, corrosion, dirt, or debris build-up; ensure the ignition system is working properly; test and adjust operation and safety controls; inspect electrical connections; and lubricate motors and bearings.

Water Heater Maintenance

Preventative maintenance can extend the life of the system, maintain energy efficiency, and ensure safe operation. At least once a year, follow manufacturer instructions to drain a few gallons out of the water heater using the drain valve. If there is a lot of sediment or debris, then a full flush is recommended. Turn the temperature down and then completely drain the tank. Annual checks should include checks for:

- Leaks or heavy corrosion on the pipes and valves.
- Corrosion or wear on the gas line and on the piping. If you noticed any black residue, soot, or charred metal, this is a sign you may be having combustion issues and you should have the unit serviced by a professional.
- For electric water heaters, look for signs of leaking such as rust streaks or residue around the upper and lower panels covering the electrical components on the tank.
- For water heaters more than three years old, have a technician inspect the sacrificial anode annually.

Water Conservation

Installing dual flush or low-flow toilets and low-flow/waterless urinals are ways to reduce water use. The EPA WaterSense® ratings for urinals is 0.5 gallons per flush (gpf) and for flush valve toilets is 1.28 gpf (this is lower than the current 1.6 gpf federal standard).

For more information regarding water conservation go to the EPA's WaterSense® website[6] or download a copy of EPA's "WaterSense® at Work: Best Management Practices for Commercial and Institutional Facilities"[7] to get ideas for creating a water management plan and best practices for a wide range of water using systems.

Water conservation devices that do not reduce hot water consumption will not provide energy savings at the site level, but they may significantly affect your water and sewer usage costs. 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.

If the facility has detached buildings with a master water meter for the entire campus, check for unnatural wet areas in the lawn or water seeping in the foundation at water pipe penetrations through the foundation. Periodically check overnight meter readings when the facility is unoccupied, and there is no other scheduled water usage.

Manage irrigation systems to use water more effectively outside the building. Adjust spray patterns so that water lands on intended lawns and plantings and not on pavement and walls. Consider installing an evapotranspiration irrigation controller that will prevent over-watering.

Procurement Strategies

Purchasing efficient products reduces energy costs without compromising quality. Consider modifying your procurement policies and language to require ENERGY STAR® or WaterSense® products where available.

[6] https://www.epa.gov/watersense.

[7] https://www.epa.gov/watersense/watersense-work-0.

6 On-site Generation

You don't have to look far in New Jersey to see one of the thousands of solar electric systems providing clean power to homes, businesses, schools, and government buildings. On-site generation includes both renewable (e.g., solar, wind) and non-renewable (e.g., fuel cells) technologies that generate power to meet all or a portion of the facility's electric energy needs. Also referred to as distributed generation, these systems contribute to greenhouse gas (GHG) emission reductions, demand reductions and reduced customer electricity purchases, which results in improved electric grid reliability through better use of transmission and distribution systems.

Preliminary screenings were performed to determine if an on-site generation measure could be a cost-effective solution for your facility. Before deciding to install an on-site generation system, we recommend conducting a feasibility study to analyze 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.

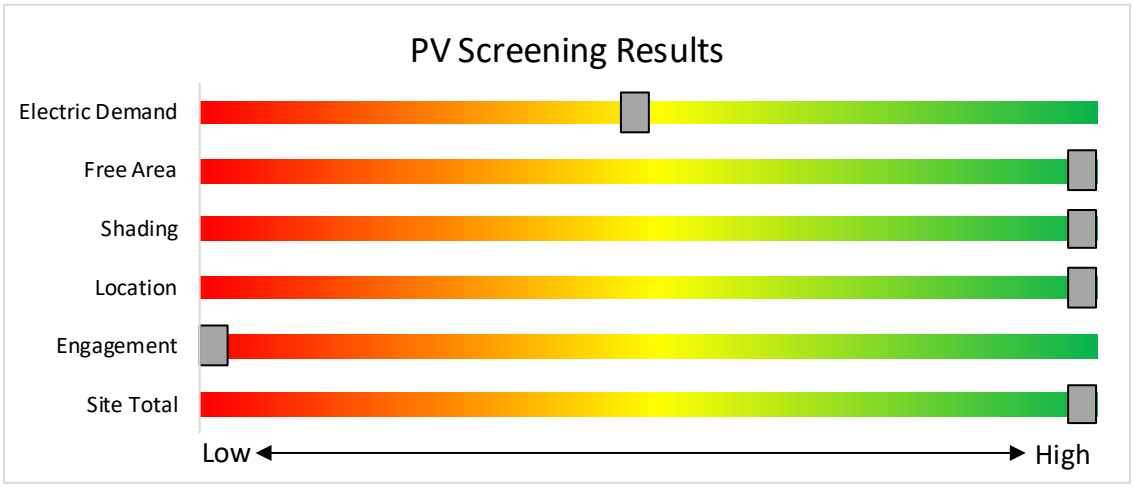
6.1 Solar Photovoltaic

Photovoltaic (PV) panels convert sunlight into electricity. Individual panels are combined into an array that produces direct current (DC) electricity. The DC current is converted to alternating current (AC) through an inverter. The inverter is then connected to the building's electrical distribution system.

A preliminary screening based on the facility's electric demand, size and location of free area, and shading elements shows that the facility has 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. A PV array located on the roof may be feasible. If you are interested in pursuing the installation of PV, we recommend conducting a full feasibility study.

The graphic below displays the results of the PV potential screening conducted as a part of this audit. The position of each slider indicates the potential (potential increases to the right) that each factor contributes to the overall site potential.



Potential	High	
System Potential	268	kW DC STC
Electric Generation	319,287	kWh/yr
Displaced Cost	$48,970	/yr
Installed Cost	$696,800	

Figure 9 - Photovoltaic Screening

Solar Renewable Energy Certificate (SREC) Registration Program (SRP)

Rebates are not available for solar projects, but owners of solar projects MUST register their projects in the SREC Registration Program before starting construction. Once your PV system is up and running, you periodically earn credits, which can then be sold on the open market for up to 15 years.

If you are considering installing solar photovoltaics on your building, visit www.njcleanenergy.com/srec for more information about the SREC Registration Program.

Get more information about solar power in New Jersey or find a qualified solar installer who can help you decide if solar is right for your building:

- **Basic Info on Solar PV in NJ**: www.njcleanenergy.com/whysolar.
- **NJ Solar Market FAQs**: www.njcleanenergy.com/renewable-energy/program-updates-and-background-information/solar-transition/solar-market-faqs.
- **Approved Solar Installers in the NJ Market**: 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) generates electricity at the facility and puts waste heat energy to good use. Common types of CHP systems are reciprocating engines, microturbines, fuel cells, backpressure steam turbines, and (at large facilities) gas turbines.

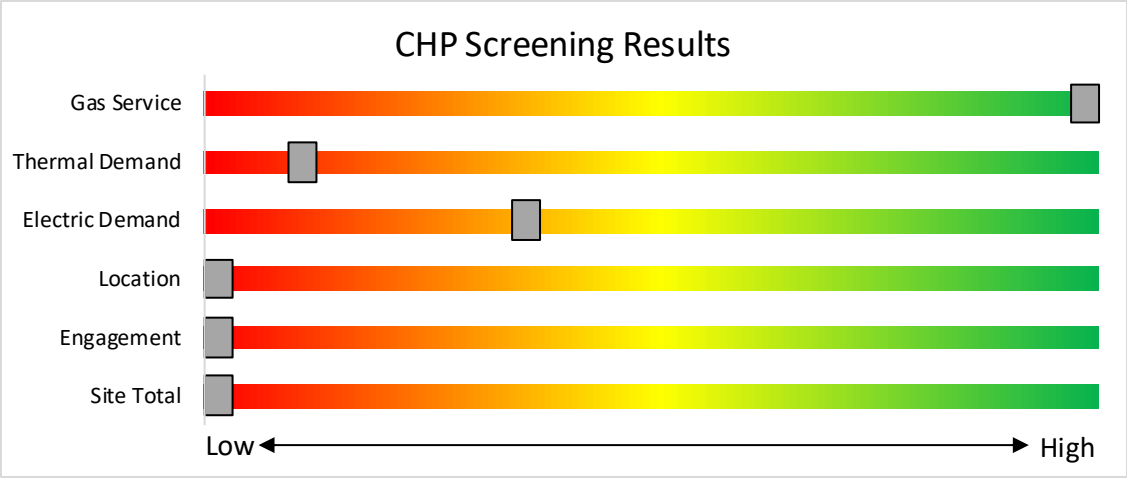
CHP systems typically produce a portion of the electric power used on-site, with the balance of electric power needs supplied by the local utility company. The heat is used to supplement (or replace) existing boilers and provide space heating and/or domestic hot water heating. Waste heat can also be routed through absorption chillers for space cooling.

The key criteria used for screening is the amount of time that the CHP system would operate at full load and the facility's ability to use the recovered heat. Facilities with a continuous need for large quantities of waste heat are the best candidates for CHP.

A preliminary screening based on heating and electrical demand, siting, and interconnection shows that the facility has no potential for installing a cost-effective CHP system.

Based on a preliminary analysis, the facility does not appear to meet the minimum requirements for a cost-effective CHP installation. Low or infrequent thermal load and lack of space for siting the equipment are the most significant factors contributing to the lack of CHP potential.

The graphic below displays the results of the CHP potential screening conducted as a part of this audit. The position of each slider indicates the potential (potential increases to the right) that each factor contributes to the overall site potential.



Potential	None	
System Type	None	
System Potential	0	kW
Electric Generation	8,584	kWh/yr
Thermal Generation	203,870	MBtu/yr
Displaced Cost	$239	/yr
Installed Cost	$15,000	

Figure 10 - Combined Heat and Power Screening

Find a qualified firm that specializes in commercial CHP cost assessment and installation: http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/tools-and-resources/tradeally/approved_vendorsearch/.

7 Project Funding and Incentives

Ready to improve your building's performance? New Jersey's Clean Energy Programs can help. Pick the program that works best for you. Incentive programs that may apply to this facility are identified in the Executive Summary. This section provides an overview of currently available New Jersey Clean Energy Programs.

	SmartStart *Flexibility to install at your own pace*	**Direct Install** *Turnkey installation*	**Pay for Performance** *Whole building upgrades*
Who should use it?	Buildings installing individual measures or small group of measures.	Small to mid-size facilities that can bundle multiple measures together. Average peak demand should be below 200 kW. Not suitable for significant building shell issues.	Mid to large size facilities looking to implement as many measures as possible at one time. Peak demand should be over 200 kW.
How does it work?	Use in-house staff or your preferred contractor.	Pre-approved contractors pass savings along to you via reduced material and labor costs.	Whole-building approach to energy upgrades designed to reduce energy use by at least 15%. The more you save, the higher the incentives.
What are the Incentives?	Fixed incentives for specific energy efficiency measures.	Incentives pay up to 70% of eligible costs, up to $125,000 per project. You pay the remaining 30% directly to the contractor.	Up to 25% of installation cost, calculated based on level of energy savings per square foot.
How do I participate?	Submit an application for the specific equipment to be installed.	Contact a participating contractor in your region.	Contact a pre-qualified Partner to develop your Energy Reduction Plan and set your energy savings targets.
Take the next step by visiting **www.njcleanenergy.com** for program details, applications, and to contact a qualified contractor.			

7.1 SmartStart

SmartStart offers incentives for installing prescriptive and custom energy efficiency measures at your facility. This program provides an effective mechanism for securing incentives for energy efficiency measures installed individually or as part of a package of energy upgrades. This program serves most common equipment types and sizes.

SmartStart routinely adds, removes, or modifies incentives from year-to-year for various energy efficient 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

Incentives

The SmartStart Prescriptive program provides fixed incentives for specific energy efficiency measures. Prescriptive incentives vary by equipment type.

SmartStart Custom provides incentives for more unique or specialized technologies or systems that are not addressed through prescriptive incentives. Custom incentives are calculated at $0.16/kWh and $1.60/therm based on estimated annual savings. Incentives are 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

Submit an application for the specific equipment to be installed. Many applications are designed as rebates, although others require application approval prior to installation. You can work with your preferred contractor or use internal staff to install measures.

Visit www.njcleanenergy.com/SSB for a detailed program description, instructions for applying, and applications.

7.2 Direct Install

Direct Install is a turnkey program available to existing small to medium-sized facilities with an average peak electric demand that does not exceed 200 kW over the recent 12-month period. You work directly with a pre-approved contractor who will perform a free energy assessment at your facility, identify specific eligible measures, and provide a clear scope of work for installation of selected measures. Energy efficiency measures may include lighting and lighting controls, refrigeration, HVAC, motors, variable speed drives, and controls.

Incentives

The program pays up to 70% of the total installed cost of eligible measures, up to $125,000 per project. Each entity is limited to incentives up to $250,000 per fiscal year.

How to Participate

To participate in Direct Install, you will need to contact the participating contractor assigned to the region of the state where your facility is located. A complete list of Direct Install program partners is provided on the Direct Install website linked below. The contractor will be paid the measure incentives directly by the program, which will pass on to you in the form of reduced material and implementation costs. This means up to 70% of eligible costs are covered by the program, subject to program caps and eligibility, while the remaining 30% of the cost is paid to the contractor by the customer.

Detailed program descriptions and applications can be found at: www.njcleanenergy.com/DI.

7.3 Pay for Performance - Existing Buildings

Pay for Performance works for larger customers with a peak demand over 200 kW. The minimum installed scope of work must include at least two unique measures that results in at least 15% source energy savings, and lighting cannot make up the majority of the savings. P4P is a generally a good option for medium-to-large sized facilities looking to implement as many measures as possible under a single project to achieve deep energy savings. This program has an added benefit of addressing measures that may not qualify for other programs. Many facilities pursuing an Energy Savings Improvement Program loan also use this program.

Incentives

Incentives are based on estimated and achieved energy savings ranging from $0.18-$0.22/kWh and $1.80-$2.50/therm, capped at the lesser of 50% total project cost, or $1 million per electric account and $1 million per natural gas account, per fiscal year, not to exceed $2 million per project. An incentive of $0.15/square foot is also available to offset the cost of developing the Energy Reduction Plan (see below) contingent on the project moving forward with measure installation.

How to Participate

Contact one of the pre-approved consultants and contractors ("Partners"). Under direct contract to you, they will help further evaluate the measures identified in this report through development of the energy reduction plan), assist you in implementing selected measures, and verify actual savings one year after the installation. Your Partner will also help you apply for incentives.

Approval of the final scope of work is required by the program prior to installation. Installation can be done by the contractor of your choice (some P4P Partners are also contractors) or by internal staff, but the Partner remains involved throughout construction to ensure compliance with the program requirements.

Detailed program descriptions, instructions for applying, applications and list of Partners can be found at: www.njcleanenergy.com/P4P.

7.4 Combined Heat and Power

The Combined Heat & Power (CHP) program provides incentives for eligible CHP or waste heat to power (WHP) projects. Eligible CHP or WHP projects must achieve an annual system efficiency of at least 65% (lower heating value, or LHV), based on total energy input and total utilized energy output. Mechanical energy may be included in the efficiency evaluation.

Incentives

Eligible Technologies	Size (Installed Rated Capacity)[1]	Incentive ($/kW)	% of Total Cost Cap per Project[3]	$ Cap per Project[3]
Powered by non-renewable or renewable fuel source[4]	≤500 kW	$2,000	30-40%[2]	$2 million
Gas Internal Combustion Engine	>500 kW - 1 MW	$1,000		
Gas Combustion Turbine	> 1 MW - 3 MW	$550	30%	$3 million
Microturbine Fuel Cells with Heat Recovery	>3 MW	$350		
Waste Heat to Power*	<1 MW	$1,000	30%	$2 million
	> 1MW	$500		$3 million

*Waste Heat to Power: Powered by non-renewable fuel source, heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine).

Check the NJCEP website for details on program availability, current incentive levels, and requirements.

How to Participate

You work with a qualified developer or consulting firm to complete the CHP application. Once the application is approved the project can be installed. Information about the CHP program can be found at: www.njcleanenergy.com/CHP.

7.5 Energy Savings Improvement Program

The Energy Savings Improvement Program (ESIP) serves New Jersey's government agencies by financing energy projects. 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. Annual payments are lower than the savings projected from the ECMs, ensuring that ESIP projects are cash flow positive for the life of the contract.

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 described above can also be used to help further reduce the total project cost of eligible measures.

How to Participate

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 used 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. Carefully consider all alternatives to develop an approach that best meets your needs. A detailed program description and application can be found at: www.njcleanenergy.com/ESIP.

ESIP is a program delivered directly by the NJBPU and is not an NJCEP incentive program. As mentioned above, you can use NJCEP incentive programs to help further reduce costs when developing the energy savings plan. Refer to the ESIP guidelines at the link above for further information and guidance on next steps.

7.6 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 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 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 Renewable Portfolio Standard. Purchasing SRECs can help them meet those requirements. As SRECs are traded in a competitive market, the price may vary significantly. The actual price of an SREC during a trading period fluctuates depending on supply and demand.

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

8 Energy Purchasing and Procurement Strategies

8.1 Retail Electric Supply Options

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

If your facility is not purchasing electricity from a third-party supplier, consider shopping for a reduced rate from third-party electric suppliers. If your facility already buys electricity from a third-party supplier, review and compare prices at the end of each contract year.

A list of licensed third-party electric suppliers is available at the NJBPU website[8].

8.2 Retail Natural Gas Supply Options

The natural gas market in New Jersey is also deregulated. Most customers that remain with the utility for natural gas service pay rates that are market-based and that fluctuate monthly. 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 typically depends on whether a customer prefers budget certainty and/or longer-term rate stability. Customers can secure longer-term fixed prices by signing up for service through a third-party retail natural gas supplier. Many larger natural gas customers may seek the assistance of a professional consultant to assist in their procurement process.

If your facility does not already purchase natural gas from a third-party supplier, consider shopping for a reduced rate from third-party natural gas suppliers. If your facility already purchases natural gas from a third-party supplier, review and compare prices at the end of each contract year.

A list of licensed third-party natural gas suppliers is available at the NJBPU website[9].

[8] www.state.nj.us/bpu/commercial/shopping.html.

[9] 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	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	Fixture Recommendation	Add Controls?	Fixture Quantity	Fixture Description	Control System	Watts per Fixture	Annual Operating Hours	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room E15	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1, 2	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	984	0	$149	$489	$0	3.3
Room E15	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Room E112	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$0	2.7
Room E114 - Electrical room	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.1	774	0	$117	$219	$0	1.9
Room E114 - Electrical 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	0.0	0	0	$0	$0	$0	0.0
Room E111	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
Room E110	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$0	2.7
Room E113	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	258	0	$39	$73	$0	1.9
Room E113 A	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
E wing hallway	14	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	14	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.5	1,868	0	$282	$767	$0	2.7
E 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	0.0	0	0	$0	$0	$0	0.0
Receiving area	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$0	2.7
Room E111	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
Storage room	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
Room E106 Gym	24	Linear Fluorescent - T8: 4' T8 (32W) - 6L	Occupancy Sensor	S	176	2,451	1	Relamp	No	24	LED - Linear Tubes: (6) 4' Lamps	Occupancy Sensor	87	2,451	1.5	5,759	-1	$869	$2,629	$0	3.0
Room E106 Gym	5	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	5	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E106E	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
E106G	4	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	173	0	$26	$130	$0	5.0
Boys restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$0	5.0
E106H	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$0	5.0
E106D	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$0	5.0
Girls restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$0	5.0
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
E106A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
Hallway Expo	8	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	S	32	3,552	1, 3	Relamp	Yes	8	LED - Linear Tubes: (1) 4' Lamp	High/Low Control	15	2,451	0.1	688	0	$104	$371	$0	3.6
Entrance	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$0	2.7
Entrance	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Exit 3 hallway	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	979	0	$148	$402	$0	2.7
Exit 3 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	0.0	0	0	$0	$0	$0	0.0
E103	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
E103A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
E104	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
E104A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
E105	16	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	16	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,135	0	$322	$876	$0	2.7
E105A	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Occupancy Sensor	S	32	2,451	1	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,451	0.0	94	0	$14	$37	$0	2.6
E105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E105A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
Boys restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$0	5.0
E100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
E100 H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Girls restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$0	5.0
Cafeteria Hallway	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	890	0	$134	$365	$0	2.7
Cafeteria 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	0.0	0	0	$0	$0	$0	0.0
E 108	45	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	45	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	1.6	6,005	-1	$906	$2,465	$0	2.7
E 108	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E 107	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	534	0	$81	$219	$0	2.7
E 108A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
E 109	17	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	17	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,269	0	$342	$931	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
E 109	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$0	2.7
E 109	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E109B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
E109A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
E109C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
E108B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
E101C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
E101	36	Compact Fluorescent: 4 pin - 4 lamps	Occupancy Sensor	S	104	2,451	1	Relamp	No	36	LED Lamps: 4 pin - 4 lamps	Occupancy Sensor	73	2,451	0.8	3,028	-1	$457	$2,480	$0	5.4
E101	3	Halogen Incandescent: Screw-in 1 lamp	Occupancy Sensor	S	90	2,451	1	Relamp	No	3	LED Lamps: Screw-in 1 lamp	Occupancy Sensor	14	2,451	0.2	619	0	$93	$52	$0	0.6
E101	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Stage	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$0	2.7
Stage	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Stage storage	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	400	0	$60	$164	$0	2.7
E101A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
E101B	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
Exit 14 hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$0	2.7
Main lobby	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	1,068	0	$161	$438	$0	2.7
Main lobby	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Exit 15 hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$0	2.7
Exit 15 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	0.0	0	0	$0	$0	$0	0.0
A101	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$0	2.7
A101	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
A102	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A101D	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
A101E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
A101G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
A101C	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A101B	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A103	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,335	0	$201	$548	$0	2.7
A101	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$0	2.7
A103	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,335	0	$201	$548	$0	2.7
A101	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$0	2.7
A101C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
A104	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	445	0	$67	$183	$0	2.7
A104A	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	445	0	$67	$183	$0	2.7
A104I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
A104H	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A104G	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A104F	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A104E	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A104B	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$0	2.7
A104D	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$0	2.7
A104J	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
A104C	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
A104	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Center hallway	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	1,068	0	$161	$438	$0	2.7
Center 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	0.0	0	0	$0	$0	$0	0.0
B wing hallway	22	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	22	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.5	1,957	0	$295	$803	$0	2.7
B wing hallway	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
B114	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B100 I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
B111	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B106J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
B109	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B112	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B107	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B110	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B100H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
B108	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B105	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.5	2,002	0	$302	$822	$0	2.7
B100K	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	3,552	0.0	63	0	$9	$33	$0	3.4
B105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
B105A	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	400	0	$60	$164	$0	2.7
B100F	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
B106	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B104	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B103	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
B100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
B100G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0
B100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Boys restroom	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$0	2.7
B102	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$0	2.7
B102A	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$0	5.0
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
Hallway display	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	S	32	3,552	1, 3	Relamp	Yes	4	LED - Linear Tubes: (1) 4' Lamp	High/Low Control	15	2,451	0.1	344	0	$52	$298	$0	5.7
B100L	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Hallway display	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1, 3	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,451	0.2	984	0	$149	$444	$0	3.0
C wing hallway	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.5	1,690	0	$255	$694	$0	2.7
C wing hallway	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
C 213	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 212	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 210	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 211	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 208	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 209	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 206	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 204 B	8	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	8	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.3	1,068	0	$161	$438	$0	2.7
C 204 A	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
C 207	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
Restroom	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$0	5.0
C 205	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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 204	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
C 203	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
C 202C	9	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	9	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.3	1,201	0	$181	$493	$0	2.7
C 202B	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
C 201	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$0	2.7
C 201A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C 201B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Boys restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0
C 200E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0
C200G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
C200L	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C200M	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C200K	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
C200J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C200N	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C200H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
C202A	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$0	2.7
C202A	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Occupancy Sensor	S	32	2,451	1	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,451	0.0	94	0	$14	$37	$0	2.6
D wing hallway	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,601	0	$242	$657	$0	2.7
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	0.0	0	0	$0	$0	$0	0.0
D 315	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D 310	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
D 308	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D 313	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D300K	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D300J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D300I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D300H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D306	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D311	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D304	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D302	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D302B	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$0	2.7
D302A	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$0	2.7
D200M	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D300G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D307	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
D300F	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$0	1.9
D305	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$0	2.7
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0
Boys restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$0	5.0
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$0	5.0
D300E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
D303	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$0	2.7
D303A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7
D303B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$0	2.7

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
D301	16	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	16	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,135	0	$322	$876	$0	2.7
A106	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$0	2.7
A105	46	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	46	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	1.1	4,092	-1	$618	$1,680	$0	2.7
A105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
A105A	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$0	2.7
A105B	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$0	2.7
Exterior from parking lot	6	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock		80	4,368		None	No	6	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	80	4,368	0.0	0	0	$0	$0	$0	0.0
Exterior wall pack	77	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock		80	4,368		None	No	77	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	80	4,368	0.0	0	0	$0	$0	$0	0.0
Pole lighting	79	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock		160	4,368		None	No	79	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	160	4,368	0.0	0	0	$0	$0	$0	0.0
Bridgeway	11	LED - Fixtures: Low-Bay	Timeclock		35	4,368		None	No	11	LED - Fixtures: Low-Bay	Timeclock	35	4,368	0.0	0	0	$0	$0	$0	0.0
Sign light	2	LED - Fixtures: Other	Timeclock		54	4,368		None	No	2	LED - Fixtures: Other	Timeclock	54	4,368	0.0	0	0	$0	$0	$0	0.0
Pole lighting	11	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Photocell		160	4,380		None	No	11	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Photocell	160	4,380	0.0	0	0	$0	$0	$0	0.0

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?	Remaining Useful Life	Annual Operating Hours	ECM #	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	Boiler room	1	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	2	Exhaust Fan	0.2	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Kitchen Hood Exhaust Fan	3.0	87.5%	No	N	5,250		No	87.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Classroom	2	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	2	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
E15 - GLP 1,2	Geothermal	2	Water-Source Heat Pump Circulation Pump	30.0	94.1%	Yes	N	4,067		No	94.1%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-2	1	Supply Fan	5.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-2	1	Exhaust Fan	3.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 1	1	Supply Fan	1.5	86.5%	No	N	2,745		No	86.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 2	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 3	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0

		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?	Remaining Useful Life	Annual Operating Hours	ECM #	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	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-1	1	Supply Fan	5.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-1	1	Exhaust Fan	3.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Exhaust Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	DOAS-3	1	Supply Fan	7.5	91.7%	No	N	3,391	4	No	91.7%	Yes	1	2.1	7,759	0	$1,190	$4,761	$0	4.0
Roof	DOAS-3	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$0	6.4
Roof	ERU-6	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$0	9.7
Roof	ERU-6	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$0	13.3
Roof	DOAS-2	1	Supply Fan	7.5	91.7%	No	N	3,391	4	No	91.7%	Yes	1	2.1	7,759	0	$1,190	$4,761	$0	4.0
Roof	DOAS-2	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$0	6.4
Roof	DOAS-2	1	Supply Fan	5.0	91.7%	No	N	2,745	4	No	91.7%	Yes	1	1.4	4,187	0	$642	$4,197	$0	6.5
Roof	DOAS-2	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$0	6.4
Roof	ERU-4	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$0	9.7
Roof	ERU-4	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$0	13.3
Roof	ERU-3	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$0	9.7
Roof	ERU-3	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$0	13.3
ERVs	ERVs	13	Supply Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Various spaces	Various spaces	84	Supply Fan	0.3	60.0%	No	N	3,600		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Boiler room	DHW	1	Water Supply Pump	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0

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 (MBh)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (MBh)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	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	Mech room	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Custodian Lounge	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Custodian office	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Packaged AC	16.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Cafeteria	1	Packaged AC	7.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Storage room	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	16.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	6.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Main office	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	25.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	11.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	25.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Packaged AC	18.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym	2	Packaged AC	11.00		N		No							0.0	0	0	$0	$0	$0	0.0

		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)	Remaining Useful Life	ECM #	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)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room E15	Room E15	1	Electric Resistance Heat		17.06	N		No							0.0	0	0	$0	$0	$0	0.0
Room E14	Room E14	1	Electric Resistance Heat		17.06	N		No							0.0	0	0	$0	$0	$0	0.0
Exit door 8	Exit door 8	1	Electric Resistance Heat		27.29	N		No							0.0	0	0	$0	$0	$0	0.0
E100G	E100G	1	Water Source HP	4.00	36.10	N		No							0.0	0	0	$0	$0	$0	0.0
E100G	E100G	1	Water Source HP	2.50	18.20	N		No							0.0	0	0	$0	$0	$0	0.0
A101G	A101G	1	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100I	B100I	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100J	B100J	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
B100H	B100H	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100K	B100K	1	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
B100G	B100G	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200G	C200G	1	Water Source HP	1.00	9.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200G	C200G	1	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
C200L	C200L	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200M	C200M	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200K	C200K	1	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200J	C200J	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200N	C200N	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200H	C200H	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
D300K	D300K	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0

		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)	Remaining Useful Life	ECM #	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)	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
D300J	D300J	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
D300M	D300M	2	Water Source HP	2.50	18.20	N		No							0.0	0	0	$0	$0	$0	0.0
D300F	D300F	2	Water Source HP	1.25	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
All other spaces	All other spaces	56	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0

Fuel Heating Inventory & Recommendations

Demand Control Ventilation Recommendations

		Recommendation Inputs					Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Affected	ECM #	Number of Zones	Cooling Capacity of Controlled System (Tons)	Electric Heating Capacity of Controlled System (kBtu/hr)	Output Heating Capacity of Controlled System (MBh)	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	Gym	5	4.00	22.00		312.00	0.0	661	17	$305	$5,438	$0	17.8

DHW Inventory & Recommendations

		Existing Conditions			Proposed Conditions							Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Remaining Useful Life	ECM #	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
Room E15	Restroom and kitchen	2	Storage Tank Water Heater (> 50 Gal)	N		No						0.0	0	0	$0	$0	$0	0.0

Walk-In Cooler/Freezer Inventory & Recommendations

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

Commercial Refrigerator/Freezer Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Refrigerator/ Freezer Type	ENERGY STAR Qualified?	ECM #	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	Stand-Up Refrigerator, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Stand-Up Freezer, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Stand-Up Refrigerator, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	2	Refrigerator Chest	Yes		No	0.0	0	0	$0	$0	$0	0.0

Commercial Ice Maker Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Ice Maker Type	ENERGY STAR Qualified?	ECM #	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	0.0	0	0	$0	$0	$0	0.0

Cooking Equipment Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Equipment Type	High Efficiency Equipement?	ECM #	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	1	Insulated Food Holding Cabinet (1/2 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Insulated Food Holding Cabinet (1/2 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Steamer	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Steamer	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Insulated Food Holding Cabinet (3/4 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0

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?	ECM #	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	Single Tank Conveyor (High Temp)	Natural Gas	Electric	Yes		No	0.0	0	0	$0	$0	$0	0.0

Plug Load Inventory

	Existing Conditions			
Location	Quantity	Equipment Description	Energy Rate (W)	ENERGY STAR Qualified?
SGT Dominick PMS	9	Microwave	900.0	Yes
SGT Dominick PMS	7	Refrierator	200.0	Yes
SGT Dominick PMS	8	Coffee Machine	400.0	Yes
SGT Dominick PMS	5	Small Refrigerator	70.0	Yes
SGT Dominick PMS	1	Kiln	11,520.0	Yes
SGT Dominick PMS	1	Electric booster pump	36,000.0	Yes
SGT Dominick PMS	1	Washing machine	900.0	Yes
SGT Dominick PMS	1	Dryer	1,200.0	Yes
SGT Dominick PMS	1	Electric range	3,000.0	Yes
SGT Dominick PMS	20	Desktops	145.0	Yes
SGT Dominick PMS	10	Printers - Small	60.0	Yes
SGT Dominick PMS	800	Laptops	75.0	Yes

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
E106A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
Hallway Expo	8	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	S	32	3,552	1, 3	Relamp	Yes	8	LED - Linear Tubes: (1) 4' Lamp	High/Low Control	15	2,451	0.1	688	0	$104	$371	$80	2.8
Entrance	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$60	1.2
Entrance	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Exit 3 hallway	11	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	11	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	979	0	$148	$402	$220	1.2
Exit 3 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	0.0	0	0	$0	$0	$0	0.0
E103	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
E103A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
E104	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
E104A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
E105	16	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	16	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,135	0	$322	$876	$480	1.2
E105A	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Occupancy Sensor	S	32	2,451	1	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,451	0.0	94	0	$14	$37	$20	1.2
E105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E105A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
Boys restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$60	3.2
E100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
E100 H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Girls restroom	5	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.1	216	0	$33	$163	$60	3.2
Cafeteria Hallway	10	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	10	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	890	0	$134	$365	$200	1.2
Cafeteria 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	0.0	0	0	$0	$0	$0	0.0
E 108	45	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	45	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	1.6	6,005	-1	$906	$2,465	$1,350	1.2
E 108	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E 107	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	6	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	534	0	$81	$219	$120	1.2
E 108A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
E 109	17	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	17	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,269	0	$342	$931	$510	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
E 109	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$80	1.2
E 109	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
E109B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
E109A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
E109C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
E108B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
E101C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
E101	36	Compact Fluorescent: 4 pin - 4 lamps	Occupancy Sensor	S	104	2,451	1	Relamp	No	36	LED Lamps: 4 pin - 4 lamps	Occupancy Sensor	73	2,451	0.8	3,028	-1	$457	$2,480	$288	4.8
E101	3	Halogen Incandescent: Screw-in 1 lamp	Occupancy Sensor	S	90	2,451	1	Relamp	No	3	LED Lamps: Screw-in 1 lamp	Occupancy Sensor	14	2,451	0.2	619	0	$93	$52	$6	0.5
E101	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Stage	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$160	1.2
Stage	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Stage storage	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	400	0	$60	$164	$90	1.2
E101A	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
E101B	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
Exit 14 hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$160	1.2
Main lobby	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	1,068	0	$161	$438	$240	1.2
Main lobby	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Exit 15 hallway	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$160	1.2
Exit 15 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	0.0	0	0	$0	$0	$0	0.0
A101	8	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	8	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.2	712	0	$107	$292	$160	1.2
A101	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
A102	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A101D	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$60	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
A101E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
A101G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
A101C	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A101B	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A103	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,335	0	$201	$548	$300	1.2
A101	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$120	1.2
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$60	1.2
A103	15	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	15	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,335	0	$201	$548	$300	1.2
A101	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$120	1.2
A101A	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$60	1.2
A101C	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
A104	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	445	0	$67	$183	$100	1.2
A104A	5	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	5	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	445	0	$67	$183	$100	1.2
A104I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
A104H	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A104G	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A104F	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A104E	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A104B	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$60	1.2
A104D	2	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	178	0	$27	$73	$40	1.2
A104J	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
A104C	2	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	2	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	267	0	$40	$110	$60	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
A104	1	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	1	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
Center hallway	12	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	12	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.3	1,068	0	$161	$438	$240	1.2
Center 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	0.0	0	0	$0	$0	$0	0.0
B wing hallway	22	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	22	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.5	1,957	0	$295	$803	$440	1.2
B wing hallway	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
B114	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B100 I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
B111	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B106J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
B109	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B112	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B107	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B110	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B100H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
B108	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B105	15	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	15	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.5	2,002	0	$302	$822	$450	1.2
B100K	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Wall Switch	S	33	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Wall Switch	17	3,552	0.0	63	0	$9	$33	$12	2.2
B105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
B105A	3	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	3	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	400	0	$60	$164	$90	1.2
B100F	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
B106	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B104	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B103	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
B100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
B100G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2
B100E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Boys restroom	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$60	1.2
B102	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$180	1.2
B102A	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$24	3.2
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
Hallway display	4	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Wall Switch	S	32	3,552	1, 3	Relamp	Yes	4	LED - Linear Tubes: (1) 4' Lamp	High/Low Control	15	2,451	0.1	344	0	$52	$298	$40	5.0
B100L	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Hallway display	6	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1, 3	Relamp	Yes	6	LED - Linear Tubes: (2) 4' Lamps	High/Low Control	29	2,451	0.2	984	0	$149	$444	$120	2.2
C wing hallway	19	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	19	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.5	1,690	0	$255	$694	$380	1.2
C wing hallway	4	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	4	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
C 213	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 212	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 210	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 211	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 208	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 209	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 206	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 204 B	8	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	8	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.3	1,068	0	$161	$438	$240	1.2
C 204 A	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$120	1.2
C 207	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
Restroom	2	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	2	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	86	0	$13	$65	$24	3.2
C 205	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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 204	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
C 203	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
C 202C	9	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	9	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.3	1,201	0	$181	$493	$270	1.2
C 202B	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$120	1.2
C 201	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$180	1.2
C 201A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C 201B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Boys restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2
C 200E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2
C200G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
C200L	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C200M	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C200K	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
C200J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C200N	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C200H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
C202A	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$80	1.2
C202A	2	Linear Fluorescent - T8: 4' T8 (32W) - 1L	Occupancy Sensor	S	32	2,451	1	Relamp	No	2	LED - Linear Tubes: (1) 4' Lamp	Occupancy Sensor	15	2,451	0.0	94	0	$14	$37	$20	1.2
D wing hallway	18	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	18	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.4	1,601	0	$242	$657	$360	1.2
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	0.0	0	0	$0	$0	$0	0.0
D 315	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D 310	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
D 308	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D 313	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D300K	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D300J	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D300I	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D300H	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D306	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D311	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D304	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D302	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D302B	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$180	1.2
D302A	4	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	4	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.1	534	0	$81	$219	$120	1.2
D200M	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D300G	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D307	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
D300F	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Wall Switch	S	62	3,552	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Wall Switch	29	3,552	0.0	129	0	$19	$37	$20	0.8
D305	12	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	12	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.4	1,601	0	$242	$657	$360	1.2
Girls restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2
Boys restroom	3	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	129	0	$20	$98	$36	3.2
Men's Restroom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
Women's Restoom	1	Linear Fluorescent - T8: 2' T8 (17W) - 2L	Occupancy Sensor	S	33	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 2' Lamps	Occupancy Sensor	17	2,451	0.0	43	0	$7	$33	$12	3.2
D300E	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
D303	6	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	6	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.2	801	0	$121	$329	$180	1.2
D303A	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2
D303B	1	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	1	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.0	89	0	$13	$37	$20	1.2

	Existing Conditions						Proposed Conditions								Energy Impact & Financial Analysis						
Location	Fixture Quantity	Fixture Description	Control System	Light Level	Watts per Fixture	Annual Operating Hours	ECM #	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
D301	16	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	16	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.6	2,135	0	$322	$876	$480	1.2
A106	3	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	3	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	267	0	$40	$110	$60	1.2
A105	46	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	46	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	1.1	4,092	-1	$618	$1,680	$920	1.2
A105	2	Exit Signs: LED - 2 W Lamp	None		6	8,760		None	No	2	Exit Signs: LED - 2 W Lamp	None	6	8,760	0.0	0	0	$0	$0	$0	0.0
A105A	4	Linear Fluorescent - T8: 4' T8 (32W) - 2L	Occupancy Sensor	S	62	2,451	1	Relamp	No	4	LED - Linear Tubes: (2) 4' Lamps	Occupancy Sensor	29	2,451	0.1	356	0	$54	$146	$80	1.2
A105B	1	Linear Fluorescent - T8: 4' T8 (32W) - 3L	Occupancy Sensor	S	93	2,451	1	Relamp	No	1	LED - Linear Tubes: (3) 4' Lamps	Occupancy Sensor	44	2,451	0.0	133	0	$20	$55	$30	1.2
Exterior from parking lot	6	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock		80	4,368		None	No	6	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	80	4,368	0.0	0	0	$0	$0	$0	0.0
Exterior wall pack	77	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock		80	4,368		None	No	77	LED - Fixtures: Outdoor Wall-Mounted Area Fixture	Timeclock	80	4,368	0.0	0	0	$0	$0	$0	0.0
Pole lighting	79	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock		160	4,368		None	No	79	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Timeclock	160	4,368	0.0	0	0	$0	$0	$0	0.0
Bridgeway	11	LED - Fixtures: Low-Bay	Timeclock		35	4,368		None	No	11	LED - Fixtures: Low-Bay	Timeclock	35	4,368	0.0	0	0	$0	$0	$0	0.0
Sign light	2	LED - Fixtures: Other	Timeclock		54	4,368		None	No	2	LED - Fixtures: Other	Timeclock	54	4,368	0.0	0	0	$0	$0	$0	0.0
Pole lighting	11	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Photocell		160	4,380		None	No	11	LED - Fixtures: Outdoor Pole/Arm-Mounted Area/Roadway Fixture	Photocell	160	4,380	0.0	0	0	$0	$0	$0	0.0

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?	Remaining Useful Life	Annual Operating Hours	ECM #	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	Boiler room	1	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	2	Exhaust Fan	0.2	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Kitchen Hood Exhaust Fan	3.0	87.5%	No	N	5,250		No	87.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Classroom	2	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Restroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	2	Exhaust Fan	0.5	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Science classroom	1	Exhaust Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
E15 - GLP 1,2	Geothermal	2	Water-Source Heat Pump Circulation Pump	30.0	94.1%	Yes	N	4,067		No	94.1%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-2	1	Supply Fan	5.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-2	1	Exhaust Fan	3.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 1	1	Supply Fan	1.5	86.5%	No	N	2,745		No	86.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 2	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 3	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0

		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?	Remaining Useful Life	Annual Operating Hours	ECM #	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	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-1	1	Supply Fan	5.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	ERU-1	1	Exhaust Fan	3.0	89.5%	No	N	2,745		No	89.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Supply Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Exhaust Fan	1.0	85.5%	No	N	2,745		No	85.5%	No		0.0	0	0	$0	$0	$0	0.0
Roof	DOAS-3	1	Supply Fan	7.5	91.7%	No	N	3,391	4	No	91.7%	Yes	1	2.1	7,759	0	$1,190	$4,761	$1,200	3.0
Roof	DOAS-3	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$800	5.2
Roof	ERU-6	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$480	8.4
Roof	ERU-6	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$320	12.1
Roof	DOAS-2	1	Supply Fan	7.5	91.7%	No	N	3,391	4	No	91.7%	Yes	1	2.1	7,759	0	$1,190	$4,761	$1,200	3.0
Roof	DOAS-2	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$800	5.2
Roof	DOAS-2	1	Supply Fan	5.0	91.7%	No	N	2,745	4	No	91.7%	Yes	1	1.4	4,187	0	$642	$4,197	$800	5.3
Roof	DOAS-2	1	Exhaust Fan	5.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	1.5	4,290	0	$658	$4,197	$800	5.2
Roof	ERU-4	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$480	8.4
Roof	ERU-4	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$320	12.1
Roof	ERU-3	1	Supply Fan	3.0	89.5%	No	N	2,745	4	No	89.5%	Yes	1	0.9	2,574	0	$395	$3,812	$480	8.4
Roof	ERU-3	1	Exhaust Fan	2.0	86.5%	No	N	2,745	4	No	86.5%	Yes	1	0.6	1,776	0	$272	$3,623	$320	12.1
ERVs	ERVs	13	Supply Fan	0.3	60.0%	No	N	2,745		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0
Various spaces	Various spaces	84	Supply Fan	0.3	60.0%	No	N	3,600		No	60.0%	No		0.0	0	0	$0	$0	$0	0.0

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 (MBh)	Remaining Useful Life	ECM #	Install High Efficiency System?	System Quantity	System Type	Cooling Capacity per Unit (Tons)	Heating Capacity per Unit (MBh)	Cooling Mode Efficiency (SEER/EER)	Heating Mode Efficiency (COP)	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	Mech room	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Custodian Lounge	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Custodian office	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Packaged AC	16.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Cafeteria	1	Packaged AC	7.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Storage room	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	16.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	3.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Packaged AC	6.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Main office	1	Ductless Mini-Split HP	1.50	19.20	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	25.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	11.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Unknown	1	Packaged AC	25.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Ductless Mini-Split HP	1.00	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Office	1	Packaged AC	18.00		N		No							0.0	0	0	$0	$0	$0	0.0
Roof	Gym	2	Packaged AC	11.00		N		No							0.0	0	0	$0	$0	$0	0.0

		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)	Remaining Useful Life	ECM #	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)	Total Peak kW Savings	Total Annual kWh Savings	Total Annual MMBtu Savings	Total Annual Energy Cost Savings	Total Installation Cost	Total Incentives	Simple Payback w/ Incentives in Years
Room E15	Room E15	1	Electric Resistance Heat		17.06	N		No							0.0	0	0	$0	$0	$0	0.0
Room E14	Room E14	1	Electric Resistance Heat		17.06	N		No							0.0	0	0	$0	$0	$0	0.0
Exit door 8	Exit door 8	1	Electric Resistance Heat		27.29	N		No							0.0	0	0	$0	$0	$0	0.0
E100G	E100G	1	Water Source HP	4.00	36.10	N		No							0.0	0	0	$0	$0	$0	0.0
E100G	E100G	1	Water Source HP	2.50	18.20	N		No							0.0	0	0	$0	$0	$0	0.0
A101G	A101G	1	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100I	B100I	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100J	B100J	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
B100H	B100H	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
B100K	B100K	1	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
B100G	B100G	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200G	C200G	1	Water Source HP	1.00	9.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200G	C200G	1	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
C200L	C200L	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200M	C200M	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200K	C200K	1	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200J	C200J	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200N	C200N	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
C200H	C200H	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0
D300K	D300K	2	Water Source HP	1.50	14.40	N		No							0.0	0	0	$0	$0	$0	0.0

		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)	Remaining Useful Life	ECM #	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)	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
D300J	D300J	2	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0
D300M	D300M	2	Water Source HP	2.50	18.20	N		No							0.0	0	0	$0	$0	$0	0.0
D300F	D300F	2	Water Source HP	1.25	12.00	N		No							0.0	0	0	$0	$0	$0	0.0
All other spaces	All other spaces	56	Water Source HP	2.00	24.20	N		No							0.0	0	0	$0	$0	$0	0.0

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)	Remaining Useful Life	ECM #	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
Roof	Kitchen MAU 1	1	Furnace	240.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 2	1	Furnace	120.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen MAU 3	1	Furnace	120.00	N		No						0.0	0	0	$0	$0	$0	0.0
Mech room E 15	Heating system	1	Condensing Hot Water Boiler	950.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Kitchen	1	Furnace	218.70	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Storage room	1	Furnace	120.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Furnace	81.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Furnace	81.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Furnace	218.70	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Furnace	81.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	Gym office	1	Furnace	72.90	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	DOAS-3	1	Furnace	328.10	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	ERU-6	1	Furnace	156.00	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	DOAS-2	1	Furnace	328.10	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	DOAS-1	1	Furnace	328.10	N		No						0.0	0	0	$0	$0	$0	0.0
Roof	ERU 3,4 - Gym	2	Furnace	156.00	N		No						0.0	0	0	$0	$0	$0	0.0

Demand Control Ventilation Recommendations

		Recommendation Inputs					Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Affected	ECM #	Number of Zones	Cooling Capacity of Controlled System (Tons)	Electric Heating Capacity of Controlled System (kBtu/hr)	Output Heating Capacity of Controlled System (MBh)	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	Gym	5	4.00	22.00		312.00	0.0	661	17	$305	$5,438	$0	17.8

DHW Inventory & Recommendations

		Existing Conditions			Proposed Conditions							Energy Impact & Financial Analysis						
Location	Area(s)/System(s) Served	System Quantity	System Type	Remaining Useful Life	ECM #	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
Room E15	Restroom and kitchen	2	Storage Tank Water Heater (> 50 Gal)	N		No						0.0	0	0	$0	$0	$0	0.0

Walk-In Cooler/Freezer Inventory & Recommendations

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

Commercial Refrigerator/Freezer Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Refrigerator/ Freezer Type	ENERGY STAR Qualified?	ECM #	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	Stand-Up Refrigerator, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Stand-Up Freezer, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Stand-Up Refrigerator, Solid Door (16 - 30 cu. ft.)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	2	Refrigerator Chest	Yes		No	0.0	0	0	$0	$0	$0	0.0

Commercial Ice Maker Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Ice Maker Type	ENERGY STAR Qualified?	ECM #	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	0.0	0	0	$0	$0	$0	0.0

Cooking Equipment Inventory & Recommendations

	Existing Conditions			Proposed Conditions		Energy Impact & Financial Analysis						
Location	Quantity	Equipment Type	High Efficiency Equipement?	ECM #	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	1	Insulated Food Holding Cabinet (1/2 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Insulated Food Holding Cabinet (1/2 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Convection Oven (Half Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Steamer	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Gas Steamer	Yes		No	0.0	0	0	$0	$0	$0	0.0
Kitchen	1	Insulated Food Holding Cabinet (3/4 Size)	Yes		No	0.0	0	0	$0	$0	$0	0.0

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?	ECM #	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	Single Tank Conveyor (High Temp)	Natural Gas	Electric	Yes		No	0.0	0	0	$0	$0	$0	0.0

Plug Load Inventory

	Existing Conditions			
Location	Quantity	Equipment Description	Energy Rate (W)	ENERGY STAR Qualified?
SGT Dominick PMS	9	Microwave	900.0	Yes
SGT Dominick PMS	7	Refrierator	200.0	Yes
SGT Dominick PMS	8	Coffee Machine	400.0	Yes
SGT Dominick PMS	5	Small Refrigerator	70.0	Yes
SGT Dominick PMS	1	Kiln	11,520.0	Yes
SGT Dominick PMS	1	Electric booster pump	36,000.0	Yes
SGT Dominick PMS	1	Washing machine	900.0	Yes
SGT Dominick PMS	1	Dryer	1,200.0	Yes
SGT Dominick PMS	1	Electric range	3,000.0	Yes
SGT Dominick PMS	20	Desktops	145.0	Yes
SGT Dominick PMS	10	Printers - Small	60.0	Yes
SGT Dominick PMS	800	Laptops	75.0	Yes

APPENDIX B: ENERGY STAR® STATEMENT OF ENERGY PERFORMANCE

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.

LEARN MORE AT energystar.gov

ENERGY STAR® Statement of Energy Performance

17

ENERGY STAR® Score[1]

Sgt. Dominick Pilla Middle School

Primary Property Type: K-12 School
Gross Floor Area (ft²): 99,000
Built: 2018

For Year Ending: March 31, 2019
Date Generated: October 17, 2019

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
Sgt. Dominick Pilla Middle School 3133 S. Lincoln Avenue Vineland, New Jersey 08360	Vineland Public Schools 61 W. Landis Avenue Vineland, NJ 08360 (856) 794-6700	Gene Mercoli 61 W. Landis Avenue Vineland, NJ 08360 856-794-6700, ext. 2226 wweaver@vineland.org

Property ID: 7566454

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
97.1 kBtu/ft²

Source EUI
183.7 kBtu/ft²

Annual Energy by Fuel	
Natural Gas (kBtu)	4,981,751 (52%)
Electric - Grid (kBtu)	4,627,159 (48%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	68.2
National Median Source EUI (kBtu/ft²)	129
% Diff from National Median Source EUI	42%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	733

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)

APPENDIX C: GLOSSARY

TERM	DEFINITION
Blended Rate	Used to calculate fiscal savings associated with measures. The blended rate is calculated by dividing the amount of your bill by the total energy use. For example, if your bill is $22,217.22, and you used 266,400 kilowatt-hours, your blended rate is 8.3 cents per kilowatt-hour.
Btu	*British thermal unit*: a unit of energy equal to the amount of heat required to increase the temperature of one pound of water by one-degree Fahrenheit.
CHP	*Combined heat and power*. Also referred to as cogeneration.
COP	*Coefficient of performance*: a measure of efficiency in terms of useful energy delivered divided by total energy input.
Demand Response	Demand response reduces or shifts electricity usage at or among participating buildings/sites during peak energy use periods in response to time-based rates or other forms of financial incentives.
DCV	*Demand control ventilation*: a control strategy to limit the amount of outside air introduced to the conditioned space based on actual occupancy need.
US DOE	*United States Department of Energy*
EC Motor	*Electronically commutated motor*
ECM	*Energy conservation measure*
EER	*Energy efficiency ratio*: a measure of efficiency in terms of cooling energy provided divided by electric input.
EUI	*Energy Use Intensity:* measures energy consumption per square foot and is a standard metric for comparing buildings' energy performance.
Energy Efficiency	Reducing the amount of energy necessary to provide comfort and service to a building/area. Achieved through the installation of new equipment and/or optimizing the operation of energy use systems. Unlike conservation, which involves some reduction of service, energy efficiency provides energy reductions without sacrifice of service.
ENERGY STAR®	ENERGY STAR® is the government-backed symbol for energy efficiency. The ENERGY STAR® program is managed by the EPA.
EPA	*United States Environmental Protection Agency*
Generation	The process of generating electric power from sources of primary energy (e.g., natural gas, the sun, oil).
GHG	*Greenhouse gases:* gases that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.
gpf	*Gallons per flush*

gpm	*Gallon per minute*
HID	*High intensity discharge:* high-output lighting lamps such as high-pressure sodium, metal halide, and mercury vapor.
hp	*Horsepower*
HPS	*High-pressure sodium*: a type of HID lamp
HSPF	*Heating seasonal performance factor:* a measure of efficiency typically applied to heat pumps. Heating energy provided divided by seasonal energy input.
HVAC	*Heating, ventilating, and air conditioning*
IHP 2014	US DOE Integral Horsepower rule. The current ruling regarding required electric motor efficiency.
IPLV	*Integrated part load value:* a measure of the part load efficiency usually applied to chillers.
kBtu	One thousand British thermal units
kW	*Kilowatt*: equal to 1,000 Watts.
kWh	*Kilowatt-hour*: 1,000 Watts of power expended over one hour.
LED	*Light emitting diode*: a high-efficiency source of light with a long lamp life.
LGEA	*Local Government Energy Audit*
Load	The total power a building or system is using at any given time.
Measure	A single activity, or installation of a single type of equipment, that is implemented in a building system to reduce total energy consumption.
MH	*Metal halide*: a type of HID lamp
MBh	*Thousand Btu per hour*
MBtu	*One thousand British thermal units*
MMBtu	*One million British thermal units*
MV	*Mercury Vapor:* a type of HID lamp
NJBPU	*New Jersey Board of Public Utilities*
NJCEP	*New Jersey's Clean Energy Program:* NJCEP is a statewide program that offers financial incentives, programs and services for New Jersey residents, business owners and local governments to help them save energy, money and the environment.
psig	Pounds per square inch gauge
Plug Load	Refers to the amount of power used in a space by products that are powered by means of an ordinary AC plug.
PV	*Photovoltaic:* refers to an electronic device capable of converting incident light directly into electricity (direct current).

SEER	*Seasonal energy efficiency ratio:* a measure of efficiency in terms of annual cooling energy provided divided by total electric input.
SEP	*Statement of energy performance:* a summary document from the ENERGY STAR® Portfolio Manager®.
Simple Payback	The amount of time needed to recoup the funds expended in an investment or to reach the break-even point between investment and savings.
SREC	*Solar renewable energy credit*: a credit you can earn from the state for energy produced from a photovoltaic array.
T5, T8, T12	A reference to a linear lamp diameter. The number represents increments of 1/8th of an inch.
Temperature Setpoint	The temperature at which a temperature regulating device (thermostat, for example) has been set.
therm	100,000 Btu. Typically used as a measure of natural gas consumption.
tons	A unit of cooling capacity equal to 12,000 Btu/hr.
Turnkey	Provision of a complete product or service that is ready for immediate use
VAV	*Variable air volume*
VFD	*Variable frequency drive*: a controller used to vary the speed of an electric motor.
WaterSense®	The symbol for water efficiency. The WaterSense® program is managed by the EPA.
Watt (W)	Unit of power commonly used to measure electricity use.