

CAMDEN COUNTY BOARD OF FREEHOLDERS

CITY HALL

52 Market Street, Camden, NJ 08102

**LOCAL GOVERNMENT ENERGY AUDIT PROGRAM
FOR
NEW JERSEY
BOARD OF PUBLIC UTILITIES**

July 2014

Prepared by:



6 Campus Drive
Parsippany, NJ 07054
(973) 538-2120

CHA PROJECT NO. 28470

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	1
	BUILDING INFORMATION AND EXISTING CONDITIONS	4
	UTILITIES	8
1.0	BENCHMARKING.....	11
2.0	ENERGY CONSERVATION MEASURES.....	12
3.0	ECM-1 Install Gas-Fired Condensing Boilers to Supplement the WSHP loop	13
4.0	ECM-2 Replace Existing Heat pumps with High Efficiency Heat Pumps	13
5.0	ECM-3 Replace Cooling Tower and Install VFDs on Fan Motors.....	14
	ECM-4 Install Premium Efficiency Motors and VFDs on Heat Pump Loop Motors.....	14
	ECM-5 Install Window A/C Controllers	15
	ECM-6 Install Vending Misers	15
	ECM-7 Replace Electric DHW Heaters with Gas-Fired Condensing Heaters.....	16
	ECM-8 Install Low Flow Plumbing Fixtures	16
	ECM-L1 Lighting Replacement / Upgrades	17
	ECM-L2 Install Lighting Controls (Occupancy Sensors)	17
	ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)	18
	Additional O&M Opportunities.....	18
6.0	PROJECT INCENTIVES	20
	Incentives Overview.....	20
	New Jersey Smart Start Program.....	20
	Direct Install Program	20
	New Jersey Pay For Performance Program (P4P).....	21
	Energy Savings Improvement Plan	22
7.0	Renewable Energy Incentive Program.....	23
	ALTERNATIVE ENERGY SCREENING EVALUATION	24
	Solar	24
	Photovoltaic Rooftop Solar Power Generation	24
	Solar Thermal Hot Water Generation.....	25
	Wind Powered Turbines	25

7.3	Combined Heat and Power Plant.....	26
7.4	Demand Response Curtailment	27
	CONCLUSIONS & RECOMMENDATIONS.....	28

APPENDICES

8.0	A	Utility Usage Analysis and List of Third Party Energy Suppliers
	B	Equipment Inventory
	C	ECM Calculations and Cost Estimates
	D	New Jersey BPU Incentive Programs
		i. Smart Start
		ii. Direct Install
		iii. Pay For Performance Incentive Program (P4P)
		iv. Energy Savings Improvement Plan (ESIP)
	E	Photovoltaic (PV) Solar Power Generation Analysis
	F	EPA Benchmarking Report

REPORT DISCLAIMER

This audit was conducted in accordance with the standards developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) for a Level II audit. Cost and savings calculations for a given measure were estimated to within $\pm 20\%$, and are based on data obtained from the owner, data obtained during site observations, professional experience, historical data, and standard engineering practice. Cost data does not include soft costs such as engineering fees, legal fees, project management fees, financing, etc.

A thorough walkthrough of the building was performed, which included gathering nameplate information and operating parameters for all accessible equipment and lighting systems. Unless otherwise stated, model, efficiency, and capacity information included in this report were collected directly from equipment nameplates and /or from documentation provided by the owner during the site visit. Typical operation and scheduling information was obtained from interviewing staff and spot measurements taken in the field.

List of Common Energy Audit Abbreviations

- A/C – Air Conditioning
- AHS – Air Handling Unit
- BMS – Building Management System
- Btu – British thermal unit
- CDW – Condenser Water
- CFM – Cubic feet per minute
- CHW – Chilled Water
- DCV – Demand Control Ventilation
- DDC – Direct Digital Control
- DHW – Domestic Hot Water
- DX – Direct Expansion
- EER – Energy Efficiency Ratio
- EF – Exhaust Fan
- EUI – Energy Use Intensity
- Gal – Gallon
- GPD – Gallons per day
- GPF – Gallons Per Flush
- GPH – Gallons per hour
- GPM – Gallons per minute
- GPS – Gallons per second
- HHW – Heating Hot Water
- HID – High Intensity Discharge
- HP – Horsepower
- HRU – Heat Recovery Unit
- HVAC – Heating, Ventilation, Air Conditioning
- HX – Heat Exchanger
- kbtu/mbtu – One thousand (1,000) Btu
- kW – Kilowatt (1,000 watts)
- kWh – Kilowatt-hours
- LED – Light Emitting Diode
- mbh – Thousand Btu per hour
- mmbtu – One million (1,000,000) Btu
- OCC – Occupancy Sensor
- PSI – Pounds per square inch
- RTU – Rooftop Unit
- SBC – System Benefits Charge
- SF – Square foot
- UH – Unit Heater
- V – Volts
- VAV – Variable Air Volume
- VSD – Variable Speed Drive
- W – Watt

EXECUTIVE SUMMARY

This report summarizes the energy audit performed by CHA for Camden County Board of Freeholders, in connection with the New Jersey Board of Public Utilities (NJBPU) Local Government Energy Audit (LGEA) Program. The purpose of this report is to identify energy savings opportunities associated with major energy consumers and inefficient practices. Low-cost and no-cost are also identified during the study. This report details the results of the energy audit conducted for the building listed below:

Building Name	Address	Square Feet	Construction Date
City Hall	520 Market Street, Camden, NJ 08102	584,659*	1930

- The actually occupied space is only about 380,000 sq ft. and there are many spaces that are relatively unoccupied in this 380,000 sq ft.

The potential total annual energy and cost savings for the energy conservation measures (ECM) recommended identified in the survey are shown below:

Building Name	Electric Savings (kWh)	NG Savings (therms)	Total Savings (\$)	Payback (years)
City Hall	649,605	15,170	120,957	15.1

Each individual measure's annual savings are dependent on that measure alone; there are no interactive effects calculated. There are three options shown for Lighting ECM savings; only one option can be chosen. Incentives shown (if any) are based only on the SmartStart Incentive Program. Other NJBPU or local utility incentives may also be available/ applicable and are discussed in Section 6.0.

Each measure recommended by CHA typically has a stand-alone simple payback period of 15 years or less. However, if the owner chooses to pursue an Energy Savings Improvement Plan (ESIP), high payback measures could be bundled with lower payback measures which ultimately can result in a payback which is favorable for an ESIP project to proceed. Occasionally, we will recommend an ECM that has a longer payback period, based on the need to replace that piece(s) of equipment due to its age, such as a boiler for example.

The following table provides a detailed summary of each ECM for the building surveyed, including costs, savings, SmartStart incentives and payback.

Summary of Energy Conservation Measures

ECM #	Energy Conservation Measure	Est. Costs (\$)	Est. Savings (\$/year)	Payback w/o Incentive	Potential Incentive (\$)*	Payback w/ Incentive	Recommended
1	Install Gas-Fired Condensing Hot Water Boilers for heat pump loop	361,513	15,714	23.0	6,000	22.6	Y
2	Replace Existing Heat pumps with high efficiency Heat Pumps	442,600	40,382	11.0	15,593	10.6	Y
3	Replace Cooling Tower and Install VFDs on Fan Motors	227,358	10,837	21.0	6,200	20.4	N
4	Install Premium Efficiency Motors and VFDs on Heat Pump Condensing Loop Water Pump Motors	65,314	5,605	11.7	6,000	10.6	N
5	Install Window A/C Units Controls	8,900	7,355	1.2	0	1.2	Y
6	Install Vending Machine Controls	1,401	1,748	0.8	0	0.8	Y
7	Replace Electric DHW Heaters with Gas-Fired Condensing Heaters	8,061	2,083	3.9	400	3.7	Y
8	Install Low Flow Plumbing Fixtures	395,519	5,404	73.2	0	73.2	Y
L1**	Lighting Replacements / Upgrades	461,001	41,109	11.2	0	11.2	N
L2**	Install Lighting Controls (Add Occupancy Sensors)	142,148	16,434	8.6	18,430	7.5	N
L3	Lighting Replacements with Controls (Occupancy Sensors)	603,150	48,271	12.5	18,430	12.1	Y
Total**		2,113,814	137,399	15.4	52,623	15.0	
Total (Recommended)		1,821,142	120,957	15.1	40,423	14.7	

* Incentive shown is per the New Jersey SmartStart Program.

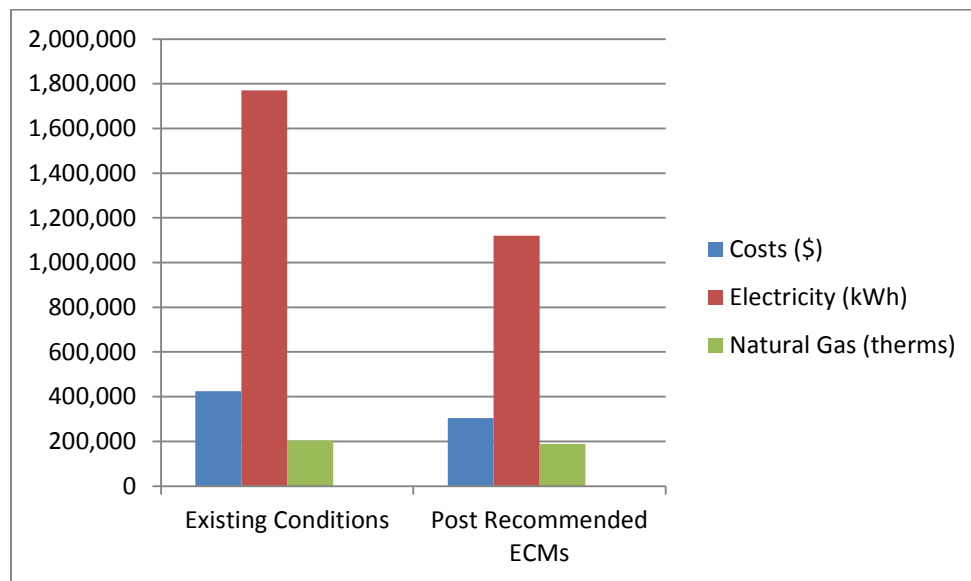
** These ECMs are not included in the Total, as they are alternate measures not recommended.

The following alternative energy measures are also recommended for further study:

- Photovoltaic (PV) Rooftop Solar Power Generation – 90.0 kW System

If Camden City implements the recommended ECMs, energy savings would be as follows:

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs (\$)	424,611	303,654	28%
Electricity (kWh)	1,769,600	1,119,995	37%
Natural Gas (therms)	203,365	188,195	7%
Site EUI (kbtu/SF/Yr)	69.4	59.6	



BUILDING INFORMATION AND EXISTING CONDITIONS

The following is a summary of building information related to HVAC, plumbing, building envelope, lighting, kitchen equipment and domestic hot water systems as observed during CHAs site visit. See appendix B for detailed information on mechanical equipment, including capacities, model numbers and age.

Building Name: City Hall

Address: 52 Market Street, Camden, NJ 08102

Gross Floor Area: 584,659 Square Feet

Number of Floors: 21 (Including basement)

Year Built: 1930

Additions: N/A



Description of Spaces: Courtrooms, offices, storage rooms, toilet rooms and a mechanical room.

Description of Occupancy: There are 450 employees and it is estimated that there are 400 or more people attending court or handling other matters daily.

Number of Computers: The building has approximately 500 desktop and laptop computers.

Building Usage: Hours of operation for the public are 8:30 AM – 4:30 PM Monday through Friday, with various departments continuously occupying the building. In general the occupied hours are considered 168 hours per week, 12 months per year.

Construction Materials: The building is constructed of concrete masonry block with structural steel framing and minimal insulation. The exterior of the building is stone. The interior walls are plaster and finished with white paint.

Roof: The roof is wood frame and rigid insulation under an EDPM rubber membrane. The roof is in good condition. Therefore, no ECM was evaluated.

Windows: Aluminum framed double pane windows. Seals are intact and the windows are in good condition. Additional ECMs are not considered for window replacement as a result.

Exterior Doors: Exterior doors are metal with single pane safety glass. Sweeps on exterior doors are in good. No additional ECMs are evaluated for exterior doors.

Heating Ventilation & Air Conditioning (HVAC) Systems

Heating: The heating system consists of two systems. The primary system is low pressure steam and the second system is water source heat pumps.

Two (2) Weil Mclain, model 2594, 5,411 MBH, gas-fired steam boilers estimated to have thermal efficiencies of 80% produce 5 psig steam pressure which supply exterior office spaces, common areas and courtroom steam radiators. These boilers also serve duct-mounted steam coils that supplement the heating output of the water source heat pumps.

During the field survey the maintenance staff mentioned several issues with the steam system. The first issue is that the steam traps are old and failing. The second issue is that the pneumatic thermostats do not control the valves to the radiators resulting in some rooms being overheated.

The majority of the spaces are heated by water source heat pumps (WSHPs) that are located above the ceiling in each room. These heat pumps are 20+ years old and are past the useful life according to ASHRAE. Heat is rejected by (2) two cooling towers. These towers are in constant flow and in poor condition. The WSHP loop is distributed by (2) 50 HP pumps operating in a lead/lag fashion. There is a third pump for back-up. These pumps are constant volume. There is an electric boiler in the mechanical room that is used to supplement the heat pump loop. The boiler did not have a tag and the capacity could not be obtained.

Floors 5 and half of 6 are unoccupied and do not have heating.

Several ECMS are included to evaluate HVAC savings :

- Replacing the aged towers with new cooling towers that will be equipped with variable speed fans
- Adding VFDs to the water source heat pump loop pumps.
- Replacing WSHPs units with new WSHPs.
- Installation of a packaged condensing boiler to supplement the heat pump loop which would reduce (or remove) the amount of steam needed.

Additionally these two O & M measures are recommended:

- Steam trap survey
- Replace inoperable steam valves

Cooling: The building is approximately 80% cooled. The offices and courtrooms occupied by the county are cooled by the water source heat pumps and several DX ductless split systems. The remaining spaces occupied by the city are cooled with window air conditioners. The areas served by split systems have condensing units located on the roof appeared to be about 2 tons.

each. There are approximately 55 water source heat pumps and 92 window air-conditioning units. Since there is no automated controls, window A/C units may be left on while the building is un-occupied. It is estimated that nearly half of these units are left on continuously by maintenance staff. A window A/C controller ECM is included.

Floors 5 and half of 6 are unoccupied and do not have air-conditioning.

Ventilation: Heat Pumps that serve offices and core areas are ducted to an exterior louver to provide ventilation. The dampers on these units are controlled electronically through the EMS system to vary the amount of OA each WSHP receives.

Exhaust: The facility utilizes exhaust fans of various sizes located on the roof to exhaust air from restrooms and storage areas.

Controls Systems

The building is controlled by a hybrid of a Siemens Apogee direct digital control system (DDC) and pneumatically actuated dampers and valves. The system utilizes a Quincy air compressor to produce compressed air needed to actuate valves and dampers. The Siemens System can monitor the pneumatic controls operation. There is a fulltime operator present on first and second shift that has control over the system monitors their system through the web from a dedicated PC. In some cases the operator coordinates shutoff of equipment if people aren't occupying spaces for a period of time and has the ability to adjust temperature set points for occupant comfort. It was reported by maintenance staff that the steam radiation is not well controlled due to inoperable radiator control valves. The county has a contract with Siemens to maintain the control system.

Typical set points in the facility are 68°F heating and 72°F cooling during occupied times, and 65°F heating and 80°F cooling during unoccupied times. Each space has a sensor that is tied into the BAS.

.

Domestic Hot Water Systems

Domestic hot water (DHW) for the basement and gymnasium (weight room) is generated by two (2) 45 kW electric water heaters manufactured by Bradford White. The capacities of the heaters are 40 gallons and 80 gallons. An ECM is provided to convert the water heater from electric to natural gas. This heater serves the sub-basement restroom.

DHW is used in toilet room sinks throughout the building is supplied by 2.4 kW point of use electric instantaneous water heaters located under the sinks.

Kitchen Equipment

The building does not have a kitchen or cooking facilities. There are break rooms with microwaves, refrigerators and other electrical appliances. There is a deli on the first floor as well.

Plumbing Systems

The building was built in 1930 and it is estimated the fixtures in the lavatories (sinks, urinals, and toilets) are original to the building and have high-flow flush valves and faucets. These fixtures should be considered for replacement. Due to the size of the building there is not adequate street pressure to serve each restroom with water so a booster pump system was installed in the basement mechanical room. This booster pump system is on a variable speed drive.

An ECM is included to evaluate the water savings potential of installing low- flow water closet and urinals.

Plug Load

This building has computers, copiers, smart boards, residential appliances (microwave, refrigerator), printers and portable electric heaters (personal) which contribute to the plug load in the building. The installation of vending machine occupancy sensors has been evaluated in an effort to reduce the plug load in the building.

Lighting Systems

The light fixtures in the office space, storage rooms and restroom, corridors, are 32 watt T8 fluorescent fixtures having electronic ballast. There are 13W twin biaxial and 23W CFL lamps in various spaces. There are some areas that use older less efficient lighting as well. During the audit spaces were found with magnetic ballast with 34W T-12 bulb fixtures and some incandescent bulbs. All interior lighting is manually controlled by wall switches.

There isn't any exterior lighting on the building. On the grounds where City Hall is located there are high pressure sodium lamps on 25 foot poles that are owned by PSEG. It is likely the exterior lighting is controlled by photocell mounted on the light fixture.

Three lighting ECMs have been included which include adding occupancy sensors to the existing lighting, replacement of the T-8 lighting with LED lighting and a third ECM that evaluates the effect of occupancy sensors used with the LED lighting upgrades.

UTILITIES

Utilities used by the building are delivered and supplied by the following utility companies:

3.0

	Electric	Natural Gas
Deliverer	PSEG	PSEG
Supplier	PSEG	HESS

For the 12-month period ending in April 2014, the utilities usages and costs for the building were as follows:

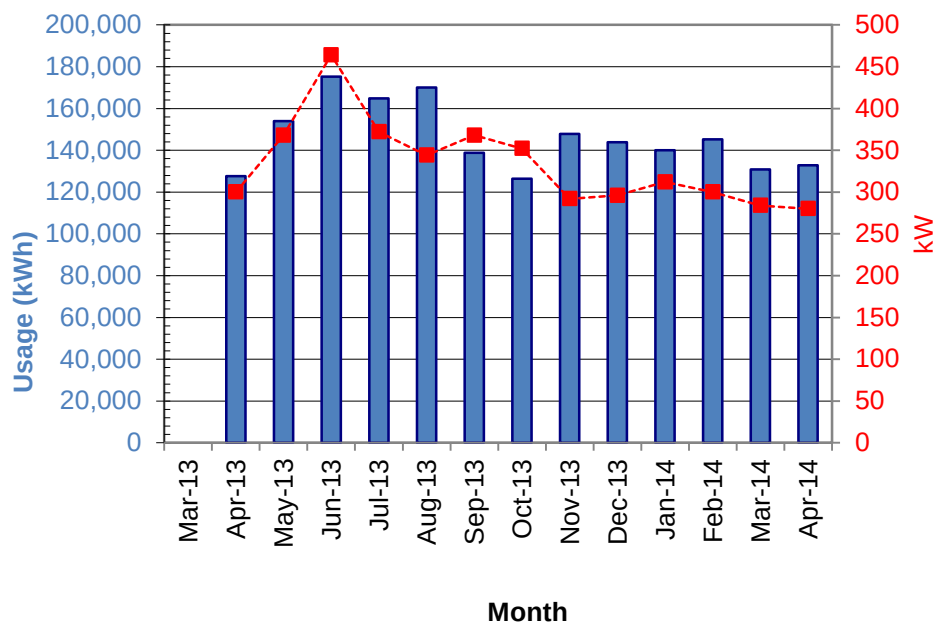
Electric		
Annual Consumption	1,769,600	kWh
Annual Cost	263,846	\$
Blended Unit Rate	0.149	\$/kWh
Supply Rate	0.141	\$/kWh
Demand Rate	3.57	\$/kW
Peak Demand	464.0	kW
Natural Gas		
Annual Consumption	203,365	Therms
Annual Cost	210,597	\$
Unit Rate	1.036	\$/therm

Blended Rate: Average rate charged determined by the annual cost / annual usage

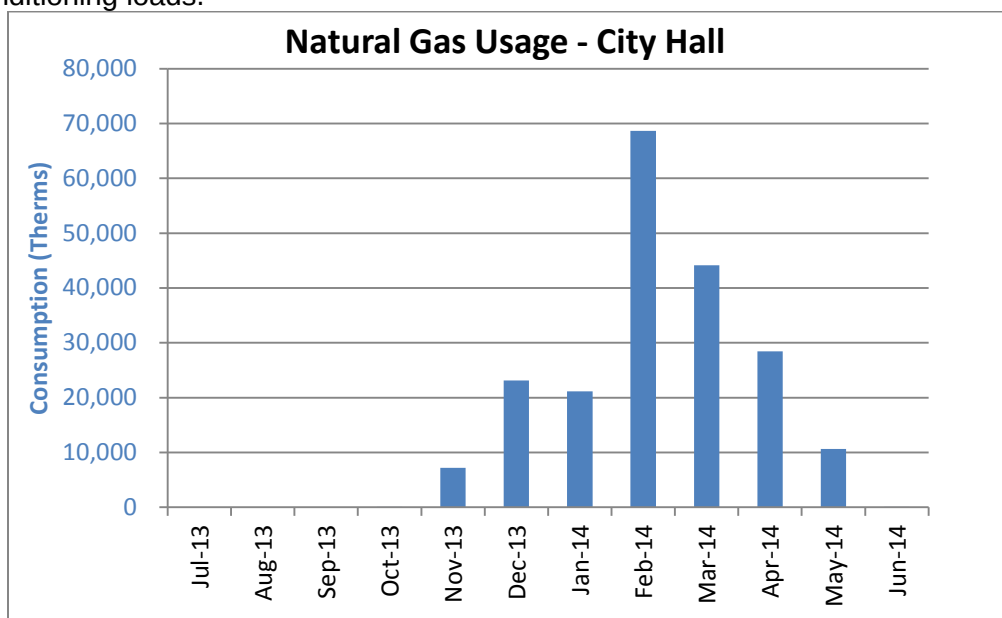
Supply Rate: Actual rate charged for electricity usage in kWh (based on most recent electric bill)

Demand Rate: Rate charged for actual electrical demand in kW (based on most recent electric bill)

City Hall - Electric Usage



The electricity usage is fairly typical having a slight increase in use in the summer months due to air conditioning loads.



Natural gas is used primarily for heating during the winter months. February has an uncharacteristically high usage. We suspect that this was caused by abnormally cold weather and windows being left opened as a result of inoperable radiator control valves.

In addition, domestic water and sewer services are provided by City of Newark Division of Water at \$6.42/1000 gal.

See Appendix A for a utility analysis.

Under New Jersey's energy deregulation law, the supply portion of the electric (or natural gas) bill is separated from the delivery portion. The supply portion is open to competition, and customers can shop around for the best price for their energy suppliers. The electric and natural gas distribution utilities will still deliver the gas/ electric supplies through their wires and pipes – and respond to emergencies, should they arise – regardless of where those supplies are purchased. Purchasing the energy supplies from a company other than your electric or gas utility is purely an economic decision; it has no impact on the reliability or safety of the service.

Comparison of Utility Rates to NJ State Average Rates*				Recommended to Shop for Third Party Supplier?
Utility	Units	Building Average Rate	NJ Average Rate	
Electricity	\$/kWh	\$0.149	\$0.125	Y
Natural Gas	\$/Therm	\$1.04	\$0.96	Y

* Per U.S. Energy Information Administration (2013 data – Electricity and Natural Gas, 2012 data – Fuel Oil)

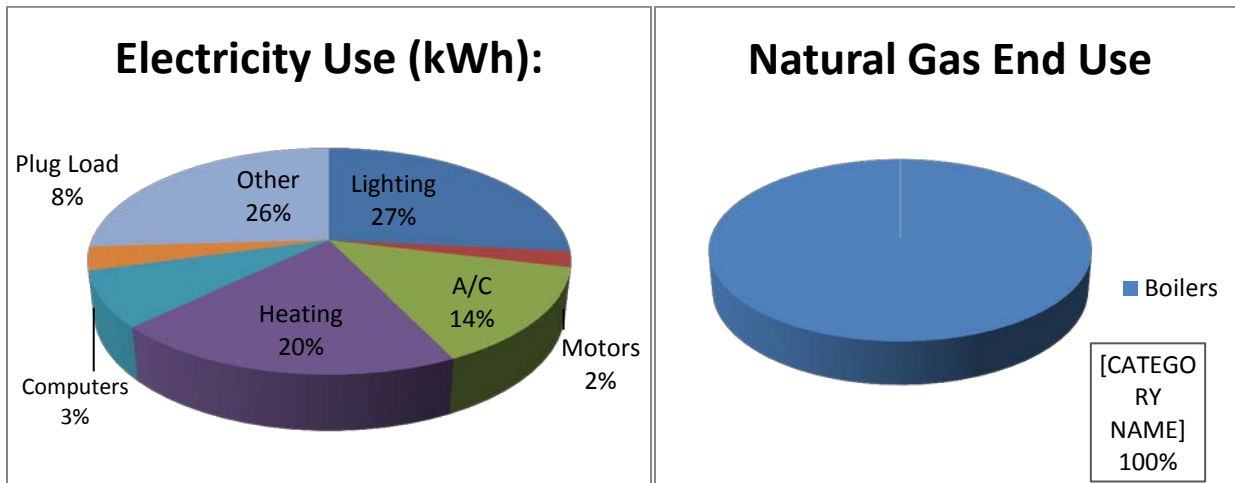
Additional information on selecting a third party energy supplier is available here:

<http://www.state.nj.us/bpu/commercial/shopping.html>.

See Appendix A for a list of third-party energy suppliers licensed by the Board of Public Utilities to sell within the building's service area.

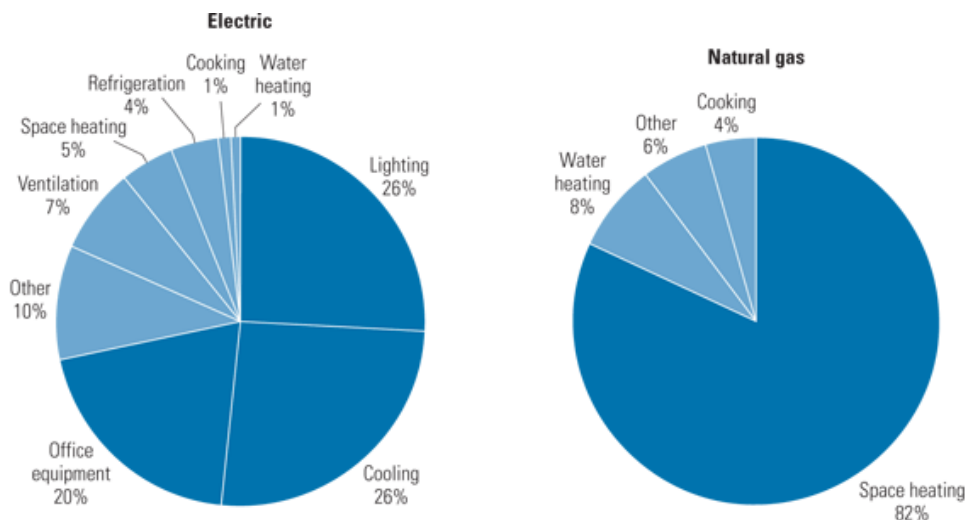
The charts below represent estimated utility end-use utility profiles for the building. The values used within the charts were estimated from a review of the utility analysis and the energy savings calculations.

Site End-Use Utility Profile



Most of the electricity consumed by educational facilities is used to for lighting, cooling, and plug loads such as computers and copiers; most of the natural gas is used for space heating. Each building's energy profile is different, and the following charts represent typical utility profiles for K-12 buildings per U.S. Department of Energy.

Typical End-Use Utility Profile for Educational Facilities



Courtesy: E source; from Commercial Building Energy Consumption Survey, 1999 data

BENCHMARKING

The EPA Portfolio Manager benchmarking tool provides a site and source Energy Use Intensity (EUI), as well as an Energy Star performance rating for qualifying building types⁴⁹. The EUIs are provided in kBtu/ft²/year, and the performance rating represents how energy efficient a building is on a scale of 1 to 100, with 100 being the most efficient. In order for a building to receive an Energy Star label, the energy benchmark rating must be at least 75. As energy use decreases from implementation of the proposed measures, the Energy Star rating will increase.

The site EUI is the amount of heat and electricity consumed by a building as reflected in utility bills. Site energy may be delivered to a facility in the form of primary energy, which is raw fuel burned to create heat or electricity, such as natural gas or oil; or as secondary energy, which is the product created from a raw fuel such as electricity or district steam. To provide an equitable comparison for different buildings with varying proportions of primary and secondary energy consumption, Portfolio Manager uses the convention of source EUIs. The source energy also accounts for losses incurred in production, storage, transmission, and delivery of energy to the site, which provide an equivalent measure for various types of buildings with differing energy sources. The results of the benchmarking are contained in the table below.

Site EUI kBtu/ft ² /yr	Energy Star Rating (1-100)
66.6*	94

*based on EPA Portfolio Manager since the natural gas and electric 12 months periods are a little bit different, ours straight site EUI is a little different (41.8).

The building has an above average Energy Star Rating Score (50 being the median score). However, it is believed that the Portfolio Manager scoring might be higher than the actual score that the building would get. Because this building has a mixtures of rooms used for different purposes and there are many relatively unoccupied spaces (file rooms, storage rooms and so on) or less frequently used spaces (courthouse) in the building. These less occupied spaces could help increase the energy star score since the building is only defined as an office/courthouse building.

ENERGY CONSERVATION MEASURES

The following types of energy savings opportunities are identified in this section of the report:

5.0

- Energy conservation measures (ECMs) are energy savings recommendations that typically require a financial investment. For these areas of opportunity, CHA prepared detailed calculations, as summarized in this section and in Appendix C. In general, additional savings may exist from reductions in maintenance activities associated with new equipment or better controls; however for conservatism, maintenance savings are not accounted for in this report; instead the only savings which are reported are those derived directly from reductions in energy which can be tracked by the utility bills.
- Operational and Maintenance measures (O&M) consist of low- or no-cost operational opportunities, which if implemented would have positive impacts on overall building operation, comfort levels, and/or energy usage. There are no estimated savings, costs or paybacks associated with the O&M measures included as part of this study.

Energy savings were quantified in the form of:

- electrical usage (kWh=Kilowatt-hour),
- electrical demand (kW=kilowatts),
- natural gas (therms=100,000 Btu),
- propane gas (gallons=91,650 Btu),
- fuel oil (gallons =138,700 Btu), and
- water (kgal=1,000 gallons).

These recommendations are influenced by the time period that it takes for a proposed project to “break even” referred to as “Simple Payback”. Simple payback is calculated by dividing the estimated cost of implementing the ECM by the energy cost savings (in dollars) of that ECM.

Another financial indicator of the performance of a particular ECM is the Return on Investment or ROI, which represents the benefit (annual savings over the life of a project) of an investment divided by the cost of the investment. The result is expressed as a percentage or ratio.

Two other financial analyses included in this report are Internal Rate of Return (IRR) and Net Present Value (NPV). Internal Rate of Return is the discount rate at which the present value of a project costs equals the present value of the project savings. Net Present Value is the difference between present value of an investment's future net cash flows and the initial investment. If the NPV equals “0”, the project would equate to investing the same amount of dollars at the desired rate. NPV is sometimes referred to as Net Present Worth. These values are provided in the Summary Tab in Appendix C.

5.1 ECM-1 Install Gas-Fired Condensing Boilers to Supplement the WSHP Loop

There is an electric boiler in the mechanical room that is used to temper the heat pump loop. The steam boiler also provides supplemental heating to the heat pumps using re-heat coils. This ECM evaluates savings associated with the installation of a condensing boiler to serve the heat pump loop to provide supplemental heating in lieu of the current electric boiler and steam coils. The existing steam boiler efficiency is 80% (per NJBPU protocols) and the proposed boiler efficiency is 96% (assuming year round condensing mode). The proposed boiler would be located on the roof of the sixth floor in a pre-engineered enclosure with piping connections to the heat pump heat exchanger in the mechanical room below. The electric and steam boilers and steam system would be retained as back-up heat and continue to serve perimeter radiation.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-1 Install Gas fired condensing boilers to supplement the WSHP loop

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$		\$	Years	Years
361,513	0.0	0	15,174	15,714	0.1	6,000	23.0	22.6

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.2 ECM-2 Replace Existing Heat pumps with High Efficiency Heat Pumps

The majority of the spaces are conditioned by 55 water source heat pumps (WSHPs). These heat pumps are 20+ years old and are past the useful life according to ASHRAE. It is recommended that these units be replaced with new, high efficiency WSHPs.

The assumption of this calculation is that the operating hours, number of units, and capacity stays the same. The energy savings result from operating higher efficiency units than the existing.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-2 Replace Existing Heat pumps with high efficiency Heat Pumps

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
442,600	0.0	271,021	0	40,382	0.8	15,593	11.0	10.6

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.3 ECM-3 Replace Cooling Tower and Install VFDs on Fan Motors

The building has (2) two cooling towers that reject heat from the heat pump loop. These units are in poor condition and have constant volume fans. New cooling towers are inherently more efficient at transferring heat and are equipped with VFD controlled fans which further enhances the energy savings by varying the motor HP based on actual load conditions.

The existing and the proposed motor HP energy is calculated using VFD savings factors per NJ Protocols. The energy savings is based on the drives ability to control the motor speed based on the actual load versus constant volume flow.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-3 Replace Cooling Tower and Install VFDs on Fan Motors

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
227,358	20.0	70,791	0	10,837	0.3	6,200	21.0	20.4

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is not recommended as it may be a capital project installed in the fall 2014.

5.4 ECM-4 Install Premium Efficiency Motors and VFDs on Heat Pump Loop Motors

The water source heat pump loop uses (2) 50 HP pumps operating in lead/lag fashion. These pumps presently operate at a constant speed (constant water flows) even though the building load does not require all of the flow to maintain temperatures. By adding variable frequency drives (VFDs) and reducing the flow (by slowing the motors down) electrical energy can be saved. To implement the operation of the VFDs using system pressure differential, the heat pumps would need to have three way valves changed to 2 way valves. These valves are included in the cost estimate.

The existing and the proposed motor HP energy is calculated using VFD savings factors per NJ Protocols. The energy savings is based on the drives ability to control the motor speed based on the actual load versus constant volume flow.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-4 Install Premium Efficiency Motors and VFDs on Heat Pump Loop Motors

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
65,314	46.4	25,651	0	5,605	0.3	6,000	11.7	10.6

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities

This measure is not recommended as it may be a capital project installed in the fall 2014.

5.5 ECM-5 Install Window A/C Controllers

There are approximately ninety two (92) window air conditioners located throughout the building. These units serve spaces occupied by city employees. It is approximated by facilities personnel that half of these units are operated continuously.

This ECM evaluates the installation of programmable “smart” timers that interrupt the electrical supply to the window air conditioners when cooling is not needed due to the room being unoccupied. The timers are configurable to operate as a standalone timer or they can be wirelessly interconnected to provide remote temperature control using software.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-5 Install Window A/C Controllers

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$		\$	Years	Years
8,900	0.0	49,365	0	7,355	11.4	0	1.2	1.2

* Does not qualify for Incentive from the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities

This measure is recommended.

5.6 ECM-6 Install Vending Misers

The building has vending machines in cafeteria. These vending machines operate continuously 24 hours per day, seven (7) days a week. Installing controls such as timers or occupancy sensors allow the machines to turn on only when a customer is present or when the compressor must run to maintain the product at the desired temperature. By implementing this measure electrical energy savings could be realized.

The calculation uses electrical consumption and annual electrical cost as the baseline, vs. the reduced electrical consumption and cost for the proposed case. The difference between the two values is the energy savings.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-6 Install Vending Misers

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
1,401	0.0	11,732	0	1,748	17.7	0	0.8	0.8

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.7 ECM-7 Replace Electric DHW Heaters with Gas-Fired Condensing Heaters

Domestic hot water (DHW) for the basement restroom is generated by a 45 kW electric Bradford White water heater with a capacity of 40 gallons. This ECM would install a gas-fired high efficiency heater to replace the electric heater currently installed.

Implementation of this ECM will entail replacing the existing DHW heater with high efficiency condensing natural gas fired water heaters. The tank size of the existing system will remain the same.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-7 Replace Electric DHW Heaters with Gas-Fired Condensing Heaters

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$		\$	Years	Years
8,061	45.0	1,125	(4)	2,083	2.1	400	3.9	3.7

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is recommended.

5.8 ECM-8 Install Low Flow Plumbing Fixtures

The plumbing fixtures in this building are older high flow fixtures. The water savings associated from replacing existing high flow fixtures with low-flow fixtures was calculated by taking the difference of the annual water usage for the proposed and base case. The basis of this calculation is the estimate usage of each fixture, gallons per use, and number of fixtures. Replacing the existing fixtures in the restrooms with 1.28 Gals/flush toilets, 1.0 gal/flush urinals, and 0.5 gpm faucets will conserve water which will result in lower annual water and sewer charges. Facets with low-flow push valves were not considered for replacement.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-8 Install Low Flow Plumbing Fixtures

Budgetary Cost	Annual Utility Savings					ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Water	Total				
\$	kW	kWh	Therms	kGal	\$	%	\$	Years	Years
395,519	0.0	0	0	842	5,404	(0.8)	0	73.2	73.2

* Does not qualify for Incentive from the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities

These measures are recommended.

5.9.1 ECM-L1 Lighting Replacement / Upgrades

The existing lighting system consists of mostly 32 watt T8 linear fluorescent fixtures which until recently represented the most efficient lighting technology available. Technological improvements in light emitting diode (LED) technologies have driven down the initial costs making it a viable option for installation.

Overall energy consumption can be reduced by replacing inefficient bulbs and linear fluorescent bulbs with more efficient LED technology. To compute the annual savings for this ECM, the energy consumption of the current lighting fixtures was established and compared to the proposed fixture power requirement with the same annual hours of operation. The difference between the existing and proposed annual energy consumption was the energy savings. These calculations are based on 1 to 1 replacements of the fixtures, and do not take into account lumen output requirements for a given space. A more comprehensive engineering study should be performed to determine correct lighting levels.

Supporting calculations, including assumptions for lighting hours and annual energy usage for each fixture, are provided in Appendix C and summarized below:

ECM-L1 Lighting Replacement / Upgrades

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
461,001	85.5	265,567	0	41,109	0.4	0	11.2	11.2

* LED retrofits must go through the "custom" measures incentive option under New Jersey SmartStart Program. There are no "prescriptive" incentives for LED retrofits. Projects must achieve a minimum of 75,000 kWh annual savings to qualify for "custom" incentives. See section 6.0 for other incentive opportunities

This measure is not recommended in lieu of ECM L3.

5.9.2 ECM-L2 Install Lighting Controls (Occupancy Sensors)

Presently, all interior lighting fixtures are controlled my wall mounted switches. Review of the comprehensive lighting survey determined that lighting in some areas could benefit from installation of occupancy sensors to turn off lights when they are unoccupied.

This measure recommends installing occupancy sensors for the current lighting system. Using a process similar to that utilized in Section 5.9.1, the energy savings for this measure was calculated by applying the known fixture wattages in the space to the estimated existing and proposed times of operation for each fixture.

The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-L2 Install Lighting Controls (Occupancy Sensors)

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$	%	\$	Years	Years
142,148	0.0	96,635	0	16,434	0.5	18,430	8.6	7.5

* Incentive shown is per the New Jersey SmartStart Program. See section 6.0 for other incentive opportunities.

This measure is not recommended in lieu of ECM L3.

5.9.3 ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)

This measure is a combination of ECM-L1 and ECM-L2; recommending replace/upgrade the current lighting fixtures to more efficient ones and installing occupancy sensors on the new lights. Interactive effects of the higher efficiency lights and occupancy sensors lead the energy and cost savings for this measure to not be cumulative or equivalent to the sum of replacing the lighting fixtures alone and installing occupancy sensors without the lighting upgrade. The implementation cost and savings related to this ECM are presented in Appendix C and summarized below:

ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
\$	kW	kWh	Therms	\$		\$	Years	Years
603,150	85.5	316,361	0	48,271	0.3	18,430	12.5	12.1

* LED retrofits must go through the "custom" measures incentive option under New Jersey SmartStart Program. There are no "prescriptive" incentives for LED retrofits. Projects must achieve a minimum of 75,000 kWh annual savings to qualify for "custom" incentives. See section 6.0 for other incentive opportunities

This measure is recommended.

5.10 Additional O&M Opportunities

This list of operations and maintenance (O&M) - type measures represent low-cost or no-cost opportunities, which if implemented will have a positive impact on the overall building operations, comfort and/or energy consumption. The recommended O&M measures for this building are as follows:

- Perform a steam trap assessment to ensure steam traps are functioning properly
- Replace inoperative control valves on radiators
- Install Covers on Window Air Conditioners (indoor)

- Clean Window AC filters before each season
- Set computers monitors to turn off and computers to sleep mode when not in use
- Look for the ENERGY STAR® label when purchasing Window AC units or Kitchen Appliances
- Disconnect unnecessary or unused small appliances and electronics when not in use to reduce phantom loads
- Develop an Energy Master Plan to measure and track energy performance
- Educate staff about how their behavior affects energy use
- During the winter, Custodians should ensure all windows are closed as part of cleaning routine

PROJECT INCENTIVES

6.1 Incentives Overview

The following sections give detailed information on available incentive programs including New Jersey Smart Start, Direct Install, New Jersey Pay for Performance (P4P) and Energy Savings Improvement Plan (ESIP). If the Building District wishes to and is eligible to participate in the Energy Savings Improvement Plan (ESIP) program and/or the Pay for Performance Incentive Program (P4P), it cannot participate in either the Smart Start or Direct Install Programs. Refer to Appendix D for more information on the Smart Start program.

6.1.1 New Jersey Smart Start Program

For this energy audit, The New Jersey Smart Start Incentives are used in the energy savings calculations, where applicable. This program is intended for medium and large energy users and provides incentives for:

- Electric Chillers
- Gas Chillers
- Gas Heating
- Unitary HVAC
- Ground Source Heat Pumps
- Variable frequency Drives/ motors
- Refrigeration
- Prescriptive and performance lighting and lighting controls

The equipment is procured using a typical bid- build method, installed and paid for and then the incentives are reimbursed to the owner.

Refer to Appendix D for more information on the Smart Start program.

6.1.2 Direct Install Program

The Direct Install Program applies to smaller facilities that have a peak electrical demand of 200 kW or less in any of the previous 12 months. Buildings must be located in New Jersey and served by one of the state's public, regulated electric utility companies.

Direct Install is funded through New Jersey's Clean Energy Program and is designed to provide capital for building energy upgrade projects to fast track implementation. The program will pay up to 70% of the costs for lighting, HVAC, motors, refrigeration, and other equipment upgrades with higher efficiency alternatives. If a building is eligible for this funding, the Direct Install Program can reduce the implementation cost of energy conservation projects.

The Direct Install program has specific HVAC equipment and lighting requirements and is generally applicable only to smaller package HVAC units, small boilers and lighting retrofits.

The program pays a maximum amount of \$75,000 per building, and up to \$250,000 per customer per year. Installations must be completed by an approved Direct Install participating contractor, a list of which can be found on the New Jersey Clean Energy Website. Contractors will coordinate with the applicant to arrange installation of recommended measures identified in a previous energy assessment, such as this energy audit. The incentive is reimbursed to the Owner upon successful replacement and payment of the equipment.

The building does not qualify for this program because its electrical demand is more than the maximum peak electrical demand of 200 kW for the last 12 month period.

Refer to Appendix D for more information on this program.

6.1.3 New Jersey Pay For Performance Program (P4P)

This building may be eligible for incentives from the New Jersey Office of Clean Energy. The most significant incentives are available from the New Jersey Pay for Performance (P4P) Program. The P4P program is designed to offset the cost of energy conservation projects for facilities that pay the Societal Benefits Charge (SBC) and whose demand (kW) in any of the preceding 12 months exceeds 100 kW. This demand minimum has been waived for buildings owned by local governments or municipalities and non-profit organizations and *is not applicable to public buildings*. Facilities that meet this criterion must also achieve a minimum performance target of 15% energy reduction by using the EPA Portfolio Manager benchmarking tool before and after implementation of the measure(s). Additionally, the overall return on investment (ROI) must exceed 10%. If the participant is a municipal electric company customer, and a customer of a regulated gas New Jersey Utility, only gas measures will be eligible under the Program. Available incentives are as follows:

Incentive #1: Energy Reduction Plan – This incentive is designed to offset the cost of services associated with the development of the Energy Reduction Plan (ERP). The ERP must include a detailed energy audit of the desired ECMs, energy savings calculations (using building modeling software) and inputting of all utility bills into the EPA Portfolio Manager website.

- Incentive Amount: \$0.10/SF
- Minimum incentive: \$5,000
- Maximum Incentive: \$50,000 or 50% of Facility annual energy cost

The standard incentive pays \$0.10 per square foot, up to a maximum of \$50,000, not to exceed 50% of facility annual energy cost, paid after approval of application. For building audits funded by the New Jersey Board of Public Utilities, which receive an initial 75% incentive toward performance of the energy audit, facilities are only eligible for an additional \$0.05 per square foot, up to a maximum of \$25,000, rather than the standard incentive noted above. The ERP must be completed by a Certified Energy Manager (CEM) and submitted along with the project application.

Incentive #2: Installation of Recommended Measures – This incentive is based on projected energy savings as determined in Incentive #1 (Minimum 15% savings must be achieved), and is paid upon successful installation of recommended measures.

Electric

- Base incentive based on 15% savings: \$0.09/ per projected kWh saved.
- For each % over 15% add: \$0.005 per projected kWh saved.
- Maximum incentive: \$0.11/ kWh per projected kWh saved.

Gas

- Base incentive based on 15% savings: \$0.90/ per projected Therm saved.
- For each % over 15% add: \$0.05 per projected Therm saved.
- Maximum incentive: \$1.25 per projected Therm saved.

Incentive cap: 25% of total project cost

Incentive #3: Post-Construction Benchmarking Report – This incentive is paid after acceptance of a report proving energy savings over one year utilizing the Environmental Protection Agency (EPA) Portfolio Manager benchmarking tool.

Electric

- Base incentive based on 15% savings: \$0.09/ per projected kWh saved.
- For each % over 15% add: \$0.005 per projected kWh saved.
- Maximum incentive: \$0.11/ kWh per projected kWh saved.

Gas

- Base incentive based on 15% savings: \$0.90/ per projected Therm saved.
- For each % over 15% add: \$0.05 per projected Therm saved.
- Maximum incentive: \$1.25 per projected Therm saved.

Combining Incentives #2 and #3 will provide a total of \$0.18/ kWh and \$1.8/therm not to exceed 50% of total project cost. Additional Incentives for #2 and #3 are increased by \$0.005/kWh and \$0.05/therm for each percentage increase above the 15% minimum target to 20%, calculated with the EPA Portfolio Manager benchmarking tool, not to exceed 50% of total project cost.

For the purpose of demonstrating the eligibility of the ECM's to meet the minimum savings requirement of 15% annual savings and 10% ROI for the Pay for Performance Program, all ECM's identified in this report have been included in the incentive calculations. The results for the building are shown in Appendix C, with more detailed program information in Appendix D.

6.1.4 Energy Savings Improvement Plan

The Energy Savings Improvement Program (ESIP) allows government agencies to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. Under the recently enacted Chapter 4 of the Laws of 2009 (the law), the ESIP provides all government agencies in New Jersey with a flexible tool to improve and reduce energy usage with minimal expenditure of new financial resources.

ESIP allows local units to use “energy savings obligations” (ESO) to pay for the capital costs of energy improvements to their facilities. ESIP loans have a maximum loan term of 15 year. ESOs are not considered “new general obligation debt” of a local unit and do not count against debt limits or require voter approval. They may be issued as refunding

bonds or leases. Savings generated from the installation of energy conservation measures pay the principal of and interest on the bonds; for that reason, the debt service created by the ESOs is not paid from the debt service fund, but is paid from the general fund.

For local governments interested in pursuing an ESIP, the first step is to perform an energy audit. Pursuing a Local Government Energy Audit through New Jersey's Clean Energy Program is a valuable first step to the ESIP approach. The "Local Finance Notice" outlines how local governments can develop and implement an ESIP for their facilities. The ESIP can be prepared internally if the entity has qualified staff. If not, the ESIP must be implemented by an independent contractor and not by the energy savings company producing the Energy Reduction Plan.

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Local units should carefully consider all alternatives to develop an approach that best meets their needs. Refer to Appendix D for more information on this program.

6.1.5 Renewable Energy Incentive Program

The Renewable Energy Incentive Program (REIP) is part of New Jersey's efforts to reach its Energy Master Plan goals of striving to use 30 percent of electricity from renewable sources by 2020.

Incentives for sustainable bio-power projects and for energy storage projects are currently under development, with competitive solicitations for each of those technologies expected to begin in the first quarter of 2014. The wind program is currently on hold.

New solar projects are no longer eligible for REIP incentives, but can register for Solar Renewable Energy Certificates (SRECs) through the SREC Registration Program (SRP).

ALTERNATIVE ENERGY SCREENING EVALUATION

7.1 Solar

7.1.1.1 Photovoltaic Rooftop Solar Power Generation

The building was evaluated for the potential to install rooftop photovoltaic (PV) solar panels for power generation. Present technology incorporates the use of solar cell arrays that produce direct current (DC) electricity. This DC current is converted to alternating current (AC) with the use of an electrical device known as an inverter. The amount of available roof area determines how large of a solar array can be installed on any given roof. The table below summarizes the approximate roof area available on the building and the associated solar array size that can be installed.

Available Roof Area (Ft ²)	Potential PV Array Size (kW)
11,371	90.0

The PVWATTS solar power generation model was utilized to calculate PV power generation; this model is provided in Appendix E.

Installation of (PV) arrays in the state New Jersey will allow the owner to participate in the New Jersey Solar Renewable Energy Certificates Program (SREC). This is a program that has been set up to allow entities with large amounts of environmentally unfriendly emissions to purchase credits from zero emission (PV) solar-producers. An alternative compliance penalty (ACP) is paid for by the high emission producers and is set each year on a declining scale of 3% per year. One SREC credit is equivalent to 1000 kilowatt hours of PV electrical production; these credits can be traded for period of 15 years from the date of installation. Payments that will be received by the PV producer (building) will change from year to year dependent upon supply and demand. There is no definitive way to calculate an exact price that will be received by the PV producer for SREC credits over the next 15 years. Renewable Energy Consultants estimates an average of \$180/SREC for 2014 and this number was utilized in the cash flow for this report.

The system costs for PV installations were derived from recent solar contractor budgetary pricing in the state of New Jersey and include the total cost of the system installation (PV panels, inverters, wiring, ballast, controls). The cost of installation is currently about \$4.00 per watt or \$4,000 per kW of installed system, for a typical system. There are other considerations that have not been included in this pricing, such as the condition of the roof and need for structural reinforcement. Photovoltaic systems can be ground mounted if the roof is not suitable, however, this installation requires a substantial amount of open property (not wooded) and underground wiring, which adds more cost. PV panels have an approximate 20 year life span; however, the inverter device that converts DC electricity to AC has a life span of 10 to 12 years and will most likely need to be replaced during the useful life of the PV system.

The implementation cost and savings related to this ECM are presented in Appendix E and summarized as follows:

Photovoltaic (PV) Rooftop Solar Power Generation – 90 kW System

Budgetary Cost	Annual Utility Savings			Total Savings	New Jersey Renewable SREC	Payback (without SREC)	Payback (with SREC)	Recommended
	Electricity		Natural Gas					
\$	kW	kWh	Therms	\$	\$	Years	Years	Y/N
\$360,000	90.0	109,004	0	\$16,242	\$19,621	22.2	10.0	FS

Note: CHA typically recommends a more detailed evaluation be conducted for the installation of PV Solar arrays when the screening evaluation shows a payback of less than 20 years. Therefore, this ECM is recommended for further study. Before implementation is pursued, the building district should consult with a certified solar PV contractor.

7.1.2 Solar Thermal Hot Water Generation

Active solar thermal systems use solar collectors to gather the sun's energy to heat a fluid. An absorber in the collector (usually black colored piping) converts the sun's energy into heat. The heat is transferred to circulating water, antifreeze, or air for immediate use or is storage for later utilization. Applications for active solar thermal energy include supplementing domestic hot water, heating swimming pools, space heating or preheating air in residential and commercial buildings.

A standard solar hot water system is typically composed of solar collectors, heat storage vessel, piping, circulators, and controls. Systems are typically integrated to work alongside a conventional heating system that provides heat when solar resources are not sufficient. The solar collectors are usually placed on the roof of the building, oriented south, and tilted at the same angle as the site's latitude, to maximize the amount of solar radiation collected on a yearly basis.

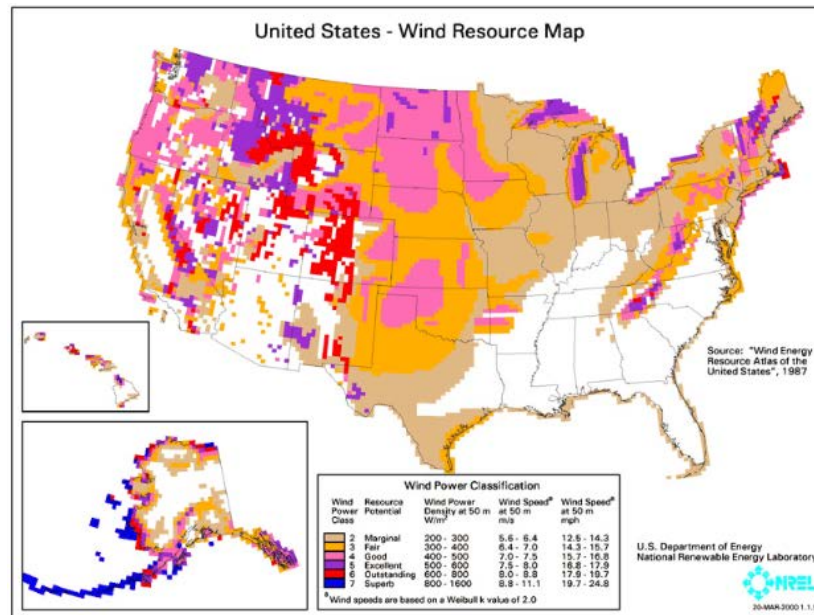
Several options exist for using active solar thermal systems for space heating. The most common method is called a passive solar hot water system involves using glazed collectors to heat a liquid held in a storage tank (similar to an active solar hot water system described above which requires pumping). The most practical system would transfer the heat from the panels to thermal storage tanks and then use the pre-heated water for domestic hot water production. DHW is presently produced by natural gas fired water heaters and, therefore, this measure would offer natural gas utility savings. Unfortunately, the amount of domestic hot water that is currently used by this building is very small. Installing a solar domestic hot water system is not recommended due to the limited amount of domestic hot water presently consumed by the building.

This measure is not recommended due to the relatively low domestic hot water usage.

7.2 Wind Powered Turbines

Wind power is the conversion of kinetic energy from wind into mechanical power that is used to drive a generator which creates electricity by means of a wind turbine. A wind turbine consists of rotor and blades connected to a gearbox and generator that are

mounted onto a tower. Newer wind turbines also use advanced technology to generate electricity at a variety of frequencies depending on the wind speed, convert it to DC and then back to AC before sending it to the grid. Wind turbines range from 50 – 750 kW for utility scale turbines down to below 50 kW for residential use. On a scale of 1 (the lowest) to 7 (the highest), Class 3 and above (wind speeds of 13 mph or greater) are generally considered “good wind resource” according to the Wind Energy Development Programmatic EIS Information Center hosted by the Bureau of Land Management. According to the map below, published by NREL, Newark, NJ is classified as Class 1 at 50m, meaning the city would not be a good candidate for wind power.



This measure is not recommended due to the location of the building.

7.3 Combined Heat and Power Plant

Combined heat and power (CHP), cogeneration, is self-production of electricity on-site with beneficial recovery of the heat byproduct from the electrical generator. Common CHP equipment includes reciprocating engine-driven, micro turbines, steam turbines, and fuel cells. Typical CHP customers include industrial, commercial, institutional, educational institutions, and multifamily residential facilities. CHP systems that are commercially viable at the present time are sized approximately 50 kW and above, with numerous options in blocks grouped around 300 kW, 800 kW, 1,200 kW and larger. Typically, CHP systems are used to produce a portion of the electricity needed by a facility some or all of the time, with the balance of electric needs satisfied by purchase from the grid.

Any proposed CHP project will need to consider many factors, such as existing system load, use of thermal energy produced, system size, natural gas fuel availability, and proposed plant location. The building has sufficient need for electrical generation and the ability to use most of the thermal byproduct during the winter; however thermal usage during the summer months does not exist. Thermal energy produced by the CHP

plant in the warmer months will be wasted. An absorption chiller could be installed to utilize the heat to produce chilled water; however, there is no chilled water distribution system in the building. CHP is not recommended due to the building's limited summer thermal demand.

This measure is not recommended due to the absence of year-round thermal loads which are needed for efficiency CHP operation.

7.4 Demand Response Curtailment

Presently, electricity is delivered by PSE&G, which receives the electricity from regional power grid RFC. PSE&G is the regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia including the State of New Jersey.

Utility Curtailment is an agreement with the utility provider's regional transmission organization and an approved Curtailment Service Provider (CSP) to shed electrical load by either turning major equipment off or energizing all or part of a facility utilizing an emergency generator; therefore, reducing the electrical demand on the utility grid. This program is to benefit the utility company during high demand periods and utility provider offers incentives to the CSP to participate in this program. Enrolling in the program will require program participants to drop electrical load or turn on emergency generators during high electrical demand conditions or during emergencies. Part of the program also will require that program participants reduce their required load or run emergency generators with notice to test the system.

A pre-approved CSP will require a minimum of 100 kW of load reduction to participate in any curtailment program. From April 2013 through April 2014 the following table summarizes the electricity load profile for the building.

Building Electric Load Profile

Peak Demand kW	Min Demand kW	Avg Demand kW	Onsite Generation Y/N	Eligible? Y/N
464	280.0	336	N	Y

This measure is not recommended because the building does not have enough onsite generation to cover the entire electrical load of the building.

CONCLUSIONS & RECOMMENDATIONS

The LGEA energy audit conducted by CHA for the building identified potential annual savings of \$120,957/yr with an overall payback of 15.1 years, if the recommended ECMs are implemented.

The potential annual energy and cost savings for the recommended ECMs are shown in the following table.

Electric Savings (kWh)	Natural Gas Savings (therms)	Total Savings (\$)	Payback (years)
649,605	15,170	120,957	15.1

The following projects should be considered for implementation:

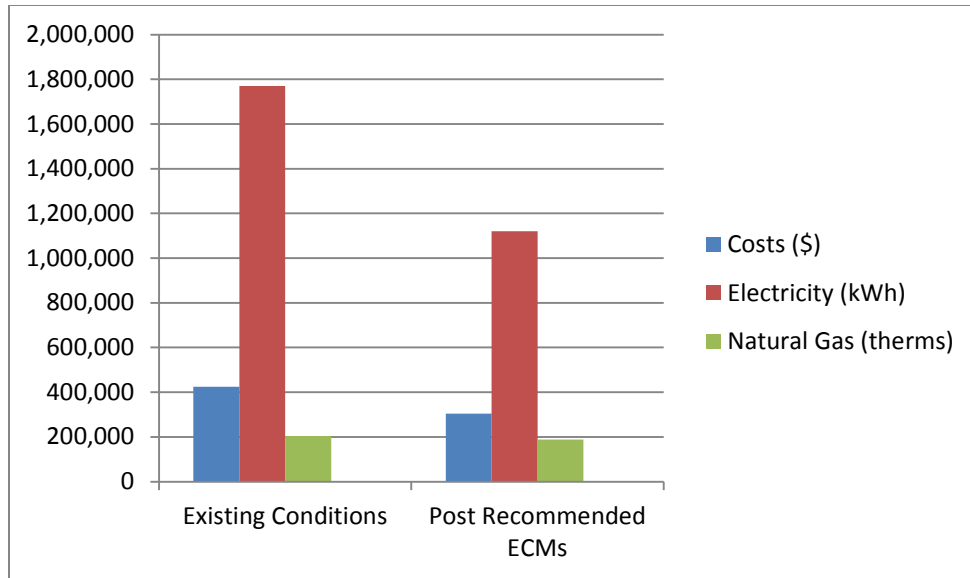
- Convert Steam to Hot Water System and Install Gas-Fired Condensing Hot Water Boilers
- Replace Existing Heat pumps with high efficiency Heat Pumps
- Install Window A/C Units Controls
- Install Vending Machine Controls
- Replace Electric DHW Heaters with Gas-Fired Condensing Heaters
- Install Low Flow Plumbing Fixtures
- Lighting Replacements with Controls (Occupancy Sensors)

The following alternative energy measures are recommended for further study:

- Photovoltaic (PV) Rooftop Solar Power Generation – 90.0 kW System

If Camden City implements the recommended ECMs, energy savings would be as follows:

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs (\$)	424,611	303,654	28%
Electricity (kWh)	1,769,600	1,119,995	37%
Natural Gas (therms)	203,365	188,195	7%
Site EUI (kbtu/SF/Yr)	69.4	59.6	



APPENDIX A

Utility Usage Analysis and Alternate Utility Suppliers

Camden County Board of Freeholders LG&A
520 Market Street, Camden, NJ 08102

Annual Utilities
12-month Summary

Electric		
Annual Usage	1,769,600	kWh/yr
Annual Cost	263,846	\$
Blended Rate	0.149	\$/kWh
Consumption Rate	0.141	\$/kWh
Demand Rate	3.57	\$/kW
Peak Demand	464.0	kW
Min. Demand	280.0	kW
Avg. Demand	336.0	kW
Natural Gas		
Annual Usage	203,365	therms/yr
Annual Cost	210,597	\$
Rate	1.036	\$/therm

Camden County Board of Freeholders LGEA
520 Market Street, Camden, NJ 08102

Utility Bills: Account Numbers

<u>Account Number</u>	<u>Building</u>	<u>Location</u>	<u>Type</u>	<u>Notes</u>
778015283	City Hall	520 Market Street, Camden, NJ 08102	Electric	
XXXXXXXXX0106	City Hall	520 Market Street, Camden, NJ 08102	Natural Gas	

Camden County Board of Freeholders LGEA
520 Market Street, Camden, NJ 08102

For Service at:

City Hall
4221750308

Account No.:

778015283

Meter No.:

Electric Service

Delivery -

PSE&G

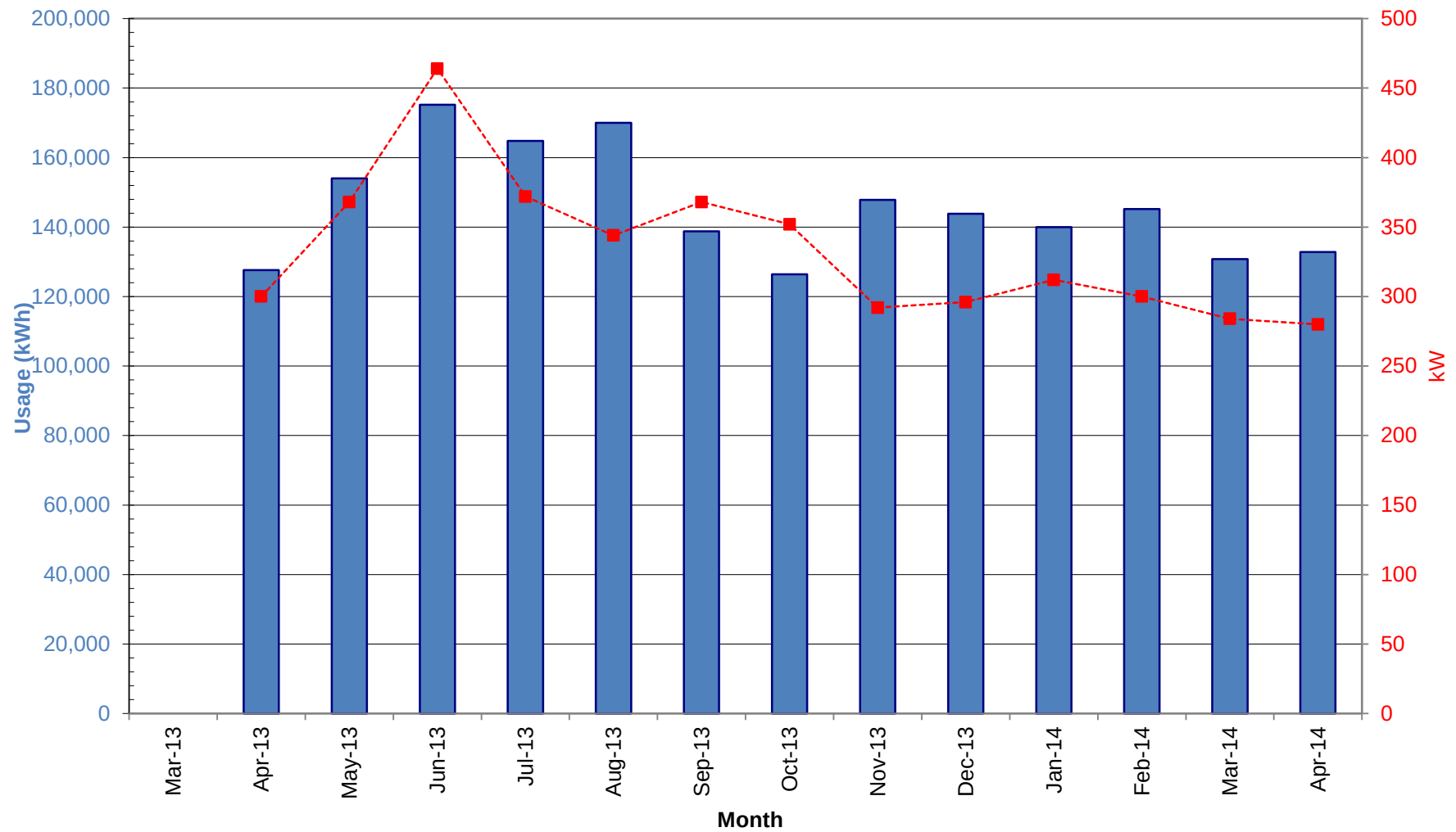
Supplier -

PSE&G

			Provider Charges			Usage (kWh) vs. Demand (kW) Charges		Unit Costs		
Month	Consumption (kWh)	Demand (kW)	Delivery (\$)	Supplier (\$)	Total (\$)	Consumption (\$)	Demand (\$)	Blended Rate (\$/kWh)	Consumption (\$/kWh)	Demand (\$/kW)
April-13	127,600	300	16,924.85	10,529.42	\$ 27,454.27	\$ 26,390.95	\$ 1,063.32	0.22	0.21	3.54
May-13	154,000	368	22,084.13	12,783.82	\$ 34,867.95	\$ 33,563.61	\$ 1,304.34	0.23	0.22	3.54
June-13	175,200	464	25,085.46	14,706.28	\$ 39,791.74	\$ 38,147.14	\$ 1,644.60	0.23	0.22	3.54
July-13	164,800	372	23,114.90	13,140.72	\$ 36,255.62	\$ 34,937.10	\$ 1,318.52	0.22	0.21	3.54
August-13	170,000	344	22,826.80	13,703.01	\$ 36,529.81	\$ 35,310.54	\$ 1,219.27	0.21	0.21	3.54
September-13	138,800	368	5,432.30	9,400.05	\$ 14,832.35	\$ 13,528.01	\$ 1,304.34	0.11	0.10	3.54
October-13	126,400	352	5,073.68	8,812.37	\$ 13,886.05	\$ 12,638.42	\$ 1,247.63	0.11	0.10	3.54
November-13	147,800	292	5,470.05	9,851.34	\$ 15,321.39	\$ 14,239.64	\$ 1,081.75	0.10	0.10	3.70
December-13	143,800	296	5,349.35	9,483.74	\$ 14,833.09	\$ 13,737.16	\$ 1,095.93	0.10	0.10	3.70
January-14	140,000	312	5,169.30	9,766.37	\$ 14,935.67	\$ 13,829.81	\$ 1,105.86	0.11	0.10	3.54
February-14	145,200	300	5,173.55	9,538.24	\$ 14,711.79	\$ 13,648.47	\$ 1,063.32	0.10	0.09	3.54
March-14	130,800	284	4,819.49	8,915.16	\$ 13,734.65	\$ 12,728.04	\$ 1,006.61	0.11	0.10	3.54
April-14	132,800	280	4,891.52	9,254.19	\$ 14,145.71	\$ 13,153.28	\$ 992.43	0.11	0.10	3.54
Total (All)	1,897,200	464.00	\$151,415.38	\$139,884.71	\$ 291,300.09	\$275,852.17	\$15,447.92	0.15	0.15	3.57
Total (last 12-months)	1,769,600	464.00	\$134,490.53	\$129,355.29	\$ 263,845.82	\$249,461.22	\$14,384.60	0.15	0.14	3.57
Notes	1	2	3	4	5	6	7	8	9	10

- 1.) Number of kWh of electric energy used per month
- 2.) Number of kW of power measured
- 3.) Electric charges from Delivery provider
- 4.) Electric charges from Supply provider
- 5.) Total charges (Delivery + Supplier)
- 6.) Charges based on the number of kWh of electric energy used
- 7.) Charges based on the number of kW of power measured
- 8.) Total Charges (\$) / Consumption (kWh)
- 9.) Consumption Charges (\$) / Consumption (kWh)
- 10.) Demand Charges (\$) / Demand (kW)
- No data provided, most recent rate used
- No data provided, interpolated value

City Hall - Electric Usage



Camden County Board of Freeholders LG&E
520 Market Street, Camden, NJ 08102

For Service at: City Hall
520 Market Street, Camden, NJ 08102

Account No.:

Meter No:

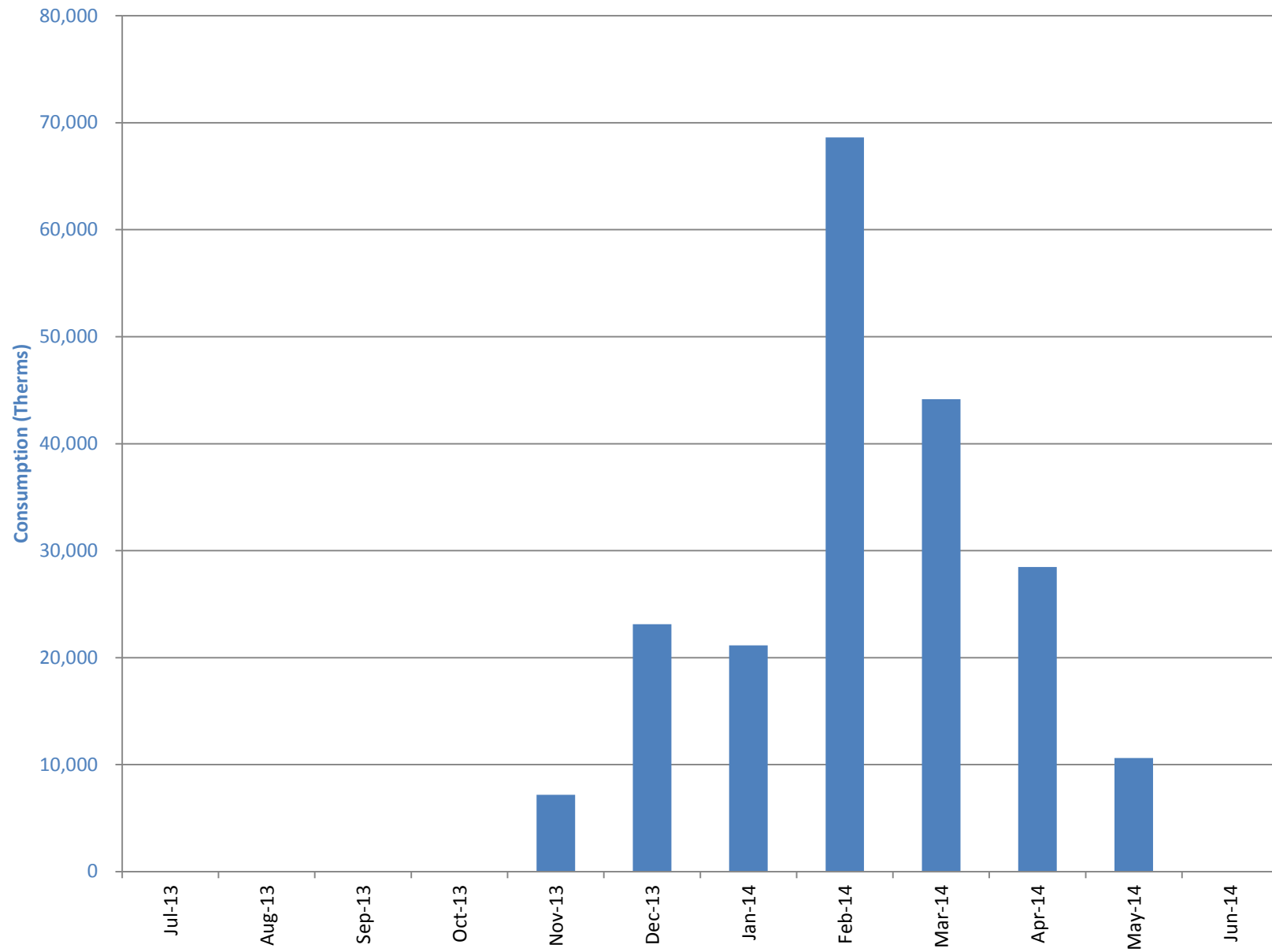
Natural Gas Service

Delivery - PSE&G

Supplier - Hess

Month	Consumption (Therms)	Charges			Unit Costs		
		Delivery (\$)	Supply (\$)	Total (\$)	Delivery (\$/Therm)	Supply (\$/Therm)	Total (\$/Therm)
July-13	0	\$ 104.24	\$ -	\$ 104	#DIV/0!	#DIV/0!	#DIV/0!
August-13	0	\$ 104.24	\$ -	\$ 104	#DIV/0!	#DIV/0!	#DIV/0!
September-13	0	\$ 104.24	\$ -	\$ 104	#DIV/0!	#DIV/0!	#DIV/0!
October-13	11	\$ 105.70	\$ 7.60	\$ 113	\$ 9.977	\$ 0.717	\$ 10.69
November-13	7,181	\$ 6,862.55	\$ 5,150.19	\$ 12,013	\$ 0.956	\$ 0.717	\$ 1.67
December-13	23,120	\$ 10,251.02	\$ 16,582.43	\$ 26,833	\$ 0.443	\$ 0.717	\$ 1.16
January-14	21,151	\$ 9,826.18	\$ 15,169.71	\$ 24,996	\$ 0.465	\$ 0.717	\$ 1.18
February-14	68,626	\$ 19,620.86	\$ 49,220.14	\$ 68,841	\$ 0.286	\$ 0.717	\$ 1.00
March-14	44,166	\$ 13,776.91	\$ 31,676.63	\$ 45,454	\$ 0.312	\$ 0.717	\$ 1.03
April-14	28,461	\$ 2,763.20	\$ 20,412.63	\$ 23,176	\$ 0.097	\$ 0.717	\$ 0.81
May-14	10,629	\$ 1,116.17	\$ 7,623.36	\$ 8,740	\$ 0.105	\$ 0.717	\$ 0.82
June-14	21	\$ 104.30	\$ 15.05	\$ 119	\$ 4.970	\$ 0.717	\$ 5.69
Total (all)	203,365	\$ 64,739.61	\$ 145,857.73	\$ 210,597	\$ 0.32	\$ 0.72	\$ 1.04
Total (last 12 months)	203,365	\$ 64,739.61	\$ 145,857.73	\$ 210,597	\$ 0.32	\$ 0.72	\$ 1.04

Natural Gas Usage - City Hall



PSE&G ELECTRIC SERVICE TERRITORY
Last Updated: 10/24/12

***CUSTOMER CLASS - R – RESIDENTIAL C – COMMERCIAL I –INDUSTRIAL**

Supplier	Telephone & Web Site	*Customer Class
AEP Energy, Inc. 309 Fellowship Road, Fl. 2 Mount Laurel, NJ 08054	(866) 258-3782 www.aepenergy.com	C/I ACTIVE
Alpha Gas and Electric, LLC 641 5 th Street Lakewood, NJ 08701	(855) 553-6374 www.alphagasandelectric.com	R/C ACTIVE
Ambit Northeast, LLC 103 Carnegie Center Suite 300 Princeton, NJ 08540	(877)-30-AMBIT (877) 302-6248 www.ambitenergy.com	R/C ACTIVE
American Powernet Management, LP 437 North Grove St. Berlin, NJ 08009	(877) 977-2636 www.americanpowernet.com	C ACTIVE
Amerigreen Energy, Inc. 1463 Lamberton Road Trenton, NJ 08611	888-423-8357 www.amerigreen.com	R/C ACTIVE
AP Gas & Electric, LLC 10 North Park Place, Suite 420 Morristown, NJ 07960	(855) 544-4895 www.apge.com	R/C/I ACTIVE
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	(201) 384-5552 www.astralenergylc.com	R/C/I ACTIVE
Barclays Capital Services, Inc. 70 Hudson Street Jersey City, NJ 07302-4585	(888) 978-9974 www.group.barclays.com	C ACTIVE
BBPC, LLC d/b/a Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	(888) 651-4121 www.greateasternenergy.com	C/I ACTIVE
Champion Energy Services, LLC 72 Avenue L Newark, NJ 07105	(877) 653-5090 www.championenergyservices.com	R/C/I ACTIVE

Choice Energy, LLC 4257 US Highway 9, Suite 6C Freehold, NJ 07728	888-565-4490 www.4choiceenergy.com	R/C ACTIVE
Clearview Electric, Inc. 505 Park Drive Woodbury, NJ 08096	(888) CLR-VIEW (800) 746-4702 www.clearviewenergy.com	R/C/I ACTIVE
Commerce Energy, Inc. 7 Cedar Terrace Ramsey, NJ 07446	1-866-587-8674 www.commerceenergy.com	R ACTIVE
ConEdison Solutions Cherry Tree Corporate Center 535 State Highway Suite 180 Cherry Hill, NJ 08002	(888) 665-0955 www.conedsolutions.com	C/I ACTIVE
Constellation NewEnergy, Inc. 900A Lake Street, Suite 2 Ramsey, NJ 07446	(866) 237-7693 www.constellation.com	R/C/I ACTIVE
Constellation Energy 900A Lake Street, Suite 2 Ramsey, NJ 07446	(877) 997-9995 www.constellation.com	R ACTIVE
Credit Suisse, (USA) Inc. 700 College Road East Princeton, NJ 08450	(212) 538-3124 www.creditsuisse.com	C ACTIVE
Direct Energy Business, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(888) 925-9115 www.directenergybusiness.com	C/I ACTIVE
Direct Energy Services, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(866) 348-4193 www.directenergy.com	R ACTIVE
Discount Energy Group, LLC 811 Church Road, Suite 149 Cherry Hill, New Jersey 08002	(800) 282-3331 www.discountenergygroup.com	R/C ACTIVE
Dominion Retail, Inc. d/b/a Dominion Energy Solutions 395 Route #70 West Suite 125 Lakewood, NJ 08701	(866) 275-4240 www.dom.com/products	R/C ACTIVE

DTE Energy Supply, Inc. One Gateway Center, Suite 2600 Newark, NJ 07102	(877) 332-2450 www.dtesupply.com	C/I ACTIVE
Energy.me Midwest LLC 90 Washington Blvd Bedminster, NJ 07921	(855) 243-7270 www.energy.me	R/C/I ACTIVE
Energy Plus Holdings LLC 309 Fellowship Road East Gate Center, Suite 200 Mt. Laurel, NJ 08054	(877) 866-9193 www.energypluscompany.com	R/C ACTIVE
Ethical Electric Benefit Co. d/b/a Ethical Electric 100 Overlook Center, 2 nd Fl. Princeton, NJ 08540	(888) 444-9452 www.ethicalelectric.com	R/C ACTIVE
FirstEnergy Solutions 300 Madison Avenue Morristown, NJ 07962	(800) 977-0500 www.fes.com	C/I ACTIVE
Gateway Energy Services Corp. 44 Whispering Pines Lane Lakewood, NJ 08701	(800) 805-8586 www.gesc.com	R/C/I ACTIVE
GDF SUEZ Energy Resources NA, Inc. 333 Thornall Street Sixth Floor Edison, NJ 08837	(866) 999-8374 www.gdfsuezenergyresources.com	C/I ACTIVE
Glacial Energy of New Jersey, Inc. 75 Route 15 Building E Lafayette, NJ 07848	(888) 452-2425 www.glacialenergy.com	C/I ACTIVE
Global Energy Marketing LLC 129 Wentz Avenue Springfield, NJ 07081	(800) 542-0778 www.globalp.com	C/I ACTIVE
Green Mountain Energy Company 211 Carnegie Center Drive Princeton, NJ 08540	(866) 767-5818 www.greenmountain.com/commercial-home	C/I ACTIVE

Hess Corporation 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 www.hess.com	C/I ACTIVE
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666	(888) 264-4908 www.hikoenergy.com	R/C ACTIVE
HOP Energy, LLC d/b/a Metro Energy, HOP Fleet Fueling, HOP Energy Fleet Fueling 1011 Hudson Avenue Ridgefield, NJ 07657	(877) 390-7155 www.hopenergy.com	R/C/I ACTIVE
Hudson Energy Services, LLC 7 Cedar Street Ramsey, New Jersey 07446	(877) Hudson 9 www.hudsonenergyservices.com	C ACTIVE
IDT Energy, Inc. 550 Broad Street Newark, NJ 07102	(877) 887-6866 www.idtenergy.com	R/C ACTIVE
Independence Energy Group, LLC 3711 Market Street, 10 th Fl. Philadelphia, PA 19104	(877) 235-6708 www.chooseindependence.com	R/C ACTIVE
Integrus Energy Services, Inc. 99 Wood Ave, South, Suite 802 Iselin, NJ 08830	(877) 763-9977 www.integrusenergy.com	C/I ACTIVE
Keil & Sons, Inc. d/b/a Systrum Energy 1 Bergen Blvd. Fairview, NJ 07022	(877) 797-8786 www.systrumenergy.com	R/C/I ACTIVE
Liberty Power Delaware, LLC 1973 Highway 34, Suite 211 Wall, NJ 07719	(866) 769-3799 www.libertypowercorp.com	C/I ACTIVE
Liberty Power Holdings, LLC 1973 Highway 34, Suite 211 Wall, NJ 07719	(866) 769-3799 www.libertypowercorp.com	C/I ACTIVE

Linde Energy Services 575 Mountain Avenue Murray Hill, NJ 07974	(800) 247-2644 www.linde.com	C/I ACTIVE
Marathon Power LLC 302 Main Street Paterson, NJ 07505	(888) 779-7255 www.mecny.com	R/C/I ACTIVE
MXenergy Electric Inc. 900 Lake Street Ramsey, NJ 07446	(800) 785-4374 www.mxenergy.com	R/C/I ACTIVE
NATGASCO, Inc. 532 Freeman St. Orange, NJ 07050	(973) 678-1800 x. 251 www.supremeenergyinc.com	R/C ACTIVE
NextEra Energy Services New Jersey, LLC 651 Jernee Mill Road Sayreville, NJ 08872	(877) 528-2890 Commercial (800) 882-1276 Residential www.nexteraenergyservices.com	R/C/I ACTIVE
New Jersey Gas & Electric 1 Bridge Plaza fl. 2 Fort Lee, NJ 07024	(866) 568-0290 www.NJGandE.com	R/C ACTIVE
Noble Americas Energy Solutions The Mac-Cali Building 581 Main Street, 8th Floor Woodbridge, NJ 07095	(877) 273-6772 www.noblesolutions.com	C/I ACTIVE
North American Power and Gas, LLC 222 Ridgedale Avenue Cedar Knolls, NJ 07927	(888) 313-9086 www.napower.com	R/C/I ACTIVE
Palmco Power NJ, LLC One Greentree Centre 10,000 Lincoln Drive East, Suite 201 Marlton, NJ 08053	(877) 726-5862 www.PalmcoEnergy.com	R/C/I ACTIVE
Pepco Energy Services, Inc. 112 Main St. Lebanon, NJ 08833	(800) ENERGY-9 (363-7499) www.pepco-services.com	C/I ACTIVE
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	(855) 32-POWER (76937) www.plymouthenergy.com	R/C/I ACTIVE

PPL Energy Plus, LLC 811 Church Road Cherry Hill, NJ 08002	(800) 281-2000 www.pplenergyplus.com	C/I ACTIVE
Public Power & Utility of New Jersey, LLC 39 Old Ridgebury Rd. Suite 14 Danbury, CT 06810	(888) 354-4415 www.ppandu.com	R/C/I ACTIVE
Reliant Energy 211 Carnegie Center Princeton, NJ 08540	(877) 297-3795 (877) 297-3780 www.reliant.com/pjm	R/C/I ACTIVE
ResCom Energy LLC 18C Wave Crest Ave. Winfield Park, NJ 07036	(888) 238-4041 http://rescomenergy.com	R/C/I ACTIVE
Respond Power LLC 10 Regency CT Lakewood, NJ 08701	(877) 973-7763 www.respondpower.com	R/C/I ACTIVE
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	(800) 266-6020 www.southjerseyenergy.com	C/I ACTIVE
Sperian Energy Corp. 1200 Route 22 East, Suite 2000 Bridgewater, NJ 08807	(888) 682-8082	R/C/I ACTIVE
S.J. Energy Partners, Inc. 208 White Horse Pike, Suite 4 Barrington, N.J. 08007	(800) 695-0666 www.sjnaturalgas.com	R/C ACTIVE
Spark Energy, L.P. 2105 CityWest Blvd., Ste 100 Houston, Texas 77042	(800) 441-7514 www.sparkenergy.com	R/C/I ACTIVE
Sprague Energy Corp. 12 Ridge Road Chatham Township, NJ 07928	(800) 225-1560 www.spragueenergy.com	C/I ACTIVE
Starion Energy PA Inc. 101 Warburton Avenue Hawthorne, NJ 07506	(800) 600-3040 www.starionenergy.com	R/C/I ACTIVE
Stream Energy 309 Fellowship Rd., Suite 200 Mt. Laurel, NJ 08054	(877) 39-8150 www.streamenergy.net	R ACTIVE

UGI Energy Services, Inc. d/b/a GASMARK 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(856) 273-9995 www.ugienergyservices.com	C/I ACTIVE
Verde Energy USA, Inc. 50 East Palisades Avenue Englewood, NJ 07631	(800) 388-3862 www.lowcostpower.com	R/C/I ACTIVE
Viridian Energy 2001 Route 46, Waterview Plaza Suite 310 Parsippany, NJ 07054	(866) 663-2508 www.viridian.com	R/C/I ACTIVE
Xoom Energy New Jersey, LLC 744 Broad Street Newark, NJ 07102	(888) 997-8979 www.xoomenergy.com	R/C/I ACTIVE
YEP Energy 89 Headquarters Plaza North #1463 Morristown, NJ 07960	(855) 363-7736 www.yepenergyNJ.com	R/C/I ACTIVE
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	(855) 732-2493 www.thisisyourenergy.com	R/C/I ACTIVE

[Back to the main supplier page](#)

PSE&G GAS SERVICE TERRITORY
Last Updated: 10/24/12

***CUSTOMER CLASS - R – RESIDENTIAL C – COMMERCIAL I - INDUSTRIAL**

Supplier	Telephone & Web Site	*Customer Class
Ambit Northeast, LLC 103 Carnegie Center Suite 300 Princeton, NJ 08540	(877)-30-AMBIT (877) 302-6248 www.ambitenergy.com	R/C ACTIVE
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	888-850-1872 www.astralenergyllc.com	R/C/I ACTIVE
BBPC, LLC Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	888-651-4121 www.greateasternenergy.com	C/I ACTIVE
Clearview Electric Inc. d/b/a Clearview Gas 1744 Lexington Ave. Pennsauken, NJ 08110	800-746-4720 www.clearviewenergy.com	R/C ACTIVE
Colonial Energy, Inc. 83 Harding Road Wyckoff, NJ 07481	845-429-3229 www.colonialgroupinc.com	C/I ACTIVE
Commerce Energy, Inc. 7 Cedar Terrace Ramsey, NJ 07746	(888) 817-8572 www.commerceenergy.com	R ACTIVE
Compass Energy Services, Inc. 1085 Morris Avenue, Suite 150 Union, NJ 07083	866-867-8328 908-638-6605 www.compassenergy.net	C/I ACTIVE
ConocoPhillips Company 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	800-646-4427 www.conocophillips.com	C/I ACTIVE
Consolidated Edison Energy, Inc. d/b/a Con Edison Solutions 535 State Highway 38, Suite 140 Cherry Hill, NJ 08002	888-686-1383 x2130 www.conedenergy.com	

Consolidated Edison Solutions, Inc. Cherry Tree Corporate Center 535 State Highway 38, Suite 140 Cherry Hill, NJ 08002	888-665-0955 www.conedsolutions.com	C/I ACTIVE
Constellation NewEnergy-Gas Division, LLC 900A Lake Street, Suite 2 Ramsey, NJ 07466	(800) 900-1982 www.constellation.com	C/I ACTIVE
Direct Energy Business, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	888-925-9115 www.directenergy.com	C/I ACTIVE
Direct Energy Services, LLP 120 Wood Avenue, Suite 611 Iselin, NJ 08830	866-348-4193 www.directenergy.com	R ACTIVE
Gateway Energy Services Corp. 44 Whispering Pines Lane Lakewood, NJ 08701	800-805-8586 www.gesc.com	R/C/I ACTIVE
UGI Energy Services, Inc. d/b/a GASMARK 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	856-273-9995 www.ugienergyservices.com	C/I ACTIVE
Global Energy Marketing, LLC 129 Wentz Avenue Springfield, NJ 07081	800-542-0778 www.globalp.com	C/I ACTIVE
Great Eastern Energy 116 Village Blvd., Suite 200 Princeton, NJ 08540	888-651-4121 www.greateastern.com	C/I ACTIVE
Greenlight Energy 330 Hudson Street, Suite 4 Hoboken, NJ 07030	718-204-7467 www.greenlightenergy.us	C ACTIVE
Hess Energy, Inc. One Hess Plaza Woodbridge, NJ 07095	800-437-7872 www.hess.com	C/I ACTIVE
Hess Small Business Services, LLC One Hess Plaza Woodbridge, NJ 07095	888-494-4377 www.hessenergy.com	C/I ACTIVE
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666	(888) 264-4908 www.hikoenergy.com	R/C ACTIVE

Hudson Energy Services, LLC 7 Cedar Street Ramsey, NJ 07446	877- Hudson 9 www.hudsonenergyservices.com	C ACTIVE
IDT Energy, Inc. 550 Broad Street Newark, NJ 07102	877-887-6866 www.idtenergy.com	R/C ACTIVE
Integrus Energy Services – Natural Gas, LLC 99 Wood Avenue South Suite #802 Iselin, NJ 08830	800-536-0151 www.integrusenergy.com	C/I ACTIVE
Intelligent Energy 2050 Center Avenue, Suite 500 Fort Lee, NJ 07024	800-927-9794 www.intelligentenergy.org	R/C/I ACTIVE
Keil & Sons, Inc. d/b/a Systrum Energy 1 Bergen Blvd. Fairview, NJ 07022	1-877-797-8786 www.systrumenergy.com	R/C/I ACTIVE
Major Energy Services, LLC 10 Regency CT Lakewood, NJ 08701	888-625-6760 www.majorenergy.com	R/C/I ACTIVE
Marathon Power LLC 302 Main Street Paterson, NJ 07505	888-779-7255 www.mecny.com	R/C/I ACTIVE
Metromedia Energy, Inc. 6 Industrial Way Eatontown, NJ 07724	800-828-9427 www.metromediaenergy.com	C ACTIVE
Metro Energy Group, LLC 14 Washington Place Hackensack, NJ 07601	888-53-Metro www.metroenergy.com	R/C ACTIVE
MxEnergy, Inc. 900 Lake Street Ramsey, NJ 07446	800-758-4374 www.mxenergy.com	R/C/I ACTIVE
NATGASCO (Mitchell Supreme) 532 Freeman Street Orange, NJ 07050	800-840-4GAS www.natgasco.com	C ACTIVE
New Energy Services LLC 101 Neptune Avenue Deal, New Jersey 07723	800-660-3643 www.newenergyservicesllc.com	R/C/I ACTIVE

New Jersey Gas & Electric 1 Bridge Plaza, Fl. 2 Fort Lee, NJ 07024	866-568-0290 www.NJGandE.com	R/C ACTIVE
Noble Americas Energy Solutions The Mac-Cali Building 581 Main Street, 8th fl. Woodbridge, NJ 07095	877-273-6772 www.noblesolutions.com	C/I ACTIVE
North American Power & Gas, LLC d/b/a North American Power 197 Route 18 South Ste. 3000 East Brunswick, NJ 08816	(888) 313-9086 www.napower.com	R/C/I ACTIVE
Palmco Energy NJ, LLC One Greentree Centre 10,000 Lincoln Drive East, Suite 201 Marlton, NJ 08053	877-726-5862 www.PalmcoEnergy.com	R/C/I ACTIVE
Pepco Energy Services, Inc. 112 Main Street Lebanon, NJ 08833	800-363-7499 www.pepco-services.com	C/I ACTIVE
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	855-32-POWER (76937) www.plymouthenergy.com	R/C/I ACTIVE
PPL EnergyPlus, LLC 811 Church Road - Office 105 Cherry Hill, NJ 08002	800-281-2000 www.pplenergyplus.com	C/I ACTIVE
Respond Power LLC 10 Regency CT Lakewood, NJ 08701	(877) 973-7763 www.respondpower.com	R/C/I ACTIVE
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	800-266-6020 www.southjerseyenergy.com	C/I ACTIVE
S.J. Energy Partners, Inc. 208 White Horse Pike, Suite 4 Barrington, NJ 08007	800-695-0666 www.sjnaturalgas.com	R/C ACTIVE
Spark Energy Gas, L.P. 2105 CityWest Blvd, Ste 100 Houston, Texas 77042	800-411-7514 www.sparkenergy.com	R/C/I ACTIVE
Sprague Energy Corp. 12 Ridge Road Chatham Township, NJ 07928	855-466-2842 www.spragueenergy.com	C/I ACTIVE

Stuyvesant Energy LLC 10 West Ivy Lane, Suite 4 Englewood, NJ 07631	800-640-6457 www.stuyfuel.com	C ACTIVE
Stream Energy New Jersey, LLC 309 Fellowship Road Suite 200 Mt. Laurel, NJ 08054	(973) 494-8097 www.streamenergy.net	R/C ACTIVE
Systrum Energy 1 Bergen Blvd. Fairview, NJ 07022	877-797-8786 www.systrumenergy.com	R/C/I ACTIVE
Woodruff Energy 73 Water Street Bridgeton, NJ 08302	800-557-1121 www.woodruffenergy.com	R/C/I ACTIVE
Woodruff Energy US LLC 73 Water Street, P.O. Box 777 Bridgeton, NJ 08302	856-455-1111 800-557-1121 www.woodruffenergy.com	C/I ACTIVE
Xoom Energy New Jersey, LLC 744 Broad Street Newark, NJ 07102	888-997-8979 www.xoomenergy.com	R/C/I ACTIVE
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	(855) 732-2493 www.thisisyourenergy.com	R/C/I ACTIVE

[Back to main supplier information page](#)

APPENDIX B

Equipment Inventory

Camden County
CHA Project# 28470
City Hall

Description	QTY	Manufacturer Name	Model No.	Serial No.	Equipment Type / Utility	Capacity/Size /Efficiency	Location	Areas/Equipment Served	Date Installed	Remaining Useful Life (years)	Other Info.
HP	1	-	5KC190	-	Heat Pump / Electric	3-ton	Basement	Welders Shop	1992	0	
HP	1	Enercon	SCDH-W-0514302	85L-TAV-16072B	Heat Pump / Electric	3-ton	Basement	Sheriff Area	1992	0	
HP	2	Enercon	SCDH-W-0072302	86C-TAK-02975B, 86C-TAK-02976B	Heat Pump / Electric	3-ton	Basement	Mailroom / Storage	1992	0	
HP	1	Enercon	SCDH-W-0514302	-	Heat Pump / Electric	3-ton	Basement	Central Services	1992	0	
HP	1	Enercon	SCDH-W-0514302	85L-TAV-16072B	Heat Pump / Electric	3-ton	Basement	Carpenter Shop	1992	0	
HP	1	Enercon	CCH/HWHO 12CMGS	7YMO447902	Heat Pump / Electric	3-ton	Basement	Security Office	1992	0	
HP	1	Enercon	SCDH-W-0072302	86-C-TAK-02977B	Heat Pump / Electric	3-ton	Basement	Locksmith Shop	1992	0	
HP	1	Enercon	SCDH-W-0364302	85F-TAV-09174B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-0364302	85E-TAV-07187B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-0364302	85-LCCR-16287B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-0364302	85F-TAV-09126B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-00092302	86-BAK-01222B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-0023302	86D-CCR-16287B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	1	Enercon	SCDH-W-0034302	85L-CCR-16287B	Heat Pump / Electric	3-ton	Basement	B100	1992	0	
HP	2	Enercon	SCDH-W-00614302	-	Heat Pump / Electric	3-ton	Basement	Sally Port	1992	0	
										0	
HP	1	American Filter	HW51	-	Heat Pump / Electric	3-ton	1st Floor	Sheriffs and Register of Deeds	1992		
HP	1	American Filter	HW61	-	Heat Pump / Electric	3-ton	1st Floor	Sheriffs and Register of Deeds	1992	0	
HP	1	American Filter	HW101	-	Heat Pump / Electric	3-ton	1st Floor	Sheriffs and Register of Deeds	1992	0	
HP	1	American Filter	1K16DHF11 40 8678-35	-	Heat Pump / Electric	3-ton	1st Floor	Sheriffs and Register of Deeds	1992	0	
HP	1	Carrier	50BA-024-560	1892F97746	Heat Pump / Electric	3-ton	1st Floor	Tax Office	1992		
HP	1	Hightec	VS080HSSSFAXCAC	97D010643	Heat Pump / Electric	3-ton	1st Floor	103	1992		
HP	1	Hightec	VS080HSSSFAXCAC	97D010644	Heat Pump / Electric	3-ton	1st Floor	105	1992		
						3-ton			1992	0	
HP	1	American Filter	HW61	-	Heat Pump / Electric	3-ton	2nd Floor	Sheriff Area	1992	0	
HP	1	American Filter	HW81	-	Heat Pump / Electric	3-ton	2nd Floor	Sheriff Area	1992	0	
HP	1	American Filter	HW101	-	Heat Pump / Electric	3-ton	2nd Floor	Sheriff Area	1992	0	
CU	1	McQuay	-	-	Cooling / Electric	2-ton	Roof	209	1992		
										0	
HP	1	American Filter	SCDH-W-514302	85L-TAV-16086B, 85L-TAV-16070B	Heat Pump / Electric	3-ton	3rd Floor	Room 311	1992	0	
HP	1	American Filter	SCDH-W-049430	85L-TAV-16177B	Heat Pump / Electric	3-ton	3rd Floor	Room 311	1992	0	
									1992	0	
HP	1	American Filter	SCDH-W-0362302	85-1-TAV-13116B	Heat Pump / Electric	3-ton	4th Floor	Room 432	1992	0	
AHU	1	McQuay	HWH-CCH090CMF	79H08664	Heat Pump / Electric	3-ton	Attic	Council Chambers	1999		
AHU	1	McQuay	HWH-CCH090CMF	79H0866810	Heat Pump / Electric	3-ton	Attic	Council Chambers	1999		
AHU	1	York	DSV096B2M1HAA1	SMAM002643	AHU / Electric	8-ton	Closet	Mayor's Office	1992		
									1992		
HP	1	Carrier	50BRN00651	-	Heat Pump / Electric	8-ton	6th Floor	3rd Floor	1992	0	
HP	2	American Filter	SCGHW-0414-302	6VL3014400, 6VL3014500	Heat Pump / Electric	3-ton	6th Floor	3rd Floor	1992	0	
HP	1	American Filter	SCGHW-304-302	90CBHW02354	Heat Pump / Electric	3-ton	6th Floor	Common Room 310C	1992	0	
AHU	1	McQuay	W.VFW.1.048.B.Y.F	668767701-C	AHU / Electric	4-ton	Print Shop	Print Shop	1992		
AHU	1	York	-	-	AHU / Electric	4-ton	Print Shop	Print Shop	1992		
									1992	0	
HP	1	EMI	S1HA6000D00	-	Heat Pump / Electric	3-ton	7th Floor	Elevator Room #1	1992	0	
HP	1	EMI	S1HA4000D10	-	Heat Pump / Electric	3-ton	7th Floor	Elevator Room #2 South	1992	0	
HP	1	EMI	S1HA4000D10	-	Heat Pump / Electric	3-ton	7th Floor	Elevator Room #3 North	1992	0	
HP	1	EMI	S1HA4000D10	-	Heat Pump / Electric	3-ton	7th Floor	Elevator Room #4	1992	0	
CU	1	Fujitsu-Halcyon	AOU18C1	-	Cooling / Electric	1.5-ton	7th Floor	Computer Server Room	1992	0	
CU	1	Fujitsu-Halcyon	ACU30CLX41	-	Cooling / Electric	2.5 ton	7th Floor	Computer Server Room	1992	0	
									1992	0	
HP	1	Enercon	SCDHW-0614302	86-A-TAG-00041B	Heat Pump / Electric	2-ton	8th Floor	8th Floor	1992	0	
HP	1	Carrier	50AH-036-5	09965G0018	Heat Pump / Electric	2-ton	8th Floor	8th Floor	1992	0	
										0	
HP	2	American Filter	HW 49	-	Heat Pump / Electric	3-ton	9th Floor	9th Floor	1992	0	
HP	1	-	ASCD HW036 2302	-	Heat Pump / Electric	3-ton	9th Floor	9th Floor	1992	0	
										0	
HP	1	American Filter	HW 36	-	Heat Pump / Electric	2.5-ton	10th Floor	10th Floor	1992	0	
HP	1	American Filter	HW 39	-		2.5-ton	10th Floor	10th Floor	1992		
HP	1	American Filter	HW 41	-	Heat Pump / Electric	2.5-ton	10th Floor	10th Floor	1992	0	
HP	1	American Filter	HW 51	-	Heat Pump / Electric	2.5-ton	10th Floor	10th Floor	1992	0	
										0	
HP	1		SCDHW0362302	-	Heat Pump / Electric	2-ton	11th Floor	11th Floor	1992	0	
HP	1		SCDHW0232302	-	Heat Pump / Electric	4-ton	11th Floor	11th Floor	1992	0	
HP	2		SCDHW0512302	-	Heat Pump / Electric	4-ton	11th Floor	11th Floor	1992	0	

Camden County
CHA Project# 28470
City Hall

Description	QTY	Manufacturer Name	Model No.	Serial No.	Equipment Type / Utility	Capacity/Size /Efficiency	Location	Areas/Equipment Served	Date Installed	Remaining Useful Life (years)	Other Info.
										0	
HP	1	American Filter	HW 41		Heat Pump / Electric	2-ton	12th Floor	12th Floor	1992	0	
HP	1	American Filter	HW 36		Heat Pump / Electric	4-ton	12th Floor	12th Floor	1992	0	
HP	1	American Filter	HW 49		Heat Pump / Electric	4-ton	12th Floor	12th Floor	1992	0	
										0	
HP	1	Carrier	50EC012501 EA – V		Heat Pump / Electric	2-ton	14th Floor	14th Floor	1992	0	
										0	
HP	1	Fedders	CAC 120B8B		Heat Pump / Electric	2-ton	15th Floor	15th Floor	1992	0	
										0	
										0	
HP	1	Carrier	50HQA040TEC301		Heat Pump / Electric	3.5-ton	16th Floor	16th Floor	1992	0	
HP	2	Carrier	50HQA036TEC301		Heat Pump / Electric	3-ton	16th Floor	16th Floor	1992	0	
										0	
HP	1	McQuay	LHP/VWH12DMDR				17th Floor	17th Floor	1992		
										0	
CU	1	EMI	S1HA6000D00		Cooling / Electric	2-ton	18th Floor	County Radio Room	1992	0	
CU	1	EMI	S1HA4000D10		Cooling / Electric	2-ton	18th Floor	County Radio Room	1992	0	
										0	
CU	1	Sanyo	CL1211		Cooling / Electric	1-ton	20th Floor	IT Server Room	1992	0	
CU	1	EMI	1HA4000D10		Cooling / Electric	2-ton	20th Floor	Elevator Machine Room	1992	0	
CU		American Filter	WHP12D320AAD00C42 8678-35		Cooling / Electric	2-ton	20th Floor	Elevator Machine Room	1992	0	
CU	1	Mitsubishi Electric	PURY-P144IGMU-A	89W00533	Cooling / Electric	12-ton	Roof	4th Floor Courtroom	1992	0	
CU	1	Mitsubishi Electric	PURY-P144IGMU-A	89W00530	Cooling / Electric	12-ton	Roof	4th Floor Courtroom	1992	0	
CU	1	Mitsubishi Electric	PURY-P144IGMU-A	89W00523	Cooling / Electric	12-ton	Roof	4th Floor Courtroom	1992	0	
CU	1	Mitsubishi Electric	PURY-P144IGMU-A	89W00505	Cooling / Electric	12-ton	Roof	4th Floor Courtroom	1992	0	
										0	
WAC	92	Various	-	-	Cooling / Electric	2-ton	Window			0	
										0	
AC-1	1	Quincy	QR340DT00019	5151127	Compressed Air / Electric	Dual Motor 7.5 HP, 87.5%	Basement MER	Facility	1992		
B-1	1	Weil Mclain	2594	-	HHW / Electric	5,411 MBH	Basement MER 2	Steam Radiators in Building	1992	3	Steam Boiler
B-2	1	Weil Mclain	2594	-	HHW / Electric	5,411 MBH	Basement MER 2	Steam Radiators in Building	1992	3	Steam Boiler
B-3	1	-	-	-	HHW / Electric	5 lb steam	Basement MER	HHW Loop	1992	3	
CDWP-1	1	B&G	1.5x7B 6.125BF		HHW / Electric	50 HP, 94.5%	6th Floor MER	Cooling Towers	1992	0	
CDWP-2	1	B&G	5x5x7 6.375BF		HHW / Electric	50 HP, 94.5%	6th Floor MER	Cooling Towers	1992	0	
CDWP-3	1	B&G	-	-	HHW / Electric	50 HP, 94.5%	6th Floor MER	Cooling Towers	1992		
DWH-1	1	Bradford White	M140S5D513	MF4898233	Domestic HW / Electric	45 kW, 40 gallons	Basement MER	Sub Basement restroom	2005	3	Has 120 Gallon Storage Tank
DWH-2	1	Bradford White	M18OR6DS13	SE1954288	Domestic HW / Electric	45 kW, 80 gallons	Gym	Gym	2008		
CT-1	1	BAC	J1812B-31R	92100596	Cooling / Electric		Roof	HHW Loop	1992	3	
CT-2	1	BAC	J1812B-31R	921005597	Cooling / Electric		Roof	HHW Loop	1992	3	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	Retrofit control device	Notes
32LED	MER	Boiler Room	38	1T 32 R F 2 (ELE)	F42LL	60	2.28	SW	2000	4,560	NONE	
34LED	MER	Boiler Room	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	NONE	
117	MER	Boiler Room	5	CF 23	CFS23/1	23	0.12	SW	2000	230	NONE	
32LED	Storage B-6	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
202	Vest	Hallways	1	2T 17 R F 2 (ELE)	F22ILL	33	0.03	SW	8760	289	NONE	
32LED	Corridor	Hallways	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	8760	6,307	NONE	
32LED	Storage B-8	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Storage B-10	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	B-5 Storage	Storage Areas	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	B-11 Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	B-4 Office	Offices	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	2340	1,264	C-OCC	
32LED	B-3 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	B-2 Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	B-2 Storage	Storage Areas	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	C-OCC	
32LED	B-1 Electric Shop	Offices	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	2340	983	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	B-13 Police Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	B-13 Police Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Cust Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Light Closet	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Corridor	Hallways	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	8760	9,461	NONE	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Finance Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Criminal Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	Storage	Storage Areas	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	C-OCC	
25	TR	Restroom	1	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.03	SW	2340	66	C-OCC	
32LED	Copy Room	Copy Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	B-100	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
202	TR	Restroom	1	2T 17 R F 2 (ELE)	F22ILL	33	0.03	SW	2340	77	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Men's TR	Restroom	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Corridor	Hallways	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	8760	5,256	NONE	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	8760	3,679	NONE	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
34LED	Corridor	Hallways	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	8760	2,943	NONE	
32LED	Women's TR	Restroom	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Janitors Closet	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Corridor	Hallways	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	8760	4,730	NONE	
32LED	Storage	Storage Areas	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	C-OCC	
34LED	Mail Room	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
32LED	Mail Room	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Storage	Storage Areas	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	C-OCC	
32LED	Storage	Storage Areas	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	1000	300	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Corridor	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
5	Pre-Trial TR	Restroom	1	2T 32 R F 2 (U) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
34LED	Vest	Hallways	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	8760	2,943	NONE	
263LED	Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	

Cost of Electricity:

\$0.141 \$/kWh

\$3.57 \$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
263LED	Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
34LED	Storage	Storage Areas	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	1000	224	C-OCC	
34LED	Pre-trial Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
263LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F43LL	93	0.09	SW	2340	218	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Vest	Hallways	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	8760	3,924	NONE	
34LED	Office	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
34LED	Office	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Storage	Storage Areas	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	1000	224	C-OCC	
34LED	Breakroom	Break/Lunch Rooms	5	1T 32 C F 4 (ELE)	F44ILL	112	0.56	SW	2340	1,310	C-OCC	
34LED	Stairs	Stairway	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	8760	981	NONE	
32LED	Stairs	Stairway	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
117	Stairs	Stairway	1	CF 23	CFS23/1	23	0.02	SW	8760	201	NONE	
34LED	Storage	Storage Areas	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	1000	224	C-OCC	
34LED	Storage	Storage Areas	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	1000	336	C-OCC	
34LED	Elev Lobby	Hallways	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	8760	1,962	NONE	
32LED	Corridor	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
34LED	Storage Uniform	Storage Areas	5	1T 32 C F 4 (ELE)	F44ILL	112	0.56	SW	1000	560	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Recep Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
34LED	Storage	Storage Areas	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	1000	112	C-OCC	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Sheriff's Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Copy Room	Copy Room	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Fire Arms Training	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	NONE	
34LED	Vest	Hallways	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	8760	981	NONE	
32LED	Armory	Storage Areas	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Corridor	Hallways	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	8760	4,205	NONE	
32LED	Weight Room	Gynasium	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	Locker	Locker	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Weight Room	Gynasium	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Wash Room	Gynasium	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Elev Lobby	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Sherrif Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Vest	Hallways	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	8760	1,577	NONE	
32LED	Tax Office	Offices	50	1T 32 R F 2 (ELE)	F42LL	60	3.00	SW	2340	7,020	C-OCC	
32LED	Tax Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
117	Stairs	Stairway	4	CF 23	CFS23/1	23	0.09	SW	8760	806	NONE	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Time Clock Area	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
202	Ladies TR	Restroom	2	2T 17 R F 2 (ELE)	F22ILL	33	0.07	SW	2340	154	C-OCC	
34LED	Breakroom	Break/Lunch Rooms	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
202	Men's TR	Restroom	2	2T 17 R F 2 (ELE)	F22ILL	33	0.07	SW	2340	154	C-OCC	
3	Mail Room	Offices	2	W 34 W F 1 (MAG)	F41EE	43	0.09	SW	2340	201	C-OCC	
34LED	Vest	Hallways	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	8760	1,962	NONE	
32LED	102 Clerks Office	Offices	57	1T 32 R F 2 (ELE)	F42LL	60	3.42	SW	2340	8,003	C-OCC	
25	102 Clerks Office	Offices	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.06	SW	2340	131	C-OCC	
202	102 Clerks Office	Offices	14	2T 17 R F 2 (ELE)	F22ILL	33	0.46	SW	2340	1,081	C-OCC	
202	Records Storage	Storage Areas	16	2T 17 R F 2 (ELE)	F22ILL	33	0.53	SW	1000	528	C-OCC	
34LED	Records Storage	Storage Areas	24	1T 32 C F 4 (ELE)	F44ILL	112	2.69	SW	1000	2,688	C-OCC	
32LED	7 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	6 Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	5 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	4 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	3 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	2 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Recep Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	1 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
105LED	1 Office	Offices	5	W 32 F 1	F41LL	32	0.16	SW	2340	374	C-OCC	
25	Waiting Area	Offices	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.06	SW	2340	131	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	Conference Room	Conference	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Mail Room	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Men's TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Women's TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Utility Room	Mechanical Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2000	240	NONE	
32LED	Corridor	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
32LED	Lobby	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	
32LED	Corridor	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
264	Lobby	Hallways	3	WPLED20	WPLED20/3	68	0.20	SW	8760	1,787	NONE	
265	Lobby	Hallways	2	WPLED15	WPLED15/3	51	0.10	SW	8760	894	NONE	
32LED	Breakroom	Break/Lunch Rooms	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
34LED	107 Office	Offices	5	1T 32 C F 4 (ELE)	F44ILL	112	0.56	SW	2340	1,310	C-OCC	
34LED	109 Office	Offices	6	1T 32 C F 4 (ELE)	F44ILL	112	0.67	SW	2340	1,572	C-OCC	
32LED	105 Office	Offices	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	2340	1,685	C-OCC	
34LED	105B Storage	Storage Areas	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	1000	224	C-OCC	
34LED	Breakroom	Break/Lunch Rooms	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
34LED	105 MER	Mechanical Room	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2000	224	NONE	
32LED	103	Offices	15	1T 32 R F 2 (ELE)	F42LL	60	0.90	SW	2340	2,106	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Storage	Storage Areas	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	C-OCC	
32LED	101 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
34LED	101 Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	101 Office	Offices	8	1T 32 C F 4 (ELE)	F44ILL	112	0.90	SW	2340	2,097	C-OCC	
34LED	101 Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	107 Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	104 Vest	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	104 Recep	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	104 Recep	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
5	104 Office	Offices	3	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
202	Elev Lobby	Hallways	1	2T 17 R F 2 (ELE)	F22ILL	33	0.03	SW	8760	289	NONE	
32LED	Lobby	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
73	Lobby	Hallways	12	I 120	I120/1	120	1.44	SW	8760	12,614	NONE	
32LED	100 Sheriff's Vest	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Internal Affairs	Offices	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	2340	1,404	C-OCC	
32LED	111 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	112 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Storage 113	Storage Areas	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	1000	420	C-OCC	
32LED	Vest	Offices	13	1T 32 R F 2 (ELE)	F42LL	60	0.78	SW	2340	1,825	C-OCC	
202	Sherrif Storage	Storage Areas	12	2T 17 R F 2 (ELE)	F22ILL	33	0.40	SW	1000	396	C-OCC	
75	TR	Restroom	4	B 32 W F 1 (MAG)	F41LL	32	0.13	SW	2340	300	C-OCC	
105LED	Storage	Storage Areas	2	W 32 F 1	F41LL	32	0.06	SW	1000	64	C-OCC	
32LED	Sheriff's Office	Offices	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	2340	1,264	C-OCC	
32LED	107 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	108 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
202	109 Conference	Conference	9	2T 17 R F 2 (ELE)	F22ILL	33	0.30	SW	2340	695	C-OCC	
32LED	Mens TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	131 Elect	Mechanical Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	NONE	
32LED	Womens TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	122 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	124 Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	124 Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	132 Storage	Storage Areas	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	C-OCC	
32LED	125 Office	Offices	32	1T 32 R F 2 (ELE)	F42LL	60	1.92	SW	2340	4,493	C-OCC	
32LED	127 Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	126 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Holding Cell	Holding Cell	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	213 Office	Offices	38	1T 32 R F 2 (ELE)	F42LL	60	2.28	SW	2340	5,335	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Corridor	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	209A	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	209B	Offices	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	2340	1,264	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Elev Lobby	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Corridor	Hallways	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	8760	1,577	NONE	
32LED	205 Vest	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	201 Waiting	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	201 Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	City Council Chambers	Council Chambers	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
117	City Council Chambers	Council Chambers	16	CF 23	CFS23/1	23	0.37	SW	2340	861	C-OCC	
25	Corridor	Hallways	16	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.45	SW	8760	3,924	NONE	
32LED	Sherriff Vest	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	2340	1,685	C-OCC	
32LED	202 Hearing Room	Offices	14	1T 32 R F 2 (ELE)	F42LL	60	0.84	SW	2340	1,966	C-OCC	
32LED	217 Vest	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Janitor's Closet	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	217	Offices	24	1T 32 R F 2 (ELE)	F42LL	60	1.44	SW	2340	3,370	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	219 Storage	Storage Areas	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	215 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	205 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	204 Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Records	Storage Areas	14	1T 32 R F 2 (ELE)	F42LL	60	0.84	SW	1000	840	C-OCC	
32LED	209 Office	Offices	13	1T 32 R F 2 (ELE)	F42LL	60	0.78	SW	2340	1,825	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	208 Storage	Storage Areas	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Corridor	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	
32LED	Women's TR	Restroom	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	8760	3,679	NONE	
32LED	214B Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	218-A Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	218-B	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	214-A	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	218 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	218 Office	Offices	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	2340	1,404	C-OCC	
32LED	220-B	Offices	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	2340	983	C-OCC	
32LED	220-A	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	215 Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
65	TR	Restroom	1	I 100	I100/1	100	0.10	SW	2340	234	C-OCC	
65	Closet	Storage Areas	1	I 100	I100/1	100	0.10	SW	1000	100	C-OCC	
202	Judges Walkway	Hallways	5	2T 17 R F 2 (ELE)	F22ILL	33	0.17	SW	8760	1,445	NONE	
34LED	224 Planning Office	Offices	15	1T 32 C F 4 (ELE)	F44ILL	112	1.68	SW	2340	3,931	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Office	Offices	6	1T 32 C F 4 (ELE)	F44ILL	112	0.67	SW	2340	1,572	C-OCC	
34LED	Office	Offices	5	1T 32 C F 4 (ELE)	F44ILL	112	0.56	SW	2340	1,310	C-OCC	
117	TR	Restroom	1	CF 23	CFS23/1	23	0.02	SW	2340	54	C-OCC	
117	TR	Restroom	1	CF 23	CFS23/1	23	0.02	SW	2340	54	C-OCC	
32LED	R222 Office	Offices	14	1T 32 R F 2 (ELE)	F42LL	60	0.84	SW	2340	1,966	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	Copy Room	Copy Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Courtroom 2	Courtroom	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	2340	1,264	C-OCC	
32LED	Courtroom 2 Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	316 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Records	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Corridor	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
32LED	Breakroom	Break/Lunch Rooms	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	8760	3,679	NONE	
32LED	TR	Restroom	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	306 Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	304 Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	302	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Vest	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
32LED	300 Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Stairs	Stairway	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	8760	6,307	NONE	
32LED	308 Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	320 Capital Improvement	Offices	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	2340	1,685	C-OCC	
117	320 Capital Improvement	Offices	6	CF 23	CFS23/1	23	0.14	SW	2340	323	C-OCC	
32LED	Conference Room	Conference	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Conference Room	Conference	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
263LED	325 Capital Improv Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
117	325 Capital Improv Office	Offices	4	CF 23	CFS23/1	23	0.09	SW	2340	215	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
5	Office	Offices	2	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.12	SW	2340	281	C-OCC	
5	Office	Offices	4	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.24	SW	2340	562	C-OCC	
32LED	311 Room	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	A	Offices	11	1T 32 R F 2 (ELE)	F42LL	60	0.66	SW	2340	1,544	C-OCC	
32LED	B	Offices	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	2340	983	C-OCC	
32LED	C	Offices	15	1T 32 R F 2 (ELE)	F42LL	60	0.90	SW	2340	2,106	C-OCC	
32LED	D	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	E	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
34LED	Elev Lobby	Hallways	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	8760	1,962	NONE	
32LED	322 TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
34LED	327-A Offices	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
34LED	329 Offices	Offices	33	1T 32 C F 4 (ELE)	F44ILL	112	3.70	SW	2340	8,649	C-OCC	
34LED	Storage	Storage Areas	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	1000	336	C-OCC	
32LED	Storage	Storage Areas	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	329A Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
32LED	City Hall Courtroom 1	Courtroom	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	2340	2,527	C-OCC	
254LED	City Hall Courtroom 1	Courtroom	6	CFQ26/2	CFQ26/2	66	0.40	SW	2340	927	C-OCC	
32LED	City Hall Courtroom 1	Courtroom	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
25	449 Office	Offices	3	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.08	C-OCC	2340	197	NONE	
32LED	449 Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	C-OCC	2340	421	NONE	
32LED	444 Judge Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	144 Judge Conference	Conference	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
32LED	146 Sec Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	C-OCC	2340	421	NONE	
32LED	Courtroom Office Check-in	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
254LED	Courtroom 3	Courtroom	4	CFQ26/2	CFQ26/2	66	0.26	SW	2340	618	C-OCC	
32LED	Courtroom 3	Courtroom	11	1T 32 R F 2 (ELE)	F42LL	60	0.66	SW	2340	1,544	C-OCC	
32LED	Courtroom 3	Courtroom	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	424 Holding Cell	Holding Cell	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Corridor	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	429 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	431 Judge Chambers	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	428 Judge Chambers	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Elec Room	Mechanical Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2000	120	NONE	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Court Room #2	Courtroom	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	2340	2,527	C-OCC	
254LED	Court Room #2	Courtroom	6	CFQ26/2	CFQ26/2	66	0.40	SW	2340	927	C-OCC	
32LED	Court Room #2	Courtroom	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
25	Office 419	Offices	3	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.08	C-OCC	2340	197	NONE	
32LED	Office 419	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	C-OCC	2340	421	NONE	
32LED	413 Judge Chambers	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	414 Conference Room	Conference	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	415 Sec Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	C-OCC	2340	421	NONE	
32LED	Prosecutor Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
263LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F43LL	93	0.65	SW	8760	5,703	NONE	
32LED	410 Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
32LED	408 Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	C-OCC	2340	562	NONE	
32LED	407 Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	1000	120	NONE	
32LED	406 Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	C-OCC	2340	842	NONE	
32LED	TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	NONE	
32LED	Janitor Closet	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Corridor	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
263LED	Corridor	Hallways	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	8760	1,629	NONE	
32LED	401 Waiting Area	Offices	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	2340	1,404	C-OCC	
263LED	Lobby Courtroom	Hallways	5	1T 32 R F 2 (ELE)	F43LL	93	0.47	SW	8760	4,073	NONE	
32LED	400 Finance Room	Offices	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	2340	1,404	C-OCC	
254LED	400 Finance Room	Offices	5	CFQ26/2	CFQ26/2	66	0.33	SW	2340	772	C-OCC	
32LED	Corridor	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
263LED	Corridor	Hallways	3	1T 32 R F 2 (ELE)	F43LL	93	0.28	SW	8760	2,444	NONE	
263LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F43LL	93	0.65	SW	8760	5,703	NONE	
32LED	Women's TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	435 Lounge	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	438 Office Director	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Safe Room	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Admin Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	453 Data Entry Office	Offices	24	1T 32 R F 2 (ELE)	F42LL	60	1.44	SW	2340	3,370	C-OCC	
32LED	454 File Room	Storage Areas	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	C-OCC	
32LED	440 Mailroom	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	C-OCC	
32LED	452 TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	C-OCC	2340	140	C-OCC	
32LED	451 TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	C-OCC	2340	140	C-OCC	
32LED	441 Public Def Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	C-OCC	2340	281	C-OCC	
32LED	Elev Lobby	Hallways	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	8760	1,577	NONE	
34LED	Grand Jury A	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
34LED	401 Grand Jury B	Offices	11	1T 32 C F 4 (ELE)	F44ILL	112	1.23	SW	2340	2,883	C-OCC	
32LED	403 Vest	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
32LED	403 Office	Offices	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	2340	1,685	C-OCC	
32LED	Office A	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office B	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office C	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office D	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office E	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office F	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Corridor	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	
32LED	405 Office	Offices	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	2340	1,404	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	A	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	B	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	C	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
266	Storage	Storage Areas	1	F82ILL	F82ILL	109	0.11	SW	1000	109	C-OCC	
32LED	409A	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	409B	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	409C	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Recep D	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	E	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	F	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	G	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	H	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Vest	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Corridor	Hallways	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	8760	1,577	NONE	
32LED	I	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	J	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	K	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Lobby Courtroom	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Coffee Room	Break/Lunch Rooms	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Mayors Off	Offices	11	1T 32 R F 2 (ELE)	F42LL	60	0.66	SW	2340	1,544	C-OCC	
32LED	Recep	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
263LED	Corridor	Hallways	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	8760	3,259	NONE	
34LED	Corridor	Hallways	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	8760	2,943	NONE	
117	Janitor Closet	Storage Areas	1	CF 23	CFS23/1	23	0.02	SW	1000	23	C-OCC	
32LED	419 Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
55	419 Office	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	2340	110	C-OCC	
32LED	419 Office	Offices	48	1T 32 R F 2 (ELE)	F42LL	60	2.88	SW	2340	6,739	C-OCC	
34LED	419 Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Office	Offices	6	1T 32 C F 4 (ELE)	F44ILL	112	0.67	SW	2340	1,572	C-OCC	
32LED	Elev Lobby	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
5	Vest	Hallways	4	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.24	SW	8760	2,102	NONE	
34LED	Conference Room	Conference	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
263LED	Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
34LED	6th Floor Elev Lobby	Hallways	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	8760	3,924	NONE	
32LED	Storage	Storage Areas	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	1000	540	C-OCC	
267LED	Storage	Storage Areas	4	T 34 R F 2 (MAG)	F42EE	72	0.29	SW	1000	288	C-OCC	
32LED	Corridor	Hallways	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	8760	4,730	NONE	
34LED	Office	Offices	5	1T 32 C F 4 (ELE)	F44ILL	112	0.56	SW	2340	1,310	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
34LED	Office	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
217	Office	Offices	4	2B 17 R F 4 (ELE)	F24ILL	61	0.24	SW	2340	571	C-OCC	
34LED	Office	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
34LED	Office	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
34LED	Office	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
34LED	Office	Offices	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	2340	524	C-OCC	
34LED	Office	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
34LED	Gym	Gynasium	9	1T 32 C F 4 (ELE)	F44ILL	112	1.01	SW	2340	2,359	C-OCC	
263LED	601A	Offices	6	1T 32 R F 2 (ELE)	F43LL	93	0.56	SW	2340	1,306	C-OCC	
263LED	601C	Offices	6	1T 32 R F 2 (ELE)	F43LL	93	0.56	SW	2340	1,306	C-OCC	
5	601C	Offices	3	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.18	SW	2340	421	C-OCC	
263LED	601B	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
5	601B	Offices	2	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.12	SW	2340	281	C-OCC	
263LED	601D	Offices	1	1T 32 R F 2 (ELE)	F43LL	93	0.09	SW	2340	218	C-OCC	
5	601D	Offices	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
34LED	Men's Locker	Locker	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
5	Men's Locker	Locker	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
34LED	Women's Locker	Locker	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
5	Women's Locker	Locker	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
5	Vest	Hallways	2	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.12	SW	8760	1,051	NONE	
32LED	Storage	Storage Areas	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	C-OCC	
34LED	Print Shop	Offices	18	1T 32 C F 4 (ELE)	F44ILL	112	2.02	SW	2340	4,717	C-OCC	
34LED	Storage	Storage Areas	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	1000	336	C-OCC	
34LED	Storage	Storage Areas	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	1000	336	C-OCC	
34LED	Office	Offices	4	1T 32 C F 4 (ELE)	F44ILL	112	0.45	SW	2340	1,048	C-OCC	
5	Office	Offices	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
34LED	Office	Offices	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	2340	262	C-OCC	
202	TR	Restroom	1	2T 17 R F 2 (ELE)	F22ILL	33	0.03	SW	2340	77	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	7th Floor Elev Lobby	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
32LED	Elev Machine Room	Mechanical Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2000	960	NONE	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Corridor	Hallways	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	8760	3,679	NONE	
263LED	Elev Machine Room	Mechanical Room	1	1T 32 R F 2 (ELE)	F43LL	93	0.09	SW	2000	186	NONE	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
137	Office	Offices	6	SP 50 I	I50/1	50	0.30	SW	2340	702	C-OCC	
137	Office B	Offices	4	SP 50 I	I50/1	50	0.20	SW	2340	468	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
183	Server Room	Storage Areas	3	BED 17 C F 4	F24ILL	61	0.18	SW	1000	183	C-OCC	
32LED	Vest	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
263LED	Elev Machine Room	Mechanical Room	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2000	372	NONE	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Corridor	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	
32LED	Corridor	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	8760	526	NONE	
32LED	Office	Offices	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	2340	1,264	C-OCC	
32LED	Office	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2340	1,123	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8760	1,051	NONE	
32LED	Office	Offices	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	2340	2,527	C-OCC	
32LED	Office B	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office C	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office D	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office E	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office F	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office G	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office H	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office I	Offices	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	2340	983	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
32LED	Finance Office	Offices	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	2340	2,527	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Storage	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Breakroom	Break/Lunch Rooms	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	13	1T 32 R F 2 (ELE)	F42LL	60	0.78	SW	2340	1,825	C-OCC	
34LED	Office	Offices	3	1T 32 C F 4 (ELE)	F44ILL	112	0.34	SW	2340	786	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
5	Office	Offices	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
202	Office	Offices	6	2T 17 R F 2 (ELE)	F22ILL	33	0.20	SW	2340	463	C-OCC	
202	Office	Offices	6	2T 17 R F 2 (ELE)	F22ILL	33	0.20	SW	2340	463	C-OCC	
202	Office	Offices	9	2T 17 R F 2 (ELE)	F22ILL	33	0.30	SW	2340	695	C-OCC	
202	Corridor	Hallways	8	2T 17 R F 2 (ELE)	F22ILL	33	0.26	SW	8760	2,313	NONE	
202	Office	Offices	6	2T 17 R F 2 (ELE)	F22ILL	33	0.20	SW	2340	463	C-OCC	
202	Office	Offices	5	2T 17 R F 2 (ELE)	F22ILL	33	0.17	SW	2340	386	C-OCC	
202	Office	Offices	7	2T 17 R F 2 (ELE)	F22ILL	33	0.23	SW	2340	541	C-OCC	
202	Office	Offices	5	2T 17 R F 2 (ELE)	F22ILL	33	0.17	SW	2340	386	C-OCC	
202	Office	Offices	6	2T 17 R F 2 (ELE)	F22ILL	33	0.20	SW	2340	463	C-OCC	
202	Office	Offices	8	2T 17 R F 2 (ELE)	F22ILL	33	0.26	SW	2340	618	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	

Cost of Electricity:

\$0.141 \$/kWh

\$3.57 \$/kW

			EXISTING CONDITIONS								Retrofit Control	
	Area Description	Usage	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh		
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	Describe Usage Type using Operating Hours	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	Elev Lobby	Hallways	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	8760	2,102	NONE	
263LED	Office	Offices	18	1T 32 R F 2 (ELE)	F43LL	93	1.67	SW	2340	3,917	C-OCC	
263LED	Conference Room	Conference	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
263LED	Director's Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
263LED	Office	Offices	3	1T 32 R F 2 (ELE)	F43LL	93	0.28	SW	2340	653	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
137	Elev Lobby	Hallways	3	SP 50 I	I50/1	50	0.15	SW	8760	1,314	NONE	
32LED	Office	Offices	19	1T 32 R F 2 (ELE)	F42LL	60	1.14	SW	2340	2,668	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
117	Office	Offices	3	CF 23	CFS23/1	23	0.07	SW	2340	161	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
137	Conference Room	Conference	15	SP 50 I	I50/1	50	0.75	SW	2340	1,755	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Office	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	2340	281	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
32LED	Office Vest	Hallways	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	8760	2,628	NONE	
32LED	Office	Offices	7	1T 32 R F 2 (ELE)	F42LL	60	0.42	SW	2340	983	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	11	1T 32 R F 2 (ELE)	F42LL	60	0.66	SW	2340	1,544	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
202	Office	Offices	2	2T 17 R F 2 (ELE)	F22ILL	33	0.07	SW	2340	154	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
263LED	Storage	Storage Areas	1	1T 32 R F 2 (ELE)	F43LL	93	0.09	SW	1000	93	C-OCC	
5	Men's TR	Restroom	2	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.12	SW	2340	281	C-OCC	
5	Women's TR	Restroom	2	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.12	SW	2340	281	C-OCC	
5	Elev Lobby	Hallways	12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.72	SW	8760	6,307	NONE	
263LED	Office	Offices	5	1T 32 R F 2 (ELE)	F43LL	93	0.47	SW	2340	1,088	C-OCC	
5	Office	Offices	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
263LED	Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
263LED	Office	Offices	2	1T 32 R F 2 (ELE)	F43LL	93	0.19	SW	2340	435	C-OCC	
5	Conference Room	Conference	12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.72	SW	2340	1,685	C-OCC	
263LED	Office	Offices	4	1T 32 R F 2 (ELE)	F43LL	93	0.37	SW	2340	870	C-OCC	
5	Office	Offices	10	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.60	SW	2340	1,404	C-OCC	
65	Storage	Storage Areas	1	I 100	I100/1	100	0.10	SW	1000	100	C-OCC	
117	TR	Restroom	2	CF 23	CFS23/1	23	0.05	SW	2340	108	C-OCC	
34LED	Storage	Storage Areas	1	1T 32 C F 4 (ELE)	F44ILL	112	0.11	SW	1000	112	C-OCC	
32LED	Men's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Women's TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Elev Lobby	Hallways	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	8760	3,154	NONE	
32LED	Office	Offices	15	1T 32 R F 2 (ELE)	F42LL	60	0.90	SW	2340	2,106	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Office	Offices	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	2340	562	C-OCC	
32LED	Conference Room	Conference	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2340	842	C-OCC	
5	TR	Restroom	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.06	SW	2340	140	C-OCC	
138	Storage	Storage Areas	1	SP 26 P CF 2	CFQ25/2	66	0.07	SW	1000	66	C-OCC	
202	Office	Offices	4	2T 17 R F 2 (ELE)	F22ILL	33	0.13	SW	2340	309	C-OCC	
32LED	18th Floor (Vacant)	Storage Areas	18	1T 32 R F 2 (ELE)	F42LL	60	1.08	SW	1000	1,080	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	TR	Restroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
268LED	TR	Restroom	1	T 34 R F 4 (MAG)	F44EE	144	0.14	SW	2340	337	C-OCC	
32LED	Office	Offices	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2340	421	C-OCC	
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	

Cost of Electricity:

\$0.141	\$/kWh
\$3.57	\$/kW

EXISTING CONDITIONS												Retrofit Control
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	Usage Describe Usage Type using Operating Hours	No. of Fixtures No. of fixtures before the retrofit	Standard Fixture Code Lighting Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/space) * (Annual Hours)	Retrofit control device	Notes
32LED	Office	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	2340	140	C-OCC	
32LED	Office	Offices	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	2340	702	C-OCC	
32LED	Elev Machine Room	Mechanical Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	2000	960	NONE	
65	Elev Machine Room	Mechanical Room	5	I 100	I100/1	100	0.50	SW	2000	1,000	NONE	
32LED	Open Area	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	C-OCC	
32LED	Elev Machine Room	Mechanical Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.36	SW	2000	720	NONE	
34LED	Prosecutor' IT Room	Storage Areas	2	1T 32 C F 4 (ELE)	F44ILL	112	0.22	SW	1000	224	OCC	
	Total		2,767				179.93			555,881		

APPENDIX C

ECM Calculations

Utility Costs		Yearly Usage	Metric Tons Carbon Dioxide Equivalent	Building Area 380,000	Annual Utility Cost		
\$	0.149	\$/kWh blended	0.000420205		Electric	Natural Gas	Fuel Oil
\$	0.141	\$/kWh supply	1,769,600		\$ 214,013	\$ 210,597	\$ -
\$	3.57	\$/kW	464.0				
\$	1.04	\$/Therm	203.365				
\$	6.42	\$/kgals					
\$	-	\$/Gal	-				

City Hall

Recommend?		Item	Savings						Cost	Simple Payback	Life Expectancy	Equivalent CO ₂ (Metric tons)	NJ Smart Start Incentives	Direct Install Eligible (Y/N)	Payback w/ Incentives	Simple Projected Lifetime Savings					ROI	NPV	IRR
Y or N			kW	kWh	therms	No. 2 Oil gal	Water kgal	\$								kW	kWh	therms	kgal/yr	\$			
Y	ECM-1	Convert Steam to Hot Water System and Install Gas-Fired	0.0	0	15,174	0	0	15,714	\$ 361,513	23.0	25.0	80.9	\$ 6,000	N	22.6	0.0	0	379,350	0	\$ 392,840	0.1	(\$81,889)	0.8%
Y	ECM-2	Replace Existing Heat pumps with high efficiency Heat Pumps	0.0	271,021	0	0	0	40,382	\$ 442,600	11.0	20.0	113.9	\$ 15,593	N	10.6	0.0	5,420,416	0	0	\$ 807,642	0.8	\$173,776	7.0%
N	ECM-3	Replace Cooling Tower and Install VFDs on Fan Motors	20.0	70,791	0	0	0	10,837	\$ 227,358	21.0	25.0	29.7	\$ 6,200	N	20.4	499.4	1,769,778	0	0	\$ 285,092	0.3	(\$32,445)	1.6%
N	ECM-4	Install Premium Efficiency Motors and VFDs on Heat Pump	46.4	25,651	0	0	0	5,605	\$ 65,314	11.7	15.0	10.8	\$ 6,000	N	10.6	696.2	384,760	0	0	\$ 87,153	0.3	\$7,598	4.7%
Y	ECM-5	Install Window A/C Units Controls	0.0	49,365	0	0	0	7,355	\$ 8,900	1.2	15.0	20.7	\$ -	N	1.2	0.0	740,474	0	0	\$ 110,331	11.4	\$78,908	82.6%
Y	ECM-6	Install Vending Machine Controls	0.0	11,732	0	0	0	1,748	\$ 1,401	0.8	15.0	4.9	\$ -	N	0.8	0.0	175,984	0	0	\$ 26,222	17.7	\$19,468	124.8%
Y	ECM-7	Replace Electric DHW Heaters with Gas-Fired Condensing Heaters	45.0	1,125	(4)	0	0	2,083	\$ 8,061	3.9	12.0	0.5	\$ 400	N	3.7	540.0	13,504	(43)	0	\$ 25,101	2.1	\$13,071	25.4%
Y	ECM-8	Install Low Flow Plumbing Fixtures	0.0	0	0	0	842	5,404	\$ 395,519	73.2	15.0	0.0	\$ -	N	73.2	0.0	0	0	12,625	\$ 81,055	(0.8)	(\$331,010)	-15.4%
N	ECM-L1	Lighting Replacements / Upgrades	85.5	265,567	0	0	0	41,109	\$ 461,001	11.2	15.0	111.6	\$ -	N	11.2	1,283.0	3,983,500	0	0	\$ 648,506	0.4	\$29,757	3.9%
N	ECM-L2	Install Lighting Controls (Add Occupancy Sensors)	0.0	96,635	0	0	0	13,626	\$ 142,148	10.4	15.0	40.6	\$ 18,430	N	9.1	0.0	1,449,522	0	0	\$ 215,979	0.5	\$38,942	7.0%
Y	ECM-L3	Lighting Replacements with Controls (Occupancy Sensors)	85.5	316,361	0	0	0	48,271	\$ 603,150	12.5	15.0	132.9	\$ 18,430	N	12.1	1,283.0	4,745,422	0	0	\$ 762,032	0.3	(\$8,461)	2.8%
Total (Not Including [B] Option ECMs or L1, L2)			196.9	746,047	15,170	0	842	\$ 137,399	\$ 2,113,814	15.4	17.4	394	\$ 52,623		15.0	3,019	13,250,337	379,307	12,625	\$ 2,577,467	0.2	(\$252,178)	1.4%
Recommended Measures (highlighted green above)			130.5	649,605	15,170	0	842	\$ 120,957	\$ 1,821,142	15.1	16.7	354	\$ 40,423	0	14.7	1,823	11,095,799	379,307	12,625	\$ 2,205,222	0.2	(\$261,369)	1.0%
% of Existing			28%	37%	7%	#DIV/0!	#DIV/0!																

City:			Newark, NJ				
Occupied Hours/Week			70	70	70	70	50
			Building	Auditorium	Gymnasium	Library	Classrooms
			Operating	Occupied	Occupied	Occupied	Occupied
Temp	Enthalpy h (Btu/lb)	Bin Hours	Hours	Hours	Hours	Hours	Hours
102.5							
97.5	35.4	6	3	3	3	3	2
92.5	37.4	31	13	13	13	13	9
87.5	35.0	131	55	55	55	55	39
82.5	33.0	500	208	208	208	208	149
77.5	31.5	620	258	258	258	258	185
72.5	29.9	664	277	277	277	277	198
67.5	27.2	854	356	356	356	356	254
62.5	24.0	927	386	386	386	386	276
57.5	20.3	600	250	250	250	250	179
52.5	18.2	730	304	304	304	304	217
47.5	16.0	491	205	205	205	205	146
42.5	14.5	656	273	273	273	273	195
37.5	12.5	1,023	426	426	426	426	304
32.5	10.5	734	306	306	306	306	218
27.5	8.7	334	139	139	139	139	99
22.5	7.0	252	105	105	105	105	75
17.5	5.4	125	52	52	52	52	37
12.5	3.7	47	20	20	20	20	14
7.5	2.1	34	14	14	14	14	10
2.5	1.3	1	0	0	0	0	0
-2.5							
-7.5							

Multipliers	
Material:	1.027
Labor:	1.246
Equipment:	1.124

Heating System Efficiency	80%
Cooling Eff (kW/ton)	1.2

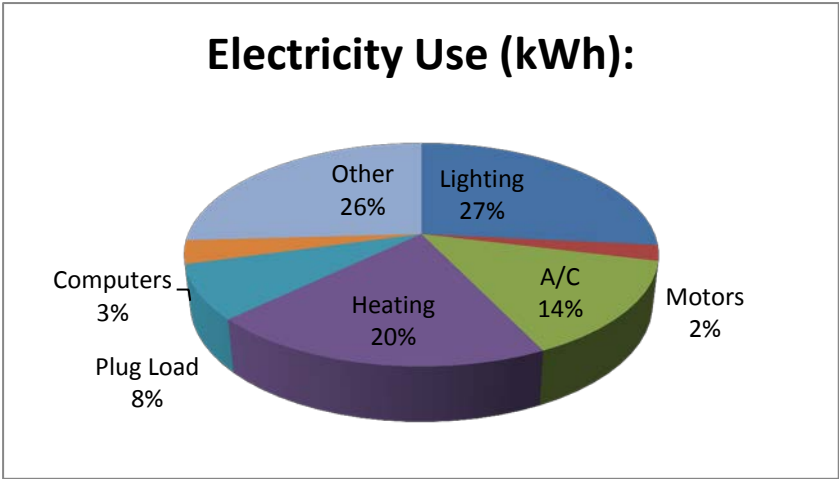
Heating	
Hours	4,427 Hrs
Weighted Avg	40 F
Avg	28 F

Cooling	
Hours	4,333 Hrs
Weighted Avg	68 F
Avg	78 F

Camden County Board of Freeholders LGEA
 CHA Project Number: 28470
 City Hall

Utility End Use Analysis		
Electricity Use (kWh):		Notes/Comments:
1,769,600	Total	Based on utility analysis
470,416	Lighting	From Lighting Calculations
40,000	Motors	Estimated
247,744	A/C	See Window AC Calculation
353,920	Heating	Estimated
139,013	Plug Load	Estimated
60,000	Computers	Estimated
458,507	Other	Remaining

0.265831592
 0.022603978
 0.14
 0.2
 0.078556171
 0.033905967
 0.259102291



Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-1: Add a Condensing Boiler to the Heat Pump Loop

Description: This ECM evaluates the installation of a condensing boiler to serve the heat pump loop to provide supplemental heating in leiu of the current steam coils. The existing boiler efficiency is 80% (per NJBPU protocols) and the proposed boiler efficiency is 96% (assuming year round condensing mode). The boiler would located on the roof of the sixth floor in a pre-engineered enclosure, with piping connections to the heat pump heat exchanger in the mechanical room below. The steam boilers and steam system would be retained as back up heat and continue to

Item	Value	Units	Formula/Comments
Baseline Fuel Cost	\$ 0.15	/ kWh	Electric
Baseline Fuel Cost	\$ 1.04	/ Therm	Natural Gas
FORMULA CONSTANTS			
Oversize Factor	0.8		
Hours per Day	24		
Design Outdoor Temp	14	F	
Infrared Conversion Factor	1.0		1.0 if Boiler, 0.8 if Infrared Heater
EXISTING			
Capacity	3,000,000	btu/hr	
Heating Combustion Efficiency	80%		
Heating Degree-Day	2,529	Degree-day	
Design Temperature Difference	20	F	140 HHWS / 120 HHWR
Fuel Conversion	100,000	btu/Therm	
PROPOSED			
Capacity	3,000,000	btu/hr	
Efficiency	96%		
SAVINGS			
Fuel Savings	15,174	Therms	NJ Protocols Calculation
Fuel Cost Savings	\$ 15,714		

Savings calculation formulas are taken from NJ Protocols document for Occupancy Controlled Thermostats

Algorithms

Gas Savings (Therms)

$$= \frac{OF \times ((CAPY_{Bi} \times EFF_Q) - (CAPY_{Qi} \times EFF_B \times ICF)) \times HDD_{mod} \times 24}{\Delta T \times HC_{fuel} \times EFF_B \times ICF \times EFF_Q}$$

Definition of Variables

OF = Oversize factor of standard boiler or furnace (OF=0.8)

CAPY_{Bi} = Total input capacity of the baseline furnace, boiler or heater in Btu/hour

CAPY_{Qi} = Total input capacity of the qualifying furnace, boiler or heater in Btu/hour

HDD_{mod} = HDD by zone and building type

24 = Hours/Day

ΔT = design temperature difference

HC_{fuel} = Conversion from Btu to therms of gas or gallons of oil or propane (100,000 btu/therm; 138,700 btu/gal of #2 oil; 92,000 btu/gal of propane)

EFF_Q = Efficiency of qualifying heater(s) (AFUE %)

EFF_B = Efficiency of baseline heaters (AFUE %)

ICF = Infrared Compensation Factor (ICF = 0.8 for IR Heaters, 1.0 for furnaces/boilers)²

Furnaces and Boilers

Component	Type	Value	Source
AFUE _q	Variable		Application
AFUE _b	Fixed	Furnaces: 78% Boilers: 80% Infrared: 78%	EPACT Standard for furnaces and boilers
CAPY _{in}	Variable		Application
ΔT	Variable	See Table Below	1
HDD _{mod}	Fixed	See Table Below	1

Sources:

1. KEMA, *Smartstart Program Protocol Review*. 2009.
2. http://www.spaceray.com/1_space-ray_faqs.php

Adjusted Heating Degree Days by Building Type

Building Type	Heating Energy Density (kBtu/sf)	Degree Day Adjustment Factor	Atlantic City (HDD)	Newark (HDD)	Philadelphia (HDD)	Monticello (HDD)
Education	29.5	0.55	2792	2783	2655	3886
Food Sales	35.6	0.66	3369	3359	3204	4689
Food Service	39.0	0.73	3691	3680	3510	5137
Health Care	53.6	1.00	5073	5057	4824	7060
Lodging	15.0	0.28	1420	1415	1350	1976
Retail	29.3	0.55	2773	2764	2637	3859
Office	28.1	0.52	2660	2651	2529	3701
Public Assembly	33.8	0.63	3199	3189	3042	4452
Public Order/Safety	24.1	0.45	2281	2274	2169	3174
Religious Worship	29.1	0.54	2754	2745	2619	3833
Service	47.8	0.89	4524	4510	4302	6296
Warehouse/Storage	20.2	0.38	1912	1906	1818	2661

Heating Degree Days and Outdoor Design Temperature by Zone

Weather Station	HDD	Outdoor Design Temperature (F)
Atlantic City	5073	13
Newark	5057	14
Philadelphia, PA	4824	15
Monticello, NY	7060	8

Camden County Board of Freeholders LGEA

CHA Project Number: 28470

City Hall

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-1: Add a Condensing Boiler to the Heat Pump Loop - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Packaged boiler in a box	1	LS	\$ 200,000	\$ 25,000	\$ 10,000	\$ 205,400	\$ 31,150	\$ 11,240	\$ 247,790	
Piping connections	1	LS	\$ 5,000	\$ 15,000		\$ 5,135	\$ 18,690	\$ -	\$ 23,825	
Wiring	1	LS	\$ 5,000	\$ 10,000		\$ 5,135	\$ 12,460	\$ -	\$ 17,595	
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 289,210	Subtotal
\$ 72,303	25% Contingency
\$ 361,513	Total

ECM-2: Replace Existing Heat Pumps with High Efficiency Heat Pumps

Description: This ECM evaluates the energy savings associated with replacing older less efficient water source heat pumps with modern high efficiency water source heat pumps having the same capacity

Equipment Tag	Equipment Description	General Type	Cooling Capacity (Btu/h)	Heating Capacity (Btu/h)
	HP	Heat Pump	2,310,000	4,989,600

		Units	Formula/Comments			
		/ kW				
Item	Value	/kWh				
Demand Rate	\$ 3.57					
Electricity Rate	\$ 0.14		NJ Protocols			
FORMULA CONSTANTS		btu/kW				
Coincidence Factor	0.67					
Conversion	3.412	btu/hr				
COOLING - HVAC			See Table Below			
Cooling Capacity	-		Equipment			
Baseline EER	13.0	hrs	NJ Protocols			
Proposed EER	20.0					
Equivalent Full Load Hours	1,131	kW				
		kVnH				
Demand Savings	-					
Energy Savings	-	btu/h				
HEATING - Heat Pump			See Table Below			
Heating Capacity	4,989,600		Equipment			
Baseline Heating EER	10.8	hrs	NJ Protocols			
Proposed Heating EER	13.5					
Equivalent Full Load Hours	800	kWh				
Heating Savings	252,215	btu/h				
COOLING - Heat Pump			See Table Below			
Cooling Capacity	2,310,000		Equipment			
Baseline Cooling EER	13.0	hrs	NJ Protocols			
Proposed Cooling EER	18.0					
Equivalent Full Load Hours	381	kWh				
Cooling Savings	18,806	kW				
SAVINGS		kWh				
Demand Savings	-					
Energy Savings	271,021					
Cost Savings	\$ 38,214					
		Efficiency	PROPOSED	Efficiency	Demand Savings / Btu/hr	Energy Savings / Btu/hr

Savings calculation formulas are taken from NJ Protocols do

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-2: Replace Existing Heat Pumps with High Efficiency Heat Pumps - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						\$ -	\$ -	\$ -	\$ -	
Existing HPs demolition	55	EA		\$ 500		\$ -	\$ 34,265	\$ -	\$ 34,265	RS Means 2012
HP, 4.0 ton water source heat pump units	55	EA	\$ 3,000	\$ 1,500		\$ 169,455	\$ 102,795	\$ -	\$ 272,250	RS Means 2012
- Reprogram DDC system	55	EA	\$ 75	\$ 300		\$ 4,236	\$ 20,559	\$ -	\$ 24,795	RS Means 2012
Electrical - misc.	55	LS	\$ 100	\$ 250		\$ 5,649	\$ 17,133	\$ -	\$ 22,781	RS Means 2012

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 354,091	Subtotal
\$ 88,523	25% Contingency
\$ 442,600	Total

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-3: Replace Cooling Tower and Install VFDs on Fan Motors

Description: This ECM evaluates the savings associated with replacing the entire cooling with a new cooling tower that has a high efficiency motor and a variable frequency drive. The VFD will provide a soft start for the motor and will reduce the tower fan speed based on measured wet-bulb temperatures.

Variable Inputs

Electric Rate	\$0.14	\$/kWh
Demand Rate	\$3.57	\$/kW

MOTOR SCHEDULE										Savings Factor		Existing Motor Energy		Proposed Motor Energy		Energy Savings	
Motor ID	Motor Type	Qty	HP	Total HP	Upgrade Motor	Load Factor	Existing Motor Eff.	New Motor Eff.	Annual Hours	Demand Savings Factor	Energy Savings Factor	Demand Energy (kW)	Electrical Energy (kWh)	Demand Energy (kW)	Electrical Energy (kWh)	Peak Demand Savings (kW)	Annual Energy Savings (kWh)
CT-1, CT-2	CT	2	20.0	40.0	N	0.75	89.5%	89.5%	4,333	0.201	0.580	25.0	108,335	5.0	37,544	20.0	70,791
Total:																20.0	70,791.1
																\$ 856	\$ 9,982
																	\$ 10,837

Savings calculation formulas are taken from NJ Protocols document for VFDs

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-3: Replace Cooling Tower and Install VFDs on Fan Motors - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Cooling Tower Demolition	2	EA		\$ 5,000	\$ 5,000	\$ -	\$ 12,460	\$ 11,240	\$ 23,700	RS Means 2012
New Cooling Tower	2	EA	\$ 55,000	\$ 5,425	\$ 5,000	\$112,970	\$ 13,519	\$ 11,240	\$ 137,729	RS Means 2012
Piping connections	2	EA	\$ 2,500	\$ 2,500		\$ 5,135	\$ 6,230	\$ -	\$ 11,365	RS Means 2012
Electrical - misc.	2	EA	\$ 2,000	\$ 2,000		\$ 4,108	\$ 4,984	\$ -	\$ 9,092	RS Means 2012

\$ 181,886	Subtotal
\$ 45,472	25% Contingency
\$ 227,358	Total

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-4: Install Premium Efficiency Motors and VFDs on Heat Pump Condensing Loop Water Pump Motors

Description: This ECM evaluates the energy (electrical) savings associated with replacing existing pump motors with high efficiency motors (based on ASHRAE 2010 NEMA atings) and adding variable frequency drives to control motor speed based on actual load verses constant volume / constant flow.

Variable Inputs

Electric Rate \$0.14 \$/kWh
Demand Rate \$3.57 \$/kW

MOTOR SCHEDULE										Savings Factor		Existing Motor Energy		Proposed Motor Energy		Energy Savings	
Motor ID	Motor Type	Qty	HP	Total HP	Upgrade Motor	Load Factor	Existing Motor Eff.	New Motor Eff.	Annual Hours	Demand Savings Factor	Energy Savings Factor	Demand Energy (kW)	Electrical Energy (kWh)	Demand Energy (kW)	Electrical Energy (kWh)	Peak Demand Savings (kW)	Annual Energy Savings (kWh)
CDWP-1, CDWP-2	CHW/HW	2	50.0	100.0	N	0.75	94.5%	94.5%	4,333	0.216	0.240	59.2	256,507	12.8	230,856	46.4	25,651
Total:																46.4	25,650.7
																\$ 1,988	\$ 3,617
																	\$ 5,605

Savings calculation formulas are taken from NJ Protocols document for VFDs

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.00

ECM-4: Install Premium Efficiency Motors and VFDs on Heat Pump Condensing Loop Water Pump Motors - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						\$ -	\$ -	\$ -	\$ -	
50 HP VFD	2	ea	\$ 7,849	\$ 1,286		\$ 16,121	\$ 3,205	\$ -	\$ 19,327	RS Means 2012
Motor	2	ea	\$ 2,389	\$ 221		\$ 4,906	\$ 549	\$ -	\$ 5,456	RS Means 2012
2 Way Valves for Heat Pumps	80	ea	\$250	\$ -	\$ -	\$ 20,540	\$ -	\$ -	\$ 20,540	Engineering Estimate
Electrical - misc.	1	ls	\$ 1,000	\$ 1,000		\$ 1,027	\$ 1,246	\$ -	\$ 2,273	Engineering Estimate
Controls	1	ls	\$ 1,500	\$ 2,500		\$ 1,541	\$ 3,115	\$ -	\$ 4,656	Engineering Estimate
						\$ -	\$ -	\$ -	\$ -	

\$ 52,251	Subtotal
\$ 13,063	25% Contingency
\$ 65,314	Total

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

EQUIPMENT	AREA/EQUIPMENT SERVED	COOLING CAPACITY (btu/h)
WAC (Typical of 46)	Offices	1,104,000

Total btu/h of all window A/C Units: 1,104,000 btu/h

ECM-5: Window A/C Controller

ECM Description : Window A/C units are currently controlled manually by the occupants and are not turned off when the room is unoccupied. This ECM evaluates implementation of a digital timer device that will automatically turn the window A/C unit off at a preset time .

ASSUMPTIONS		Comments	
Electric Cost	\$0.149 / kWh		
Average run hours per Week	80 Hours		
Space Balance Point	55 F		
Space Temperature Setpoint	72 deg F	Setpoint.	
BTU/Hr Rating of existing DX equipment	1,104,000 Btu / Hr	Total BTU/hr of DX cooling equipment to be replaced.	
Average EER	10.7		
Existing Annual Electric Usage	95,906 kWh		

Item	Value	Units	Comments
Proposed Annual Electric Usage	46,541	kWh	Unit will cycle on w/ temp of room. Possible operating time shown below

ANNUAL SAVINGS		
Annual Electrical Usage Savings	49,365	kWh
Annual Cost Savings	\$7,355	
Total Project Cost	\$8,900	
Simple Payback	1	years

OAT - DB Bin Temp F	Annual Hours	Existing Hours of Operation	Proposed % of time of operation	Proposed hrs of Operation
102.5	0	0	100%	0
97.5	6	3	89%	3
92.5	31	15	79%	12
87.5	131	62	68%	43
82.5	500	238	58%	138
77.5	620	295	47%	140
72.5	664	316	37%	116
67.5	854	0	0%	0
62.5	927	0	0%	0
57.5	600	0	0%	0
52.5	730	0	0%	0
47.5	491	0	0%	0
42.5	656	0	0%	0
37.5	1,023	0	0%	0
32.5	734	0	0%	0
27.5	334	0	0%	0
22.5	252	0	0%	0
17.5	125	0	0%	0
12.5	47	0	0%	0
7.5	34	0	0%	0
2.5	1	0	0%	0
-2.5	0	0	0%	0
-7.5	0	0	0%	0
Total	8,760	930	49%	451

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-5: Window A/C Controller - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						0	\$ -	\$ -	\$ -	
Window AC Controller	46	EA	\$ 150	\$ -	\$ -	7086.3	\$ -	\$ -	\$ 7,086	Estimated
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 7,086	Subtotal
\$ 1,772	25% Contingency
\$ 8,900	Total

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-XX: Install Vending Machine Controls

Description : Vending machines generally operate 24/7 regardless of the actual usage. This measure proposes installing vending machine controls to reduce the total run time of these units. Cold beverage machines will cycle on for 15 minutes every two hours in order to keep beverages at a desired temperature. The result is a reduction in total electrical energy usage.

Unit Cost: \$0.149 \$/kWh blended

Energy Savings Calculations:

Existing	
Cold Beverage Vending Machine Electric usage	10,512 kWh ^{1,4,7}
Snack Vending Machine Electric usage	3,504 kWh ^{2,5,7}
Dual Vending Machine Electric Usage	- kWh ^{3,6,7}
Total Vending Machine Electric Usage	14,016 kWh

Proposed	
Cold Beverage Vending Machine Electric usage	1,654 kWh ⁸
Snack Vending Machine Electric usage	630 kWh
Dual Vending Machine Electric Usage	0 kWh
Total Vending Machine Electric Usage	2,284 kWh

Vending Machine Controls Usage Savings	11,732 kWh
Total cost savings	\$ 1,748
Estimated Total Project Cost	\$ 1,401⁹
Simple Payback	1 years

Assumptions

1	3	Number of cold beverage vending machines
2	2	Number of snack vending machines
3	0	Number of dual snack/beverage vending machines
4	400	Average wattage, typical of cold beverage machines based on prior project experience
5	200	Average wattage, typical of snack machines based on prior project experience
6	300	Average wattage, typical of dual snack/beverage machines based on prior project experience
7	8760	Hours per year vending machine plugged in
8	3150	Building Occupied Hours
9	0.50	Vending Machine Traffic Factor (0.75 for High Traffic, 0.5 for Medium, 0.25 for low)

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-XX: Install Vending Machine Controls - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									\$ -	
Vending Miser	5	EA	\$ 200	\$ 15	\$ -	\$ 1,027	\$ 93	\$ -	\$ 1,120	Vendor Estimation
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 1,120	Subtotal
\$ 280	25% Contingency
\$ 1,401	Total

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-7: Replace Electric DHW Heater with Gas-Fired Instantaneous Water Heater

Description: This ECM evaluates the energy savings associated with replacing an electric tank type water heater with a high efficiency natural gas fired instantaneous water heater.

Item	Value	Units	Formula/Comments
Occupied days per week	5	days/wk	
Occupied weeks per year	52	week/yr	
Water supply Temperature	60	°F	Termperature of water coming into building
Hot Water Temperature	120	°F	
Hot Water Usage per day	2	gal/day	Calculated from usage below
Annual Hot Water Energy Demand	260	MBTU/yr	Energy required to heat annual quantity of hot water to setpoint
Existing Tank Size	40	Gallons	Per manufacturer nameplate
Hot Water Temperature	120	°F	Per building personnel
Average Room Temperature	72	°F	
Standby Losses (% by Volume)	2.5%		(2.5% of stored capacity per hour, per U.S. Department of Energy)
Standby Losses (Heat Loss)	0.4	MBH	
Annual Standby Hot Water Load	3,504	MBTU/yr	
Total Annual Hot Water Demand (w/ standby losses)	3,764	Mbtu/yr	Building demand plus standby losses
Existing Water Heater Efficiency	98%		Per Manufacturer
Total Annual Energy Required	3,841	Mbtu/yr	
Total Annual Electric Required	1,125	kWh/yr	Electrical Savings
Average Annual Electric Demand	0.13	kW	
Peak Electric Demand	45.00	kW	Per Manufacturer's Nameplate (Demand Savings)
New Tank Size	1	Gallons	
Hot Water Temperature	120	°F	
Average Room Temperature	72	°F	
Standby Losses (% by Volume)	2.5%		(2.5% of stored capacity per hour, per U.S. Department of Energy)
Standby Losses (Heat Loss)	0.0	MBH	
Annual Standby Hot Water Load	88	MBTU/yr	
Prop Annual Hot Water Demand (w/ standby losses)	347	MBTU/yr	
Proposed Avg. Hot water heater efficiency	96%		Based on Takagi instantaneous DHW
Proposed Total Annual Energy Required	362	MBTU/yr	
Proposed Fuel Use	4	Therms/yr	Standby Losses and inefficient DHW heater eliminated
Elec Utility Demand Unit Cost	\$3.57	\$/kW	
Elec Utility Supply Unit Cost	\$0.14	\$/kWh	
NG Utility Unit Cost	\$1.04	\$/Therm	
Existing Operating Cost of DHW	\$2,086	\$/yr	
Proposed Operating Cost of DHW	\$4	\$/yr	
Annual Utility Cost Savings	\$2,083	\$/yr	

Daily Hot Water Demand									
FIXTURE	*BASE WATER USE GPM	DURATION OF USE (MIN)	#USES PER DAY		FULL TIME OCCUPANTS**		TOTAL GAL/DAY	% HOT WATER	TOTAL HW GAL/DAY
			MALE	FEMALE	MALE	FEMALE			
LAVATORY (Low-Flow Lavs use 0.5 GPM)	2.5	0.25	3	3	1	1	4	50%	2
SHOWER	2.5	5	1	1	0	0	0	75%	0
KITCHEN SINK	2.5	0.5	1	1	0	0	0	75%	0
MOP SINK	2.5	2	1	1	0	0	0	75%	0
Dishwasher (gal per use)	10	1	1	0	0	0	0	100%	0
						TOTAL	4		2

*GPM is per standard fixtures, adjust as necessary if actual GPM is known.

**These are the occupanct that use the fixtures. If fixture does not exist change to (0).

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-7: Replace Electric DHW Heater with Gas-Fired Instantaneous Water Heater - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Gas-Fired DHW Heater Removal	1	LS		\$ 50		\$ -	\$ 62	\$ -	\$ 62	RS Means 2012
Instantaneous Gas-Fired DHW Heater	1	EA	\$ 1,500	\$ 1,500		\$ 1,541	\$ 1,869	\$ -	\$ 3,410	RS Means 2012
Miscellaneous Electrical	1	LS	\$ 250	\$ 250		\$ 257	\$ 312	\$ -	\$ 568	RS Means 2012
Venting/ combustion air	1	EA	\$ 450	\$ 650		\$ 462	\$ 810	\$ -	\$ 1,272	RS Means 2012
Miscellaneous Piping and Valves	1	LS	\$ 500	\$ 500		\$ 514	\$ 623	\$ -	\$ 1,137	RS Means 2012

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 6,449	Subtotal
\$ 1,612	25% Contingency
\$ 8,061	Total

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-8: Replace urinals and flush valves with low flow

Description: This ECM evaluates the water savings associated with replacing/ upgrading urinals with 0.125 GPF urinals and or flush valves.

EXISTING CONDITIONS		
Cost of Water / 1000 Gallons	\$6.42	\$ / kGal
Urinals in Building to be replaced	20	
Average Flushes / Urinal (per Day)	17	
Average Gallons / Flush	2.5	Gal

PROPOSED CONDITIONS		
Proposed Urinals to be Replaced	20	
Proposed Gallons / Flush	0.125	Gal
Proposed Material Cost of new urinal & valve	\$1,200	RS Means 2012
Proposed Installation Cost of new urinal & valve	\$1,000	RS Means 2012
Total cost of new urinals & valves		

SAVINGS		
Current Urinal Water Use	310.25	kGal / year
Proposed Urinal Water Use	15.51	kGal / year
Water Savings	294.74	kGal / year
Cost Savings	\$1,892	/ year

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-8: Replace toilets and flush valves with low flow

Description: This ECM evaluates the water savings associated with repalcing/
upgrading toilets to 1.28 GPF fixtures and/or flush valves.

EXISTING CONDITIONS		
Cost of Water / 1000 Gallons	\$6.42	\$ / kGal
Toilets in Building	75	
Average Flushes / Toilet (per Day)	9	
Average Gallons / Flush	3.5	Gal

PROPOSED CONDITIONS		
Proposed Toilets to be Replaced	75	
Proposed Gallons / Flush	1.28	Gal

SAVINGS		
Current Toilet Water Use	862.31	kGal / year
Proposed Toilet Water Use	315.36	kGal / year
Water Savings	546.95	kGal / year
Cost Savings	\$3,511	/ year

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

ECM-8: Replace faucets with low flow

Description; This ECM evaluates the water savings resulting from replacing/upgrading faucets to 0.5 gallon per minute flow

EXISTING CONDITIONS		
Cost of Water / 1000 Gallons	\$6.42	\$ / kGal
Faucets in Building	60	
Average Uses / Faucet (per day)	17	# Uses
Average Time of Use	10.0	seconds
Average Flowrate	2.5	gpm

PROPOSED CONDITIONS		
Proposed Faucets to be Replaced	60	
Proposed Flowrate	0.5	gpm

HEATING SAVINGS		
Fuel Cost	\$ 1.04	/Therm
Number of Faucets	60	
Hours per Day of Usage	0.5	hrs
Days per Year of Facility Usage	-	days
Average Flowrate	2.5	gpm
Proposed Flowrate	0.5	gpm
Heat Content of Water	8.33	Btu/gal/F
Temperature Difference (Intake and Output)	50	F
Water Heating Equipment Efficiency	80%	
Conversion Factor	100,000	Btu/Therm
SAVINGS		
Current Faucet Water Use	0.00	kGal / year
Proposed Faucet Water Use	0.00	kGal / year
Water Savings	0.00	kGal / year
Heating Savings	0	Therms
Cost Savings	\$0	/ year

Savings calculation formulas are taken from NJ Protocols document for Faucet

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

Replace Plumbing Fixtures with Low-Flow Equivalents - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									\$ -	
Low-Flow Urinal	20	EA	\$ 1,200	\$ 1,000	\$ -	\$ 24,648	\$ 24,920	\$ -	\$ 49,568	Vendor Estimate
Low-Flow Toilet	75	EA	\$ 1,400	\$ 1,000	\$ -	#####	\$ 93,450	\$ -	\$ 201,285	Vendor Estimate
Low-Flow Faucet	60	EA	\$ 700	\$ 300	\$ -	\$ 43,134	\$ 22,428	\$ -	\$ 65,562	Vendor Estimate
						\$ -	\$ -	\$ -	\$ -	

**Cost Estimates are for Energy Savings calculations only, do not use for procurement

\$ 316,415	Subtotal
\$ 79,104	25% Contingency
\$ 395,519	Total

Camden County Board of Freeholders LGEA
CHA Project Number: 28470
City Hall

New Jersey Pay For Performance Incentive Program

Note: The following calculation is based on the New Jersey Pay For Performance Incentive Program per April, 2012. Building must have a minimum average electric demand of 100 kW. This minimum is waived for buildings owned by local governments or non-profit organizations.

At a minimum, all recommended measures were used for this calculation. To qualify for P4P incentives, the following P4P requirements must be met:

- At least 15% source energy savings
- No more than 50% savings from lighting measures
- Scope includes more than one measure
- Project has at least a 10% internal rate of return
- At least 50% of the source energy savings must come from investor-owned electricity and/or natural gas (note: exemption for fuel conversions)

Total Building Area (Square Feet)	380,000
Is this audit funded by NJ BPU (Y/N)	Yes

Board of Public Utilities (BPU)

Incentive #1		
Audit is funded by NJ BPU	\$0.05	\$/sqft

	Annual Utilities	
	kWh	Therms
Existing Cost (from utility)	\$214,013	\$210,597
Existing Usage (from utility)	1,769,600	0
Proposed Savings	649,605	15,170
Existing Total MMBtus	6,040	
Proposed Savings MMBtus	3,734	
% Energy Reduction	61.8%	
Proposed Annual Savings	\$120,957	

	Min (Savings = 15%)		Increase (Savings > 15%)		Max Incentive		Achieved Incentive	
Incentive #2	\$0.09	\$0.90	\$0.005	\$0.05	\$0.11	\$1.25	\$0.11	\$1.25
Incentive #3	\$0.09	\$0.90	\$0.005	\$0.05	\$0.11	\$1.25	\$0.11	\$1.25

	Incentives \$		
	Elec	Gas	Total
Incentive #1	\$0	\$0	\$19,000
Incentive #2	\$71,457	\$0	\$71,457
Incentive #3	\$71,457	\$0	\$71,457
Total All Incentives	\$142,913	\$0	\$161,913

Total Project Cost	\$1,821,142
--------------------	-------------

		Allowable Incentive
% Incentives #1 of Utility Cost*	4.5%	\$19,000
% Incentives #2 of Project Cost**	3.9%	\$71,457
% Incentives #3 of Project Cost**	3.9%	\$71,457
Total Eligible Incentives***	\$161,913	
Project Cost w/ Incentives	\$1,659,229	

Project Payback (years)	
w/o Incentives	w/ Incentives
15.1	13.7

* Maximum allowable incentive is 50% of annual utility cost if not funded by NJ BPU, and %25 if it is.

** Maximum allowable amount of Incentive #2 is 25% of total project cost.

Maximum allowable amount of Incentive #3 is 25% of total project cost.

*** Maximum allowable amount of Incentive #1 is \$50,000 if not funded by NJ BPU, and \$25,000 if it is.

Maximum allowable amount of Incentive #2 & #3 is \$1 million per gas account and \$1 million per electric account; maximum 2 million per project

ECM-L1 Lighting Replacements

Budgetary	Annual Utility Savings				Estimated	Total	New Jersey	Payback	Payback
Cost					Maintenance	Savings	Incentive	(without incentive)	(with incentive)
					Savings				
\$	kW	kWh	therms	\$	\$	\$	\$	Years	Years
\$461,001	85.5	265,567	0	\$41,109	0	\$41,109	\$0	11.2	11.2

*Incentive based on New Jersey Smart Start Prescriptive Lighting Measures

ECM-L2 Install Occupancy Sensors

Budgetary	Annual Utility Savings				Estimated	Total	New Jersey	Payback	Payback
Cost					Maintenance	Savings	Incentive	(without incentive)	(with incentive)
					Savings				
\$	kW	kWh	therms	\$	\$	\$	\$	Years	Years
\$142,148	0.0	96,635	0	\$13,626	0	\$13,626	\$18,430	10.4	9.1

*Incentive based on New Jersey Smart Start Prescriptive Lighting Measures

ECM-L3 Lighting Replacements with Occupancy Sensors

Budgetary	Annual Utility Savings				Estimated	Total	New Jersey	Payback	Payback
Cost					Maintenance	Savings	Incentive	(without incentive)	(with incentive)
					Savings				
\$	kW	kWh	therms	\$	\$	\$	\$	Years	Years
\$603,150	85.5	316,361	0	\$48,271	0	\$48,271	\$18,430	12.5	12.1

*Incentive based on New Jersey Smart Start Prescriptive Lighting Measures

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	No. of Fixtures after the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 2' 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	NJ Smart Start Lighting Incentive Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
32LED	MER	38	1T 32 R F 2 (ELE)	F42LL	60	2.3	SW	2000	4,560	38	4 f LED Tube	200732x2	30	1.1	SW	2,000	2,280	2,280	1.1	\$ 370.32	\$ 6,207.30	\$0	16.8	16.8					
34LED	MER	1	1T 32 C F 4 (ELE)	F44ILL	112	0.1	SW	2000	224	1	4 f LED Tube	200732x4	60	0.1	SW	2,000	120	104	0.1	\$ 16.89	\$ 326.70	\$0	19.3	19.3					
117	MER	5	CF 23	CFS23V1	23	0.1	SW	2000	230	5	CF 23	CFS23V1	23	0.1	SW	2,000	230	0	0.0	\$ -	\$ -	\$0	#DIV/0!	#DIV/0!					
32LED	Storage B-6	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120	2	4 f LED Tube	200732x2	30	0.1	SW	1,000	60	60	0.1	\$ 11.03	\$ 326.70	\$0	29.6	29.6					
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0	14.6	14.6					
202	Vest	1	2T 17 R F 2 (ELE)	F22ILL	33	0.0	SW	8760	289	1	2T 17 R F 2 (ELE)	F22ILL	33	0.0	SW	8,760	289	0	0.0	\$ -	\$ -	\$0	#DIV/0!	#DIV/0!					
32LED	Corridor	12	1T 32 R F 2 (ELE)	F42LL	60	0.7	SW	8760	6,307	12	4 f LED Tube	200732x2	30	0.4	SW	8,760	3,154	3,154	0.4	\$ 460.08	\$ 1,960.20	\$0	4.3	4.3					
32LED	Storage B-8	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	4 f LED Tube	200732x2	30	0.1	SW	8,760	526	526	0.1	\$ 76.68	\$ 326.70	\$0	4.3	4.3					
32LED	Storage B-10	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	B-5 Storage	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	180	3	4 f LED Tube	200732x2	30	0.1	SW	1,000	90	90	0.1	\$ 16.55	\$ 490.05	\$0	29.6	29.6					
32LED	Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120	2	4 f LED Tube	200732x2	30	0.1	SW	1,000	60	60	0.1	\$ 11.03	\$ 326.70	\$0	29.6	29.6					
32LED	B-11 Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	B-4 Office	9	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,264	9	4 f LED Tube	200732x2	30	0.3	SW	2,340	632	632	0.3	\$ 100.65	\$ 1,470.15	\$0	14.6	14.6					
32LED	B-3 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0	14.6	14.6					
32LED	B-2 Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	B-2 Storage	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	240	4	4 f LED Tube	200732x2	30	0.1	SW	1,000	120	120	0.1	\$ 22.06	\$ 653.40	\$0	29.6	29.6					
32LED	B-1 Electric Shop	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	984	7	4 f LED Tube	200732x2	30	0.2	SW	2,340	481	481	0.2	\$ 78.38	\$ 1,143.45	\$0	14.6	14.6					
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0	14.6	14.6					
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Cust Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4 f LED Tube	200732x2	30	0.2	SW	2,340	351	351	0.2	\$ 55.92	\$ 816.75	\$0	14.6	14.6					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	Light Closet	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120	2	4 f LED Tube	200732x2	30	0.1	SW	1,000	60	60	0.1	\$ 11.03	\$ 326.70	\$0	29.6	29.6					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0	14.6	14.6					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$ 5.52	\$ 163.35	\$0	29.6	29.6					
32LED	Corridor	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	8760	9,461	18	4 f LED Tube	200732x2	30	0.5	SW	8,760	4,730	4,730	0.5	\$ 690.12	\$ 2,940.30	\$0	4.3	4.3					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Finance Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Criminal Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0	14.6	14.6					
32LED	Breakroom	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0	14.6	14.6					

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 2T 40 F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	NJ Smart Start Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
202	Ladies TR	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	154	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2,340	154	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
34LED	Breakroom	3	1T 32 C F 4 (ELE)	F44ILL	112	0.3	SW	2340	786	3	4 ft LED Tube	200732x4	60	0.2	SW	2,340	421	365	0.2	\$	58.15	\$	980.10	\$0	16.9	16.9			
202	Men's TR	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	154	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2,340	154	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
3	Mail Room	2	W 34 W F 1 (MAG)	F41IEE	43	0.1	SW	2340	201	2	W 28 W F 1	F41SSILL	26	0.1	SW	2,340	122	80	0.0	\$	12.67	\$	378.00	\$0	29.8	29.8			
34LED	Vest	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	8760	1,962	2	4 ft LED Tube	200732x4	60	0.1	SW	8,760	1,051	911	0.1	\$	132.91	\$	1,653.40	\$0	4.9	4.9			
32LED	102 Clerks Office	57	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	8,003	57	4 ft LED Tube	200732x2	30	1.7	SW	2,340	4,001	4,001	1.7	\$	637.45	\$	9,310.95	\$0	14.6	14.6			
25	102 Clerks Office	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	SW	2340	131	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	SW	2,340	131	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
202	102 Clerks Office	14	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	2340	1,081	14	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	2,340	1,081	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
202	Records Storage	16	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	1000	528	16	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	1,000	528	0.0	\$	-	\$	-	\$0			#DIV/0!			
34LED	Records Storage	24	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	1000	2,688	24	4 ft LED Tube	200732x4	60	0.1	SW	1,000	1,440	1,248	1.2	\$	229.43	\$	7,840.80	\$0	34.2	34.2			
32LED	7 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	44.73	\$	653.40	\$0	14.6	14.6			
32LED	6 Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 ft LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$	33.55	\$	490.05	\$0	14.6	14.6			
32LED	5 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	4 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	3 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	2 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	Recep. Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	44.73	\$	653.40	\$0	14.6	14.6			
32LED	1 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
105LED	1 Office	5	W 32 F 1	F41LL	32	0.2	SW	2340	374	5	4 ft LED Tube	200732x4	60	0.1	SW	2,340	176	199	0.1	\$	31.69	\$	408.38	\$0	12.9	12.9			
34LED	Waiting Area	2	1T 32 C F 4 (ELE)	CFQ13/2-L	28	0.1	SW	2340	131	0.1	SW	2,340	131	0.1	SW	2,340	131	0.0	\$	-	\$	-	\$0			#DIV/0!			
32LED	Conference Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 ft LED Tube	200732x2	30	0.2	SW	2,340	421	421	0.2	\$	67.10	\$	980.10	\$0	14.6	14.6			
32LED	Breakroom	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 ft LED Tube	200732x2	30	0.2	SW	2,340	421	421	0.2	\$	67.10	\$	980.10	\$0	14.6	14.6			
32LED	Mail Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	Men's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	Women's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6	14.6			
32LED	Utility Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2000	240	2	4 ft LED Tube	200732x2	30	0.1	SW	2,000	120	120	0.1	\$	19.49	\$	326.70	\$0	16.8	16.8			
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	8760	2,628	5	4 ft LED Tube	200732x2	30	0.2	SW	8,760	1,314	1,314	0.2	\$	191.70	\$	816.75	\$0	4.3	4.3			
32LED	Lobby	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,154	6	4 ft LED Tube	200732x2	30	0.2	SW	8,760	1,577	1,577	0.2	\$	230.04	\$	980.10	\$0	4.3	4.3			
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	8760	2,628	5	4 ft LED Tube	200732x2	30	0.2	SW	8,760	1,314	1,314	0.2	\$	191.70	\$	816.75	\$0	4.3	4.3			
264	Lobby	2	WPLED20/3	WPLED20/3	68	0.2	SW	8760	1,787	2	WPLED20/3	WPLED20/3	68	0.2	SW	8,760	1,787	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
265	Lobby	2	WPLED15/3	WPLED15/3	51	0.1	SW	8760	894	2	WPLED15/3	WPLED15/3	51	0.1	SW	8,760	894	- 0.0	\$	-	\$	-	\$0			#DIV/0!			
32LED	Breakroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$	11.18	\$	163.35	\$0	14.6	14.6			
34LED	107 Office	5	1T 32 C F 4 (ELE)	F44ILL	112	0.6	SW	2340	1,310	5	4 ft LED Tube	200732x4	60	0.3	SW	2,340	702	608	0.3	\$	96.92	\$	1,633.50	\$0	16.9	16.9			
34LED	109 Office	6	1T 32 C F 4 (ELE)	F44ILL	112	0.7	SW	2340	1,572	6	4 ft LED Tube	200732x4	60	0.4	SW	2,340	842	730	0.3	\$	116.31	\$	1,960.20	\$0	16.9	16.9			
32LED	105 Office	12	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	1,685	12	4 ft LED Tube	200732x2	30	0.1	SW	2,340													

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual \$ Saved	Retrofit Cost	NJ Smart Start Lighting Incentive	Simple Payback	Simple Payback					
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	"Lighting Fixture Code" Example 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * (\$/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered					
32LED	217	24	1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	2340	3,370	24	4 f LED Tube	200732x2	30	0.7	SW	2,340	1,685	1,685	0.7	\$	3,920.40	\$0	14.6	14.6					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	326.70	\$0	14.6	14.6					
32LED	219 Storage	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	1000	360	6	4 f LED Tube	200732x2	30	0.2	SW	1,000	180	180	0.2	\$	980.10	\$0	29.6	29.6					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	326.70	\$0	14.6	14.6					
32LED	215 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	326.70	\$0	14.6	14.6					
32LED	205 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
32LED	204 Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4 f LED Tube	200732x2	30	0.2	SW	2,340	351	351	0.2	\$	816.75	\$0	14.6	14.6					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$	163.35	\$0	29.6	29.6					
32LED	Records	14	1T 32 R F 2 (ELE)	F42LL	60	0.8	SW	1000	840	14	4 f LED Tube	200732x2	30	0.4	SW	1,000	420	420	0.4	\$	2,286.90	\$0	29.6	29.6					
32LED	209 Office	13	1T 32 R F 2 (ELE)	F42LL	60	0.8	SW	2340	1,825	13	4 f LED Tube	200732x2	30	0.4	SW	2,340	913	913	0.4	\$	2,123.55	\$0	14.6	14.6					
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 f LED Tube	200732x2	30	0.2	SW	2,340	421	421	0.2	\$	980.10	\$0	14.6	14.6					
32LED	208 Storage	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	180	3	4 f LED Tube	200732x2	30	0.1	SW	1,000	90	90	0.1	\$	490.05	\$0	29.6	29.6					
32LED	Breakroom	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
32LED	Vest	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	283	283	0.0	\$	163.35	\$0	4.3	4.3					
32LED	Corridor	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,154	6	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,577	1,577	0.2	\$	980.10	\$0	4.3	4.3					
32LED	Women's TR	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$	490.05	\$0	14.6	14.6					
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679	7	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,840	1,840	0.2	\$	1,143.45	\$0	4.3	4.3					
32LED	214B Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$	163.35	\$0	14.6	14.6					
32LED	Office	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	SW	2,340	702	702	0.3	\$	1,633.50	\$0	14.6	14.6					
32LED	218-A Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	326.70	\$0	14.6	14.6					
32LED	218-B	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
32LED	214-A	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
32LED	218 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$	326.70	\$0	14.6	14.6					
32LED	218 Office	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	SW	2,340	702	702	0.3	\$	1,633.50	\$0	14.6	14.6					
32LED	220-B	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	983	7	4 f LED Tube	200732x2	30	0.2	SW	2,340	491	491	0.2	\$	1,143.45	\$0	14.6	14.6					
32LED	220-A	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$	490.05	\$0	14.6	14.6					
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$	163.35	\$0	14.6	14.6					
32LED	215 Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$	163.35	\$0	14.6	14.6					
65	TR	1	100	CFQ26/L	100	0.1	SW	2340	234	1	CF 26	CFQ26/L	27	171	0.0	SW	2,340	63	171	0.1	\$	40.50	\$0	1.5	1.5				
65	Closet	1	100	CFQ26/L	100	0.1	SW	1000	100	1	CF 26	CFQ26/L	27	73	0.0	SW	1,000	27	73	0.1	\$	40.50	\$0	3.0	3.0				
202	Judges Walkway	5	2T 17 R F 2 (ELE)	F22LL	33	0.2	SW	8760	1,445	5	2T 17 R F 2 (ELE)	F22LL	33	0.2	SW	8,760	1,445	0.0	\$	-	\$0		#DIV/0!						
34LED	224 Planning Office	15	1T 32 C F 4 (ELE)	F44LL	112	1.7	SW	2340	3,931	15	4 f LED Tube	200732x4	60	0.9	SW	2,340	2,106	1,825	0.8	\$	4,900.50	\$0	16.9	16.9					
34LED	Office	3	1T 32 C F 4 (ELE)	F44LL	112	0.3	SW	2340	786	3	4 f LED Tube	200732x4	60	0.2	SW	2,340	421	365	0.2	\$	980.10	\$0	16.9	16.9					
34LED	Office	2	1T 32 C F 4 (ELE)	F44LL	112	0.2	SW	2340	524	2	4 f LED Tube	200732x4	60	0.1	SW	2,340	281	281	0.1	\$	653.40	\$0	14.6	14.6					
34LED	Office	6	1T 32 C F 4 (ELE)	F44LL	112	0.7	SW	2340	1,572	6	4 f LED Tube	200732x4	60	0.4	SW	2,340	842	730	0.3	\$	1,960.20	\$0	16.9	16.9					
34LED	Office	5	1T 32 C F 4 (ELE)	F44LL	1																								

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Standard Fixture Code		Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual \$ Saved	Retrofit Cost	NJ Smart Start Incentive	Simple Payback	Simple Payback					
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	"Lighting Fixture Code" Example 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * (\$/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered					
32LED	413 Judge Chambers	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2340	211	211	0.1	\$	33.55	\$	490.05	\$0	14.6				
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2340	70	70	0.0	\$	11.18	\$	163.35	\$0	14.6				
32LED	414 Conference Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2340	70	70	0.0	\$	11.18	\$	163.35	\$0	14.6				
32LED	415 Sec Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	421	3	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	211	211	0.1	\$	33.55	\$	490.05	\$0	14.6				
32LED	Prosecutor Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
263LED	Corridor	7	1T 32 R F 2 (ELE)	F43LL	93	0.7	SW	8760	5,703	7	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,840	3,863	0.4	\$	563.60	\$	1,715.18	\$0	3.0				
32LED	410 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	408 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	2340	562	4	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	281	281	0.1	\$	44.73	\$	653.40	\$0	14.6				
32LED	297 Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1000	120	2	4 f LED Tube	200732x2	30	0.1	C-OCC	1,000	60	60	0.1	\$	11.03	\$	326.70	\$0	29.6				
32LED	406 Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-OCC	2340	842	6	4 f LED Tube	200732x2	30	0.2	C-OCC	2340	421	421	0.2	\$	67.10	\$	980.10	\$0	14.6				
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	Janitor Closet	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$	5.52	\$	163.35	\$0	29.6				
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	263	263	0.0	\$	38.34	\$	163.35	\$0	4.3				
263LED	Corridor	2	1T 32 R F 2 (ELE)	F43LL	93	0.7	SW	8760	526	2	4 f LED Tube	200732x2	30	0.1	SW	8,760	526	1,104	0.1	\$	161.03	\$	490.05	\$0	3.0				
32LED	401 Waiting Area	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	SW	2340	702	702	0.3	\$	111.83	\$	1,633.50	\$0	14.6				
263LED	Lobby Courtroom	5	1T 32 R F 2 (ELE)	F43LL	93	0.5	SW	8760	4,073	5	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,314	2,759	0.3	\$	402.57	\$	1,225.13	\$0	3.0				
32LED	400 Finance Room	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	SW	2340	702	702	0.3	\$	111.83	\$	1,633.50	\$0	14.6				
264LED	400 Finance Room	5	CFQ262	CFQ262	66	0.3	SW	2340	772	5	EVQ3510	39	0.2	SW	2340	456	316	0.1	\$	50.33	\$	2,193.75	\$0	43.6					
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	263	263	0.0	\$	38.34	\$	163.35	\$0	4.3				
263LED	Corridor	3	1T 32 R F 2 (ELE)	F43LL	93	0.3	SW	8760	2,444	3	4 f LED Tube	200732x2	30	0.1	SW	8,760	788	1,656	0.2	\$	241.54	\$	735.08	\$0	3.0				
263LED	Corridor	7	1T 32 R F 2 (ELE)	F43LL	93	0.7	SW	8760	5,703	7	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,840	3,863	0.4	\$	563.60	\$	1,715.18	\$0	3.0				
32LED	Women's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	435 Lounge	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2340	281	281	0.1	\$	44.73	\$	653.40	\$0	14.6				
32LED	438 Office Director	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	Safe Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	SW	1,000	30	30	0.0	\$	5.52	\$	163.35	\$0	29.6				
32LED	Admin Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	Vest	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	263	263	0.0	\$	38.34	\$	163.35	\$0	4.3				
32LED	453 Data Entry Office	24	1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	2340	3,370	24	4 f LED Tube	200732x2	30	0.7	SW	2340	1,685	1,685	0.7	\$	268.40	\$	3,920.40	\$0	14.6				
32LED	454 File Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	1000	240	6	4 f LED Tube	200732x2	30	0.2	SW	1,000	180	180	0.2	\$	33.09	\$	980.10	\$0	29.6				
32LED	440 Mailroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	452 TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	2340	70	70	0.0	\$	11.18	\$	163.35	\$0	14.6				
32LED	451 TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	2340	70	70	0.0	\$	11.18	\$	163.35	\$0	14.6				
32LED	441 Public Def Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	2340	140	140	0.1	\$	22.37	\$	326.70	\$0	14.6				
32LED	Elev Lobby	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	8760	1,577	3	4 f LED Tube	200732x2	30	0.1	SW	8,760	788	788	0.1	\$	115.02	\$	490.05	\$0	4.3				
34LED	Grand Jury A	4	1T 32 C F 4 (ELE)	F44LL	112	0.4	SW	2340	1,048	4	4 f LED Tube	200732x4	60	0.2															

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control [Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 22 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	NJ Smart Start Lighting Incentive Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	4 f LED Tube	200732x2	30	0.1	SW	8,760	526	526	0.1	\$ 76.68	\$ 326.70	\$0		4.3	4.3				
32LED	7th Floor Elev Lobby	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	8760	2,102	4	4 f LED Tube	200732x2	30	0.1	SW	8,760	1,051	1,051	0.1	\$ 153.36	\$ 653.40	\$0		4.3	4.3				
32LED	Elev Machine Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2000	960	8	4 f LED Tube	200732x2	30	0.2	SW	2,000	480	480	0.2	\$ 77.96	\$ 1,306.80	\$0		16.8	16.8				
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679	7	4 f LED Tube	200732x2	30	0.2	SW	8,760	1,840	1,840	0.2	\$ 268.38	\$ 1,143.45	\$0		4.3	4.3				
263LED	Elev Machine Room	1	1T 32 R F 2 (ELE)	F43LL	93	0.1	SW	2000	186	1	4 f LED Tube	200732x2	30	0.0	SW	2,000	60	126	0.1	\$ 20.46	\$ 245.03	\$0		12.0	12.0				
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
137	Office	6	SP 501	IS01	50	0.3	SW	2340	702	6	CF 26	CFQ26V1-L	27	0.2	SW	2,340	379	323	0.1	\$ 51.44	\$ 121.50	\$0		2.4	2.4				
137	Office B	4	SP 501	IS01	50	0.2	SW	2340	468	4	CF 26	CFQ26V1-L	27	0.1	SW	2,340	253	215	0.1	\$ 34.30	\$ 81.00	\$0		2.4	2.4				
183	Server Room	3	BED 17 C F 4	F24ILL	61	0.2	SW	1000	183	3	BED 17 C F 4	F24ILL	61	0.2	SW	1,000	183		0.0	\$ -	\$ -	\$0	#DIV/0!						
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	4 f LED Tube	200732x2	30	0.1	SW	8,760	526	526	0.1	\$ 76.68	\$ 326.70	\$0		4.3	4.3				
32LED	Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4 f LED Tube	200732x2	30	0.2	SW	2,340	351	351	0.2	\$ 55.92	\$ 816.75	\$0		14.6	14.6				
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0		14.6	14.6				
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123	8	4 f LED Tube	200732x2	30	0.2	SW	2,340	562	562	0.2	\$ 89.47	\$ 1,306.80	\$0		14.6	14.6				
263LED	Elev Machine Room	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2000	372	2	4 f LED Tube	200732x2	30	0.1	SW	2,000	120	252	0.1	\$ 40.93	\$ 490.05	\$0		12.0	12.0				
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	263	263	0.0	\$ 38.34	\$ 163.35	\$0		4.3	4.3				
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0		14.6	14.6				
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0		14.6	14.6				
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 f LED Tube	200732x2	30	0.2	SW	2,340	421	421	0.2	\$ 67.10	\$ 980.10	\$0		14.6	14.6				
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$ 33.55	\$ 490.05	\$0		14.6	14.6				
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123	8	4 f LED Tube	200732x2	30	0.2	SW	2,340	562	562	0.2	\$ 89.47	\$ 1,306.80	\$0		14.6	14.6				
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	1	4 f LED Tube	200732x2	30	0.0	SW	8,760	263	263	0.0	\$ 38.34	\$ 163.35	\$0		4.3	4.3				
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0		14.6	14.6				
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	SW	2,340	281	281	0.1	\$ 44.73	\$ 653.40	\$0		14.6	14.6				
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$ 33.55	\$ 490.05	\$0		14.6	14.6				
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW	2,340	211	211	0.1	\$ 33.55	\$ 490.05	\$0		14.6	14.6				
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	SW	2,340	140	140	0.1	\$ 22.37	\$ 326.70	\$0		14.6	14.6				
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	SW	2,340	70	70	0.0	\$ 11.18	\$ 163.35	\$0		14.6	14.6				
32LED	Office	13	1T 32 R F 2 (ELE)	F42LL	60	0.8	SW	2340	1,825	13	4 f LED Tube	200732x2	30	0.4	SW	2,340	913	913	0.4	\$ 145.38	\$ 2,123.55	\$0		14.6	14.6				
34LED	Office	3	1T 32 C F 4 (ELE)	F44ILL	112	0.3	SW	2340	786	3	4 f LED Tube	200732x4	60	0.2	SW	2,340	421	305	0.2	\$ 58.15	\$ 980.10	\$0		16.9	16.9				
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	SW														

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Area Description		No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exst. Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh	Annual kWh Saved	Annual \$ Saved	Retrofit Cost	Lighting Incentive	Simple Payback	With Out Incentive	Simple Payback				
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kWh) - (Retrofit Annual kWh)	(kW Saved) * (\$/kWh)	Cost for renovations to lighting system		Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered					
32LED	MER	38	1T 32 R F 2 (ELE)	F42LL	60	2.3	SW	2000	4,560.0	38	1T 32 R F 2 (ELE)	F42LL	60	2.3	NONE	2000	4,560.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
34LED	MER	1	1T 32 C F 4 (ELE)	F44LL	112	0.1	SW	2000	224.0	1	1T 32 C F 4 (ELE)	F44LL	60	112	0.1	NONE	2000	224.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!			
117	MER	5	CF 23	CFS23V1	23	0.1	SW	2000	230.0	5	CF 23	CFS23V1	23	0.1	NONE	2000	230.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Storage B-6	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	84.0	36.0	0.0	\$5.08	\$270.00	\$35.00	53.2	46.3					
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
202	Vest	1	2T 17 R F 2 (ELE)	F22LL	33	0.0	SW	8760	289.1	1	2T 17 R F 2 (ELE)	F22LL	33	0.0	NONE	8760	289.1	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Corridor	12	1T 32 R F 2 (ELE)	F42LL	60	0.7	SW	8760	6,307.2	12	1T 32 R F 2 (ELE)	F42LL	60	0.7	NONE	8760	6,307.2	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Storage B-8	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	1,051.2	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Storage B-10	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	B-5 Storage	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	180.0	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	700	126.0	54.0	0.0	\$7.61	\$270.00	\$35.00	35.5	30.9					
32LED	Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	84.0	36.0	0.0	\$5.08	\$270.00	\$35.00	53.2	46.3					
32LED	B-11 Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	B-4 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,404.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-OCC	1638	884.5	379.1	0.0	\$34.26	\$270.00	\$35.00	5.1	4.4					
32LED	B-3 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	B-2 Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	B-2 Storage	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	240.0	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	700	168.0	72.0	0.0	\$10.15	\$270.00	\$35.00	26.6	23.1					
32LED	B-1 Electric Shop	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	982.8	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-OCC	1638	686.0	294.8	0.0	\$47.51	\$270.00	\$35.00	6.5	5.7					
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Cust Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	C-OCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00	9.1	7.9					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	84.0	36.0	0.0	\$5.08	\$270.00	\$35.00	53.2	46.3					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	Corridor	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	8760	9,460.8	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	NONE	8760	9,460.8	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Finance Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Criminal Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Breakroom	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123.2	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-OCC	1638	786.2	337.0	0.0	\$47.51	\$270.00	\$35.00	5.7	4.9					
32LED	Storage	6	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,392.0	6	1T 32 R F 2 (ELE)	F42LL	60	0.6	C-OCC	1638	1,051.2	340.8	0.0	\$115.23	\$270.00	\$35.00	17.7	15.2					
25	TR	1	R 13 C CF 2 (ELE)	CF0132-L	28	0.0	SW	2340	65.5	1	R 13 C CF 2 (ELE)	CF0132-L	28	0.0	C-OCC	1638	45.9	19.7	0.0	\$2.77	\$270.00	\$35.00	97.4	84.8					
32LED	Copy Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123.2	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-OCC	1638	786.2	337.0	0.0	\$47.51	\$270.00	\$35.00	5.7	4.9					
32LED	B-100	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	C-OCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00	9.1	7.9					
32LED	TR	2	2T 17 R F 2 (ELE)	F22LL	33	0.0	SW	8760	289.1	2	2T 17 R F 2 (ELE)	F22LL	33	0.0	C-OCC	1638	54.1	23.2	0.0	\$2.27	\$270.00	\$35.00	82.7	71.6					
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-OCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6					
32LED	Men's TR	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	C-OCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00	9.1	7.9					
32LED	Corridor	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	8760	5,256.0	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	NONE	8760	5,256.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,012.0	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	8760	3,012.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!				
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	120.0	2	1T 32 R F 2 (ELE)	F42LL																	

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	No. of Fixtures after the retrofit	Standard Fixture Code Example 2T 40 R F(U) = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code	Watts per Fixture	kW/Space * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kW Saved) * (\$/kWh)	Retrofit Cost	NJ Smart Start Lighting Incentive	Simple Payback With Incentive	Simple Payback					
			Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages											Estimated annual hours for the usage group							Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered					
202	Ladies TR	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	154.4	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	C-CCC	1638	108.1	46.3	0.0	\$6.53	\$270.00	\$35.00	41.3	36.0					
34LED	Breakroom	3	1T 32 C F 4 (ELE)	F44ILL	112	0.3	SW	2340	786.2	3	1T 32 C F 4 (ELE)	F44ILL	112	0.3	C-CCC	1638	550.4	235.9	0.0	\$33.26	\$270.00	\$35.00	8.1	7.1					
202	Men's TR	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	154.4	2	2T 17 R F 2 (ELE)	F22ILL	33	0.1	C-CCC	1638	108.1	46.3	0.0	\$6.53	\$270.00	\$35.00	41.3	36.0					
3	Mail Room	2	W 34 W F 1 (MAG)	F41EE	43	0.1	SW	2340	201.2	2	W 34 W F 1 (MAG)	F41EE	43	0.1	C-CCC	1638	140.9	60.4	0.0	\$8.51	\$270.00	\$35.00	31.7	27.6					
34LED	Vest	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	8760	1,962.2	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	NONE	8760	1,962.2	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
32LED	102 Clerks Office	57	1T 32 R F 2 (ELE)	F42LL	60	3.4	SW	2340	8,002.8	57	1T 32 R F 2 (ELE)	F42LL	60	3.4	C-CCC	1638	5,602.0	2,400.8	0.0	\$338.52	\$270.00	\$35.00	0.7	0.7					
25	102 Clerks Office	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	SW	2340	131.0	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	C-CCC	1638	91.7	39.3	0.0	\$5.54	\$270.00	\$35.00	48.7	42.4					
202	102 Clerks Office	14	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	2340	1,081.1	14	2T 17 R F 2 (ELE)	F22ILL	33	0.5	C-CCC	1638	756.8	324.3	0.0	\$45.73	\$270.00	\$35.00	5.9	5.1					
202	Records Storage	16	2T 17 R F 2 (ELE)	F22ILL	33	0.5	SW	1000	528.0	16	2T 17 R F 2 (ELE)	F22ILL	33	0.5	C-CCC	700	369.6	158.4	0.0	\$22.33	\$270.00	\$35.00	12.1	10.5					
34LED	Records Storage	24	1T 32 C F 4 (ELE)	F44ILL	112	2.7	SW	1000	2,880.0	24	1T 32 C F 4 (ELE)	F44ILL	112	2.7	C-CCC	700	1,881.6	898.4	0.0	\$113.70	\$270.00	\$35.00	2.4	2.1					
32LED	7 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	6 Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2					
32LED	5 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	4 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	3 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	2 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Recep. Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	1 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
105LED	1 Office	5	W 32 F 1	F41LL	32	0.2	SW	2340	374.4	5	W 32 F 1	F41LL	32	0.2	C-CCC	1638	262.1	112.3	0.0	\$15.84	\$270.00	\$35.00	17.0	14.8					
25	Waiting Area	28	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	SW	2340	131.0	2	R 13 C CF 2 (ELE)	CFQ13/2-L	28	0.1	C-CCC	1638	91.7	39.3	0.0	\$5.54	\$270.00	\$35.00	48.7	42.4					
32LED	Conference Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-CCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6					
32LED	Breakroom	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-CCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6					
32LED	Mail Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Men's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Women's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8					
32LED	Utility Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2000	240.0	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	2000	240.0	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	8760	2,628.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	NONE	8760	2,628.0	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
32LED	Lobby	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,153.6	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	8760	3,153.6	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	8760	2,628.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	NONE	8760	2,628.0	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
264	Lobby	3	WPLED20	WPLED20/3	68	0.2	SW	8760	1,787.0	3	WPLED20	WPLED20/3	68	0.2	NONE	8760	1,787.0	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
265	Lobby	2	WPLED15/3	WPLED15/3	51	0.1	SW	8760	893.5	2	WPLED15	WPLED15/3	51	0.1	NONE	8760	893.5	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!					
32LED	Breakroom	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
34LED	107 Office	5	1T 32 C F 4 (ELE)	F44ILL	112	0.6	SW	2340	1,310.4	5	1T 32 C F 4 (ELE)	F44ILL	112	0.6	C-CCC	1638	917.3	393.1	0.0	\$55.43	\$270.00	\$35.00	4.9	4.2					
34LED	109 Office	6	1T 32 C F 4 (ELE)	F44ILL	112	0.7	SW	2340	1,572.5	6	1T 32 C F 4 (ELE)	F44ILL	112	0.7	C-CCC	1638	1,100.7	471.7	0.0	\$66.52	\$270.00	\$35.00	4.1	3.5					
32LED	105 Office	12	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	1,894.8	12	1T 32 R F 2 (ELE)	F42LL																	

EXISTING CONDITIONS											RETROFIT CONDITIONS											COST & SAVINGS ANALYSIS										
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code		Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code		Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual \$ Saved (kW Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	NJ Smart Start Lighting Incentive	Simple Payback With Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered						
			Lighting Fixture Code	Fixture Code								Lighting Fixture Code	Fixture Code																			
32LED	217	24	1T 32 R F 2 (ELE)	F42LL	F42LL	60	1.4	SW	2340	3,369.6	24	1T 32 R F 2 (ELE)	F42LL	F42LL	60	1.4	C-OCC	1638	2,358.7	1,010.9	0.0	\$142.53	\$270.00	\$35.00	1.9	1.6						
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8						
32LED	219 Storage	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	SW	1000	360.0	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	C-OCC	700	252.0	108.0	0.0	\$15.23	\$270.00	\$35.00	17.7	15.4						
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9						
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8						
32LED	215 Office	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8						
32LED	205 Office	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9						
32LED	204 Office	5	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.3	C-OCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00	9.1	7.9						
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$5.94	\$270.00	\$35.00	106.4	92.6						
32LED	Records	14	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.8	SW	1000	840.0	14	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.8	C-OCC	700	588.0	252.0	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6						
32LED	209 Office	13	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.8	SW	2340	1,825.2	13	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.8	C-OCC	1638	1,277.6	547.6	0.0	\$77.21	\$270.00	\$35.00	3.5	3.0						
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	C-OCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6						
32LED	208 Storage	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	1000	180.0	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	700	126.0	54.0	0.0	\$7.61	\$270.00	\$35.00	35.5	30.9						
32LED	Breakroom	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9						
32LED	Vest	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	8760	5,256.0	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	NONE	8760	5,256.0	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!						
32LED	Corridor	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	SW	8760	3,153.6	6	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	NONE	8760	3,153.6	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!						
32LED	Women's TR	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2						
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	SW	8760	3,679.2	7	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	NONE	8760	3,679.2	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!						
32LED	214B Office	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6						
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6						
32LED	218-A Office	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8						
32LED	218-B	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9						
32LED	214-A	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9						
32LED	215 Office	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	280.8	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	196.6	84.2	0.0	\$11.88	\$270.00	\$35.00	22.7	19.8						
32LED	218 Office	7	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.6	SW	2340	1,404.0	10	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.6	C-OCC	1638	982.8	421.2	0.0	\$35.63	\$270.00	\$35.00	4.5	4.0						
32LED	220-B	2	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	SW	2340	982.8	7	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.4	C-OCC	1638	688.0	294.8	0.0	\$41.57	\$270.00	\$35.00	6.5	5.7						
32LED	220-A	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.2	C-OCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2						
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6						
32LED	215 Office	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6						
65	TR	1	1100	1100L	1100L	100	0.1	SW	1000	100.0	1	1100	1100L	1100L	100	0.1	C-OCC	1638	163.8	27.3	0.0	\$9.90	\$270.00	\$35.00	27.3	23.7						
65	Closet	1	1100	1100L	1100L	100	0.1	SW	1000	100.0	1	1100	1100L	1100L	100	0.1	C-OCC	700	70.0	30.0	0.0	\$4.23	\$270.00	\$35.00	63.8	55.6						
202	Judges Walkway	5	2T 17 R F 2 (ELE)	F22ILL	F22ILL	33	0.2	SW	8760	1,445.4	5	2T 17 R F 2 (ELE)	F22ILL	F22ILL	33	0.2	NONE	8760	1,445.4	0.0	0.0	\$0.00	\$0.00	\$0.00		#DIV/0!						
34LED	224 Planning Office	15	1T 32 C F 4																													

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	No. of Fixtures after the retrofit	Standard Fixture Code Example 2T 40 R F(U) = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual \$ Saved (kW Saved) * (\$/kWh)	Retrofit Cost	NJ Smart Start Lighting Incentive	Simple Payback With Incentive	Simple Payback																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

EXISTING CONDITIONS												RETROFIT CONDITIONS												COST & SAVINGS ANALYSIS											
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Fixt No.)	Exist Control	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	No. of Fixtures after the retrofit	Standard Fixture Code "Lighting Fixture Code" Example 2T 40 R F(U) = 2x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual \$ Saved (kW Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	NJ Smart Start Lighting Incentive	Simple Payback With Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered											
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051.2	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	1,051.2	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	7th Floor Elev Lobby	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	8760	2,102.4	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	NONE	8760	2,102.4	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Elev Machine Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2000	960.0	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	NONE	2000	960.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679.2	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	8760	3,679.2	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
263LED	Elev Machine Room	1	1T 32 R F 2 (ELE)	F43LL	93	0.1	SW	2000	186.0	1	1T 32 R F 2 (ELE)	F43LL	93	0.1	NONE	2000	186.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
137	Office	6	SP 501	IS01	50	0.3	SW	2340	702.0	6	SP 501	IS01	50	0.3	C-CCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00		9.1	7.9										
137	Office B	4	SP 501	IS01	50	0.2	SW	2340	468.0	4	SP 501	IS01	50	0.2	C-CCC	1638	327.6	140.4	0.0	\$19.80	\$270.00	\$35.00		13.6	11.9										
32LED	Server Room	3	BED 17 C F 4	F24ILL	61	0.2	SW	1000	183.0	3	BED 17 C F 4	F24ILL	61	0.2	C-CCC	700	126.1	54.9	0.0	\$7.74	\$270.00	\$35.00		34.9	30.4										
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051.2	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	1,051.2	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	C-CCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00		9.1	7.9										
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123.2	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-CCC	1638	786.2	337.0	0.0	\$47.51	\$270.00	\$35.00		5.7	4.9										
263LED	Elev Machine Room	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2000	372.0	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	NONE	2000	372.0	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	525.6	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	525.6	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Corridor	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,153.6	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	8760	3,153.6	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	525.6	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	525.6	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Office	9	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,263.6	9	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-CCC	1638	884.5	379.1	0.0	\$53.45	\$270.00	\$35.00		5.1	4.4										
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123.2	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-CCC	1638	786.2	337.0	0.0	\$47.51	\$270.00	\$35.00		5.7	4.9										
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-CCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00		7.6	6.6										
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00		15.2	13.2										
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123.2	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	C-CCC	1638	786.2	337.0	0.0	\$47.51	\$270.00	\$35.00		5.7	4.9										
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-CCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00		45.5	39.6										
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	525.6	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	8760	525.6	0.0	0.0	\$0.00	\$0.00	\$0.00			#DIV/0!										
32LED	Office	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	2340	2,527.2	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	C-CCC	1638	1,769.0	758.2	0.0	\$106.90	\$270.00	\$35.00		2.5	2.2										
32LED	Office B	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office C	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office D	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-CCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00		11.4	9.9										
32LED	Office E	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4																									

		EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS							
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	(Watts/Fixt) * (Fixt No.)	Exist Control	Annual Hours	Annual kWh	No. of fixtures after the retrofit	Standard Fixture Code Example 2' 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code	Watts per Fixture	(Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kW Saved) * (\$/kWh)	Retrofit Cost	NJ Smart Start Lighting Incentive	Simple Payback With Out Incentive	Simple Payback					
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages											Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)				Cost for renovations to lighting system	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered						
263LED	Office	5	1T 32 R F 2 (ELE)	F43LL	93	0.5	SW	2340	1,088.1	5	1T 32 R F 2 (ELE)	F43LL	93	0.5	C-OCC	1638	761.7	326.4	0.0	\$46.03	\$270.00	\$35.00	5.9	5.1					
5	Office	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	SW	2340	140.4	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
263LED	Office	4	1T 32 R F 2 (ELE)	F43LL	93	0.4	SW	2340	870.5	4	1T 32 R F 2 (ELE)	F43LL	93	0.4	C-OCC	1638	609.3	261.1	0.0	\$36.82	\$270.00	\$35.00	7.3	6.4					
263LED	Office	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2340	435.2	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	C-OCC	1638	304.7	130.6	0.0	\$18.41	\$270.00	\$35.00	14.7	12.8					
263LED	Office	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2340	435.2	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	C-OCC	1638	304.7	130.6	0.0	\$18.41	\$270.00	\$35.00	14.7	12.8					
5	Conference Room	12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.7	SW	2340	1,684.8	12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.7	C-OCC	1638	1,179.4	505.4	0.0	\$71.27	\$270.00	\$35.00	3.8	3.3					
263LED	Office	4	1T 32 R F 2 (ELE)	F43LL	93	0.4	SW	2340	870.5	4	1T 32 R F 2 (ELE)	F43LL	93	0.4	C-OCC	1638	609.3	261.1	0.0	\$36.82	\$270.00	\$35.00	7.3	6.4					
5	Office	10	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.6	SW	2340	1,404.0	10	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.6	C-OCC	1638	982.8	421.2	0.0	\$59.39	\$270.00	\$35.00	4.5	4.0					
65	Storage	1	I100	I100/1	100	0.1	SW	1000	100.0	1	I100	I100/1	100	0.1	C-OCC	700	70.0	30.0	0.0	\$4.23	\$270.00	\$35.00	63.8	55.6					
117	TR	2	CF 23	CFS23/1	23	0.0	SW	2340	107.6	2	CF 23	CFS23/1	23	0.0	C-OCC	1638	75.3	32.3	0.0	\$4.55	\$270.00	\$35.00	99.3	51.6					
34LED	Storage	1	1T 32 C F 4 (ELE)	F44ILL	112	0.1	SW	1000	112.0	1	1T 32 C F 4 (ELE)	F44ILL	112	0.1	C-OCC	700	78.4	33.6	0.0	\$4.74	\$270.00	\$35.00	57.0	49.6					
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Elev Lobby	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,153.6	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	8760	3,153.6	0.0	0.0	\$0.00	\$0.00	\$0.00	#DIV/0!	2.6					
32LED	Office	15	1T 32 R F 2 (ELE)	F42LL	60	0.9	SW	2340	2,106.0	15	1T 32 R F 2 (ELE)	F42LL	60	0.9	C-OCC	1638	1,474.2	631.8	0.0	\$89.08	\$270.00	\$35.00	3.0	2.6					
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	561.6	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	393.1	168.5	0.0	\$23.76	\$270.00	\$35.00	11.4	9.9					
32LED	Conference Room	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2					
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842.4	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-OCC	1638	589.7	252.7	0.0	\$35.63	\$270.00	\$35.00	7.6	6.6					
5	TR	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	SW	2340	140.4	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
138	Storage	1	SP 26 P CF 2	CFQ25/2	66	0.1	SW	1000	66.0	1	SP 26 P CF 2	CFQ25/2	66	0.1	C-OCC	700	46.2	19.8	0.0	\$2.79	\$270.00	\$35.00	96.7	84.2					
202	Office	4	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	308.9	4	2T 17 R F 2 (ELE)	F22ILL	33	0.1	C-OCC	1638	216.2	92.7	0.0	\$13.07	\$270.00	\$35.00	20.7	18.0					
32LED	18th Floor (Vacant)	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	1000	1,080.0	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	C-OCC	700	756.0	324.0	0.0	\$45.68	\$270.00	\$35.00	5.9	5.1					
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
268LED	TR	1	T 34 R F 4 (MAG)	F44EE	144	0.1	SW	2340	337.0	1	T 34 R F 4 (MAG)	F44EE	144	0.1	C-OCC	1638	235.9	101.1	0.0	\$14.25	\$270.00	\$35.00	18.9	16.5					
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421.2	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	1638	294.8	126.4	0.0	\$17.82	\$270.00	\$35.00	15.2	13.2					
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140.4	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1638	98.3	42.1	0.0	\$5.94	\$270.00	\$35.00	45.5	39.6					
32LED	Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702.0	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	C-OCC	1638	491.4	210.6	0.0	\$29.69	\$270.00	\$35.00	9.1	7.9					
32LED	Elev Machine Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2000	960.0	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	NONE	2000	960.0	0.0	0.0	\$0.00	\$0.00	\$0.00	#DIV/0!	7.9					
65	Elev Machine Room	5	I100	I100/1	100	0.5	SW	2000	1,000.0	5	I100	I100/1	100	0.5	NONE	2000	1,000.0	0.0	0.0	\$0.00	\$0.00	\$0.00	#DIV/0!	7.9					
32LED	Open Area	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	700	42.0	18.0	0.0	\$2.54	\$270.00	\$35.00	106.4	92.6					
32LED	Elev Machine Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2000	720.0	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	NONE	2000	720.0	0.0	0.0	\$0.00	\$0.00	\$0.00	#DIV/0!	7.9					
34LED	Prosecutor IT Room	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	1000	224.0	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	OCC	700	156.8	67.2	0.0	\$9.48	\$128.25	\$20.00	13.5	11.4					
															0	#N/A	#VALUE!	#VALUE!	#N/A	#VALUE!		#VALUE!	#VALUE!						
															0	#N/A	#VALUE!	#VALUE!	#N/A	#VALUE!		#VALUE!	#VALUE!						
Total		2,767				179.9			555881.1	2767.0				179.9				459246.3	96634.8	0.0	13625.5	142148.3	18430.0						

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS										
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	Prescriptive Lighting Measures	Simple Payback Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered				
32LED	MER	38	1T 32 R F 2 (ELE)	F42LL		60	2.3	SW	2000	4,560	38	4 ft LED Tube	200732x2		30	1.1	NONE	2,000	2,280	2,280	1.1	\$	370.32	\$	6,207.30	\$	-	16.8	16.8	
34LED	MER	1	1T 32 C F 4 (ELE)	F44ILL		112	0.1	SW	2000	224	1	4 ft LED Tube	200732x4		60	0.1	NONE	2,000	120	104	0.1	\$	16.89	\$	326.70	\$	-	19.3	19.3	
117	MER	5	CF 23	CFS23/1		23	0.1	SW	2000	230	5	CF 23	CFS23/1		23	0.1	NONE	2,000	230	0	0.0	\$	-	\$	-	\$	-	-	-	-
	Storage B-6	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	120	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	700	42	78	0.1	\$	13.57	\$	596.70	\$	35	44.0	41.4	
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1	
202	Vest	1	2T 17 R F 2 (ELE)	F22ILL		33	0.0	SW	8760	289	1	2T 17 R F 2 (ELE)	F22ILL		33	0.0	NONE	8,760	289	0	0.0	\$	-	\$	-	\$	-	-	-	-
32LED	Corridor	12	1T 32 R F 2 (ELE)	F42LL		60	0.7	SW	8760	6,307	12	4 ft LED Tube	200732x2		30	0.4	NONE	8,760	3,154	3,154	0.4	\$	460.08	\$	1,960.20	\$	-	4.3	4.3	
32LED	Storage B-8	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	8760	1,051	2	4 ft LED Tube	200732x2		30	0.1	NONE	8,760	526	526	0.1	\$	76.68	\$	326.70	\$	-	4.3	4.3	
32LED	Storage B-10	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	B-5 Storage	3	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	1000	180	3	4 ft LED Tube	200732x2		30	0.1	C-CCC	700	63	117	0.1	\$	20.35	\$	760.05	\$	35	37.3	35.6	
32LED	Storage	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	120	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	700	42	78	0.1	\$	13.57	\$	596.70	\$	35	44.0	41.4	
32LED	B-11 Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	B-4 Office	9	1T 32 R F 2 (ELE)	F42LL		60	0.5	SW	2340	1,264	9	4 ft LED Tube	200732x2		30	0.3	C-CCC	1,638	442	821	0.3	\$	127.38	\$	1,740.15	\$	35	13.7	13.4	
32LED	B-3 Office	4	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	197	365	0.1	\$	56.61	\$	923.40	\$	35	16.3	15.7	
32LED	B-2 Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	B-2 Storage	4	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	1000	240	4	4 ft LED Tube	200732x2		30	0.1	C-CCC	700	84	156	0.1	\$	27.14	\$	923.40	\$	35	34.0	32.7	
32LED	B-1 Electric Shop	4	1T 32 R F 2 (ELE)	F42LL		60	0.4	SW	2340	984	7	4 ft LED Tube	200732x2		30	0.2	C-CCC	1,638	344	639	0.2	\$	86.07	\$	1,413.45	\$	35	14.3	13.9	
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1	
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	B-13 Police Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	Cust Office	5	1T 32 R F 2 (ELE)	F42LL		60	0.3	SW	2340	702	5	4 ft LED Tube	200732x2		30	0.2	C-CCC	1,638	246	456	0.2	\$	70.76	\$	1,086.75	\$	35	15.4	14.9	
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	Light Closet	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	120	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	700	42	78	0.1	\$	13.57	\$	596.70	\$	35	44.0	41.4	
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	197	365	0.1	\$	56.61	\$	923.40	\$	35	16.3	15.7	
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2		30	0.0	C-CCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7	
32LED	Corridor	18	1T 32 R F 2 (ELE)	F42LL		60	1.1	SW	8760	9,461	18	4 ft LED Tube	200732x2		30	0.5	NONE	8,760	4,730	4,730	0.5	\$	690.12	\$	2,940.30	\$	-	4.3	4.3	
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 ft LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8	
32LED	Finance Office	2	1T 32 R F 2 (ELE)																											

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code		Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	No. of Fixtures after the retrofit	Standard Fixture Code		Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control Retrofit control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	N3 Smart Start Lighting Incentive Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered			
			Lighting Fixture Code	Lighting Fixture Code								Lighting Fixture Code	Lighting Fixture Code																
202	Ladies TR	2	2T 17 R F 2 (ELE)	F22ILL		33	0.1	SW	2340	154	2	2T 17 R F 2 (ELE)	F22ILL		33	0.1	C-CCC	1,638	108	46	0.0	\$	6.53	\$	270.00	\$	35	41.3	36.0
34LED	Breakroom	3	1T 32 C F 4 (ELE)	F44ILL		112	0.3	SW	2340	786	3	4 f LED Tube	200732x4		60	0.2	C-CCC	1,638	295	491	0.2	\$	75.97	\$	1,250.10	\$	35	16.5	16.0
202	Men's TR	2	2T 17 R F 2 (ELE)	F22ILL		33	0.1	SW	2340	154	2	2T 17 R F 2 (ELE)	F22ILL		33	0.1	C-CCC	1,638	108	46	0.0	\$	6.53	\$	270.00	\$	35	41.3	36.0
3	Mail Room	2	W 34 W F 1 (MAG)	F41EE		43	0.1	SW	2340	201	2	W 28 W F 1 (ELE)	F41SSILL		26	0.1	C-CCC	1,638	85	116	0.0	\$	17.82	\$	648.00	\$	35	36.4	34.4
34LED	Vest	2	1T 32 C F 4 (ELE)	F44ILL		112	0.2	SW	8760	1,962	2	4 f LED Tube	200732x4		60	0.1	NONE	8,760	1,051	911	0.1	\$	132.91	\$	553.40	\$	35	4.9	4.9
32LED	102 Clerks Office	57	1T 32 R F 2 (ELE)	F42LL		60	3.4	SW	2340	8,003	57	4 f LED Tube	200732x2		30	1.7	C-CCC	1,638	2,801	5,202	1.7	\$	806.71	\$	9,580.95	\$	35	11.9	11.8
25	102 Clerks Office	2	R 13 C CF 2 (ELE)	CFQ13/2-L		28	0.1	SW	2340	131	2	R 13 C CF 2 (ELE)	CFQ13/2-L		28	0.1	C-CCC	1,638	92	39	0.0	\$	5.54	\$	270.00	\$	35	48.7	42.4
202	102 Clerks Office	14	2T 17 R F 2 (ELE)	F22ILL		33	0.5	SW	2340	1,081	14	2T 17 R F 2 (ELE)	F22ILL		33	0.5	C-CCC	1,638	757	324	0.0	\$	45.73	\$	270.00	\$	35	5.9	5.1
34LED	Records Storage	33	1T 17 R F 2 (ELE)	F22ILL		33	0.5	SW	1000	528	16	2T 17 R F 2 (ELE)	F22ILL		33	0.5	C-CCC	1,638	370	158	0.0	\$	22.33	\$	270.00	\$	35	12.1	10.5
34LED	Records Storage	24	1T 32 C F 4 (ELE)	F44ILL		112	2.7	SW	1000	2,688	24	4 f LED Tube	200732x4		60	1.4	C-CCC	1,638	1,008	1,680	1.2	\$	290.34	\$	8,110.80	\$	35	27.9	27.8
32LED	7 Office	4	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	2340	562	4	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	197	365	0.1	\$	56.61	\$	923.40	\$	35	16.3	15.7
32LED	6 Office	3	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	2340	421	3	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	147	274	0.1	\$	42.46	\$	760.05	\$	35	17.9	17.1
32LED	5 Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	4 Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	3 Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	2 Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	Recep. Office	4	1T 32 R F 2 (ELE)	F42LL		60	0.2	SW	2340	562	4	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	197	365	0.1	\$	56.61	\$	923.40	\$	35	16.3	15.7
32LED	1 Office	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
105LED	1 Office	5	W 34 W F 1 (ELE)	F41LL		32	0.2	SW	2340	374	5	4 f LED Tube	200732x4		60	0.1	C-CCC	1,638	123	252	0.1	\$	39.11	\$	678.38	\$	35	17.3	16.5
26	Waiting Area	2	R 13 C CF 2 (ELE)	CFQ13/2-L		28	0.1	SW	2340	131	2	R 13 C CF 2 (ELE)	CFQ13/2-L		28	0.1	C-CCC	1,638	92	39	0.0	\$	5.54	\$	270.00	\$	35	48.7	42.4
32LED	Conference Room	6	1T 32 R F 2 (ELE)	F42LL		60	0.4	SW	2340	842	6	4 f LED Tube	200732x2		30	0.2	C-CCC	1,638	295	548	0.2	\$	84.92	\$	1,250.10	\$	35	14.7	14.3
32LED	Breakroom	6	1T 32 R F 2 (ELE)	F42LL		60	0.4	SW	2340	842	6	4 f LED Tube	200732x2		30	0.2	C-CCC	1,638	295	548	0.2	\$	84.92	\$	1,250.10	\$	35	14.7	14.3
32LED	Mail Room	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	Men's TR	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	Women's TR	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	281	2	4 f LED Tube	200732x2		30	0.1	C-CCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8
32LED	Utility Room	2	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2000	240	2	4 f LED Tube	200732x2		30	0.1	NONE	2,000	120	120	0.1	\$	19.49	\$	326.70	\$	-	16.8	16.8
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL		60	0.3	SW	8760	2,628	5	4 f LED Tube	200732x2		30	0.2	NONE	8,760	1,314	1,314	0.2	\$	191.70	\$	816.75	\$	-	4.3	4.3
32LED	Lobby	6	1T 32 R F 2 (ELE)	F42LL		60	0.4	SW	8760	3,154	6	4 f LED Tube	200732x2		30	0.2	NONE	8,760	1,577	1,577	0.2	\$	230.04	\$	980.10	\$	-	4.3	4.3
32LED	Corridor	5	1T 32 R F 2 (ELE)	F42LL		60	0.3	SW	8760	2,628	5	4 f LED Tube	200732x2		30	0.2	NONE	8,760	1,314	1,314	0.2	\$	191.70	\$	816.75	\$	-	4.3	4.3
264	Lobby	3	WPLED20/3	WPLED20/3		68	0.2	SW	8760	1,787	3	WPLED20/3	WPLED20/3		68	0.2	NONE	8,760	1,787	0.0	0.0	\$	-	\$	-	\$	-	-	-
265	Lobby	2	WPLED15/3	WPLED15/3		51	0.1	SW	8760	894	2	WPLED15/3	WPLED15/3		51	0.1	NONE	8,760	894	0.0	0.0	\$	-	\$	-	\$	-	-	-
32LED	Breakroom	1	1T 32 R F 2 (ELE)	F42LL		60	0.1	SW	2340	140	1	4 f LED Tube	200732x2		30	0.0	C-CCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1
34LED																													

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space * (Number of Fixtures)	Retrofit Control device	Annual Hours	Annual kWh (kW/Space) * (Annual Hours)	Original Annual kWh - (Retrofit Annual kWh)	Annual kWh Saved (kWh Saved) * (Sk/kWh)	Retrofit Cost	Cost for renovations to lighting system	N3 Smart Start Incentive	Simple Payback Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
32LED	217	24	1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	2340	3,370	24	4t LED Tube	200732x2	30	0.7	C-OCC	1,638	1,179	2,190	0.7	\$ 339.67	\$ 4,190.40	\$ 35	12.3	12.2					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 596.70	\$ 35	21.1	19.8					
32LED	219 Storage	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	1000	360	6	4t LED Tube	200732x2	30	0.2	C-OCC	1,638	126	234	0.2	\$ 40.71	\$ 1,250.10	\$ 35	30.7	29.9					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 596.70	\$ 35	21.1	19.8					
32LED	215 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 596.70	\$ 35	21.1	19.8					
32LED	205 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	204 Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4t LED Tube	200732x2	30	0.2	C-OCC	1,638	246	456	0.2	\$ 70.76	\$ 1,086.75	\$ 35	15.4	14.9					
32LED	Storage	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4t LED Tube	200732x2	30	0.0	C-OCC	1,638	21	39	0.0	\$ 6.78	\$ 433.35	\$ 35	63.9	58.7					
32LED	Records	14	1T 32 R F 2 (ELE)	F42LL	60	0.8	SW	1000	840	14	4t LED Tube	200732x2	30	0.4	C-OCC	1,638	254	548	0.4	\$ 84.92	\$ 1,250.10	\$ 35	14.7	14.3					
32LED	209 Office	13	1T 32 R F 2 (ELE)	F42LL	60	0.8	SW	2340	1,825	13	4t LED Tube	200732x2	30	0.4	C-OCC	1,638	639	1,186	0.4	\$ 183.99	\$ 2,393.55	\$ 35	13.0	12.8					
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4t LED Tube	200732x2	30	0.2	C-OCC	1,638	295	548	0.2	\$ 84.92	\$ 1,250.10	\$ 35	14.7	14.3					
32LED	208 Storage	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1000	180	3	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	63	117	0.1	\$ 20.35	\$ 760.05	\$ 35	37.3	35.6					
32LED	Breakroom	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Vest	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	27	1	4t LED Tube	200732x2	30	0.0	NONE	8,760	263	38.34	0.0	\$ 28.31	\$ 163.35	\$ 35	4.3	4.3					
32LED	Corridor	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,154	6	4t LED Tube	200732x2	30	0.2	NONE	8,760	1,577	230.04	0.2	\$ 230.04	\$ 980.10	\$ -	4.3	4.3					
32LED	Women's TR	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1					
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679	7	4t LED Tube	200732x2	30	0.2	NONE	8,760	1,840	268.38	0.2	\$ 268.38	\$ 1,143.45	\$ -	4.3	4.3					
32LED	214B Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4t LED Tube	200732x2	30	0.0	C-OCC	1,638	49	14.15	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 433.35	\$ 35	21.1	19.8					
32LED	218-A Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 596.70	\$ 35	21.1	19.8					
32LED	218-B	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	214-A	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	218 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$ 28.31	\$ 596.70	\$ 35	21.1	19.8					
32LED	218 Office	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4t LED Tube	200732x2	30	0.3	C-OCC	1,638	491	1,933	0.3	\$ 141.53	\$ 1,933.50	\$ 35	13.4	13.2					
32LED	220-B	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	983	7	4t LED Tube	200732x2	30	0.2	C-OCC	1,638	344	639	0.2	\$ 99.07	\$ 1,413.45	\$ 35	14.3	13.9					
32LED	220-A	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4t LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1					
32LED	Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4t LED Tube	200732x2	30	0.0	C-OCC	1,638	49	14.15	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	215 Office	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4t LED Tube	200732x2	30	0.0	C-OCC	1,638	49	14.15	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
65	TR	1	100	100V1	100	0.1	SW	2340	234	1	CF 26	CFQ26V1-L	27	0.0	C-OCC	1,638	44	190	0.1	\$ 29.89	\$ 310.50	\$ 35	10.4	9.2					
65	Closet	1	100	100V1	100	0.1	SW	1000	100	1	CF 26	CFQ26V1-L	27	0.0	C-OCC	1,638	19	81	0.1	\$ 14.56	\$ 310.50	\$ 35	21.3	18.9					
202	Judges Walkway	5	2T 17 R F 2 (ELE)	F22ILL	33	0.2	SW	8760	1,445	5	2T 17 R F 2 (ELE)	F22ILL	33	0.2	NONE	8,760	1,445	0	0.0	\$ -	\$ -	\$ -	-	-					
34LED	224 Planning Office	15	1T 32 C F 4 (ELE)	F44ILL	112	1.7	SW	2340	3,931	15	4t LED Tube	200732x4	60	0.9	C-OCC	1,638	1,474	2,457	0.8	\$ 379.85	\$ 5,170.50	\$ 35	13.6	13.5					
34LED	Office	3	1T 32 C F 4 (ELE)	F44ILL	112	0.3	SW	2340	786	3	4t LED Tube	200732x4	60	0.2	C-OCC	1,638	295	491	0.2	\$ 75.97	\$ 1,250.10	\$ 35	16.5	16.0					
34LED	Office	2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	2340	524	2	4t LED Tube	200732x4	60	0.1	C-OCC	1,638	197	328	0.1	\$ 50.65	\$ 923.40	\$ 35	18.2	17.5					
34LED	Office	6	1T 32 C F 4 (ELE)	F44ILL	112	0.7	SW	2340	1,572	6	4t LED Tube	200732x4	60	0.4	C-OCC	1,638	590	983	0.3</										

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	Fixture Code Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	Prescriptive Lighting Measures	Simple Payback With Out Incentive Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
32LED	413 Judge Chambers	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$	42.46	\$	760.05	\$	35	17.9	17.1		
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1		
32LED	414 Conference Room	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	NONE	2,340	140	140	0.1	\$	22.37	\$	326.70	\$	-	14.6	14.6		
32LED	TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1		
32LED	415 Sec. Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	2340	421	3	4 f LED Tube	200732x2	30	0.1	NONE	2,340	211	211	0.1	\$	33.55	\$	490.35	\$	-	14.6	14.6		
32LED	Prosecutor Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.0	NONE	2,340	140	140	0.1	\$	22.37	\$	326.70	\$	-	14.6	14.6		
263LED	Corridor	7	1T 32 R F 2 (ELE)	F43LL	93	0.7	SW	8760	5,703	7	4 f LED Tube	200732x2	30	0.2	NONE	8,760	1,840	3,863	0.4	\$	563.60	\$	1,715.18	\$	-	3.0	3.0		
32LED	410 Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	NONE	2,340	140	140	0.1	\$	22.37	\$	326.70	\$	-	14.6	14.6		
32LED	408 Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	C-OCC	2340	562	4	4 f LED Tube	200732x2	30	0.1	NONE	2,340	281	281	0.1	\$	44.73	\$	653.40	\$	-	14.6	14.6		
32LED	407 Storage	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	1000	120	2	4 f LED Tube	200732x2	30	0.1	NONE	1,000	60	60	0.1	\$	11.03	\$	326.70	\$	-	29.6	29.6		
32LED	406 Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	C-OCC	2340	842	6	4 f LED Tube	200732x2	30	0.2	NONE	2,340	421	421	0.2	\$	67.10	\$	980.10	\$	-	14.6	14.6		
32LED	TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	NONE	2,340	140	140	0.1	\$	22.37	\$	326.70	\$	-	14.6	14.6		
32LED	Janitor Closet	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	C-OCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7		
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	NONE	8,760	263	263	0.0	\$	38.34	\$	163.35	\$	-	4.3	4.3		
263LED	Corridor	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	8760	1,629	2	4 f LED Tube	200732x2	30	0.1	NONE	8,760	526	1,104	0.1	\$	161.03	\$	490.05	\$	-	3.0	3.0		
32LED	401 Waiting Area	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	C-OCC	1,638	491	913	0.3	\$	141.53	\$	1,903.50	\$	35	13.4	13.2		
263LED	Lobby Courtroom	5	1T 32 R F 2 (ELE)	F43LL	93	0.5	SW	8760	4,073	5	4 f LED Tube	200732x2	30	0.2	NONE	8,760	1,314	2,759	0.3	\$	402.57	\$	1,225.13	\$	-	3.0	3.0		
32LED	400 Finance Room	10	1T 32 R F 2 (ELE)	F42LL	60	0.6	SW	2340	1,404	10	4 f LED Tube	200732x2	30	0.3	C-OCC	1,638	491	913	0.3	\$	141.53	\$	1,903.50	\$	35	13.4	13.2		
254LED	400 Finance Room	5	CFQ26/2	CFQ26/2	66	0.3	SW	2340	772	5	EV035/10	200732x2	30	0.2	C-OCC	1,638	319	453	0.1	\$	69.63	\$	2,403.75	\$	35	35.4	34.9		
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.1	NONE	8,760	263	263	0.0	\$	38.34	\$	163.35	\$	-	4.3	4.3		
263LED	Corridor	3	1T 32 R F 2 (ELE)	F43LL	93	0.3	SW	8760	2,444	3	4 f LED Tube	200732x2	30	0.1	NONE	8,760	788	1,656	0.2	\$	241.54	\$	735.08	\$	-	3.0	3.0		
263LED	Corridor	7	1T 32 R F 2 (ELE)	F43LL	93	0.7	SW	8760	5,703	7	4 f LED Tube	200732x2	30	0.2	NONE	8,760	1,840	3,863	0.4	\$	563.60	\$	1,715.18	\$	-	3.0	3.0		
32LED	Women's TR	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8		
32LED	435 Lounge	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$	56.61	\$	923.40	\$	35	16.3	15.7		
32LED	438 Office Director	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8		
32LED	Safe Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 f LED Tube	200732x2	30	0.0	C-OCC	700	21	39	0.0	\$	6.78	\$	433.35	\$	35	63.9	58.7		
32LED	Admin Office	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8		
32LED	Vest	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 f LED Tube	200732x2	30	0.0	NONE	8,760	263	263	0.0	\$	38.34	\$	163.35	\$	-	4.3	4.3		
32LED	453 Data Entry Office	24	1T 32 R F 2 (ELE)	F42LL	60	1.4	SW	2340	3,370	24	4 f LED Tube	200732x2	30	0.7	C-OCC	1,638	1,179	2,190	0.7	\$	339.67	\$	4,190.40	\$	35	12.3	12.2		
32LED	454 File Room	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	1000	369	6	4 f LED Tube	200732x2	30	0.2	C-OCC	700	126	234	0.2	\$	40.71	\$	1,250.10	\$	35	30.7	29.9		
32LED	440 Mailroom	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	281	2	4 f LED Tube	200732x2	30	0.1	C-OCC	1,638	98	183	0.1	\$	28.31	\$	596.70	\$	35	21.1	19.8		
32LED	452 TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1		
32LED	451 TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	C-OCC	2340	140	1	4 f LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$	14.15	\$	433.35	\$	35	30.6	28.1		

EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS									
Field Code	Area Description Unique description of the location - Room number/Room name: Floor number (if applicable)	No. of Fixtures before the retrofit	Standard Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Fixt No.)	Pre-Inst. control device	Annual Hours Estimated daily hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Number of Fixtures after the retrofit	Standard Fixture Code Lighting Fixture Code	Fixture Code Code from Table of Standard Fixture Wattages	Watts per Fixture Value from Table of Standard Fixture Wattages	kW/Space (Watts/Fixt) * (Number of Fixtures)	Retrofit Control device	Annual Hours Estimated annual hours for the usage group	Annual kWh (kW/Space) * (Annual Hours)	Annual kWh Saved (Original Annual kWh) - (Retrofit Annual kWh)	Annual kW Saved (Original Annual kW) - (Retrofit Annual kW)	Annual \$ Saved (kWh Saved) * (\$/kWh)	Retrofit Cost Cost for renovations to lighting system	Prescriptive Lighting Measures	Simple Payback Length of time for renovations cost to be recovered	Simple Payback Length of time for renovations cost to be recovered					
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	4 ft LED Tube	200732x2	30	0.1	NONE	8,760	526	526	0.1	\$ 76.68	\$ 326.70	\$ -	4.3	4.3					
32LED	7th Floor Elev Lobby	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	8760	2,102	4	4 ft LED Tube	200732x2	30	0.1	NONE	8,760	1,051	1,051	0.1	\$ 153.36	\$ 653.40	\$ -	4.3	4.3					
32LED	Elev Machine Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2000	960	8	4 ft LED Tube	200732x2	30	0.2	NONE	2,000	480	480	0.2	\$ 77.96	\$ 1,306.80	\$ -	16.8	16.8					
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Corridor	7	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,679	7	4 ft LED Tube	200732x2	30	0.2	NONE	8,760	1,840	1,840	0.2	\$ 268.38	\$ 1,143.45	\$ -	4.3	4.3					
263LED	Elev Machine Room	1	1T 32 R F 2 (ELE)	F43LL	93	0.1	SW	2000	186	1	4 ft LED Tube	200732x2	30	0.0	NONE	2,000	60	126	0.1	\$ 20.46	\$ 245.03	\$ -	12.0	12.0					
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
137	Office	6	SP 501	IS01	50	0.3	SW	2340	702	6	CF 26	CFQ26V1-L	27	0.2	C-CCC	1,638	265	437	0.1	\$ 67.48	\$ 391.50	\$ 35	5.8	5.3					
137	Office B	4	SP 501	IS01	50	0.2	SW	2340	468	4	CF 26	CFQ26V1-L	27	0.1	C-CCC	1,638	177	291	0.1	\$ 44.99	\$ 351.00	\$ 35	7.8	7.0					
183	Server Room	3	BED 17 C F 4	F24ILL	61	0.2	SW	1000	183	3	BED 17 C F 4	F24ILL	61	0.2	C-CCC	700	128	252	0.1	\$ 7.74	\$ 270.00	\$ 35	34.9	30.4					
32LED	Vest	2	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	1,051	2	4 ft LED Tube	200732x2	30	0.1	NONE	8,760	526	526	0.1	\$ 76.68	\$ 326.70	\$ -	4.3	4.3					
32LED	Office	5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4 ft LED Tube	200732x2	30	0.2	C-CCC	1,638	246	456	0.2	\$ 70.76	\$ 1,086.75	\$ 35	15.4	14.9					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123	8	4 ft LED Tube	200732x2	30	0.2	C-CCC	1,638	393	730	0.2	\$ 113.22	\$ 1,576.80	\$ 35	13.9	13.6					
263LED	Elev Machine Room	2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2000	372	2	4 ft LED Tube	200732x2	30	0.0	NONE	2,000	120	252	0.1	\$ 40.83	\$ 490.05	\$ -	12.0	12.0					
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 ft LED Tube	200732x2	30	0.0	NONE	8,760	263	263	0.0	\$ 38.34	\$ 103.35	\$ -	4.3	4.3					
32LED	Corridor	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,154	6	4 ft LED Tube	200732x2	30	0.2	NONE	8,760	1,577	1,577	0.2	\$ 230.04	\$ 980.10	\$ -	4.3	4.3					
32LED	Corridor	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 ft LED Tube	200732x2	30	0.1	NONE	8,760	263	263	0.1	\$ 38.34	\$ 103.35	\$ -	4.3	4.3					
32LED	Office	9	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,264	9	4 ft LED Tube	200732x2	30	0.3	C-CCC	1,638	442	821	0.3	\$ 127.38	\$ 1,740.15	\$ 35	13.7	13.4					
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123	8	4 ft LED Tube	200732x2	30	0.2	C-CCC	1,638	393	730	0.2	\$ 113.22	\$ 1,576.80	\$ 35	13.9	13.6					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office	6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 ft LED Tube	200732x2	30	0.2	C-CCC	1,638	295	548	0.2	\$ 84.92	\$ 1,250.10	\$ 35	14.7	14.3					
32LED	Office	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1					
32LED	Office	8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2340	1,123	8	4 ft LED Tube	200732x2	30	0.2	C-CCC	1,638	393	730	0.2	\$ 113.22	\$ 1,576.80	\$ 35	13.9	13.6					
32LED	Men's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Women's TR	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-CCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1					
32LED	Elev Lobby	1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	8760	526	1	4 ft LED Tube	200732x2	30	0.0	NONE	8,760	263	263	0.0	\$ 38.34	\$ 103.35	\$ -	4.3	4.3					
32LED	Office	18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	2340	2,527	18	4 ft LED Tube	200732x2	30	0.5	C-CCC	1,638	885	1,643	0.5	\$ 254.75	\$ 3,210.30	\$ 35	12.6	12.5					
32LED	Office B	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office C	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office D	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office E	4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7					
32LED	Office F	3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	3	4 ft LED Tube	200732x2	30	0.1	C-CCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1					
32LED	Office G	4>																											

			EXISTING CONDITIONS										RETROFIT CONDITIONS										COST & SAVINGS ANALYSIS					
Area Description			No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual \$ Saved	Retrofit Cost	NJ Smart Start Incentive	Simple Payback	Simple Payback			
Field Code	Unique description of the location - Room number/Room name: Floor number (if applicable)		No. of fixtures before the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/Space) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/Space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * (\$/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered			
263LED	Office		5	1T 32 R F 2 (ELE)	F43LL	93	0.5	SW	2340	1,088	5	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,638	246	842	0.3	\$ 132.27	\$ 1,495.13	\$ 35	11.3	11.0			
5	Office		1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	SW	2340	140	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	C-OCC	1,638	98	42	0.0	\$ 5.94	\$ 270.00	\$ 35	45.5	39.6			
263LED	Office		4	1T 32 R F 2 (ELE)	F43LL	93	0.4	SW	2340	870	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	197	674	0.3	\$ 105.82	\$ 1,250.10	\$ 35	11.8	11.5			
263LED	Office		2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2340	435	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	98	337	0.1	\$ 52.91	\$ 760.05	\$ 35	14.4	13.7			
263LED	Office		2	1T 32 R F 2 (ELE)	F43LL	93	0.2	SW	2340	435	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	98	337	0.1	\$ 52.91	\$ 760.05	\$ 35	14.4	13.7			
5	Conference Room		12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.7	SW	2340	1,685	12	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.7	C-OCC	1,638	1,179	505	0.0	\$ 71.27	\$ 270.00	\$ 35	3.8	3.3			
263LED	Office		4	1T 32 R F 2 (ELE)	F43LL	93	0.4	SW	2340	870	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	197	674	0.3	\$ 105.82	\$ 1,250.10	\$ 35	11.8	11.5			
5	Office		10	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.6	SW	2340	1,404	10	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.6	C-OCC	1,638	983	421	0.0	\$ 59.39	\$ 270.00	\$ 35	4.5	4.0			
65	Storage		1	I100	I100/1	100	0.1	SW	1000	100	1	CF 26	CFQ26V1-L	27	0.0	C-OCC	700	19	81	0.1	\$ 14.56	\$ 310.50	\$ 35	21.3	18.9			
117	TR		2	CF 23	CFS23V1	23	0.0	SW	2340	108	2	CF 23	CFS23V1	23	0.0	C-OCC	1,638	75	32	0.0	\$ 4.55	\$ 270.00	\$ 35	59.3	51.6			
34LED	Storage		1	1T 32 C F 4 (ELE)	F44ILL	112	0.1	SW	1000	112	1	4 ft LED Tube	200732x4	60	0.1	C-OCC	700	42	70	0.1	\$ 12.10	\$ 596.70	\$ 35	49.3	46.4			
32LED	Men's TR		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
32LED	Women's TR		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
32LED	Elev Lobby		6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	8760	3,154	6	4 ft LED Tube	200732x2	30	0.2	NONE	8,760	1,577	0.2	\$ 230.04	\$ 980.10	\$ -	4.3	4.3				
32LED	Office		15	1T 32 R F 2 (ELE)	F42LL	60	0.9	SW	2340	2,106	15	4 ft LED Tube	200732x2	30	0.5	C-OCC	1,638	737	1,369	0.5	\$ 212.29	\$ 2,720.25	\$ 35	12.8	12.6			
32LED	Office		3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1			
32LED	Office		4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7			
32LED	Office		4	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	562	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	197	365	0.1	\$ 56.61	\$ 923.40	\$ 35	16.3	15.7			
32LED	Conference Room		3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1			
32LED	Office		6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2340	842	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,638	295	548	0.2	\$ 84.92	\$ 1,250.10	\$ 35	14.7	14.3			
5	TR		1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	SW	2340	140	1	2T 32 R F 2 (u) (ELE)	FU2LL	60	0.1	C-OCC	1,638	98	42	0.0	\$ 5.94	\$ 270.00	\$ 35	45.5	39.6			
138	Storage		1	SP 26 P CF 2	CFQ25V2	66	0.1	SW	1000	66	1	SP 26 P CF 2	CFQ25V2	66	0.1	C-OCC	700	46	20	0.0	\$ 2.79	\$ 270.00	\$ 35	96.7	84.2			
202	Office		4	2T 17 R F 2 (ELE)	F22ILL	33	0.1	SW	2340	309	4	2T 17 R F 2 (ELE)	F22ILL	33	0.1	C-OCC	1,638	216	93	0.0	\$ 13.07	\$ 270.00	\$ 35	20.7	18.0			
32LED	18th Floor (Vacant)		18	1T 32 R F 2 (ELE)	F42LL	60	1.1	SW	1000	1,080	18	4 ft LED Tube	200732x2	30	0.5	C-OCC	700	378	702	0.5	\$ 122.12	\$ 3,210.30	\$ 35	26.3	26.0			
32LED	TR		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
32LED	TR		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
268LED	TR		1	T 34 R F 4 (MAG)	F44EE	144	0.1	SW	2340	337	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	288	0.1	\$ 45.47	\$ 596.70	\$ 35	13.1	12.4			
32LED	Office		3	1T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2340	421	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,638	147	274	0.1	\$ 42.46	\$ 760.05	\$ 35	17.9	17.1			
32LED	Office		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
32LED	Office		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	2340	140	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,638	49	91	0.0	\$ 14.15	\$ 433.35	\$ 35	30.6	28.1			
32LED	Office		5	1T 32 R F 2 (ELE)	F42LL	60	0.3	SW	2340	702	5	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,638	246	456	0.2	\$ 70.76	\$ 1,086.75	\$ 35	15.4	14.9			
32LED	Elev Machine Room		8	1T 32 R F 2 (ELE)	F42LL	60	0.5	SW	2000	960	8	4 ft LED Tube	200732x2	30	0.2	NONE	2,000	480	480	0.2	\$ 77.96	\$ 1,306.80	\$ -	16.8	16.8			
65	Elev Machine Room		5	I100	I100/1	100	0.5	SW	2000	1,000	5	CF 26	CFQ26V1-L	27	0.1	NONE	2,000	270	730	0.4	\$ 118.57	\$ 202.50	\$ -	1.7	1.7			
32LED	Open Area		1	1T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1000	60	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	700	21	39	0.0	\$ 6.78	\$ 433.35	\$ 35	63.9	58.7			
32LED	Elev Machine Room		6	1T 32 R F 2 (ELE)	F42LL	60	0.4	SW	2000	720	6	4 ft LED Tube	200732x2	30	0.2	NONE	2,000	360	360	0.2	\$ 58.47	\$ 980.10	\$ -	16.8	16.8			
34LED	Prosecutor IT Room		2	1T 32 C F 4 (ELE)	F44ILL	112	0.2	SW	1000	224	2	4 ft LED Tube	200732x4	60	0.1	OCC	700	84	140	0.1	\$ 24.20	\$ 781.65	\$ 20	32.3	31.5			
																0	#N/A							#VALUE!				
																0	#N/A							#VALUE!				
S	Total		2,767				179.9			555,861	2,767			94.4				239,520		85.5	48,271	603,150	\$18,430					
S																			Demand Savings		85.5	\$3,664						
S																			kWh Savings		\$44,607							
S																			Total Savings			\$48,271		12.5	12.1			

APPENDIX D

New Jersey Board of Public Utilities Incentives

- i. Smart Start**
 - ii. Direct Install**
 - iii. Pay for Performance (P4P)**
 - iv. Energy Savings Improvement Plan (ESIP)**
-

I. SMART START



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT



[Home](#) » [Commercial & Industrial](#) » [Programs](#)

NJ SmartStart Buildings

Program Overview

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

EQUIPMENT INCENTIVES

FOOD SERVICE EQUIPMENT

APPLICATION FORMS

TOOLS AND RESOURCES

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND
FUEL CELLS

LOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM



With New Jersey SmartStart Buildings ...

... A smart start now means better performance later! Whether you're starting a commercial or industrial project from the ground up, renovating existing space, or upgrading equipment, there are unique opportunities to upgrade the energy efficiency of the project.

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings impacted by Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have been added for high efficiency food service equipment.

Visit the Sandy web page for details and important links.

New Jersey SmartStart Buildings can provide a range of support — at no cost to you — for substantial energy savings, both now and for the future. Learn more about:

[Project Categories](#)

[Custom Measures](#)

[Incentives for Qualifying Equipment and Projects](#)

[Program Terms and Conditions](#)

[Find a Trade Ally](#)

Please note: pre-approval is required for almost all energy efficiency incentives. To receive an incentive, you must submit an application form (and applicable worksheets) and receive an approval letter from the program before any equipment is installed (click here for complete Terms and Conditions). Upon receipt of an approval letter, you may proceed to install the equipment listed on your approved application. Equipment installed prior to the date of the approval letter is not eligible for an incentive. **Any customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Getting Started

Submit your project application form as soon as you know you will be doing a construction project or replacing/adding equipment.

PAST PROGRAMS**TOOLS AND RESOURCES****PROGRAM UPDATES****CONTACT US**

Apply for pre-approval by submitting an application for the type of equipment you have or plan to install. The application should be accompanied by a related worksheet, where applicable, manufacturer's specification sheet (refer to the specific program requirements on the background application for specs needed for your project) for the equipment you are planning to install. (Program representatives will review your application package and approve it, reject it, or advise you of upgrades in equipment that will save energy costs and/or increase your incentive.)

Support for Custom Energy-Efficiency Measures

Custom measures allows program participants the opportunity to receive an incentive for energy-efficiency measures that are not on the prescriptive equipment Incentive list, but are project/facility specific.

Incentives for Qualifying Equipment and Projects

Financial incentives are available for large and small projects. These incentives offset some or maybe even all! — of the added cost to purchase qualifying energy-efficient equipment, and provides significant long-term energy savings. Ranges of incentives are available for qualifying equipment (depending on type, size, and efficiency) in several categories.

Find out more about equipment incentives

For specific details on equipment requirements and financial incentives, including incentives for equipment not listed here, contact a program representative. Fiscal year financial incentives will be limited to a maximum of \$500,000 per customer utility account and are available as long as permits are obtained.

[Home](#) | [Residential](#) | [Commercial & Industrial](#) | [Renewable Energy](#)
[About Us](#) | [Press Room](#) | [Library](#) | [FAQs](#) | [Calendar](#) | [Newsletters](#) | [Contact Us](#) | [Site](#)



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT



COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

EQUIPMENT INCENTIVES

FOOD SERVICE EQUIPMENT

APPLICATION FORMS

TOOLS AND RESOURCES

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND
FUEL CELLS

LOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

[Home](#) » [Commercial & Industrial](#) » [Programs](#) » [NJ SmartStart Buildings](#)

Equipment Incentives

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings impacted by Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have been added for high efficiency food service equipment.

Visit the Sandy web page for details and important links.

More reasons for a smart start on your next project!

New Jersey SmartStart Buildings provides **financial incentives for qualifying equipment**. These incentives were developed to help our customers offset some of the added cost to purchase qualifying energy-efficient equipment, which provides significant long-term energy savings. A wide range of incentives are available for qualifying equipment (depending on type, size and efficiency).

Listed below are the types of qualifying equipment and ranges of incentives. For details on equipment requirements and full listings of incentives, refer to the **online application forms**.

Please note that almost all equipment incentives require pre-approval before equipment is installed. (click for exceptions) To start the pre-approval process, submit an Equipment Application, and appropriate Equipment Worksheets, for the type of equipment you are planning to install along with equipment specification sheets (refer to the specific program requirements on the back of the application for specific information needed for your project) and a current utility bill(s).

In order to be eligible to receive financial incentives under this Program, Applicants must receive electric and/or gas service from one of the regulated electric and/or gas utilities in the State of New Jersey. They are: Atlantic City Electric, Jersey Central Power & Light, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas, PSE&G, and South Jersey Gas.



Electric Chillers

Water-cooled chillers (\$12 - \$170 per ton)
Air-cooled chillers (\$8 - \$52 per ton)

Gas Cooling

Gas absorption chillers (\$185-\$450 per ton)
Gas Engine-Driven Chillers (Calculated through Custom Measure F

PAST PROGRAMS**TOOLS AND RESOURCES****PROGRAM UPDATES****CONTACT US****Desiccant Systems** (\$1.00 per cfm - gas or electric)**Electric Unitary HVAC**

Unitary AC and split systems (\$73 - \$92 per ton)
 Air-to-air heat pumps (\$73 - \$92 per ton)
 Water-source heat pumps (\$81 per ton)
 Packaged terminal AC & HP (\$65 per ton)
 Central DX AC Systems (\$40 - \$72 per ton)
 Dual Enthalpy Economizer Controls (\$250)
 Occupancy Controlled Thermostats (\$75 each)
 A/C Economizing Controls (\$85 - \$170 each)

Ground Source Heat Pumps

Closed Loop (\$450-750 per ton)

Gas Heating

Gas-fired boilers < 300 MBH (\$300 per unit)
 Gas-fired boilers ≥ 300 MBH - 1500 MBH (\$1.75 per MBH)
 Gas-fired boilers ≥ 1500 MBH - ≤ 4000 MBH (\$1.00 per MBH)
 Gas-fired boilers > 4000 MBH (Calculated through Custom Measure)
 Gas furnaces (\$300-\$400 per unit)
 Gas infrared heaters - indoor only (\$300 - \$500 per unit)
 Boiler economizing controls (\$1,200 - \$2,700 per unit)

Variable Frequency Drives

Variable air volume (\$65 - \$155 per hp)
 Chilled-water pumps (\$60 per hp)
 Compressors (\$5,250 to \$12,500 per drive)

Natural Gas Water Heating

Gas water heaters ≤ 50 gallons (\$50 per unit)
 Gas-fired water heaters > 50 gallons (\$1.00 - \$2.00 per MBH)
 Tankless water heaters replacing a free standing water heater > 82 energy factor (\$300 per heater)
 Gas-fired booster water heaters (\$17 - \$35 per MBH)

Premium Motors

Three-phase motors (\$45 - \$700 per motor) (**Incentive was discontinued effective March 1, 2013 except for buildings impacted by Hurricane Sandy. Approved applications will have the standard timeframe from the program commitment date to complete the installation.**)

Refrigerator/Freezer Case Premium Efficiency Motors (ECM)

Fractional (< 1 HP) Electronic Commutated Motors (ECM) (\$40 per for replacement of existing shaded-pole motor in refrigerated/freezer case)

Prescriptive Lighting

New Linear Fluorescent

T-12, HID and Incandescent to T-5 and T-8 (\$25 - \$200 per fixture) **(Note: T12 replacements are only available for buildings impacted by Hurricane Sandy)**

New Induction (\$70 per replaced HID fixture)

New LED

Screw-in/Plug-in (\$10 - \$20 per lamp)

Refrigerator/Freezer Case (\$30 - \$65 per fixture)

Outdoor pole/arm/wall-mounted luminaires (\$100 - \$175 per fixture)

Display case (\$30 per case)

Shelf-mounted display and task (\$15 per linear foot)

Wall-wash, desk, recessed (\$20 - \$35 per fixture)

Parking garage luminaires (\$100 per fixture)

Track or Mono-Point directional (\$50 per fixture)

Stairwell and Passageway luminaires (\$40 per fixture)

High-Bay, Low-Bay (\$150 per fixture)

Bollard (\$50 per fixture)

luminaires for Ambient Lighting of Interior Commercial Space
Linear panels (\$50 per fixture)

Fuel pump canopy (\$100 per fixture)

LED retrofit kits (custom measures)

New Pulse-Start Metal Halide (\$25 per fixture)

Linear Fluorescent Retrofit (\$10 - \$20 per fixture)

Induction Retrofit (\$50 per retrofitted HID fixture)

New Construction/Complete Renovation (performance-based)

Note: Incentives for T-12 to T-5 and T-8 lamps with electronic ballast in facilities (\$10 per fixture, 1-4 lamps) and T-5/T-8 high bay fixtures (\$16 - per fixture) were discontinued effective March 1, 2013 for T-12 retrofits replacements except for buildings impacted by Hurricane Sandy. Approved applications will have the standard timeframe of one year from the project commitment date to complete the installation

Lighting Controls

Occupancy Sensors

Wall mounted (\$20 per control)

Remote mounted (\$35 per control)

Daylight dimmers (\$25 per fixture controlled, \$50 per fixture for office applications only)

Occupancy controlled hi-low fluorescent controls (\$25 per fixture controlled)

HID or Fluorescent Hi-Bay Controls

Occupancy hi-low (\$35 per fixture controlled)

Daylight dimming (\$45 per fixture controlled)

Refrigeration

Covers and Doors

Energy-Efficient doors for open refrigerated doors/covers (\$100 per door)

Aluminum Night Curtains for open refrigerated cases (\$3.50 per linear foot)

Controls

Door Heater Control (\$50 per control)

Electric Defrost Control (\$50 per control)

Evaporator Fan Control (\$75 per control)

Novelty Cooler Shutoff (\$50 per control)

Food Service Equipment**Cooking**

Combination Electric Oven/Steamer (\$1,000 per oven)
 Combination Gas Oven/Steamer (\$750 per oven)
 Electric Convection Oven (\$350 per oven)
 Gas Convection Oven (\$500 per oven)
 Gas Rack Oven (\$1,000 single, \$2,000 double)
 Gas Conveyor Oven (\$500 small deck, \$750 large deck)
 Electric Fryer (\$200 per vat)
 Gas Fryer (\$749 per vat)
 Electric Large Vat Fryer (\$200 per vat)
 Gas Large Vat Fryer (\$500 per vat)
 Electric Griddle (\$300 per griddle)
 Gas Griddle (\$125 per griddle)
 Electric Steam Cooker (\$1,250 per steamer)
 Gas Steam Cooker (\$2,000 per steamer)

Holding

Full Size Insulated Cabinets (\$300 per cabinet)
 Three Quarter Size Insulated Cabinets (\$250 per cabinet)
 Half Size Insulated Cabinets (\$200 per cabinet)

Cooling

Glass Door Refrigerators (\$75 - \$150 per unit)
 Solid Door Refrigerators (\$50 - \$200 per unit)
 Glass Door Freezers (\$200 - \$1,000 per unit)
 Solid Door Freezers (\$100 - \$600 per unit)
 Ice Machines (\$50 - \$500 per unit)

Cleaning

Dishwashers (\$400 - \$1,500 per unit)

Other Equipment Incentives*

Performance Lighting (\$1.00 per watt per square foot below program incentive threshold, currently 5% more energy efficient than ASHRAE 2007 for New Construction only.)

Custom electric and gas equipment incentives (not prescriptive)

*Equipment incentives are calculated based on type, efficiency, size, and application and are evaluated on a case-by-case basis. Contact us for details.

[Home](#) | [Residential](#) | [Commercial & Industrial](#) | [Renewable Energy](#)
[About Us](#) | [Press Room](#) | [Library](#) | [FAQs](#) | [Calendar](#) | [Newsletters](#) | [Contact Us](#) | [Site](#)

II. DIRECT INSTALL



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT

Home » Commercial & Industrial » Programs

Direct Install

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND
FUEL CELLSLOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

PARTICIPATION STEPS

PARTICIPATING
CONTRACTORS

SUSTAINABLE JERSEY

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

NEW JERSEY'S CLEAN ENERGY PROGRAM

DIRECT Install

Let us pay up to 70% of your energy efficiency upgrade.

Sometimes, the biggest challenge to improving energy efficiency is knowing where to and how to get through the process. Created specifically for existing small to medium facilities, Direct Install is a turnkey solution that makes it easy and affordable to upgrade high efficiency equipment. Direct Install is designed to cut your facility's energy costs replacing lighting, HVAC and other outdated operational equipment with energy efficient alternatives. The program pays up to 70% of retrofit costs, dramatically improving your payback on the project. There is a \$125,000 incentive cap on each project.

ELIGIBILITY



Existing small to mid-sized commercial and industrial facilities with a peak electric demand that did not exceed 200 kW in any of the preceding 12 months are eligible to participate in Direct Install. Applicants will submit the last 12 months of electric utility bills indicating that they are below the demand threshold and have occupied the building during that time. Buildings must be located in New Jersey and served by the state's public, regulated electric or natural gas utility companies.

SYSTEMS & EQUIPMENT ADDRESSED BY THE PROGRAM

Lighting
Heating, Cooling & Ventilation (HVAC)
Refrigeration
Motors
Natural Gas
Variable Frequency Drives



Measures eligible for Direct Install are limited to specific equipment categories, types and capacities. Boilers may not exceed 500,000 Btuh and furnaces may not exceed 140,

III. PAY FOR PERFORMANCE (P4P)



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT



COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

EXISTING BUILDINGS

PARTICIPATION STEPS

APPLICATIONS AND
FORMS

APPROVED PARTNERS

NEW CONSTRUCTION

FAQS

BECOME A PARTNER

COMBINED HEAT & POWER AND
FUEL CELLS

LOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

[Home](#) » [Commercial & Industrial](#) » [Programs](#) » [Pay for Performance](#)

Pay for Performance - Existing Buildings

Download program applications and incentive forms.

The Greater the Savings, the Greater Your Incentives

Take a comprehensive, whole-building approach to saving energy in your existing facility. Earn incentives that are directly linked to your savings. Pay for Performance relies on a



program partners who provide technical services under direct contract to you. Acting as your energy expert, your partner will develop a whole-building energy reduction plan for each project with a whole-building technical component of a traditional energy audit, a financial plan for full implementation of energy efficient measures and a construction schedule for installation.

Eligibility

Existing commercial, industrial and institutional buildings with a peak demand over 100 kW for any of the preceding twelve months are eligible to participate including hotels and casinos, large office buildings, family buildings, supermarkets, manufacturing facilities, schools, shopping malls and restaurants. Buildings that fall into the following customer classes are not required to meet the 100 kW demand threshold to participate in the program: hospitals, public colleges and universities, 501(c)(3) non-profit organizations, affordable multifamily housing, and local governmental entities. Your energy reduction plan must define a comprehensive package of measures capable of reducing the existing energy consumption of your building by 15% or more.

Exceptions to the 15% threshold requirement may be made for certain industrial, manufacturing, water treatment and datacenter building types whose annual energy consumption is heavily weighted on process loads. Details are available in the high energy intensity section of this page.

ENERGY STAR Portfolio Manager

Pay for Performance takes advantage of the ENERGY STAR Program with Portfolio Manager, EPA's interactive tool that allows facility managers to track and evaluate energy and water consumption across all of their buildings. The tool provides the opportunity to load in the characteristics and energy usage of your buildings and determine an energy performance benchmark score. You can then assess energy management goals over time, identify strategic opportunities for savings, and receive EPA recognition for superior energy performance.



This rating system assesses building performance by tracking and scoring energy use in your facilities and comparing it to similar buildings. That can be a big help in locating opportunities for cost-justified energy efficiency upgrades. And, based on our findings, you may be invited to participate in the Building Performance with ENERGY STAR initiative and receive special recognition as an industry leader in energy efficiency.

Incentives

**OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS**

Pay for Performance incentives are awarded upon the satisfactory completion of three p milestones:

EDA PROGRAMS

Incentive #1 - Submittal of complete energy reduction plan prepared by an app program partner - Contingent on moving forward, incentives will be between \$5 \$50,000 based on approximately \$.10 per square foot, not to exceed 50% of th annual energy expense.

SBC CREDIT PROGRAM

Incentive #2 - Installation of recommended measures - Incentives are based on the projected level of electricity and natural gas savings resulting from the installation of comprehensive energy-efficiency measures.

PAST PROGRAMS

TOOLS AND RESOURCES

Incentive #3 - Completion of Post-Construction Benchmarking Report - A completed report verifying energy reductions based on one year of post-

PROGRAM UPDATES

implementation results. Incentives for electricity and natural gas savings will be based on actual savings, provided that the minimum performance threshold of savings has been achieved.

CONTACT US



A detailed Incentive Structure document is available on the applications and form

Steps to Participation

[Click here](#) for a step-by-step description of the program.

[Home](#) | [Residential](#) | [Commercial & Industrial](#) | [Renewable Energy](#)
[About Us](#) | [Press Room](#) | [Library](#) | [FAQs](#) | [Calendar](#) | [Newsletters](#) | [Contact Us](#) | [Site](#)



PAY FOR PERFORMANCE APPLICATION FORM

July 1, 2013 - June 30, 2014

Utility Serving Applicant: ☐ Atlantic City Electric ☐ Jersey Central Power & Light ☐ PSE&G
☐ New Jersey Natural Gas ☐ Elizabethtown Gas ☐ Rockland Electric Co. ☐ South Jersey Gas
☐ Other Electric Service Provider (please specify): _____
☐ Other Fuel Provider: _____ ☐ Oil: _____ ☐ Other (Please specify): _____

Instructions

1. Read the program material to determine project qualification.
2. Read the Participation Agreement and sign where indicated.
3. Fill out all applicable spaces on this form.
4. Provide a copy of the customer's company W-9 form.
5. Provide the most recent consecutive 12 month period of utility bills for the project.

6. Provide brief description of facility.
7. Partner must submit the application package via e-mail, mail or fax DIRECTLY to the Market Manager – see back of this form.

Approval of this Application is not an approval of the project's scope of work. Scope of work is only approved upon approval of the Energy Reduction Plan. See application and program guidelines for more information.

Customer/Owner Information (payment will be made to entity entered here)

Company Name		Project Contact/Title	
Company Address		City	State Zip
Phone/Fax	E-mail	Federal ID/SSN	

Partner Information

Company Name		Project Contact/Title	
Company Address		City	State Zip
Phone	Fax	E-mail	

Project Information

Project Name			
Building Address		City	State Zip
Utility Account Number(s): Electric		Gas	
* Note: Please use the back of this page for additional utility accounts if quantity exceeds space allotment.			
Annual Peak kW Demand	Building Type		Number of Buildings
Size of Building(s) (gross sq/ft)		Direct, Master or Sub Metered	

Funding

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

Do you expect to receive funding under any other efficiency programs? ☐ No ☐ Yes If Yes, please specify below:

Utility Program #1 – Utility: _____	Program Name: _____
Utility Program #2 – Utility: _____	Program Name: _____
Federal Program #1 – Organization: _____	Program Name: _____
Federal Program #2 – Organization: _____	Program Name: _____
Other Program – Organization: _____	Program Name: _____

Additional Project information

Additional Utility Account(s)

Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number
Account type	Account number

Additional Comments:

Complete this application form and send it directly to the Commercial/Industrial Market Manager by e-mail, mail or fax.

New Jersey's Clean Energy Program
c/o TRC Energy Services-P4P
900 Route 9 North, Suite 404 • Woodbridge, NJ 07095

Phone: 866-657-6278 • Fax: 732-855-0422
E-mail: P4P@NJCleanEnergy.com

Visit our website: NJCleanEnergy.com/P4P

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

*Incentives/Requirements subject to change.



002-FY14-04/14

Pay For Performance-Existing Buildings

Participation Agreement

Definitions:

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

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

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

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

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

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

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

Projects with a contract threshold of \$14,187 (increasing to \$15,444 effective July 1, 2014) are required to pay no less than prevailing wage rate to workers employed in the performance of any construction undertaken in connection with Board of Public Utilities financial assistance, or undertaken to fulfill any condition of receiving Board of Public Utilities financial assistance, including the performance of any contract to construct, renovate or otherwise prepare a facility, the operations of which are necessary for the receipt of Board of Public Utilities financial assistance. By submitting an application, or accepting program incentives, applicant agrees to adhere to New Jersey Prevailing Wage requirements, as applicable.

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

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

Program Offer – Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities identified above.

Program Manager – TRC Energy Services.

Application and Eligibility Process – The Program pays incentives after the installation of qualified energy-efficient

measures that were pre-approved (for exceptions to this condition, please refer to "Exceptions for Approval".) In order to be eligible for Program Incentives, a Customer, or an agent (contractor/vendor) authorized by a Customer, must submit a properly completed application package. The package must include an application signed by the customer; a complete (current) utility bill; and technology worksheet and manufacturer's cut sheets (where appropriate). This information must be submitted to the Program Manager before equipment is installed. Applications for measures that are self installed by customers must be submitted by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. This application package must be received by the Program Manager on or before June 30, 2014 in order to be eligible for the fiscal year July 1, 2013-June 30, 2014 incentives. The Program Manager will review the application package to determine if the project is eligible for a Program Incentive. If eligible, the Customer will receive an approval letter with the estimated authorized incentive amount and the date by which the equipment must be installed in order for the approval to remain in effect. Upon receipt of an approval letter, the Customer may then proceed to install the equipment listed on the approved application. Equipment installed prior to the date of the Program Manager's approval letter is not eligible for an incentive. The Program Manager reserves the right to conduct a pre-inspection of the facility prior to the installation of equipment. This will be done prior to the issuance of the approval letter. All equipment must be purchased within 12 months of date of application. **Any Customer and/or agent who purchases equipment prior to the receipt of an incentive approval letter does so at his/her own risk.**

Exceptions for Approval – The Application and Eligibility Process pertains to all projects except for those involving either Gas Heating, Unitary HVAC or Motors having an incentive amount less than \$5,000 that were installed within 12 months of receipt of the application. These measures, at this incentive level, may be installed without prior approval. In addition, but at the sole discretion of the Program Manager, emergency replacement of equipment may not require a prior approval determination and letter. **In such cases, please notify the Program Manager of such emergencies as early as possible, that an application will soon be sent in that was not pre-approved.**

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

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

The Program Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing product or equipment (if applicable) and the Energy-Efficient Measures

installed under this Program, either prior to issuing incentives or at a later time.

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

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

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

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

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

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

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

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

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

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

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

CUSTOMER'S SIGNATURE
PARTNER SIGNATURE
By signing, I certify that I have read, understand and agree to the Participation Agreement listed above.

IV. ENERGY SAVINGS IMPROVEMENT PLAN (ESIP)



Your Power to Save

At Home, for Business, and for the Future

[About Us](#) | [Press Room](#) | [Library](#)

HOME

RESIDENTIAL

COMMERCIAL, INDUSTRIAL
AND LOCAL GOVERNMENT

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND
FUEL CELLSLOCAL GOVERNMENT ENERGY
AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT
PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL
ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

PAST PROGRAMS

TOOLS AND RESOURCES

PROGRAM UPDATES

CONTACT US

Home » Commercial & Industrial » Programs

Energy Savings Improvement Program

A new State law allows government agencies to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. Under Chapter 4 of the Laws of 2009 (the law), the "Energy Savings Improvement Program" (ESIP), provides all government agencies in New Jersey with a flexible tool to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. The program also allows agencies to reduce energy usage with minimal expenditure of new financial resources.

This Local Finance Notice outlines how local governments can develop and implement an ESIP at their facilities. Below are two sample RFPs:

Local Government
School Districts (K-12)

All RFPs must be submitted to the Board for approval at ESIP@bpu.state.nj.us.

The Board also adopted protocols to measure energy savings:

Measuring Energy Savings
Procedures for Implementation

The ESIP approach may not be appropriate for all energy conservation and energy efficiency improvements. Local units should carefully consider all alternatives to develop an approach that best meets their needs. Local units considering an ESIP should carefully review the Local Finance Notice, the law, and consult with qualified professionals to determine how they should approach the task.

The NJ Board of Public Utilities sponsored Sustainable Jersey in the creation of an ESIP Guidebook that explains how to implement the program. The guidebook also includes a list of successful projects and a list of helpful resources.

FIRST STEP – ENERGY AUDIT

For local governments interested in pursuing an ESIP, the first step is to perform an energy audit as prescribed in P.L.2012 c.55.

ENERGY REDUCTION PLANS

If you have an ESIP plan that needs to be submitted to the Board of Public Utilities, please email it to ESIP@bpu.state.nj.us. Please limit the file size to 3MB (or break it into smaller files).

Frankford Township School District
Northern Hunterdon-Voorhees Regional High School
Manalapan Township (**180 MB** - Right Click, Save As)

ESIP PROGRAM

Final version 42413

BPU RULES

1. Public Entity must decide if they will use an ESCO or DIY method or Hybrid thereof prior to issuing the RFP and the RFP must state the intended method. A change in the project procurement model after the RFP closing date will be cause for immediate rejection and disqualification of potential Clean Energy program incentives.
2. RFP procedures shall be adhered to as per the legislation, including the use of BPU approved forms. Any alteration of the forms, without prior approval from the BPU shall be grounds for rejection.
3. RFP must include copy of an audit (ASHRAE Level II w/Level III for lighting) and audit must be prepared by a firm classified by DPMC in the 036 discipline.
4. All firms, including professional services, whether using ESCO or DIY model, must be DPMC classified.
5. If an Architect is engaged by the public entity, the architectural fees are the responsibility of the public entity and must be paid directly to the firm. These fees may be included in the energy cost savings analysis and payback.

ESCO's may contract directly with an architectural firm, in which case the architectural firm serves as a subcontractor to the ESCO and the project related service costs may be included within the project's economic model.

6. Public entity shall conduct pre-bid meetings and site visits per existing statutes.

In the interest of open public bidding transparency, it is a requirement of the BPU that all proposers must attend the pre-proposal bid meeting.

7. There shall be no negative cash flow in any year of the program.
section 7 (1)(a)
"the energy savings resulting from the program will be sufficient to cover the cost of the program's energy conservation measures."
8. SREC values are not permitted to be used in the energy cost savings calculations.
9. Capital cost avoidance values are not to be used in the energy savings calculations.
10. Operational and Maintenance (O&M) cost savings may be permitted in the cost savings calculations, but only with supporting documentation.
11. Blended utility rates shall not be permitted. Use the actual utility tariff or local contracted rates if there is a third party supplier.

For the RFP proposals, the public entity shall define the utility rates in the RFP

12. Contracted third party utility rates may only be used for the term of the contract (5 yr. maximum)
Subsequent years are to be projected at the utility tariff rates plus the annual BPU escalation rates.
13. Public entity shall conduct M&V (measurement and verification) at the one (1) year operational date and shall provide a copy of the M&V report to the Board of Public Utilities.

For the RFP proposals, the ESCO shall provide the cost for the one (1) year M&V only. For comparative purposes, the one year M&V pricing shall be indicated on the proposal Form VI, under the “Annual Service Costs” column. Additional M&V costs are at the discretion of the local unit and are not to be included in the proposal.

14. The decisions made by BPU staff regarding compliance or other issues that arise in connection with the RFP procurement process shall be considered a final decision of the BPU. Any appeal will need to be through the New Jersey Superior Court, Appellate Division.
15. For the RFP proposals only, Demand Response (DR) revenues claimed by ESCO’s can only be projected for a maximum period of three (3) years. DR revenue projections beyond three years will not be permitted. DR revenues must be included and presented under the “Energy Rebates/Incentives” column of FORM VI.
16. ESCO “fees” proposed during the RFP phase of the project cannot increase post-award. ESCO’s are required to maintain the fee percentages through final contract negotiations and construction of the Board approved Energy Savings Plan
17. Public Bid openings shall be held on the due date of the proposal submissions. The public entity shall announce the name of the bidder and the total dollar amount. After award of a contract, all proposals received will be made available by the owner for public inspection
18. Rejection of bids by the public entity shall be conducted in accordance with the appropriate sections of the applicable legislation, as stated in Title 40A:11-13.2. Additionally all proposals must be returned to the respective ESCO’s upon rejection.
19. Field changes that exceed 5% of the project cost require BPU approval.
20. Energy Savings Plans (ESP) that is dependent upon incentives from the Clean Energy Program must review the current program requirements, at the time of application, for each incentive to insure eligibility. If any program incentive is denied, resubmission of all ESIP related forms will be necessary to remain ESIP qualified.

APPENDIX E

Photovoltaic Analysis

Photovoltaic (PV) Solar Power Generation - Screening Assessment

Camden County, NJ
City Hall

Cost of Electricity	\$0.149	/kWh
Electricity Usage	1,199,600	kWh/yr
System Unit Cost	\$4,000	/kW

Photovoltaic (PV) Solar Power Generation - Screening Assessment

Budgetary	Annual Utility Savings				Estimated	Total		New Jersey	Payback	Payback
Cost					Maintenance	Savings	Federal Tax	Renewable	(without	(with
					Savings		Credit	** SREC	incentive)	incentive)
\$	kW	kWh	therms	\$	\$	\$	\$	\$	Years	Years
\$360,000	90.0	109,004	0	\$16,242	0	\$16,242	\$0	\$19,621	22.2	10.0

** Estimated Solar Renewable Energy Certificate Program (SREC) SREC for 15 Years= \$180 /1000kwh

Area Output*
2,727 m2
29,355 ft2

Perimeter Output*
487 m
1,598 ft

Available Roof Space for PV:
(Area Output - 10 ft x Perimeter) x 85%
11,371 ft2

Approximate System Size: Is the roof flat? (Yes/No) Yes
8 watt/ft2
90,968 DC watts
90 kW Enter into PV Watts

PV Watts Inputs***
Array Tilt Angle 20 Enter into PV Watts (always 20 if flat, if
Array Azimuth 180 pitched - enter estimated roof angle)
Zip Code 08102 Enter into PV Watts (default)
DC/AC Derate Factor 0.83 Enter into PV Watts

PV Watts Output
109,004 annual kWh calculated in PV Watts program

% Offset Calc
Usage 1,199,600 (from utilities)
PV Generation 109,004 (generated using PV Watts)
% offset 9%

* <http://www.freemaptools.com/area-calculator.htm>
** <http://www.flettexchange.com>
*** http://gisatnrel.nrel.gov/PVWatts_Viewer/index.html



My Location

52 Market Street, Camden, NJ 08102
» Change Location

Beta Release (?)

HELP

ALL NREL SOLAR TOOLS

RESOURCE DATA SYSTEM INFO RESULTS



Go to
system
info

109,004 kWh per Year

RESULTS

Print Results

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	2.91	6,463	1,163
February	3.57	6,974	1,255
March	4.48	9,485	1,707
April	5.17	10,291	1,852
May	5.78	11,560	2,081
June	6.22	11,768	2,118
July	5.74	11,048	1,989
August	5.96	11,580	2,084
September	4.99	9,445	1,700
October	4.13	8,554	1,540
November	3.05	6,291	1,132
December	2.59	5,545	998
Annual	4.55	109,004	\$ 19,621

Download Results: Monthly | Hourly

[Find A Local Installer](#)



Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and





uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Similarly, the “Energy Value” column simply multiplies the utility-average electricity price by production. Complex utility rates and financing can significantly impact the energy value. See [Help](#) for additional guidance.

Location and Station Identification

Requested Location	52 Market Street, Camden, NJ 08102
Weather Data Source	PHILADELPHIA INTERNATIONAL AP, PENNSYLVANIA (TMY3)
Latitude	39.87° N
Longitude	75.23° W

PV System Specifications *(Commercial)*

DC Rating	90 kW
DC to AC Derate Factor	0.78
Array Type	Fixed (open rack)
Array Tilt	20°
Array Azimuth	180°

Initial Economic Comparison

Average Cost of Electricity Purchased from Utility	0.18 \$/kWh
Cost of Electricity Generated by System	0.14 \$/kWh

These values can be compared to get an idea of the cost-effectiveness of this system. However, system costs, system financing options (including 3rd party ownership) and complex utility rates can significantly change the relative value of the PV system.

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

PVWatts® is a registered trademark by Alliance for Sustainable Energy, LLC in Golden, CO, 80401.

[Need Help?](#) | [Security & Privacy](#) | [Disclaimer](#) | [NREL Home](#)

APPENDIX F

EPA Benchmarking Report



ENERGY STAR[®] Statement of Energy Performance

94

ENERGY STAR[®]
Score¹

Camden City Hall

Primary Property Function: Other
Gross Floor Area (ft²): 380,000
Built: 1930

For Year Ending: April 30, 2014
Date Generated: October 06, 2014

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

Camden City Hall
520 Market Street
Camden, New Jersey 08102

Property Owner

, _____
() - _____

Primary Contact

, _____
() - _____

Property ID: 4059746

Energy Consumption and Energy Use Intensity (EUI)

Site EUI

66.6 kBtu/ft²

Annual Energy by Fuel

Natural Gas (kBtu)	19,271,602 (76%)
Electric - Grid (kBtu)	6,037,876 (24%)

National Median Comparison

National Median Site EUI (kBtu/ft ²)	141.7
National Median Source EUI (kBtu/ft ²)	219.5
% Diff from National Median Source EUI	-53%

Source EUI

103.1 kBtu/ft²

Annual Emissions

Greenhouse Gas Emissions (Metric Tons CO ₂ e/year)	1,832
---	-------

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)**