COUNTY OF ESSEX

NEW HOSPITAL CENTER

204 Grove Avenue, Cedar Grove, NJ 07009

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

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CHA PROJECT NO. 29142

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
2.0 BUILDING INFORMATION AND EXISTING CONDITIONS 4
3.0 UTILITIES 8
4.0 BENCHMARKING 11
5.0 ENERGY CONSERVATION MEASURES 12
5.1 ECM-1 Replace Door Sweeps and Seals 13
5.2 ECM-2 Install a High Efficiency Condensing Boiler 13
5.3 ECM-3 Install Kitchen Hood Controller 14
5.4 ECM-4 Install Walk-in Cooler / Freezer Controls 14
5.5.1 ECM-L1 Lighting Replacement / Upgrades 15
5.5.2 ECM-L2 Install Lighting Controls (Occupancy Sensors) 16
5.5.3 ECM-L3 Lighting Replacements with Controls (Occupancy Sensors) 16
5.6 Additional O&M Opportunities 16
6.0 PROJECT INCENTIVES 18
6.1 Incentives Overview 18
6.1.1 New Jersey Smart Start Program 18
6.1.2 Direct Install Program 18
6.1.3 New Jersey Pay For Performance Program (P4P) 19
6.1.4 Energy Savings Improvement Plan 20
6.1.5 Renewable Energy Incentive Program 21
7.0 ALTERNATIVE ENERGY SCREENING EVALUATION 22
7.1 Solar 22
7.1.1 Photovoltaic Rooftop Solar Power Generation 22
7.1.2 Solar Thermal Hot Water Generation 23
7.2 Wind Powered Turbines 24
7.3 Combined Heat and Power Plant 25
7.4 Demand Response Curtailment 26
8.0 CONCLUSIONS & RECOMMENDATIONS 27

APPENDICES

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 & Solar DHW Analysis
F Photos
G 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 ±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

1.0 EXECUTIVE SUMMARY

This report summarizes the energy audit performed by CHA for Essex County 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
New Hospital Center	204 Grove Avenue, Cedar Grove, NJ 07009	205,925	2006

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

Building Name	Electric Savings (kWh)	NG Savings (therms)	Total Savings ($)	Payback (years)
New Hospital Center	462,997	9,016	64,389	12.5

The annual savings for each individual measure 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 choses 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	Door Sweeps & Seals	1,383	69	19.9	0	19.9	Y
2	Replace Boiler with Condensing Boiler	136,674	4,865	28.1	6,000	26.9	Y
3	Install Kitchen Hood Controller	30,787	2,568	12.0	0	12.0	Y
4	Install Walk-In Freezer Controls	41,250	1,362	30.3	100	30.2	Y
L1**	Lighting Replacements	558,244	50,049	11.2	61,380	9.9	N
L2**	Lighting Controls	35,782	8,997	4.0	5,580	3.4	N
L3	Lighting Replacements with Controls	594,025	55,524	10.7	66,960	9.5	Y
	Total**	**804,119**	**64,389**	**12.5**	**73,060**	**11.4**	
	Total (Recommended)	**804,119**	**64,389**	**12.5**	**73,060**	**11.4**	

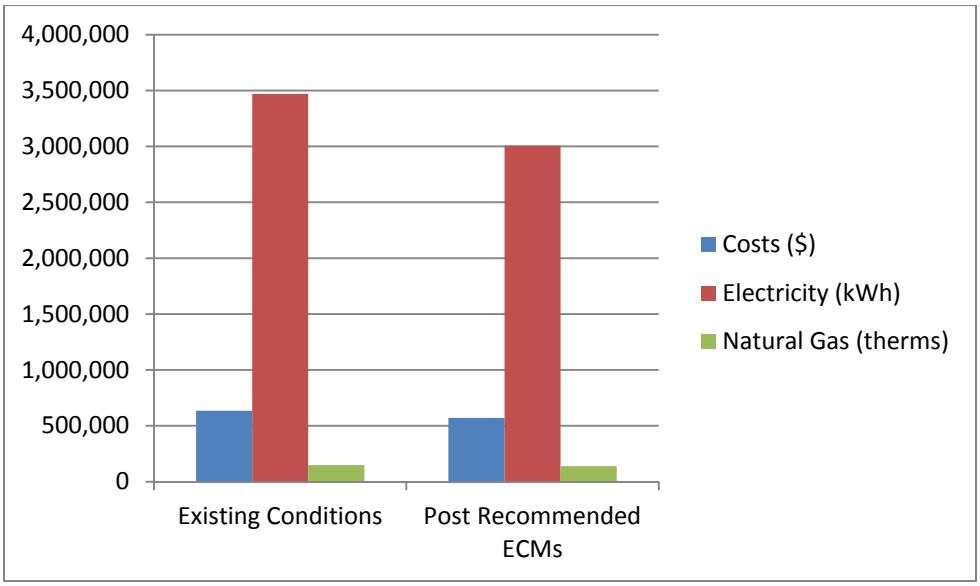
* Incentive shown is per the New Jersey SmartStart Program.
** These ECMs are not included in the Total, as they are alternate measures not recommended.

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

- Photovoltaic (PV) Rooftop Solar Power Generation – 50 kW System
- Solar Rooftop Domestic Hot Water (DHW) Production – 670 sq.ft. System
- Combined Heat and Power Generation – 420 kW System

If the New Hospital Center implements the recommended ECMs, energy savings would be as follows:

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs ($)	634,606	570,217	10%
Electricity (kWh)	3,469,649	3,006,652	13%
Natural Gas (therms)	148,806	139,790	6%
Site EUI (kbtu/SF/Yr)	129.8	117.7	



2.0 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. See appendix F for some representative photos of some of the existing conditions observed while onsite.

Building Name: New Hospital Center
Address: 204 Grove Avenue, Cedar Grove, NJ 07009
Gross Floor Area: 205,925 Square Feet
Number of Floors: 3
Year Built: 2006

Description of Spaces: Patient rooms, nursing stations, offices, conference rooms, storage rooms, toilet rooms, network rooms, medical offices, exam rooms, laboratories, lobbies, cafeterias, and break rooms.
Description of Occupancy: This is a county psychiatric hospital with approximately 100 staff members and 180 patients.
Number of Computers: The building has approximately 115 desktop and laptop computers.
Building Usage: Hours of operation for the New Hospital Center are 24/7.

Building Envelope

Construction Materials: The building is constructed of structural steel framing with brick and masonry block exterior; and interlocking metal façade at Building C. Interior walls are mostly sheetrock with painted concrete block in a few areas.

Roof: The roof is flat and surfaced with rolled asphalt membrane and appears to be in poor to fair condition. No roof associated ECMs are considered.
Windows The building has aluminum framed double pane thermal windows. In general seals are intact, and most of the windows are in good condition. No ECMs are included for window replacement.
Exterior Doors: Exterior doors throughout the building are metal with single pane safety glass, and solid metal doors. Some sweeps and seals are in poor condition. An ECM for sweeps and seals is included.

Heating Ventilation & Air Conditioning (HVAC) Systems

Heating: The heating system consists of three (3) dual fuel (natural gas & #2 oil) H.B. Smith hot water boilers, each with 6700 MBH heating capacity. These are eight (8) years old and in good condition. The primary fuel source is natural gas with oil retained as an alternate. The three boilers are linked through a primary/secondary piping arrangement and are designed to maintain 180°F with outdoor air reset control. The three primary pumps are 5.0HP and rated at 87.5% efficiency. The three secondary pumps are 20.0HP, VFD controlled and rated at 94.1% efficiency. Hot water is pumped to the eight (8) York rooftop air handlers that provide conditioned air to VAV boxes throughout the facility. The chart below identifies what area(s) each rooftop unit serves:

Unit	Area Served
RTU-1	Building C
RTU-2	Building C & Multi-Purpose Rm
RTU-3	Building B & Administration
RTU-4	Building A Administration & Lower level
RTU-5	Building A Kitchen
RTU-6	Building A
RTU-7	Building E
RTU-8	Buildings D & E

All of the RTUs are equipped with DrySteem GTS electric humidifiers. Each rooftop air handler is equipped with a hot water coil, chilled water coil, pleated filters, supply fan w/VFD, and return fan w/VFD. The conditioned air is delivered to the VAV boxes at 55°-60°F. Hot water is circulated to VAV box reheat coils throughout the facility. An ECM for a high efficiency condensing boiler as a replacement for one of the H.B. Smith boilers is included in this report.

Cooling: The building is 100% cooled using the three 400 ton centrifugal chillers (utilizing R-134A) which deliver 42°F water to each of the eight (8) rooftop air handlers. Chilled water is pumped to the rooftops by three (3) 30HP base mounted chilled water supply pumps operating at rated efficiencies of 96.1%. Chilled water is returned to the chillers by three (3) 10HP pumps operating at 97.7% rated efficiency. Both supply and return chilled water pumps are controlled by VFDs. Heat from the building is rejected to three (3) Marley cooling towers, located on the B Building roof, and served by three (3) 40HP condenser water pumps. Cool, conditioned air is delivered by the RTUs to all of the VAV boxes within the hospital.

Ventilation: The eight (8) York rooftop units described above draw in outside air that is delivered to all the interior spaces within the building. Economizer mode is utilized during appropriate weather conditions. In general, building ventilation is adequate and no associated ECMs are included.

Exhaust: The facility utilizes exhaust fans of various sizes located on the roof to exhaust air from restrooms and storage areas, and provide general pressure relief. Two 1.0 HP kitchen fans relieve cooking and dishwasher exhaust from the kitchen.

Controls Systems

The Essex County Hospital has a JCI Metasys controls system to manage HVAC and lighting. Temperature is maintained between 72°F and 75°F year round. The rooftop air handling units bring in approximately 15% outside air except during shoulder months, when economizer mode is implemented. The temperature in some spaces can be controlled by the occupants—in others, it cannot. Hot water building loop temperature reset is implemented. No scheduling is conducted, as the majority of the spaces within the building are utilized 24/7.

Domestic Hot Water Systems

The building utilizes two (2) PVI Turbopower DHW heaters for the production of domestic hot water. These have 1500 gallons of storage capacity each, are dual-fuel, and deliver 1.2 MBtu at a rated efficiency of 83%.

Kitchen Equipment

The New Hospital Center has a full kitchen, with cooking equipment (such as the range and the pizza ovens) manufactured by both Vulcan and Market Force Industries, and are natural gas fired. There is also a Metro HM2000 heated holding cabinet. Dishes are washed by hand in a conventional stainless steel triple sink. One (1) large walk-in refrigerator keeps food at 35°F; a walk-in freezer to the back provides frozen food storage at 3°F. An ECM for a kitchen hood controller and an ECM for a walk-in cooler controller are both included in this report.

Plug Load

The New Hospital Center has computers, LCD monitors, copiers, smart boards, residential appliances (microwave, refrigerator), printers, and portable heaters 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.

Plumbing Systems

Plumbing systems include a variety of toilet rooms and the small kitchen. Toilet rooms and shower rooms are equipped with low flow water consumption fixtures—at the urinals (1.5 GPF), water closets (1.6 GPF), lavatories (<2.2 GPM), and showers (2.5 GPM). No ECMs evaluating water conservation opportunities are evaluated.

Lighting Systems

The lighting within the hospital consists of 2x4 and 2x2 recessed and ceiling mounted troffers having 32W T8 fluorescent lamps with prismatic lenses. Several areas also contain recessed cans outfitted with compact fluorescent lamps. A combination of occupancy sensors and wall switches control the interior lighting.

Exterior lighting includes 150 watt metal halide wall-pack lamps, par 38 halogen spotlights, and CFLs in decorative wall sconces. The parking lot and back area are illuminated with 250 watt halogen lamps. Exterior lighting is controlled by a combination of timers and photocells.

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.

3.0 UTILITIES

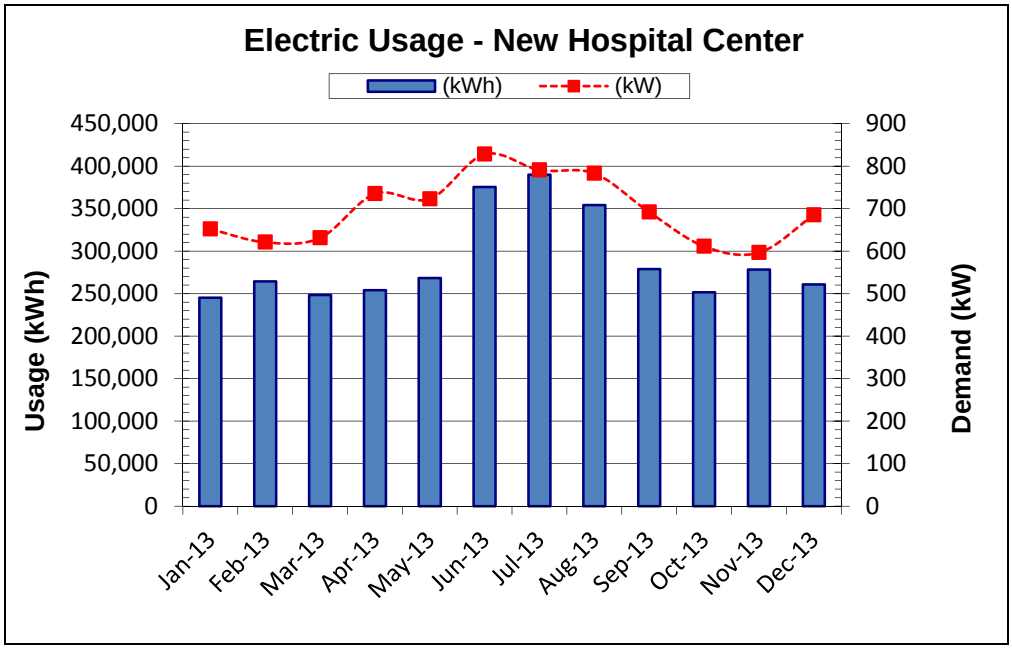
Utilities used by the building are delivered and supplied by the following utility companies:

	Electric	Natural Gas
Deliverer	PSE&G	PSE&G
Supplier	PSE&G	Hess Energy

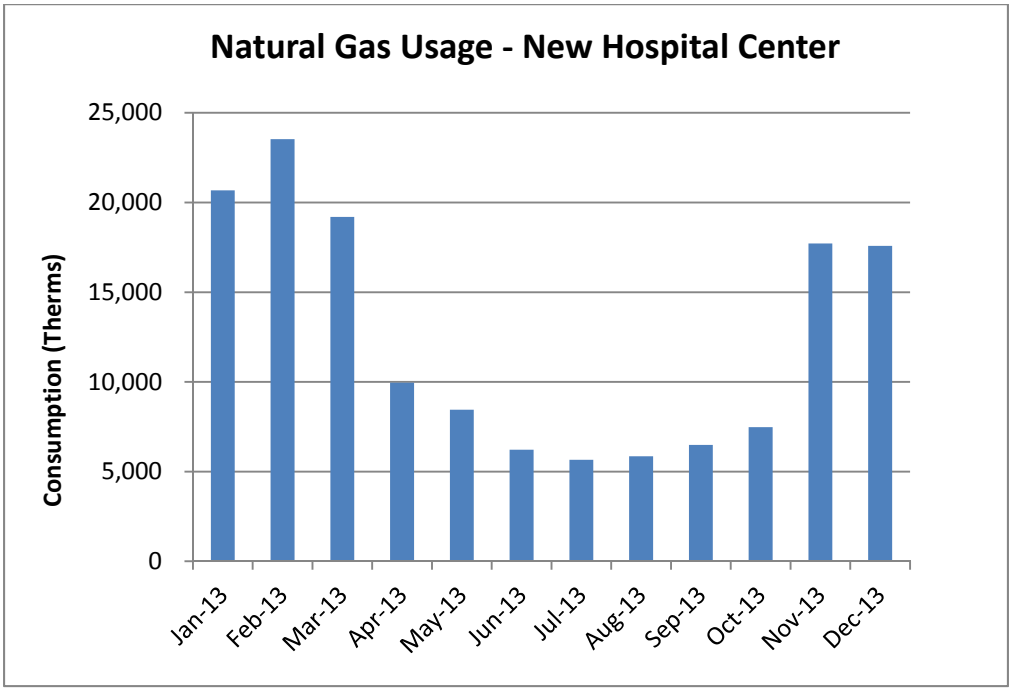
For the 12-month period ending in July 2014, the utilities usages and costs for the building were as follows:

Electric		
Annual Consumption	3,469,649	kWh/yr.
Annual Cost	518,005	$
Blended Unit Rate	0.149	$/kWh
Supply Rate	0.141	$/kWh
Demand Rate	3.53	$/kW
Peak Demand	828.4	kW
Natural Gas		
Annual Usage	148,806	Therms/yr.
Annual Cost	116,601	$
Rate	0.784	$/therm
Water		
Annual Consumption	909,000	gallons/yr.
Annual Cost	669,352	$
Rate	5.508	$/gallon

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)



The electrical usage for this building peaks in the summer and is steady throughout the rest of the year. The summer peak occur during the maximum cooling season.



The natural gas usage is mostly driven by space heating in the winter months with a tail-off of usage during the summer months. The building also has year-round kitchen use and gas fired domestic water heaters.

See Appendix A for 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	$0.17	$0.13	Y
Natural Gas	$/Therm	$1.09	$0.96	Y

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

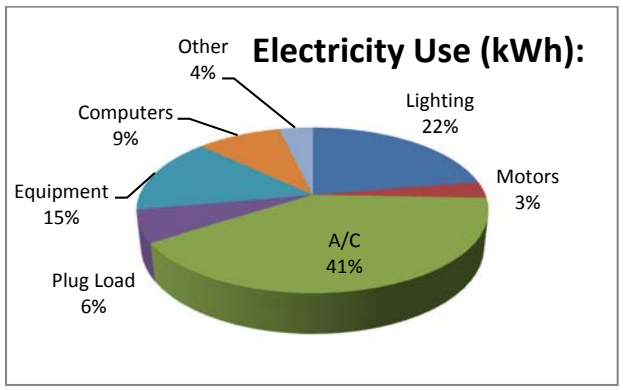
Additional information on selecting a third party energy supplier is available here:

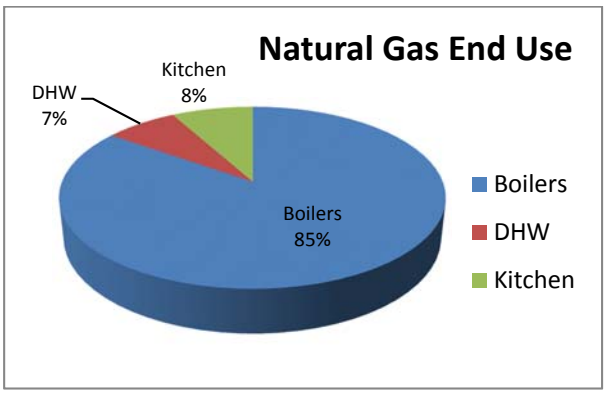
http://www.state.nj.us/bpu/commercial/shopping.html.

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.

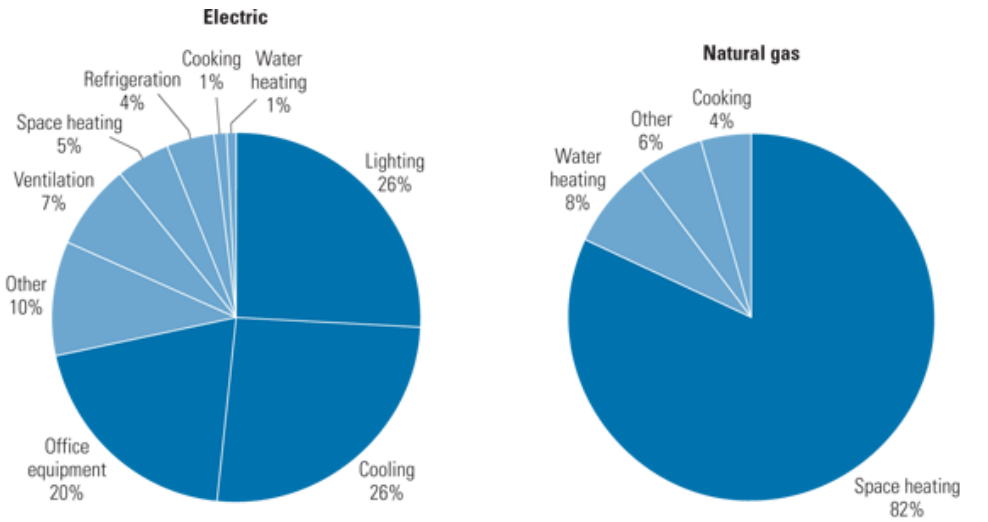
Site End-Use Utility Profile





Most of the electricity consumed by municipal buildings 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 commercial buildings per U.S. Department of Energy.

Typical End-Use Utility Profile for Commercial Buildings



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

4.0 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 types. The EUIs are provided in kBtu/ft^2/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 and 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.

Building	Site EUI kBtu/ft^2/yr	Source EUI Btu/ft^2/yr	Energy Star Rating (1-100)
New Hospital Center	129.8	256.4	N/A

This type of building is ineligible for an Energy Star Rating. By implementing the measures discussed in this report, it is expected that the site and source EUIs can be further reduced.

5.0 ENERGY CONSERVATION MEASURES

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

- 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 Replace Door Sweeps and Seals

It was noted during the site visit that the seals and sweeps were showing wear on nearly all of the exterior doors, and daylight was visible between the door and frame.

Failure of door seals leads to infiltration of unconditioned outside air or exfiltration of conditioned air resulting in increased heating energy usage. This measure calls for the replacement of all exterior door seals. Replacement of these seals will result in a reduction of the buildings heating and cooling loads, therefore providing natural gas and electricity savings. The linear footage of gap and wind speed is used to estimate the infiltration rate, which is then multiplied by the BIN weather data and the equipment efficiencies to determine the annual energy savings.

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

ECM-1 Replace Door Sweeps & Seals

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
1,383	0	94	71	69	0.3	0	19.9	19.9

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

This measure is recommended.

5.2 ECM-2 Install a High Efficiency Condensing Boiler

The Boiler Room contains three (3) H.B. Smith hot water boilers. Building personnel indicated that typically only one boiler is needed to fire for much of the year, with two (2) boilers required for the coldest days. It is recommended that one boiler be replaced with a high efficiency condensing boiler and piped into the existing hydronic piping. New modulating condensing gas boilers are available that operate at a minimal efficiency of 88%, and can operate as high as 96%, depending upon the outdoor air temperature. The new boiler could then function as a primary heating boiler, with the older boilers used as back-up for when additional heat is needed on the coldest days.

To implement this ECM, some localized piping and wiring would be needed. New dedicated boiler venting would also need to be installed either through the roof or sidewall.

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

ECM-2 Install a High Efficiency Condensing Boiler

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
136,674	0	0	6,206	4,865	(0.5)	6,000	28.1	26.9

* 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 Install Kitchen Hood Controller

The kitchen contains one 12'x4' (approximate size) range exhaust hood that is ducted and exhausted via exhaust fan EF-1 located on the roof. A rooftop unit supplies the make-up air for the kitchen.

Installing a variable speed hood control system was evaluated. Upon activation of the system, the hood lights will turn on and the fans reach a preset minimum speed of 10 and 50 percent. When cooking appliances are turned on, the fan speed will increase based on temperature sensed in the exhaust duct. During cooking, an optical sensor will sense particulates entering the hood and the speed will increase to 100 percent until smoke and heat are removed.

Energy saving is calculated from reduction of exhaust fan speed and the amount of heated air diffused from other heated rooms.

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

ECM-3 Install Kitchen Hood Controller

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$	%	$	Years	Years
30,787	2.0	2,379	2,739	2,568	0.7	0	12.0	12.0

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

This measure is not recommended due to the long payback.

5.4 ECM-4 Install Walk-in Cooler / Freezer Controls

In the New Hospital Center kitchen, one (1) large Bally walk-in Freezer keeps food at 3°F. Installing a walk-in cooler/ freezer control system was assessed. The system will monitor both dry and wet bulb temperature within the walk-in unit and allow evaporators and compressors to modulate up and down based on enthalpy set points rather than by dry bulb temperature alone. Savings is a result of reduced run time of evaporator fans, compressors and door heaters.

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

ECM-4 Install Walk-in Cooler / Freezer Controls

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$	%	$	Years	Years
41,250	0	9,142	0	1,362	(0.7)	100	30.3	30.2

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

This measure is recommended.

5.5.1 ECM-L1 Lighting Replacement / Upgrades

The lighting within the New Hospital Center consists of 2x4 and 2x2 recessed and ceiling mounted troffers having 32W T8 fluorescent lamps with prismatic lenses. Several areas also contain recessed cans outfitted with compact fluorescent lamps. The Council Chambers also contains CFLs inside decorative wall mounted sconces, as well as PAR track lighting. T-12 lamps are found in storage areas and stairwells, and a few compact fluorescent and incandescent bulbs were noted. A combination of occupancy sensors and wall switches control the interior lighting.

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
558,244	89.3	400,215	0	50,049	0.1	61,380	11.2	9.9

* 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.

5.5.2 ECM-L2 Install Lighting Controls (Occupancy Sensors)

Presently, interior lighting fixtures are controlled by a combination of wall mounted switches and occupancy sensors. 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 5.7.1, 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
35,782	0	84,088	0	8,997	2.5	5,580	4.0	3.4

* 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.

5.5.3 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
594,025	89.3	451,382	0	55,524	0.2	66,960	10.7	9.5

* 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.

5.6 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:

- 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
- Train staff to turn off lights and set HVAC temperatures to minimum levels when rooms are unoccupied
- Develop an Energy Master Plan to measure and track energy performance
- During the winter at the end of the day, staff should ensure all windows are closed as part of a basic routine.

6.0 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 Essex County 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 qualifies for this program because its electrical demand is less 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 schools*. 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.

<u>Electric</u>

- 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).

7.0 ALTERNATIVE ENERGY SCREENING EVALUATION

7.1 Solar

7.1.1 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)
7,484	50

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 (school) 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 $155/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 – 50 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
200,000	50.0	66,213	0	9,866	11,256	20.3	9.5	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 hospital should consult with a certified solar PV contractor, and replace the roof.

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 and 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. The amount of water currently used by this building is appropriate for a solar domestic hot water system, and there appears to be sufficient rooftop space for collectors.

A 3rd party analysis was conducted of the potential for implementing solar domestic hot water heating, based upon the site latitude and roof characteristics. The implementation cost and possible savings are summarized as follows:

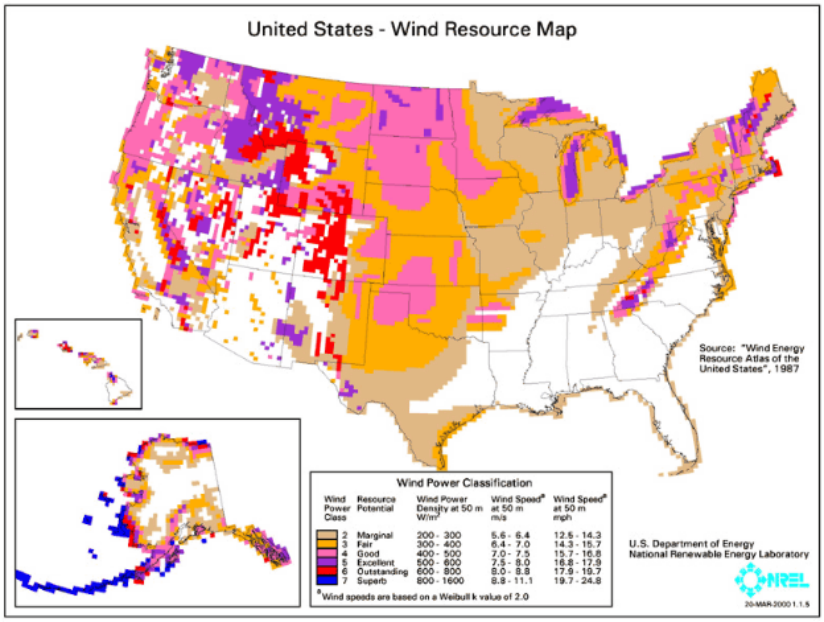
Solar Thermal Hot Water Generation – 2500 gallons per day

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
111,634	0	0	1,984	1,555	11,256	72	65	N

Note: CHA typically recommends a more detailed evaluation be conducted for the installation of DHW Thermal Solar systems when the screening evaluation shows a payback of less than 20 years. Since a preliminary analysis results in a payback of greater than 50 years, this ECM is not recommended for further study.

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 and the summer. An absorption chiller could be installed to utilize the heat to produce chilled water. The most viable selection for a CHP plant at this location would be a reciprocating engine natural gas-fired unit. Purchasing this system and performing modifications to the existing HVAC and electrical systems would greatly outweigh the savings over the life of the equipment.

The CHP screening analysis was conducted utilizing the characteristics of the site before any of the ECMs described above are implemented. If any of the ECMs are implemented, the feasibility of installing a CHP system is reduced and the payback would likely be slightly extended.

Combined Heat and Power Generation – 420 kW System

Budgetary Cost	Annual Utility Usage		Total Savings	New Jersey Incentive	Payback (without Incentive)	Payback (with Incentive)	Recommended
	Existing Utility Cost	CHP Operating Cost					
$	$	$	$	$	Years	Years	Y/N
1,915,200	633,642	505,159	128,483	462,000	14.9	11.2	FS

This measure recommended for further study—see details Appendix E.

Although NJBPU LGEA program offers potential incentive for this measure as outlined above, the exact value must be determined by NJBPU. The savings outlined are evaluated at a screening level and should be refined during the design phase. It is recommended that Essex County pursue a more detailed CHP feasibility study to provide a more accurate depiction of the proposed CHP system to allow for application for incentives. The energy savings and implementation costs for this analysis have not been included in the project totals.

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 January 2013 through December 2013 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
828.4	596.7	695.9	N	Y

This measure is not recommended as the building is a mental health facility that must be 100% operational 24/7.

8.0 CONCLUSIONS & RECOMMENDATIONS

The following section summarizes the LGEA energy audit conducted by CHA for Building Name.

The following projects should be considered for implementation:

- Install Door Sweeps and Seals
- Replace Boiler with Condensing Boiler
- Install Kitchen Hood Controller
- Walk-In Cooler / Freezer Controls

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)
462,997	9,016	64,389	12.5

If the recommended ECMs are implemented, energy savings would be as follows:

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs ($)	634,606	570,217	10%
Electricity (kWh)	3,469,649	3,006,652	13%
Natural Gas (therms)	148,806	139,790	6%
Site EUI (kbtu/SF/Yr)	129.8	117.7	

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

- Photovoltaic (PV) Rooftop Solar Power Generation – 50 kW System
- Solar Rooftop Domestic Hot Water (DHW) Production – 670 sq.ft. System
- Combined Heat and Power Generation – 420 kW System

Next Steps: This energy audit has identified several areas of potential energy savings. Essex County can use this information to pursue incentives offered by the NJBPU's NJ Clean Energy Program.

APPENDIX A

Utility Usage Analysis and Alternate Utility Suppliers

Essex County
New Hospital Center

Annual Utilities

12-month Summary

Electric		
Annual Usage	3,469,649	kWh/yr
Annual Cost	518,005	$
Blended Rate	0.149	$/kWh
Consumption Rate	0.141	$/kWh
Demand Rate	3.53	$/kW
Peak Demand	828.4	kW
Min. Demand	596.7	kW
Avg. Demand	695.9	kW
Natural Gas		
Annual Usage	148,806	Therms/yr
Annual Cost	116,601	$
Rate	0.784	$/Therm
Water & Sewer		
Annual Usage	909,000	gallons/yr
Annual Cost	669,352	$
Rate	5.508	$/gallon

Essex County
New Hospital Center

Utility Bills: Account Numbers

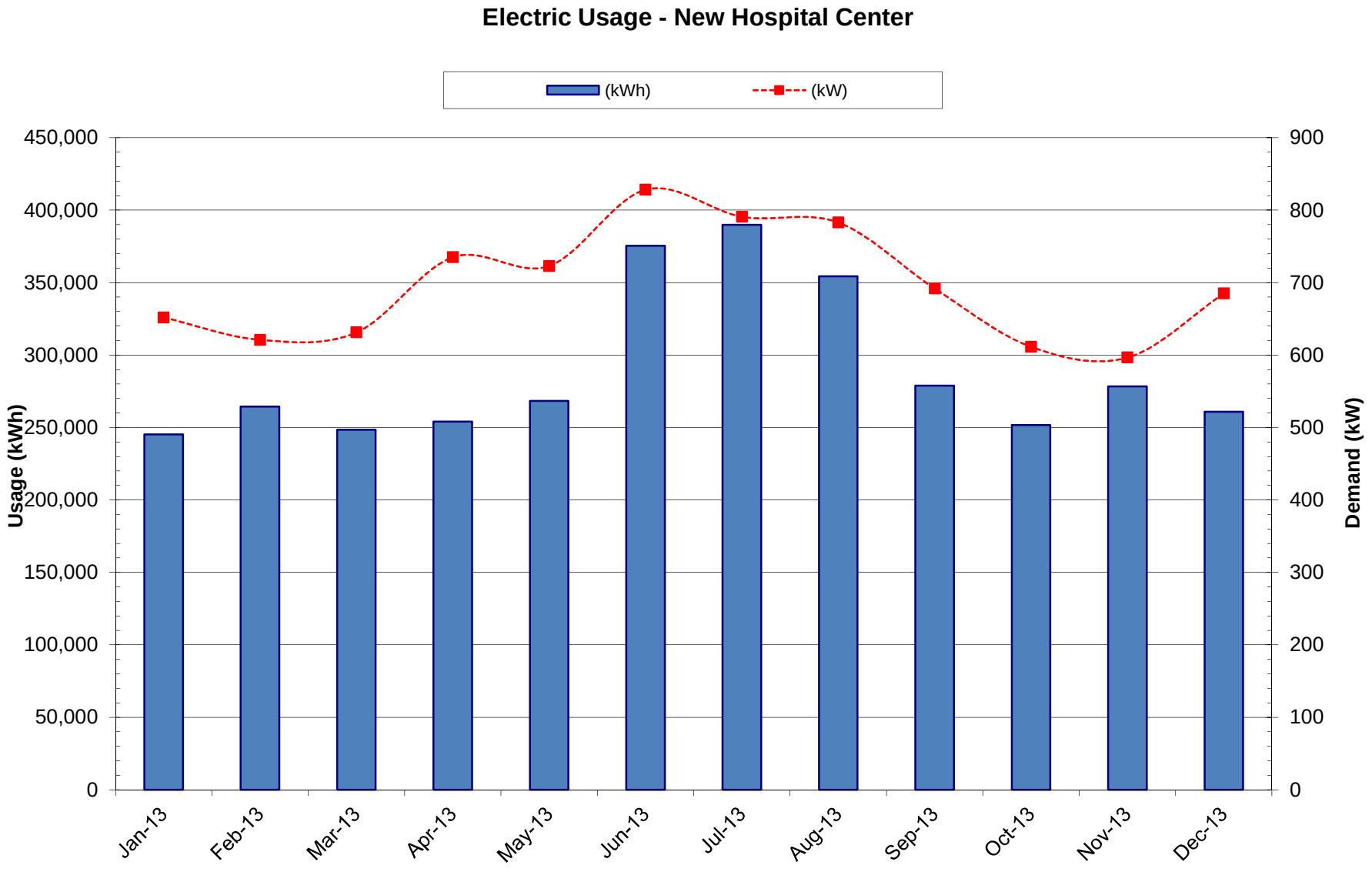
Account Number	Building	Location	Type	Notes
4201059103	New Hospital Center	204 Grove Avenue, Cedar grove, NJ 07009	Electricity	
PG000011545396144121	New Hospital Center	204 Grove Avenue, Cedar grove, NJ 07009	Natural Gas	
1-207401	New Hospital Center	204 Grove Avenue, Cedar grove, NJ 07009	Water	

Essex County
New Hospital Center

For Service at: **204 Grove Avenue, Cedar grove, NJ 07009**
Account No.: **4201059103** **Delivery -** PSE&G
Meter No.: **778017261** **Supplier -** N/A
Electric Service

			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)**
January-13	245,200	652.00	9,349.94	25,746.00	35,095.94	32,794.38	2,301.56	0.14	0.13	3.53
February-13	264,400	621.10	9,490.31	27,762.00	37,252.31	35,059.83	2,192.48	0.14	0.13	3.53
March-13	248,400	631.40	8,997.19	26,082.00	35,079.19	32,850.35	2,228.84	0.14	0.13	3.53
April-13	254,000	735.20	9,909.22	26,670.00	36,579.22	33,983.96	2,595.26	0.14	0.13	3.53
May-13	268,400	723.10	11,392.23	28,182.00	39,574.23	37,021.69	2,552.54	0.15	0.14	3.53
June-13	375,429	828.40	18,535.99	39,420.05	57,956.04	55,031.78	2,924.25	0.15	0.15	3.53
July-13	389,893	791.00	22,209.07	40,938.77	63,147.84	60,355.61	2,792.23	0.16	0.15	3.53
August-13	354,262	783.00	19,680.28	37,197.51	56,877.79	54,113.80	2,763.99	0.16	0.15	3.53
September-13	278,865	691.90	14,409.55	29,280.83	43,690.38	41,247.97	2,442.41	0.16	0.15	3.53
October-13	251,600	611.40	9,896.77	26,418.00	36,314.77	34,156.53	2,158.24	0.14	0.14	3.53
November-13	278,400	596.70	10,157.58	29,232.00	39,389.58	37,283.23	2,106.35	0.14	0.13	3.53
December-13	260,800	685.30	9,663.24	27,384.00	37,047.24	34,628.13	2,419.11	0.14	0.13	3.53
Total (All)	**3,469,649**	**828.40**	**$153,691.37**	**$364,313.15**	**$518,004.52**	**$488,527.25**	**$29,477.27**	**$0.15**	**$0.14**	**$3.53**
Total (last 12-months)	**3,469,649**	**828.40**	**$153,691.37**	**$364,313.15**	**$518,004.52**	**$488,527.25**	**$29,477.27**	**$0.15**	**$0.14**	**$3.53**
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 — $0.105 /kWh — Estimated supply rate due to missing data
7.) Charges based on the number of kW of power measured
8.) Total Charges ($) / Consumption (kWh)
9.) Consumption Charges ($) / Consumption (kWh)
10.) Demand Charges ($) / Demand (kW)



Utility Data - New Hospital Center - 2-19-15
Electric Graph

Essex County
New Hospital Center

For Service at: 204 Grove Avenue, Cedar grove, NJ 07009
Account No.: PG000011545396144121
Meter No: 778017261
Natural Gas Service Delivery - PSE&G
Supplier - Hess Corporation

		Charges			Unit Costs		
Month	Consumption (Therms)	Delivery ($)	Supply ($)	Total ($)	Delivery ($/Therm)	Supply ($/Therm)	Total ($/Therm)
January-13	20,675	$ 6,277.67	$ 9,041.54	$ 15,319.21	$ 0.304	$ 0.437	$ 0.741
February-13	23,530	$ 7,599.85	$ 10,629.85	$ 18,229.70	$ 0.323	$ 0.452	$ 0.775
March-13	19,195	$ 2,182.09	$ 12,097.89	$ 14,279.98	$ 0.114	$ 0.630	$ 0.744
April-13	9,955	$ 1,198.12	$ 9,868.95	$ 11,067.07	$ 0.120	$ 0.991	$ 1.112
May-13	8,449	$ 1,041.20	$ 5,118.28	$ 6,159.48	$ 0.123	$ 0.606	$ 0.729
June-13	6,216	$ 820.52	$ 4,343.77	$ 5,164.29	$ 0.132	$ 0.699	$ 0.831
July-13	5,661	$ 759.56	$ 3,547.35	$ 4,306.91	$ 0.134	$ 0.627	$ 0.761
August-13	5,859	$ 781.24	$ 3,889.08	$ 4,670.32	$ 0.133	$ 0.664	$ 0.797
September-13	6,490	$ 847.98	$ 3,824.46	$ 4,672.44	$ 0.131	$ 0.589	$ 0.720
October-13	7,477	$ 3,269.86	$ 4,781.15	$ 8,051.01	$ 0.437	$ 0.639	$ 1.077
November-13	17,713	$ 5,415.40	$ 4,710.20	$ 10,125.60	$ 0.306	$ 0.266	$ 0.572
December-13	17,585	$ 5,448.31	$ 9,107.02	$ 14,555.33	$ 0.310	$ 0.518	$ 0.828
Total	**148,806**			**$ 116,601.34**			**$ 0.784**

PSE&G ELECTRIC SERVICE TERRITORY
Last Updated: 12/11/14

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

Supplier	Telephone & Web Site	*Customer Class
Abest Power & Gas of NJ, LLC 202 Smith Street Perth Amboy, NJ 08861	(888)987-6937 www.AbestPower.com	**R/C/I** **ACTIVE**
AEP Energy, Inc. f/k/a BlueStar Energy Services 309 Fellowship Road, Fl. 2 Mount Laurel, NJ 08054	(866) 258-3782 www.aepenergy.com	**R/C/I** **ACTIVE**
Alpha Gas and Electric, LLC 641 5th Street Lakewood, NJ 08701	(855) 553-6374 www.alphagasandelectric.com	**R/C** **ACTIVE**
Ambit Northeast, LLC d/b/a Ambit Energy 103 Carnegie Center Suite 300 Princeton, NJ 08540	877-282-6284 www.ambitenergy.com	**R/C** **ACTIVE**
American Powernet Management, LP 437 North Grove St. Berlin, NJ 08009	(877) 977-2636 www.americanpowernet.com	**C/I** **ACTIVE**
Amerigreen Energy, Inc. 333Sylvan Avenue Englewood Cliffs, NJ 07632	888-559-4567 www.amerigreen.com	**R/C** **ACTIVE**
AP Gas & Electric, (NJ) LLC 10 North Park Place, Suite 420 Morristown, NJ 07960	(855) 544-4895 www.apgellc.com	**R/C/I** **ACTIVE**
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Barclays Capital Services, Inc. 70 Hudson Street Jersey City, NJ 07302-4585	(800) 526-7000 www.barclays.com	**C** **ACTIVE**
BBPC, LLC d/b/a Great Eastern Energy	(888) 651-4121	**C**

116 Village Blvd. Suite 200 Princeton, NJ 08540	www.greateasternenergy.com	**ACTIVE**
Berkshire Energy Partners, LLC 9 Berkshire Road Landenberg, PA 19350 Attn: Dana A. LeSage, P.E.	(610) 255-5070 www.berkshireenergypartners.com	**C/I** **ACTIVE**
Blue Pilot Energy, LLC 197 State Rte. 18 South Ste. 3000 East Brunswick, NJ 08816	(800) 451-6356 www.bluepilotenergy.com	**R/C** **ACTIVE**
Brick Standard, LLC 235 Hudson Street Suite 1 Hoboken, NJ 07030	(201)706-8101 www.standardalternative.com	**C/I** **ACTIVE**
CCES LLC dba Clean Currents Energy Services 566 Terhune Street Teaneck, NJ 07666	(877) 933-2453 www.cleancurrents.com	**R/C** **ACTIVE**
Champion Energy Services, LLC 1200 Route 22 Bridgewater, NJ 08807	(888) 653-0093 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. 1744 Lexington Avenue Pennsauken, NJ 08110	(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/C** **ACTIVE**
Community Energy Inc. 51 Sandbrook Headquarters Road Stockton, NJ 08559	(866)946-3123 www.communityenergyinc.com	**R/C/I** **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**

ConocoPhillips Company 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(800) 646-4427 www.conocophillips.com	**C/I** **ACTIVE**
Constellation NewEnergy, Inc. 900A Lake Street, Suite 2 Ramsey, NJ 07446	(888) 635-0827 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 http://www.business.directenergy.com/	**R** **ACTIVE**
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Direct Energy Small Business, LLC (fka Hess Small Business Services, LLC) One Hess Plaza Woodbridge, NJ 07095	(888) 464-4377 http://www.business.directenergy.com/	**C/I** **ACTIVE**
Discount Energy Group, LLC 811 Church Road, Suite 149 Cherry Hill, New Jersey 08002	(800) 282-3331 www.discountenergygroup.com	**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, 2nd Fl. Princeton, NJ 08540	(888) 444-9452 www.ethicalelectric.com	**R/C** **ACTIVE**
Energy Service Providers, Inc., d/b/a New Jersey Gas & Electric 1 Bridge Plaza fl. 2 Fort Lee, NJ 07024	(866) 568-0290 www.njgande.com	**R/C** **ACTIVE**
FirstEnergy Solutions 150 West State Street Trenton, NJ 08608	(866) 625-7318 www.fes.com	**C/I** **ACTIVE**
Gateway Energy Services Corp. 120 Wood Avenue Suite 611 Iselin, NJ 08830	(866)348-4193 www.directenergybusiness.com	**R/C** **ACTIVE**
GDF SUEZ Energy Resources NA, Inc. 333 Thornall Street Sixth Floor Edison, NJ 08837	(866) 999-8374 www.gdfsuezenergyresources.com	**C/I** **ACTIVE**
GDF Suez Retail Energy Solutions LLC d/b/a THINK ENERGY 333 Thornall St. Sixth Floor Edison, NJ 08819	1-866-252-0078 www.mythinkenergy.com	**R/C/I** **ACTIVE**
Glacial Energy of New Jersey, Inc. 21 Pine Street, Suite 237 Rockaway, NJ 07866	(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	**R/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**
Harborside Energy LLC 101 Hudson Street Suite 2100 Jersey City, NJ 07302	(877) 940-3835 www.harborsideenergynj.com	**R/C** **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/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 211 Carnegie Center Princeton, NJ 08540	(877) 235-6708 www.chooseindependence.com	**R/C** **ACTIVE**
Inspire Energy Holdings LLC 923 Haddonfield Road 3rd Fl. Building B2 Cherry Hill, NJ 08002	(866) 403-2620 www.inspireenergy.com	**R/C/I**
Integrys Energy Services, Inc. 33 Wood Ave, South, Suite 610 Iselin, NJ 08830	(800) 536-0151 www.integrysenergy.com	**C/I** **ACTIVE**
Jsynergy, LLC 445 Central Ave. Suite 204 Cedarhurst, NY 11516	(516) 331-2020 Jsynergyllc.com	**R/C/I** **ACTIVE**
Kuehne Chemical Company, Inc. 86 North Hackensack Avenue South Kearney, NJ 07032	(973) 589-0700 kuehnechemical@comcast.net	**I**

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	**R/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**
MP2 Energy NJ, LLC 111 River Street, Suite 1204 Hoboken, NJ 07030	(877) 238-5343 www.mp2energy.com	**R/C/I** **ACTIVE**
Natures Current, LLC 95 Fairmount Avenue Philadelphia, Pennsylvania 19123	(215) 464-6000 www.naturescurrent.com	**R/C/I** **ACTIVE**
MPower Energy NJ LLC One University Plaza, Suite 507 Hackensack, NJ 07601	(877) 286-7693 www.mpowerenergy.com	**R/C/I** **ACTIVE**
NATGASCO, Inc. (Supreme Energy, Inc.) 532 Freeman St. Orange, NJ 07050	(800) 840-4427 www.supremeenergyinc.com	**R/C/I** **ACTIVE**
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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**
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**

Nordic Energy Services, LLC 50 Tice Boulevard, Suite 340 Woodcliff Lake, NJ 07677	(877) 808-1027 www.nordiceenergy.us.com	**R/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**
North Eastern States, Inc. d/b/a Entrust Energy 90 Washington Valley Road Bedminster, NJ 07921	(888) 535-6340 www.entrustenergy.com	**R/C/I** **ACTIVE**
Oasis Power, LLC d/b/a Oasis Energy 11152 Westheimer, Suite 901 Houston, TX 77042	(800)324-3046 www.oasisenergy.com	**R/C** **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**
Park Power, LLC 1200 South Church St. Suite 23 Mount Laurel, NJ 08054	(856) 778-0079 www.parkpower.com	**R/C/I** **ACTIVE**
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	(855) 32-POWER (76937) www.plymouthenergy.com	**R/C/I** **ACTIVE**
Power Management Co., LLC b/b/a PMC Lightsavers Limited Liability Company 1600 Moseley Road Victor, NY 14564	(585) 249-1360 www.powermanagementco.com	**C/I** **ACTIVE**
PPL Energy Plus, LLC 811 Church Road Cherry Hill, NJ 08002	(800) 281-2000 www.pplenergyplus.com	**C/I** **ACTIVE**
PPL EnergyPlus Retail, LLC 788 Shrewsbury Avenue, Suite 220 Tinton Falls, NJ 07724	(732) 741-0505 – 2000 www.pplenergyplus.com	**C/I** **ACTIVE**
Progressive Energy Consulting, LLC	(917) 837-7400	**R/C/I**

PO Box 4582 Wayne, New Jersey 07474	Progressivenrg@optionline.net	**ACTIVE**
Prospect Resources, Inc. 208 W. State Street Trenton, NJ 08608-1002	(847) 673-1959 www.prospectresources.com	**C** **ACTIVE**
Public Power & Utility of New Jersey, LLC One International Blvd, Suite 400 Mahwah, NJ 07495	(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	**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**
Residents Energy, LLC 550 Broad Street Newark, NJ 07102	(888) 828-7374 www.residentsenergy.com	**R/C**
Respond Power LLC 1001 East Lawn Drive Teaneck, NJ 07666	(877) 973-7763 www.majorenergy.com	**R/C/I** **ACTIVE**
Save on Energy, LLC 1101 Red Ventures Drive Fort Mill, SC 29707	1 (877)-658-3183 www.saveonenergy.com	**R/C**
SFE Energy One Gateway Center Suite 2600 Newark, NJ 07012	1 (877) 316-6344 www.sfeenergy.com	**R/C/I** **ACTIVE**
S.J. Energy Partners, Inc. 208 White Horse Pike, Suite 4 Barrington, NJ 08007	(800) 695-0666 www.sjnaturalgas.com	**C** **ACTIVE**
SmartEnergy Holdings, LLC 100 Overlook Center 2nd Floor Princeton, NJ NJ 08540 United States of America	(800) 443-4440 www.smartenergy.com	**R/C/I** **ACTIVE**
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	(800) 266-6020 www.southjerseyenergy.com	**R/C/I** **ACTIVE**

Spark Energy Gas, LP/ Spark Energy 2105 City West Blvd. Suite 100 Houston, TX 77042	(713)600-2600 www.sparkenergy.com	**R/C/I** **ACTIVE**
Sperian Energy Corp. 1200 Route 22 East, Suite 2000 Bridgewater, NJ 08807	(888) 682-8082 www.sperianenergy.com	**R/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 New Jersey, LLC 309 Fellowship Rd., Suite 200 Mt. Laurel, NJ 08054	(877) 369-8150 www.streamenergy.net	**R/C** **ACTIVE**
Summit Energy Services, Inc. 10350 Ormsby Park Place Suite 400 Louisville, KY 40223	1 (800) 90-SUMMIT www.summitenergy.com	**C/I** **ACTIVE**
Texas Retail Energy LLC Park 80 West Plaza II, Suite 200 Saddle Brook, NJ 07663 Attn: Chris Hendrix	(866) 532-0761 Texasretailenergy.com	**C/I** **ACTIVE**
TransCanada Power Marketing Ltd. 190 Middlesex Essex Turnpike, Suite 200 Iselin, NJ 08830	(877) MEGAWAT www.transcanada.com/powermarketing	**C/I** **ACTIVE**
TriEagle Energy, LP 90 Washington Valley Rd Bedminster, NJ 07921	(877) 933-2453 www.trieagleenergy.com	**R/C/I** **ACTIVE**
UGI Energy Services, Inc. dba UGI Energy Link 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(800) 427-8545 www.ugienergylink.com	**C/I** **ACTIVE**
Verde Energy USA, Inc. 2001 Route 46 Waterview Plaza Suite 301 Parsippany, NJ 07054	(800) 388-3862 www.lowcostpower.com	**R/C** **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. 16th Floor 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 ELECTRIC SERVICE TERRITORY
Last Updated: 12/11/14

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

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Abest Power & Gas of NJ, LLC 202 Smith Street Perth Amboy, NJ 08861	(888)987-6937 www.AbestPower.com	**R/C/I** **ACTIVE**
AEP Energy, Inc. f/k/a BlueStar Energy Services 309 Fellowship Road, Fl. 2 Mount Laurel, NJ 08054	(866) 258-3782 www.aepenergy.com	**R/C/I** **ACTIVE**
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BBPC, LLC d/b/a Great Eastern Energy	(888) 651-4121	**C**

116 Village Blvd. Suite 200 Princeton, NJ 08540	www.greateasternenergy.com	**ACTIVE**
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Brick Standard, LLC 235 Hudson Street Suite 1 Hoboken, NJ 07030	(201)706-8101 www.standardalternative.com	**C/I** **ACTIVE**
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Clearview Electric, Inc. 1744 Lexington Avenue Pennsauken, NJ 08110	(888) CLR-VIEW (800) 746- 4702 www.clearviewenergy.com	**R/C/I** **ACTIVE**
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Community Energy Inc. 51 Sandbrook Headquarters Road Stockton, NJ 08559	(866)946-3123 www.communityenergyinc.com	**R/C/I** **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**

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Constellation NewEnergy, Inc. 900A Lake Street, Suite 2 Ramsey, NJ 07446	(888) 635-0827 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**
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Direct Energy Business, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	(888) 925-9115 http://www.business.directenergy.com/	**R** **ACTIVE**
Direct Energy Business Marketing, LLC (fka Hess Energy Marketing) 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 http://www.business.directenergy.com/	**C/I** **ACTIVE**
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Direct Energy Small Business, LLC (fka Hess Small Business Services, LLC) One Hess Plaza Woodbridge, NJ 07095	(888) 464-4377 http://www.business.directenergy.com/	**C/I** **ACTIVE**
Discount Energy Group, LLC 811 Church Road, Suite 149 Cherry Hill, New Jersey 08002	(800) 282-3331 www.discountenergygroup.com	**R/C** **ACTIVE**
DTE Energy Supply, Inc. One Gateway Center, Suite 2600 Newark, NJ 07102	(877) 332-2450 www.dtesupply.com	**C/I** **ACTIVE**

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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, 2nd Fl. Princeton, NJ 08540	(888) 444-9452 www.ethicalelectric.com	**R/C** **ACTIVE**
Energy Service Providers, Inc., d/b/a New Jersey Gas & Electric 1 Bridge Plaza fl. 2 Fort Lee, NJ 07024	(866) 568-0290 www.njgande.com	**R/C** **ACTIVE**
FirstEnergy Solutions 150 West State Street Trenton, NJ 08608	(866) 625-7318 www.fes.com	**C/I** **ACTIVE**
Gateway Energy Services Corp. 120 Wood Avenue Suite 611 Iselin, NJ 08830	(866)348-4193 www.directenergybusiness.com	**R/C** **ACTIVE**
GDF SUEZ Energy Resources NA, Inc. 333 Thornall Street Sixth Floor Edison, NJ 08837	(866) 999-8374 www.gdfsuezenergyresources.com	**C/I** **ACTIVE**
GDF Suez Retail Energy Solutions LLC d/b/a THINK ENERGY 333 Thornall St. Sixth Floor Edison, NJ 08819	1-866-252-0078 www.mythinkenergy.com	**R/C/I** **ACTIVE**
Glacial Energy of New Jersey, Inc. 21 Pine Street, Suite 237 Rockaway, NJ 07866	(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	**R/C/I** **ACTIVE**

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Hess Corporation 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 www.hess.com	**C/I** **ACTIVE**
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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 211 Carnegie Center Princeton, NJ 08540	(877) 235-6708 www.chooseindependence.com	**R/C** **ACTIVE**
Inspire Energy Holdings LLC 923 Haddonfield Road 3rd Fl. Building B2 Cherry Hill, NJ 08002	(866) 403-2620 www.inspireenergy.com	**R/C/I**
Integrys Energy Services, Inc. 33 Wood Ave, South, Suite 610 Iselin, NJ 08830	(800) 536-0151 www.integrysenergy.com	**C/I** **ACTIVE**
Jsynergy, LLC 445 Central Ave. Suite 204 Cedarhurst, NY 11516	(516) 331-2020 Jsynergyllc.com	**R/C/I** **ACTIVE**
Kuehne Chemical Company, Inc. 86 North Hackensack Avenue South Kearney, NJ 07032	(973) 589-0700 kuehnechemical@comcast.net	**I**

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	**R/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**
MP2 Energy NJ, LLC 111 River Street, Suite 1204 Hoboken, NJ 07030	(877) 238-5343 www.mp2energy.com	**R/C/I** **ACTIVE**
Natures Current, LLC 95 Fairmount Avenue Philadelphia, Pennsylvania 19123	(215) 464-6000 www.naturescurrent.com	**R/C/I** **ACTIVE**
MPower Energy NJ LLC One University Plaza, Suite 507 Hackensack, NJ 07601	(877) 286-7693 www.mpowerenergy.com	**R/C/I** **ACTIVE**
NATGASCO, Inc. (Supreme Energy, Inc.) 532 Freeman St. Orange, NJ 07050	(800) 840-4427 www.supremeenergyinc.com	**R/C/I** **ACTIVE**
New Jersey Gas & Electric 10 North Park Place Suite 420 Morristown, NJ 07960	(866) 568-0290 www.njgande.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**
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**

Nordic Energy Services, LLC 50 Tice Boulevard, Suite 340 Woodcliff Lake, NJ 07677	(877) 808-1027 www.nordiceenergy.us.com	**R/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**
North Eastern States, Inc. d/b/a Entrust Energy 90 Washington Valley Road Bedminster, NJ 07921	(888) 535-6340 www.entrustenergy.com	**R/C/I** **ACTIVE**
Oasis Power, LLC d/b/a Oasis Energy 11152 Westheimer, Suite 901 Houston, TX 77042	(800)324-3046 www.oasisenergy.com	**R/C** **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**
Park Power, LLC 1200 South Church St. Suite 23 Mount Laurel, NJ 08054	(856) 778-0079 www.parkpower.com	**R/C/I** **ACTIVE**
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	(855) 32-POWER (76937) www.plymouthenergy.com	**R/C/I** **ACTIVE**
Power Management Co., LLC b/b/a PMC Lightsavers Limited Liability Company 1600 Moseley Road Victor, NY 14564	(585) 249-1360 www.powermanagementco.com	**C/I** **ACTIVE**
PPL Energy Plus, LLC 811 Church Road Cherry Hill, NJ 08002	(800) 281-2000 www.pplenergyplus.com	**C/I** **ACTIVE**
PPL EnergyPlus Retail, LLC 788 Shrewsbury Avenue, Suite 220 Tinton Falls, NJ 07724	(732) 741-0505 – 2000 www.pplenergyplus.com	**C/I** **ACTIVE**
Progressive Energy Consulting, LLC	(917) 837-7400	**R/C/I**

PO Box 4582 Wayne, New Jersey 07474	Progressivenrg@optionline.net	**ACTIVE**
Prospect Resources, Inc. 208 W. State Street Trenton, NJ 08608-1002	(847) 673-1959 www.prospectresources.com	**C** **ACTIVE**
Public Power & Utility of New Jersey, LLC One International Blvd, Suite 400 Mahwah, NJ 07495	(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	**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**
Residents Energy, LLC 550 Broad Street Newark, NJ 07102	(888) 828-7374 www.residentsenergy.com	**R/C**
Respond Power LLC 1001 East Lawn Drive Teaneck, NJ 07666	(877) 973-7763 www.majorenergy.com	**R/C/I** **ACTIVE**
Save on Energy, LLC 1101 Red Ventures Drive Fort Mill, SC 29707	1 (877)-658-3183 www.saveonenergy.com	**R/C**
SFE Energy One Gateway Center Suite 2600 Newark, NJ 07012	1 (877) 316-6344 www.sfeenergy.com	**R/C/I** **ACTIVE**
S.J. Energy Partners, Inc. 208 White Horse Pike, Suite 4 Barrington, NJ 08007	(800) 695-0666 www.sjnaturalgas.com	**C** **ACTIVE**
SmartEnergy Holdings, LLC 100 Overlook Center 2nd Floor Princeton, NJ NJ 08540 United States of America	(800) 443-4440 www.smartenergy.com	**R/C/I** **ACTIVE**
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	(800) 266-6020 www.southjerseyenergy.com	**R/C/I** **ACTIVE**

Spark Energy Gas, LP/ Spark Energy 2105 City West Blvd. Suite 100 Houston, TX 77042	(713)600-2600 www.sparkenergy.com	**R/C/I** **ACTIVE**
Sperian Energy Corp. 1200 Route 22 East, Suite 2000 Bridgewater, NJ 08807	(888) 682-8082 www.sperianenergy.com	**R/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 New Jersey, LLC 309 Fellowship Rd., Suite 200 Mt. Laurel, NJ 08054	(877) 369-8150 www.streamenergy.net	**R/C** **ACTIVE**
Summit Energy Services, Inc. 10350 Ormsby Park Place Suite 400 Louisville, KY 40223	1 (800) 90-SUMMIT www.summitenergy.com	**C/I** **ACTIVE**
Texas Retail Energy LLC Park 80 West Plaza II, Suite 200 Saddle Brook, NJ 07663 Attn: Chris Hendrix	(866) 532-0761 Texasretailenergy.com	**C/I** **ACTIVE**
TransCanada Power Marketing Ltd. 190 Middlesex Essex Turnpike, Suite 200 Iselin, NJ 08830	(877) MEGAWAT www.transcanada.com/powermarketing	**C/I** **ACTIVE**
TriEagle Energy, LP 90 Washington Valley Rd Bedminster, NJ 07921	(877) 933-2453 www.trieagleenergy.com	**R/C/I** **ACTIVE**
UGI Energy Services, Inc. dba UGI Energy Link 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(800) 427-8545 www.ugienergylink.com	**C/I** **ACTIVE**
Verde Energy USA, Inc. 2001 Route 46 Waterview Plaza Suite 301 Parsippany, NJ 07054	(800) 388-3862 www.lowcostpower.com	**R/C** **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. 16th Floor 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

APPENDIX B

Equipment Inventory

Essex County
CHA Project# 29412
New Hospital Center

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.
DHW-1	1	PVI	Turbopower 1500 N 1500A-TP	1205117590	DHW heater / Gas	1500 gallons	N/A	Boiler Room	Building	2006	12	
DHW-2	1	PVI	Turbopower 1500 N 1500A-TP	1205117589	DHW heater / Gas	1500 gallons	N/A	Boiler Room	Building	2006	12	
B-1	1	H.B. Smith	4500A-SW-16	N/A	Hot water Boiler	6700 MBH	82%	Boiler Room	Building	2006	17	
B-2	1	H.B. Smith	4500A-SW-16	N/A	Hot water Boiler	6700 MBH	82%	Boiler Room	Building	2006	17	
B-3	1	H.B. Smith	4500A-SW-16	N/A	Hot water Boiler	6700 MBH	82%	Boiler Room	Building	2006	17	
Burners 1, 2, 3	3	Powerflame	C5-G0-30HTD	080518336	Dual fuel burners	9730 MBH	88%	Boiler Room	Building	2006	17	
P-SHW1	1	B&G	G38030	N/A	Secondary Hot water Pump	30 HP	94.1%	Boiler Room	Building	2006	7	
P-SHW2	1	B&G	G38030	N/A	Secondary Hot water Pump	30 HP	94.1%	Boiler Room	Building	2006	7	
P-SHW3	1	B&G	G38030	N/A	Secondary Hot water Pump	30 HP	94.1%	Boiler Room	Building	2006	7	
P-HW1	1	B&G	R337	N/A	Primary Hot water Pump	5.0 HP	87.5%	Boiler Room	Building	2006	77	
P-HW2	1	B&G	R337	N/A	Primary Hot water Pump	5.0 HP	87.5%	Boiler Room	Building	2006	7	
P-HW3	1	B&G	R337	N/A	Primary Hot water Pump	5.0 HP	87.5%	Boiler Room	Building	2006	7	
RTU-1	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	C Building	2006	12	
RTU-2	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	C Building Multi-Purpose Rm	2006	12	
RTU-3	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	B Building	2006	12	
RTU-4	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	A Building	2006	12	
RTU-5	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	A Building Kitchen	2006	12	
RTU-6	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	A Building	2006	12	
RTU-7	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	Building E	2006	12	
RTU-8	1	York	N/A	N/A	Rooftop Unit	N/A	N/A	Roof	Buildings D&E	2006	12	
EF-1, 2	2	Greenheck	N/A	N/A	Roof mounted exhaust fan	3.0 HP each	N/A	Roof	Kitchen	2006	12	
H-X	8	GTS	DrySteem	N/A	Humidifier	N/A	N/A	Rooftop Unit	Building	2006	12	
CH-1	1	York	Max E YKBBBCP5-CMF	N/A	Centrifugal Chiller	400 tons	N/A	Chiller Room	Building	2006	12	
CH-2	1	York	Max E YKBBBCP5-CMF	N/A	Centrifugal Chiller	400 tons	N/A	Chiller Room	Building	2006	12	
CH-3	1	York	Max E YKBBBCP5-CMF	N/A	Centrifugal Chiller	400 tons	N/A	Chiller Room	Building	2006	12	
CWPS-1	1	N/A	N/A	N/A	Chilled water Supply Pump	30 HP	96.1%	Chiller Room	Building	2006	12	
CWPS-2	1	N/A	N/A	N/A	Chilled water Supply Pump	30 HP	96.1%	Chiller Room	Building	2006	12	
CWPS-3	1	N/A	N/A	N/A	Chilled water Supply Pump	30 HP	96.1%	Chiller Room	Building	2006	12	
CWPR-1	1	N/A	N/A	N/A	Chilled water Return Pump	10 HP	97.7%	Chiller Room	Building	2006	12	
CWPR-2	1	N/A	N/A	N/A	Chilled water Return Pump	10 HP	97.7%	Chiller Room	Building	2006	12	
CWPR-3	1	N/A	N/A	N/A	Chilled water Return Pump	10 HP	97.7%	Chiller Room	Building	2006	12	
CT-1	1	Marley	NC8305149-A1	N/A	Cooling Tower	N/A	N/A	Roof	Building	2006	12	
CT-2	1	Marley	NC8305149-A1	N/A	Cooling Tower	N/A	N/A	Roof	Building	2006	12	
CT-3	1	Marley	NC8305149-A1	N/A	Cooling Tower	N/A	N/A	Roof	Building	2006	12	
CTP-1	1	N/A	N/A	N/A	Cooliing Tower Pump	40 HP	93.6%	Chiller Room	Building	2006	12	
CTP-2	1	N/A	N/A	N/A	Cooliing Tower Pump	40 HP	93.6%	Chiller Room	Building	2006	12	
CTP-3	1	N/A	N/A	N/A	Cooliing Tower Pump	40 HP	93.6%	Chiller Room	Building	2006	12	
											0	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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	S01 - Stair #1: Lower Level	Stairway	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	Breaker	8760	1,577	None	
182	SO2 Stair #2: Lower Level	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
32LED	A010 - Electrical Room: Lower Level	Linen/Utility/Wet/Janitor/Electrical	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
55LED	A020 - Corridor: Lower Level	Hallways	20	2T 17 R F 3 (ELE)	F23ILL	47	0.94	Breaker	8760	8,234	None	
261LED	A020 - Corridor: Lower Level	Hallways	4	PAR 38 SP	H100/1	100	0.40	Breaker	8760	3,504	None	
55LED	A007 - Corridor: Lower Level	Hallways	11	2T 17 R F 3 (ELE)	F23ILL	47	0.52	Breaker	8760	4,529	None	
261LED	A007 - Corridor: Lower Level	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
55LED	A029 - Corridor: Lower Level	Hallways	8	2T 17 R F 3 (ELE)	F23ILL	47	0.38	Breaker	8760	3,294	None	
261LED	A029 - Corridor: Lower Level	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
55LED	A026 - Corridor: Lower Level	Hallways	7	2T 17 R F 3 (ELE)	F23ILL	47	0.33	Breaker	8760	2,882	None	
261LED	A026 - Corridor: Lower Level	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
261LED	A026 - Corridor: Lower Level	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
55LED	A033 - Corridor: Lower Level	Hallways	6	2T 17 R F 3 (ELE)	F23ILL	47	0.28	Breaker	8760	2,470	None	
32LED	A033 - Corridor: Lower Level	Hallways	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	Breaker	8760	1,051	None	
116	A033 - Corridor: Lower Level	Hallways	2	X 7.0 W 1	EI7.5/1	8	0.02	Breaker	8760	140	None	
40LED	A012 - Dietary: Lower Level	Nourishment	30	T 32 R F 2 (ELE)	F42LL	60	1.80	SW	3094	5,569	OCC	
40LED	A012 - Dietary: Lower Level	Nourishment	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3094	371	OCC	
261LED	A012 - Dietary: Lower Level	Nourishment	3	PAR 38 SP	H100/1	100	0.30	SW	3094	928	OCC	
40LED	A037 - Dry Food Storage: Lower Level	Storage Areas	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	OCC	
40LED	A038 - Non Food Storage: Lower Level	Storage Areas	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	OCC	
40LED	A038 - Non Food Storage: Lower Level	Storage Areas	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	OCC	
40LED	A039 - Storage: Lower Level	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
40LED	A039 - Storage: Lower Level	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
32LED	A018 - Elevator Mechanical Room: Lower Level	Mechanical Room	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1820	328	None	
55LED	A106 - Open Offices: Lower Level	Offices	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	4400	827	None	
32LED	A018A - Janitor's Closet: Lower Level	Linen/Utility/Wet/Janitor/Electrical	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
55LED	A014 - Office: Lower Level	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	None	
55LED	A013 - Lockers / Toilet Room: Lower Level	Locker	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	5096	479	OCC	
97	A013 - Lockers / Toilet Room: Lower Level	Locker	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	5096	285	OCC	
35LED	A021 - Gym: Lower Level	Gymnasium	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.36	SW	3640	1,310	None	
55LED	A022 - Toilet Room: Lower Level	Locker	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	5096	240	None	
55LED	A023 - Lockers: Lower Level	Locker	8	2T 17 R F 3 (ELE)	F23ILL	47	0.38	SW	5096	1,916	OCC	
55LED	A023 - Lockers: Lower Level	Locker	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	5096	479	OCC	
55LED	A024 - Toilet Room: Lower Level	Locker	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	5096	240	OCC	
40LED	A025 - Storage: Lower Level	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
40LED	A010 - Bulk Hold: Lower Level	Storage Areas	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	None	
40LED	A008 - Storage: Lower Level	Storage Areas	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	None	
40LED	A009 - Unspecified: Lower Level	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	None	
40LED	A003 - Plan Room: Lower Level	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	None	
261LED	A006 - Women's Toilet: Lower Level	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
261LED	A005 - Men's Toilet: Lower Level	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
40LED	A002 - Shop & Storage: Lower Level	Storage Areas	9	T 32 R F 2 (ELE)	F42LL	60	0.54	SW	1000	540	None	
35LED	A004 - Facility Manager Office: Lower Level	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	None	
40LED	A001 - Shop & Workstations: Lower Level	Offices	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	4400	1,584	OCC	
32LED	S03 - Stair #3: Lower Level	Stairway	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	Breaker	8760	1,051	None	
40LED	A011 - Bulk Storage: Lower Level	Storage Areas	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	None	
32LED	A032 - Site Storage: Lower Level	Storage Areas	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	None	
32LED	A030 - Fire Pump / Water Service: Lower Level	Mechanical Room	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1820	437	None	
55LED	A036 - Dining: Lower Level	Nourishment	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	3094	582	OCC	
40LED	A037 - Bulk Storage: Lower Level	Storage Areas	6	T 32 R F 2 (ELE)	F42LL	60	0.36	SW	1000	360	None	
55LED	A026 - Pharmacy: Lower Level	Offices	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	4400	827	OCC	
40LED	A031 - Receiving: Lower Level	Storage Areas	9	T 32 R F 2 (ELE)	F42LL	60	0.54	SW	1000	540	None	
40LED	A035 - Clean Linen: Lower Level	Storage Areas	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	None	
40LED	A034 - Soiled Hold / Contamination: Lower Level	Storage Areas	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	None	
32LED	A041 - Oxygen Storage: Lower Level	Storage Areas	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	Emergency Exit Corridor: Lower Level	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
32LED	Emergency Exit Corridor: Lower Level	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	Breaker	8760	526	None	
32LED	Emergency Exit Corridor: Lower Level	Hallways	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	Breaker	8760	526	None	
116	Exterior: Lower Level	Outdoor Lighting	8	X 7.0 W 1	EI7.5/1	8	0.06	SW	4368	280	PHC	
116	Exterior: Lower Level	Outdoor Lighting	2	X 7.0 W 1	EI7.5/1	8	0.02	SW	4368	70	PHC	
32LED	B002 - Main Electrical Room: Lower Level	Linen/Utility/Wet/Janitor/Electrical	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	1400	420	None	
32LED	B002 - Main Electrical Room: Lower Level	Linen/Utility/Wet/Janitor/Electrical	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	1400	420	OCC	
32LED	B020 - Emergency Switch: Lower Level	Linen/Utility/Wet/Janitor/Electrical	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	OCC	
55LED	B Wing Corridor: Lower Level	Hallways	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	Breaker	8760	412	None	
55LED	B Wing Corridor: Lower Level	Hallways	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	Breaker	8760	412	None	
261LED	B Wing Corridor: Lower Level	Hallways	20	PAR 38 SP	H100/1	100	2.00	Breaker	8760	17,520	None	
261LED	B Wing Corridor: Lower Level	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
261LED	B Wing Corridor: Lower Level	Hallways	9	PAR 38 SP	H100/1	100	0.90	Breaker	8760	7,884	None	
261LED	B Wing Corridor: Lower Level	Hallways	6	PAR 38 SP	H100/1	100	0.60	Breaker	8760	5,256	None	
261LED	B Wing Corridor: Lower Level	Hallways	6	PAR 38 SP	H100/1	100	0.60	Breaker	8760	5,256	None	
40LED	B006 - Storage: Lower Level	Storage Areas	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1000	240	None	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
261LED	B005 - Office: Lower Level	Offices	4	PAR 38 SP	H100/1	100	0.40	SW	4400	1,760	OCC	
261LED	B008 - Computer Lab: Lower Level	Classrooms	6	PAR 38 SP	H100/1	100	0.60	SW	5096	3,058	OCC	
261LED	B008 - Computer Lab: Lower Level	Classrooms	4	PAR 38 SP	H100/1	100	0.40	SW	5096	2,038	OCC	
261LED	B009 - Classroom: Lower Level	Classrooms	12	PAR 38 SP	H100/1	100	1.20	SW	5096	6,115	OCC	
261LED	B009 - Classroom: Lower Level	Classrooms	8	PAR 38 SP	H100/1	100	0.80	SW	5096	4,077	OCC	
261LED	B011 - Classroom: Lower Level	Classrooms	6	PAR 38 SP	H100/1	100	0.60	SW	5096	3,058	OCC	
261LED	B011 - Classroom: Lower Level	Classrooms	3	PAR 38 SP	H100/1	100	0.30	SW	5096	1,529	OCC	
32LED	B015 - Elevator Mechanical Room: Lower Level	Mechanical Room	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1820	109	None	
97	B013 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	B013 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	B013 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	B012 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	B012 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	B012 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	B012 - Toilet Room: Lower Level	Restroom w/ OCC	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	1400	84	None	
40LED	B004 - Unspecified: Lower Level	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
32LED	B017 - Engineering Storage: Lower Level	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
40LED	B003 - Engineer's Room: Lower Level	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
40LED	B007 - Education/Instruction: Lower Level	Classrooms	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	5096	612	OCC	
32LED	B016 - Mechanical (Boilers): Lower Level	Mechanical Room	9	1T 32 R F 2 (ELE)	F42LL	60	0.54	SW	1820	983	None	
32LED	B016 - Mechanical (Boilers): Lower Level	Mechanical Room	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	1820	874	None	
97	B016 - Mechanical (Boilers): Lower Level	Mechanical Room	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	1820	51	None	
32LED	B014 - Mechanical (Chillers): Lower Level	Mechanical Room	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	1820	1,310	None	
32LED	B014 - Mechanical (Chillers): Lower Level	Mechanical Room	12	1T 32 R F 2 (ELE)	F42LL	60	0.72	SW	1820	1,310	None	
32LED	S04 - Stair #4: Lower Level	Stairway	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	Breaker	8760	1,051	None	
261LED	S04 - Stair #4: Lower Level	Stairway	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
261LED	C006 - Lobby: Lower Level	General Common	4	PAR 38 SP	H100/1	100	0.40	SW	8736	3,494	None	
261LED	C006 - Lobby: Lower Level	Cafeteria_Other	2	PAR 38 SP	H100/1	100	0.20	SW	2912	582	OCC	
261LED	C006 - Lobby: Lower Level	Cafeteria_Other	3	PAR 38 SP	H100/1	100	0.30	SW	2912	874	OCC	
261LED	C006 - Lobby: Lower Level	Cafeteria_Other	4	PAR 38 SP	H100/1	100	0.40	SW	2912	1,165	OCC	
261LED	C006 - Lobby: Lower Level	Cafeteria_Other	4	PAR 38 SP	H100/1	100	0.40	SW	2912	1,165	OCC	
261LED	C006 - Lobby: Lower Level	Cafeteria_Other	1	PAR 38 SP	H100/1	100	0.10	SW	2912	291	OCC	
261LED	C004 - Reception: Lower Level	Cafeteria_Other	3	PAR 38 SP	H100/1	100	0.30	SW	2912	874	OCC	
261LED	C004 - Reception: Lower Level	Cafeteria_Other	3	PAR 38 SP	H100/1	100	0.30	SW	2912	874	OCC	
261LED	C004 - Reception: Lower Level	Cafeteria_Other	1	PAR 38 SP	H100/1	100	0.10	SW	2912	291	OCC	
32LED	S05 - Stair #5: Lower Level	Stairway	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	Breaker	8760	2,102	None	
35LED	C005 - Security: Lower Level	Offices	8	T 32 R F 3 (ELE)	F43ILL/2	90	0.72	SW	4400	3,168	OCC	
97	C004 - Toilet Room: Lower Level	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	C001 - Telecommunications: Lower Level	Telecommunications	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
32LED	C002 - Storage: Lower Level	Storage Areas	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	SW	1000	180	None	
32LED	C005 - Telecommunications Vault: Lower Level	Telecommunications	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	SW	
116	Exterior: Lower Level: Lower Level	Outdoor Lighting	1	X 7.0 W 1	EI7.5/1	8	0.01	SW	4368	35	PHC	
182	S01 - Stair #1: 1st Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	S01 - Stair #1: 1st Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S02 - Stair #2: 1st Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	S02 - Stair #2: 1st Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S03 - Stair #3: 1st Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	S03 - Stair #3: 1st Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	A144 - Corridor: 1st Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	A144 - Corridor: 1st Floor	Hallways	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
97	A144 - Corridor: 1st Floor	Hallways	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	Breaker	8760	981	None	
97	A144 - Corridor: 1st Floor	Hallways	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	Breaker	8760	1,717	None	
97	A144 - Corridor: 1st Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
97	A144 - Corridor: 1st Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
97	A156 - Corridor: 1st Floor	Hallways	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	Breaker	8760	1,717	None	
97	A156 - Corridor: 1st Floor	Hallways	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	Breaker	8760	1,962	None	
97	A156 - Corridor: 1st Floor	Hallways	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	Breaker	8760	981	None	
182	A120 - Corridor: 1st Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	A120 - Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	A120 - Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
97	A120 - Corridor: 1st Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	A??? - Corridor: 1st Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	A??? - Corridor: 1st Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	A171 - Corridor: 1st Floor	Hallways	9	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.59	Breaker	8760	5,203	None	
261LED	A171 - Corridor: 1st Floor	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
261LED	A143 - Nurse's Station: 1st Floor	Offices	10	PAR 38 SP	H100/1	100	1.00	SW	4400	4,400	OCC	
261LED	A143 - Nurse's Station: 1st Floor	Offices	1	PAR 38 SP	H100/1	100	0.10	SW	4400	440	OCC	
35LED	A143 - Nurse's Station: 1st Floor	Offices	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	4400	396	OCC	
97	A143 - Nurse's Station: 1st Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
182	A107 - Activity / Dining: 1st Floor	Cafeteria_Other	19	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.25	SW	2912	3,652	OCC	
182	A107 - Activity / Dining: 1st Floor	Cafeteria_Other	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	SW	2912	1,345	OCC	

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$6.74 **$/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**
97	A107 - Activity / Dining: 1st Floor	Cafeteria_Other	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	SW	2912	571	OCC	
97	A107 - Activity / Dining: 1st Floor	Cafeteria_Other	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	SW	2912	652	OCC	
182	A107 - Activity / Dining: 1st Floor	Cafeteria_Other	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	2912	384	OCC	
55LED	A172 - Security: 1st Floor	Offices	3	2T 17 R F 3 (ELE)	F23ILL	47	0.14	SW	4400	620	OCC	
40LED	A147 - Illegible: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	A134 - Exam Room: 1st Floor	Med Rooms	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4368	411	None	
32LED	Illegible: 1st Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Illegible - Conference Room: 1st Floor	Offices	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	4400	827	OCC	
40LED	A132 - Lounge: 1st Floor	General Common	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	8736	1,048	None	
97	Illegible - Staff Toilet: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
35LED	A139 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A140 - Group Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A141 - Group Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
32LED	A126 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
182	A126 - Semi Private Room: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	None	
182	A126 - Semi Private Room: 1st Floor	Med Rooms	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4368	288	None	
182	A127 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	OCC	1400	92	None	
97	A127 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	A129 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
182	A129 - Semi Private Room: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	None	
182	A129 - Semi Private Room: 1st Floor	Med Rooms	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4368	288	None	
182	A128 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	OCC	1400	92	None	
97	A128 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	A130 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A130 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A130 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A131 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A131 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A133 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A133 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A133 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A132 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A132 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A125 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A125 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A125 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A124 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A124 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A122 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A122 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A122 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A123 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A123 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A121 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A121 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A121 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A119 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A119 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A117 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A117 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A117 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A118 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A118 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
40LED	A116 - Soiled Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
40LED	A115 - Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	A113 - Ante Room: 1st Floor	General Common	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	SW	8736	1,223	None	
97	A114 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
182	A112 - Illegible: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	None	
182	A111 - Illegible: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	None	
40LED	A109 - Clean Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	A110 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	A110 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	A108 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A108 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A108 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A107 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A107 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A105 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A105 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A105 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A106 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	

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			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**
261LED	A106 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A104 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A104 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A104 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A103 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A103 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A101 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
261LED	A101 - Semi Private Room: 1st Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A101 - Semi Private Room: 1st Floor	Med Rooms	1	PAR 38 SP	H100/1	100	0.10	SW	4368	437	None	
261LED	A102 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	A102 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
32LED	A170 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
97	A170 - Semi Private Room: 1st Floor	Med Rooms	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	4368	245	None	
97	A170 - Semi Private Room: 1st Floor	Med Rooms	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4368	122	None	
97	A169 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	A169 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	A167 - Semi Private Room: 1st Floor	Med Rooms	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4368	524	None	
97	A167 - Semi Private Room: 1st Floor	Med Rooms	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	4368	245	None	
97	A167 - Semi Private Room: 1st Floor	Med Rooms	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4368	122	None	
97	A168 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	A168 - Toilet/Shower: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	A165 - Tub/Shower: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
40LED	A166 - Laundry: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
97	A164 - PT Shower: 1st Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
97	A163 - PT Toilet: 1st Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
40LED	A146 - Janitor's Closet: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
40LED	A145 - Visiting Room: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	A144 - Quiet Room: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
97	A150 - Toilet Room: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
40LED	A151 - Janitor's Closet: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
97	A152 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	1400	39	None	
116	A163 - External Patio: 1st Floor	Outdoor Lighting	4	X 7.0 W 1	EI7.5/1	8	0.03	SW	4368	140	PHC	
35LED	A161 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A160 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A159 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A157 -Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A158 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A154 - Office: 1st Floor	Offices	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	4400	396	OCC	
35LED	A153 - Office: 1st Floor	Offices	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	4400	396	OCC	
35LED	A155 - Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	A148 - Work: 1st Floor	General Common	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	8736	786	None	
32LED	A146 - Telecommunications: 1st Floor	Telecommunications	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
32LED	S04 - Stair #4: 1st Floor	Stairway	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	Breaker	8760	1,051	None	
55LED	B101 - Corridor: 1st Floor	Hallways	7	2T 17 R F 3 (ELE)	F23ILL	47	0.33	Breaker	8760	2,882	None	
55LED	B101 - Corridor: 1st Floor	Hallways	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	Breaker	8760	1,647	None	
261LED	B101 - Corridor: 1st Floor	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
261LED	B102 - Corridor: 1st Floor	Hallways	6	PAR 38 SP	H100/1	100	0.60	Breaker	8760	5,256	None	
261LED	B102 - Corridor: 1st Floor	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
261LED	B102 - Corridor: 1st Floor	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
261LED	B110 - Corridor: 1st Floor	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
261LED	B110 - Corridor: 1st Floor	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
261LED	S04 - Stair #4 Entry: 1st Floor	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
261LED	S04 - Stair #4 Entry: 1st Floor	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
55LED	B111/B112 - Conference Room: 1st Floor	Conference	8	2T 17 R F 3 (ELE)	F23ILL	47	0.38	SW	2184	821	None	
97	B111/B112 - Conference Room: 1st Floor	Conference	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	2184	122	None	
97	B111/B112 - Conference Room: 1st Floor	Conference	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	2184	122	None	
35LED	B109 - Medical Director Office: 1st Floor	Offices	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.36	SW	4400	1,584	OCC	
35LED	B108 - Executive Assistant: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B107 - Executive Assistant: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B106 - Hospital Director Office: 1st Floor	Offices	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.36	SW	4400	1,584	OCC	
40LED	B105 - Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	B104 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	1400	39	None	
35LED	B121 - Director's Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B122 - Director's Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B123 - Director's Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B124 - Director's Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	B125 - Director's Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
32LED	B114 / B126 / B127 - Waiting Area: 1st Floor	Waiting/Family/Play	10	1T 32 R F 2 (ELE)	F42LL	60	0.60	SW	5096	3,058	OCC	
32LED	B114 / B126 / B127 - Waiting Area: 1st Floor	Waiting/Family/Play	5	1T 32 R F 2 (ELE)	F42LL	60	0.30	SW	5096	1,529	OCC	
97	B114 / B126 / B127 - Waiting Area: 1st Floor	Waiting/Family/Play	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	5096	285	OCC	
97	B114 / B126 / B127 - Waiting Area: 1st Floor	Waiting/Family/Play	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	5096	285	OCC	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
55LED	B119 - Illegible: 1st Floor	Offices	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	SW	4400	827	OCC	
40LED	B118 - Kitchen: 1st Floor	Kitchen	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	3000	180	OCC	
40LED	B117 - Office: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
40LED	B116 - Office: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
40LED	B115 - Office: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	B129 - MDF Room: 1st Floor	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	4400	207	OCC	
55LED	B129 - MDF Room: 1st Floor	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	4400	207	OCC	
35LED	B129 - MDF Room: 1st Floor	Offices	5	T 32 R F 3 (ELE)	F43ILL/2	90	0.45	SW	4400	1,980	OCC	
32LED	B128 - Electrical Room: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	OCC	
97	Illegible - Men's Toilet: 1st Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
97	Illegible - Men's Toilet: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
97	Illegible - Women's Toilet: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
261LED	Illegible - Women's Toilet: 1st Floor	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
261LED	Illegible - Women's Toilet: 1st Floor	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
261LED	Illegible - Women's Toilet: 1st Floor	Restroom w/ OCC	1	PAR 38 SP	H100/1	100	0.10	OCC	1400	140	None	
261LED	B130 - Closet: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	PAR 38 SP	H100/1	100	0.10	SW	1400	140	OCC	
116	B103 - Cooling Towers: 1st Floor	Outdoor Lighting	6	X 7.0 W 1	EI7.5/1	8	0.05	SW	4368	210	OCC	
32LED	S05 - Stair #5: 1st Floor	Stairway	3	1T 32 R F 2 (ELE)	F42LL	60	0.18	Breaker	8760	1,577	None	
261LED	C106 - Corridor: 1st Floor	Hallways	7	PAR 38 SP	H100/1	100	0.70	Breaker	8760	6,132	None	
261LED	C106 - Corridor: 1st Floor	Hallways	14	PAR 38 SP	H100/1	100	1.40	Breaker	8760	12,264	None	
261LED	C106 - Corridor: 1st Floor	Hallways	5	PAR 38 SP	H100/1	100	0.50	Breaker	8760	4,380	None	
261LED	C106 - Corridor: 1st Floor	Hallways	2	PAR 38 SP	H100/1	100	0.20	Breaker	8760	1,752	None	
261LED	C106 - Corridor: 1st Floor	Hallways	6	PAR 38 SP	H100/1	100	0.60	Breaker	8760	5,256	None	
261LED	"Lobby Below": 1st Floor	Cafeteria_Other	5	PAR 38 SP	H100/1	100	0.50	SW	2912	1,456	OCC	
261LED	"Lobby Below": 1st Floor	Cafeteria_Other	2	PAR 38 SP	H100/1	100	0.20	SW	2912	582	OCC	
261LED	"Lobby Below": 1st Floor	Cafeteria_Other	5	PAR 38 SP	H100/1	100	0.50	SW	2912	1,456	OCC	
261LED	Auditorium: 1st Floor	Auditorium	19	PAR 38 SP	H100/1	100	1.90	SW	1820	3,458	OCC	
261LED	Auditorium: 1st Floor	Auditorium	2	PAR 38 SP	H100/1	100	0.20	SW	1820	364	OCC	
261LED	Auditorium: 1st Floor	Auditorium	2	PAR 38 SP	H100/1	100	0.20	SW	1820	364	OCC	
261LED	Auditorium: 1st Floor	Auditorium	2	PAR 38 SP	H100/1	100	0.20	SW	1820	364	OCC	
55LED	C125 - Multipurpose Room: 1st Floor	Multi Purpose/Court	6	2T 17 R F 3 (ELE)	F23ILL	47	0.28	SW	2500	705	OCC	
261LED	C125 - Multipurpose Room: 1st Floor	Multi Purpose/Court	1	PAR 38 SP	H100/1	100	0.10	SW	2500	250	OCC	
261LED	C103 - Music: 1st Floor	Multi Purpose/Court	5	PAR 38 SP	H100/1	100	0.50	SW	2500	1,250	OCC	
261LED	C103 - Music: 1st Floor	Multi Purpose/Court	1	PAR 38 SP	H100/1	100	0.10	SW	2500	250	OCC	
261LED	C101 - Library: 1st Floor	Library	9	PAR 38 SP	H100/1	100	0.90	SW	3640	3,276	OCC	
261LED	C101 - Library: 1st Floor	Library	1	PAR 38 SP	H100/1	100	0.10	SW	3640	364	OCC	
261LED	C101 - Library: 1st Floor	Library	3	PAR 38 SP	H100/1	100	0.30	SW	3640	1,092	OCC	
261LED	C101 - Library: 1st Floor	Library	1	PAR 38 SP	H100/1	100	0.10	SW	3640	364	OCC	
261LED	C105 - Storage: 1st Floor	Storage Areas	2	PAR 38 SP	H100/1	100	0.20	SW	1000	200	OCC	
97	C102 - Art: 1st Floor	Multi Purpose/Court	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	SW	2500	350	OCC	
55LED	Computer Room: 1st Floor	Offices	5	2T 17 R F 3 (ELE)	F23ILL	47	0.24	SW	4400	1,034	OCC	
261LED	C121 - Men's Toilet: 1st Floor	Restroom w/ OCC	3	PAR 38 SP	H100/1	100	0.30	OCC	1400	420	None	
261LED	C122 - Women's Toilet: 1st Floor	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
261LED	C107 - Women's Toilet: 1st Floor	Restroom w/ OCC	3	PAR 38 SP	H100/1	100	0.30	OCC	1400	420	None	
261LED	C107 - Women's Toilet: 1st Floor	Restroom w/ OCC	2	PAR 38 SP	H100/1	100	0.20	OCC	1400	280	None	
182	C107 - Women's Toilet: 1st Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	OCC	1400	185	None	
97	C107 - Women's Toilet: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	C108 - Men's Toilet: 1st Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
97	C108 - Men's Toilet: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
182	C108 - Men's Toilet: 1st Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	OCC	1400	185	None	
97	C108 - Men's Toilet: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	Janitor's Closet: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	OCC	
97	C115 - Toilet Room: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
55LED	C125 - Janitor's Closet: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	1400	66	OCC	
32LED	C110 - Electrical Room: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1400	168	OCC	
35LED	C109 - Conference Room: 1st Floor	Conference	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	2184	393	OCC	
55LED	C111 - Corridor: 1st Floor	Hallways	7	2T 17 R F 3 (ELE)	F23ILL	47	0.33	Breaker	8760	2,882	None	
55LED	C111 - Corridor: 1st Floor	Hallways	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	Breaker	8760	1,647	None	
97	C111 - Corridor: 1st Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	C111 - Corridor: 1st Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
40LED	C120 - Illegible: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Illegible: 1st Floor	Offices	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	4400	792	OCC	
97	Files Room: 1st Floor	Offices	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	SW	4400	862	OCC	
55LED	Gym: 1st Floor	Gymnasium	6	2T 17 R F 3 (ELE)	F23ILL	47	0.28	SW	3640	1,026	OCC	
55LED	Gym: 1st Floor	Gymnasium	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	3640	342	OCC	
55LED	Rehab Room: 1st Floor	Gymnasium	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	3640	342	OCC	
97	C114 - Media Room: 1st Floor	Offices	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	SW	4400	370	OCC	
40LED	C113 - Media Storage: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
97	C113 - Media Storage: 1st Floor	Hallways	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	Breaker	8760	491	None	
97	C113 - Media Storage: 1st Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S06 - Stair #6: 1st Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
97	S06 - Stair #6: 1st Floor	Stairway	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	Breaker	8760	491	None	
182	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
80	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	2	SP 36 R CF 1	CFT36/1	51	0.10	Breaker	8760	894	None	
80	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	3	SP 36 R CF 1	CFT36/1	51	0.15	Breaker	8760	1,340	None	
80	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	3	SP 36 R CF 1	CFT36/1	51	0.15	Breaker	8760	1,340	None	
80	D105 / D110 / D128 / DW27 - Corridor: 1st Floor	Hallways	2	SP 36 R CF 1	CFT36/1	51	0.10	Breaker	8760	894	None	
55LED	D120 - Corridor: 1st Floor	Hallways	4	2T 17 R F 3 (ELE)	F23ILL	47	0.19	Breaker	8760	1,647	None	
55LED	D120 - Corridor: 1st Floor	Hallways	3	2T 17 R F 3 (ELE)	F23ILL	47	0.14	Breaker	8760	1,235	None	
182	D120 - Corridor: 1st Floor	Hallways	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
182	D120 - Corridor: 1st Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	D120 - Corridor: 1st Floor	Hallways	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	Breaker	8760	1,226	None	
97	D120 - Corridor: 1st Floor	Hallways	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	Breaker	8760	491	None	
182	D127 - Corridor: 1st Floor	Hallways	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
182	D127 - Corridor: 1st Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
97	D127 - Corridor: 1st Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	D167 / D119 / D120 - Corridor: 1st Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	D167 / D119 / D120 - Corridor: 1st Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	D167 / D119 / D120 - Corridor: 1st Floor	Hallways	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	Breaker	8760	491	None	
97	D167 / D119 / D120 - Corridor: 1st Floor	Hallways	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	Breaker	8760	491	None	
80	Sidewall Lighting: 1st Floor	Offices	23	SP 36 R CF 1	CFT36/1	51	1.17	SW	4400	5,161	OCC	
80	Sidewall Lighting: 1st Floor	Offices	9	SP 36 R CF 1	CFT36/1	51	0.46	SW	4400	2,020	OCC	
80	Sidewall Lighting: 1st Floor	Offices	1	SP 36 R CF 1	CFT36/1	51	0.05	SW	4400	224	OCC	
35LED	South Offices - Illegible: 1st Floor	Offices	12	T 32 R F 3 (ELE)	F43ILL/2	90	1.08	SW	4400	4,752	OCC	
182	West Exam Rooms: 1st Floor	Med Rooms	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	4368	2,306	OCC	
182	West Exam Rooms: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
182	D101 - Office: 1st Floor	Offices	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4400	290	OCC	
182	D102 - Conference Room: 1st Floor	Conference	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	2184	144	OCC	
97	D104 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
97	D105 - Toilet Room: 1st Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
182	D106 - Storage: 1st Floor	Storage Areas	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	1000	132	OCC	
182	D107 - Quiet Room: 1st Floor	Offices	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4400	581	OCC	
182	D108 - Visiting Room: 1st Floor	Offices	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4400	581	OCC	
182	D109 - Group Room: 1st Floor	Conference	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	2184	577	OCC	
182	D111 - Group Room: 1st Floor	Conference	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	2184	288	OCC	
40LED	D112 - Group Room: 1st Floor	Conference	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2184	393	OCC	
97	D111 - Staff Lounge: 1st Floor	Offices	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4400	493	OCC	
35LED	D115 - Attorney Office: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
55LED	D113 - Illegible: 1st Floor	Conference	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	2184	205	OCC	
97	D117 - Waiting Area : 1st Floor	Waiting/Family/Play	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	5096	571	OCC	
97	D119 - Toilet Room: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
35LED	D122 - Illegible: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
35LED	D123 - Illegible: 1st Floor	Offices	2	T 32 R F 3 (ELE)	F43ILL/2	90	0.18	SW	4400	792	OCC	
55LED	D124 - Illegible: 1st Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
182	D126 - Treatment Room: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
40LED	D??? - Shared: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
182	D131 - Dental Office: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
40LED	D??? - Files: 1st Floor	Storage Areas	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	1000	120	OCC	
32LED	D154 - Illegible: 1st Floor	Offices	1	1T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
182	D136 - Dental Work: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
182	D139 - Illegible: 1st Floor	Med Rooms	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	SW	4368	865	OCC	
40LED	D??? - Work Room: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
55LED	D??? - Toilet Room: 1st Floor	Restroom w/ OCC	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	OCC	1400	132	None	
97	D140 - Toilet Room: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
182	D137 - Exam Room: 1st Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
55LED	D??? - Transportation: 1st Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
182	D??? - Therapy: 1st Floor	Offices	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4400	1,162	OCC	
182	D138 - Therapy: 1st Floor	Offices	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4400	1,162	OCC	
182	D??? - Illegible: 1st Floor	Offices	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4400	581	OCC	
97	D??? - Illegible: 1st Floor	Offices	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4400	493	OCC	
97	Exterior D Wing: 1st Floor	Outdoor Lighting	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	OCC	
182	S07 - Stair #7: 1st Floor	Stairway	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
97	S07 - Stair #7: 1st Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S08 - Stair #8: 1st Floor	Stairway	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
97	S08 - Stair #8: 1st Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	E-Wing West Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	E-Wing West Corridor: 1st Floor	Hallways	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	Breaker	8760	4,047	None	
261LED	E-Wing West Corridor: 1st Floor	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
261LED	E-Wing East Corridor: 1st Floor	Hallways	7	PAR 38 SP	H100/1	100	0.70	Breaker	8760	6,132	None	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
261LED	E-Wing East Corridor: 1st Floor	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
261LED	E-Wing East Corridor: 1st Floor	Hallways	4	PAR 38 SP	H100/1	100	0.40	Breaker	8760	3,504	None	
261LED	E-Wing East Corridor: 1st Floor	Hallways	3	PAR 38 SP	H100/1	100	0.30	Breaker	8760	2,628	None	
182	E-Wing North Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	E-Wing North Corridor: 1st Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
97	E-Wing North Corridor: 1st Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	Dining/Activity: 1st Floor	Cafeteria_Other	30	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.98	SW	2912	5,766	OCC	
182	Dining/Activity: 1st Floor	Cafeteria_Other	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	2912	1,538	OCC	
261LED	Dining/Activity: 1st Floor	Cafeteria_Other	6	PAR 38 SP	H100/1	100	0.60	SW	2912	1,747	OCC	
261LED	Dining/Activity: 1st Floor	Cafeteria_Other	10	PAR 38 SP	H100/1	100	1.00	SW	2912	2,912	OCC	
261LED	Nurse Station: 1st Floor	Offices	9	PAR 38 SP	H100/1	100	0.90	SW	4400	3,960	OCC	
261LED	Nurse Station: 1st Floor	Offices	1	PAR 38 SP	H100/1	100	0.10	SW	4400	440	OCC	
261LED	Nurse Station: 1st Floor	Offices	1	PAR 38 SP	H100/1	100	0.10	SW	4400	440	OCC	
40LED	Nurse Station: 1st Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Nurse Office Extension: 1st Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Nurse Office Extension: 1st Floor	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	4400	207	OCC	
55LED	Nurse Office Extension: 1st Floor	Offices	3	2T 17 R F 3 (ELE)	F23ILL	47	0.14	SW	4400	620	OCC	
32LED	Nurse Office Extension: 1st Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
97	Nurse Office Extension: 1st Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
182	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	4368	2,306	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	4368	2,306	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	16	PAR 38 SP	H100/1	100	1.60	SW	4368	6,989	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	8	PAR 38 SP	H100/1	100	0.80	SW	4368	3,494	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
97	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
40LED	Soiled Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	Toilet Room / Ante Room: 1st Floor	Restroom w/ OCC	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	OCC	1400	274	None	
40LED	Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
97	Storage: 1st Floor	Storage Areas	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	1000	56	OCC	
182	Illegible: 1st Floor	Storage Areas	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	1000	264	OCC	
97	Toilet Room : 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
40LED	Clean Storage: 1st Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
97	Toilet Rooms: 1st Floor	Restroom w/ OCC	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	OCC	1400	196	None	
40LED	Laundry Room: 1st Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	OCC	
97	Tub / Shower Room: 1st Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	OCC	
32	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	OCC	
97	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	16	EP 13 R CF 2	CFQ13/2-L	28	0.45	SW	4368	1,957	OCC	
97	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	SW	4368	978	OCC	
97	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	OCC	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	OCC	
97	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	OCC	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 1st Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	OCC	
97	E-Wing Exterior Patio: 1st Floor	Outdoor Lighting	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	SW	4368	612	OCC	
97	E-Wing Exterior Patio: 1st Floor	Outdoor Lighting	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4368	122	OCC	
182	S01: Stair #1: 2nd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	S01: Stair #1: 2nd Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S02: Stair #2: 2nd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	S03: Stair #3: 2nd Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	S03: Stair #3: 2nd Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	A214 - Corridor: 2nd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	A214 - Corridor: 2nd Floor	Hallways	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
261LED	A214 - Corridor: 2nd Floor	Hallways	4	PAR 38 SP	H100/1	100	0.40	Breaker	8760	3,504	None	
261LED	A214 - Corridor: 2nd Floor	Hallways	1	PAR 38 SP	H100/1	100	0.10	Breaker	8760	876	None	
261LED	A214 - Corridor: 2nd Floor	Hallways	6	PAR 38 SP	H100/1	100	0.60	Breaker	8760	5,256	None	
261LED	A214 - Corridor: 2nd Floor	Hallways	4	PAR 38 SP	H100/1	100	0.40	Breaker	8760	3,504	None	
97	A214 - Corridor: 2nd Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	A220 - Corridor: 2nd Floor	Hallways	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	Breaker	8760	3,469	None	
182	A220 - Corridor: 2nd Floor	Hallways	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	Breaker	8760	4,047	None	
97	A220 - Corridor: 2nd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	A211 - Corridor: 2nd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	A211 - Corridor: 2nd Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
97	A211 - Corridor: 2nd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	Activity/Dining: 2nd Floor	Cafeteria_Other	20	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.32	SW	2912	3,844	OCC	
182	Activity/Dining: 2nd Floor	Cafeteria_Other	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	SW	2912	1,345	OCC	
261LED	Activity/Dining: 2nd Floor	Cafeteria_Other	7	PAR 38 SP	H100/1	100	0.70	SW	2912	2,038	OCC	
261LED	Activity/Dining: 2nd Floor	Cafeteria_Other	10	PAR 38 SP	H100/1	100	1.00	SW	2912	2,912	OCC	
261LED	Nurse's Station: 2nd Floor	Offices	10	PAR 38 SP	H100/1	100	1.00	SW	4400	4,400	OCC	
261LED	Nurse's Station: 2nd Floor	Offices	1	PAR 38 SP	H100/1	100	0.10	SW	4400	440	OCC	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
35LED	Nurse's Station: 2nd Floor	Offices	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	4400	396	OCC	
97	Nurse's Station: 2nd Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
55LED	Offices Behind Nurse Station: 2nd Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
40LED	Offices Behind Nurse Station: 2nd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Offices Behind Nurse Station: 2nd Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
32LED	Offices Behind Nurse Station: 2nd Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
35LED	South Offices - Illegible: 2nd Floor	Offices	6	T 32 R F 3 (ELE)	F43ILL/2	90	0.54	SW	4400	2,376	OCC	
40LED	South Offices - Illegible: 2nd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
182	South Offices - Illegible: 2nd Floor	Offices	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4400	290	OCC	
55LED	South Offices - Illegible: 2nd Floor	Offices	5	2T 17 R F 3 (ELE)	F23ILL	47	0.24	SW	4400	1,034	OCC	
32LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	OCC	
32LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	16	PAR 38 SP	H100/1	100	1.60	SW	4368	6,989	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	PAR 38 SP	H100/1	100	0.80	SW	4368	3,494	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	OCC	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	OCC	
40LED	Soiled Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
97	Toilet Room / Ante Room: 2nd Floor	Restroom w/ OCC	6	EP 13 R CF 2	CFQ13/2-L	28	0.17	OCC	1400	235	None	
40LED	Toilet Room / Ante Room: 2nd Floor	Restroom w/ OCC	1	T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	1400	84	None	
40LED	Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
182	Illegible: 2nd Floor	Storage Areas	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	1000	264	None	
97	Toilet Room: 2nd Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
40LED	Clean Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	1000	60	None	
97	Toilet Room: 2nd Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
97	Shower Room: 2nd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
40LED	Laundry Room: 2nd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
97	Tub / Shower Room: 2nd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	4368	1,048	None	
32LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	12	PAR 38 SP	H100/1	100	1.20	SW	4368	5,242	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	6	PAR 38 SP	H100/1	100	0.60	SW	4368	2,621	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	2	PAR 38 SP	H100/1	100	0.20	SW	4368	874	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
261LED	A-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
40LED	Storage Room: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
40LED	Visting Room: 2nd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Quiet Room: 2nd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Janitor's Closet: 2nd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
182	Toilet Rooms: 2nd Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	1400	185	None	
97	Toilet Rooms: 2nd Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	1400	39	None	
32LED	Teleconference: 2nd Floor	Telecommunications	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
40LED	A247 Work Area: 2nd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
35LED	A-Wing West Offices : 2nd Floor	Offices	14	T 32 R F 3 (ELE)	F43ILL/2	90	1.26	SW	4400	5,544	OCC	
116	A-Wing Exterior Patio: 2nd Floor	Outdoor Lighting	3	X 7.0 W 1	EI7.5/1	8	0.02	SW	4368	105	PHC	
116	A-Wing Exterior Patio: 2nd Floor	Outdoor Lighting	1	X 7.0 W 1	EI7.5/1	8	0.01	SW	4368	35	PHC	
97	A256 Corridor: 2nd Floor	Hallways	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	Breaker	8760	1,962	None	
97	A256 Corridor: 2nd Floor	Hallways	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	Breaker	8760	1,226	None	
97	A256 Corridor: 2nd Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
97	A256 Corridor: 2nd Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	A256 Corridor: 2nd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
116	Exterior B Wing: 2nd Floor	Outdoor Lighting	6	X 7.0 W 1	EI7.5/1	8	0.05	SW	4368	210	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	9	PAR 38 SP	H100/1	100	0.90	SW	1820	1,638	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	10	PAR 38 SP	H100/1	100	1.00	SW	1820	1,820	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	10	PAR 38 SP	H100/1	100	1.00	SW	1820	1,820	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	10	PAR 38 SP	H100/1	100	1.00	SW	1820	1,820	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	10	PAR 38 SP	H100/1	100	1.00	SW	1820	1,820	None	
261LED	C Wing Auditorium: 2nd Floor	Auditorium	9	PAR 38 SP	H100/1	100	0.90	SW	1820	1,638	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	SW	1820	408	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	SW	1820	408	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	14	EP 13 R CF 2	CFQ13/2-L	28	0.39	SW	1820	713	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	SW	1820	255	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	SW	1820	357	None	
97	C Wing Auditorium: 2nd Floor	Auditorium	10	EP 13 R CF 2	CFQ13/2-L	28	0.28	SW	1820	510	None	
182	S06 - Stair #6: 2nd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	D209 / D233 / D208 - Corridor: 2nd Floor	Hallways	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	Breaker	8760	3,469	None	
55LED	D209 / D233 / D208 - Corridor: 2nd Floor	Hallways	26	2T 17 R F 3 (ELE)	F23ILL	47	1.22	Breaker	8760	10,705	None	
55LED	D209 / D233 / D208 - Corridor: 2nd Floor	Hallways	10	2T 17 R F 3 (ELE)	F23ILL	47	0.47	Breaker	8760	4,117	None	
35LED	D Wing South Offices: 2nd Floor	Offices	8	T 32 R F 3 (ELE)	F43ILL/2	90	0.72	SW	4400	3,168	OCC	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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
55LED	D Wing South Offices: 2nd Floor	Offices	16	2T 17 R F 3 (ELE)	F23ILL	47	0.75	SW	4400	3,309	OCC	
97	D Wing South Offices: 2nd Floor	Offices	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	SW	4400	370	OCC	
97	D Wing South Offices: 2nd Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
182	Transportation: 2nd Floor	Offices	16	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.06	SW	4400	4,646	OCC	
97	Toilet Rooms: 2nd Floor	Restroom w/ OCC	8	EP 13 R CF 2	CFQ13/2-L	28	0.22	SW	1400	314	None	
35LED	D Wing West Offices: 2nd Floor	Offices	10	T 32 R F 3 (ELE)	F43ILL/2	90	0.90	SW	4400	3,960	OCC	
35LED	D Wing North Offices: 2nd Floor	Offices	5	T 32 R F 3 (ELE)	F43ILL/2	90	0.45	SW	4400	1,980	OCC	
35LED	D Wing North Offices: 2nd Floor	Offices	11	T 32 R F 3 (ELE)	F43ILL/2	90	0.99	SW	4400	4,356	OCC	
55LED	D Wing North Offices: 2nd Floor	Offices	5	2T 17 R F 3 (ELE)	F23ILL	47	0.24	SW	4400	1,034	OCC	
80	Staff Lounge: 2nd Floor	Break/Lunch Areas	4	SP 36 R CF 1	CFT36/1	51	0.20	SW	1820	371	OCC	
80	Lobby Lighting: 2nd Floor	General Common	9	SP 36 R CF 1	CFT36/1	51	0.46	SW	8736	4,010	OCC	
182	S07 - Stair #7: 2nd Floor	Stairway	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
80	S07 - Stair #7: 2nd Floor	Stairway	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	
182	S08 - Stair #8: 2nd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	S08 - Stair #8: 2nd Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	E-Wing West Corridor: 2nd Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	E-Wing West Corridor: 2nd Floor	Hallways	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	Breaker	8760	4,047	None	
97	E-Wing West Corridor: 2nd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
97	E-Wing East Corridor: 2nd Floor	Hallways	9	EP 13 R CF 2	CFQ13/2-L	28	0.25	Breaker	8760	2,208	None	
97	E-Wing East Corridor: 2nd Floor	Hallways	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
97	E-Wing East Corridor: 2nd Floor	Hallways	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	Breaker	8760	981	None	
182	E-Wing East Corridor: 2nd Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	E-Wing North Corridor: 2nd Floor	Hallways	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	Breaker	8760	3,469	None	
182	E-Wing North Corridor: 2nd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
80	E-Wing North Corridor: 2nd Floor	Hallways	3	SP 36 R CF 1	CFT36/1	51	0.15	Breaker	8760	1,340	None	
182	Dining/Activity: 2nd Floor	Cafeteria_Other	25	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.65	SW	2912	4,805	OCC	
182	Dining/Activity: 2nd Floor	Cafeteria_Other	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	2912	1,538	OCC	
97	Dining/Activity: 2nd Floor	Cafeteria_Other	6	EP 13 R CF 2	CFQ13/2-L	28	0.17	SW	2912	489	OCC	
182	Dining/Activity: 2nd Floor	Cafeteria_Other	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	SW	2912	961	OCC	
182	Dining/Activity: 2nd Floor	Cafeteria_Other	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	2912	384	OCC	
80	Dining/Activity: 2nd Floor	Cafeteria_Other	6	SP 36 R CF 1	CFT36/1	51	0.31	SW	2912	891	OCC	
80	Nurse Station: 2nd Floor	Offices	9	SP 36 R CF 1	CFT36/1	51	0.46	SW	4400	2,020	OCC	
80	Nurse Station: 2nd Floor	Offices	2	SP 36 R CF 1	CFT36/1	51	0.10	SW	4400	449	OCC	
40LED	Nurse Station: 2nd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Nurse Office Extension: 2nd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Nurse Office Extension: 2nd Floor	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	4400	207	OCC	
55LED	Nurse Office Extension: 2nd Floor	Offices	3	2T 17 R F 3 (ELE)	F23ILL	47	0.14	SW	4400	620	OCC	
32LED	Nurse Office Extension: 2nd Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
97	Nurse Office Extension: 2nd Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
32LED	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
32LED	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
80	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	16	SP 36 R CF 1	CFT36/1	51	0.82	SW	4368	3,564	None	
80	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	8	SP 36 R CF 1	CFT36/1	51	0.41	SW	4368	1,782	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
97	E-Wing West Semi-Private Rooms / Bathrooms: 2nd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
40LED	Soiled Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	Toilet Room / Ante Room: 2nd Floor	Restroom w/ OCC	7	EP 13 R CF 2	CFQ13/2-L	28	0.20	OCC	1400	274	None	
40LED	Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
182	Illegible: 2nd Floor	Storage Areas	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	1000	264	None	
97	Toilet Room : 2nd Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
40LED	Clean Storage: 2nd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	Toilet Rooms: 2nd Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
182	Toilet Rooms: 2nd Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	OCC	1400	185	None	
40LED	Laundry Room: 2nd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
97	Tub / Shower Room: 2nd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	16	SP 36 R CF 1	CFT36/1	51	0.82	SW	4368	3,564	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	8	SP 36 R CF 1	CFT36/1	51	0.41	SW	4368	1,782	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	SP 36 R CF 1	CFT36/1	51	0.20	SW	4368	891	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	SP 36 R CF 1	CFT36/1	51	0.20	SW	4368	891	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	SP 36 R CF 1	CFT36/1	51	0.20	SW	4368	891	None	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	Med Rooms	4	SP 36 R CF 1	CFT36/1	51	0.20	SW	4368	891	None	
97	E-Wing Exterior Patio: 2nd Floor	Outdoor Lighting	5	EP 13 R CF 2	CFQ13/2-L	28	0.14	SW	4368	612	PHC	
116	E-Wing Exterior Patio: 2nd Floor	Outdoor Lighting	1	X 7.0 W 1	EI7.5/1	8	0.01	SW	4368	35	PHC	
182	S01: Stair #1: 3rd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
97	S01: Stair #1: 3rd Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S02: Stair #2: 3rd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	S03: Stair #3: 3rd Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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
182	S03: Stair #3: 3rd Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	A314 - Corridor: 3rd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	A314 - Corridor: 3rd Floor	Hallways	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
80	A314 - Corridor: 3rd Floor	Hallways	4	SP 36 R CF 1	CFT36/1	51	0.20	Breaker	8760	1,787	None	
80	A314 - Corridor: 3rd Floor	Hallways	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	
80	A314 - Corridor: 3rd Floor	Hallways	6	SP 36 R CF 1	CFT36/1	51	0.31	Breaker	8760	2,681	None	
80	A314 - Corridor: 3rd Floor	Hallways	4	SP 36 R CF 1	CFT36/1	51	0.20	Breaker	8760	1,787	None	
80	A314 - Corridor: 3rd Floor	Hallways	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	
182	A320 - Corridor: 3rd Floor	Hallways	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	Breaker	8760	3,469	None	
182	A320 - Corridor: 3rd Floor	Hallways	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	Breaker	8760	4,047	None	
97	A320 - Corridor: 3rd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	A311 - Corridor: 3rd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
182	A311 - Corridor: 3rd Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
97	A311 - Corridor: 3rd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	Activity/Dining: 3rd Floor	Cafeteria_Other	20	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.32	SW	2912	3,844	OCC	
182	Activity/Dining: 3rd Floor	Cafeteria_Other	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	SW	2912	1,345	OCC	
261LED	Activity/Dining: 3rd Floor	Cafeteria_Other	7	PAR 38 SP	H100/1	100	0.70	SW	2912	2,038	OCC	
261LED	Activity/Dining: 3rd Floor	Cafeteria_Other	10	PAR 38 SP	H100/1	100	1.00	SW	2912	2,912	OCC	
261LED	Nurse's Station: 3rd Floor	Offices	10	PAR 38 SP	H100/1	100	1.00	SW	4400	4,400	OCC	
261LED	Nurse's Station: 3rd Floor	Offices	1	PAR 38 SP	H100/1	100	0.10	SW	4400	440	OCC	
35LED	Nurse's Station: 3rd Floor	Offices	1	T 32 R F 3 (ELE)	F43ILL/2	90	0.09	SW	4400	396	OCC	
97	Nurse's Station: 3rd Floor	Offices	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	SW	4400	123	OCC	
55LED	Offices Behind Nurse Station: 3rd Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
40LED	Offices Behind Nurse Station: 3rd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Offices Behind Nurse Station: 3rd Floor	Offices	2	2T 17 R F 3 (ELE)	F23ILL	47	0.09	SW	4400	414	OCC	
32LED	Offices Behind Nurse Station: 3rd Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
35LED	South Offices - Illegible: 3rd Floor	Offices	6	T 32 R F 3 (ELE)	F43ILL/2	90	0.54	SW	4400	2,376	OCC	
40LED	South Offices - Illegible: 3rd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
182	South Offices - Illegible: 3rd Floor	Offices	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4400	290	OCC	
55LED	South Offices - Illegible: 3rd Floor	Offices	5	2T 17 R F 3 (ELE)	F23ILL	47	0.24	SW	4400	1,034	OCC	
32LED	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
32LED	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	16	PAR 38 SP	H100/1	100	1.60	SW	4368	6,989	None	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	PAR 38 SP	H100/1	100	0.80	SW	4368	3,494	None	
261LED	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
182	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
97	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
182	A-Wing East Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
40LED	Soiled Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
182	Toilet Room / Ante Room: 3rd Floor	Restroom w/ OCC	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	OCC	1400	554	None	
40LED	Toilet Room / Ante Room: 3rd Floor	Restroom w/ OCC	1	T 32 R F 2 (ELE)	F42LL	60	0.06	OCC	1400	84	None	
40LED	Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
182	Illegible: 3rd Floor	Storage Areas	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	1000	264	None	
97	Toilet Room: 3rd Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
40LED	Clean Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	None	
97	Toilet Room: 3rd Floor	Restroom w/ OCC	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	OCC	1400	118	None	
97	Shower Room: 3rd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
40LED	Laundry Room: 3rd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
97	Tub / Shower Room: 3rd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	1T 32 R F 2 (ELE)	F42LL	60	0.24	SW	4368	1,048	OCC	
32LED	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	OCC	
182	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	12	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.79	SW	4368	3,459	OCC	
182	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	SW	4368	1,730	OCC	
97	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	SW	4368	245	OCC	
182	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	4368	577	OCC	
97	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	OCC	
182	A-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	OCC	
40LED	Storage Room: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
40LED	Visting Room: 3rd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	None	
40LED	Quiet Room: 3rd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	None	
40LED	Janitor's Closet: 3rd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	None	
182	Toilet Rooms: 3rd Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	OCC	1400	185	None	
97	Toilet Rooms: 3rd Floor	Restroom w/ OCC	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	OCC	1400	39	None	
32LED	Teleconference: 3rd Floor	Telecommunications	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	3000	360	None	
40LED	A347 Work Area: 3rd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	None	
35LED	A-Wing West Offices ：3rd Floor	Offices	14	T 32 R F 3 (ELE)	F43ILL/2	90	1.26	SW	4400	5,544	None	
182	A-Wing Exterior Patio: 3rd Floor	Outdoor Lighting	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	SW	4368	865	PHC	
182	A-Wing Exterior Patio: 3rd Floor	Outdoor Lighting	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4368	288	PHC	
80	A356 Corridor: 3rd Floor	Hallways	8	SP 36 R CF 1	CFT36/1	51	0.41	Breaker	8760	3,574	None	
80	A356 Corridor: 3rd Floor	Hallways	5	SP 36 R CF 1	CFT36/1	51	0.26	Breaker	8760	2,234	None	
80	A356 Corridor: 3rd Floor	Hallways	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: **$0.107** **$/kWh**
$6.74 **$/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**
80	A356 Corridor: 3rd Floor	Hallways	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	
80	A356 Corridor: 3rd Floor	Hallways	4	SP 36 R CF 1	CFT36/1	51	0.20	Breaker	8760	1,787	None	
182	S07 - Stair #7: 3rd Floor	Stairway	3	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.20	Breaker	8760	1,734	None	
97	S07 - Stair #7: 3rd Floor	Stairway	1	EP 13 R CF 2	CFQ13/2-L	28	0.03	Breaker	8760	245	None	
182	S08 - Stair #8: 3rd Floor	Stairway	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	S08 - Stair #8: 3rd Floor	Stairway	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	Breaker	8760	578	None	
182	E-Wing West Corridor: 3rd Floor	Hallways	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	Breaker	8760	2,891	None	
182	E-Wing West Corridor: 3rd Floor	Hallways	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	Breaker	8760	4,047	None	
80	E-Wing West Corridor: 3rd Floor	Hallways	3	SP 36 R CF 1	CFT36/1	51	0.15	Breaker	8760	1,340	None	
80	E-Wing East Corridor: 3rd Floor	Hallways	9	SP 36 R CF 1	CFT36/1	51	0.46	Breaker	8760	4,021	None	
80	E-Wing East Corridor: 3rd Floor	Hallways	1	SP 36 R CF 1	CFT36/1	51	0.05	Breaker	8760	447	None	
80	E-Wing East Corridor: 3rd Floor	Hallways	4	SP 36 R CF 1	CFT36/1	51	0.20	Breaker	8760	1,787	None	
182	E-Wing East Corridor: 3rd Floor	Hallways	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	Breaker	8760	1,156	None	
182	E-Wing North Corridor: 3rd Floor	Hallways	6	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.40	Breaker	8760	3,469	None	
182	E-Wing North Corridor: 3rd Floor	Hallways	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	Breaker	8760	2,313	None	
97	E-Wing North Corridor: 3rd Floor	Hallways	3	EP 13 R CF 2	CFQ13/2-L	28	0.08	Breaker	8760	736	None	
182	Dining/Activity: 3rd Floor	Cafeteria_Other	25	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.65	SW	2912	4,805	OCC	
182	Dining/Activity: 3rd Floor	Cafeteria_Other	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	2912	1,538	OCC	
80	Dining/Activity: 3rd Floor	Cafeteria_Other	6	SP 36 R CF 1	CFT36/1	51	0.31	SW	2912	891	OCC	
182	Dining/Activity: 3rd Floor	Cafeteria_Other	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	SW	2912	961	OCC	
182	Dining/Activity: 3rd Floor	Cafeteria_Other	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	SW	2912	384	OCC	
261LED	Dining/Activity: 3rd Floor	Cafeteria_Other	6	PAR 38 SP	H100/1	100	0.60	SW	2912	1,747	OCC	
261LED	Nurse Station: 3rd Floor	Offices	9	PAR 38 SP	H100/1	100	0.90	SW	4400	3,960	OCC	
261LED	Nurse Station: 3rd Floor	Offices	2	PAR 38 SP	H100/1	100	0.20	SW	4400	880	OCC	
40LED	Nurse Station: 3rd Floor	Offices	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	4400	264	OCC	
40LED	Nurse Office Extension: 3rd Floor	Offices	2	T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
55LED	Nurse Office Extension: 3rd Floor	Offices	1	2T 17 R F 3 (ELE)	F23ILL	47	0.05	SW	4400	207	OCC	
55LED	Nurse Office Extension: 3rd Floor	Offices	3	2T 17 R F 3 (ELE)	F23ILL	47	0.14	SW	4400	620	OCC	
32LED	Nurse Office Extension: 3rd Floor	Offices	2	1T 32 R F 2 (ELE)	F42LL	60	0.12	SW	4400	528	OCC	
182	Nurse Office Extension: 3rd Floor	Offices	1	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.07	SW	4400	290	OCC	
32LED	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
32LED	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	16	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.06	SW	4368	4,613	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	4368	2,306	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
97	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
182	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
97	E-Wing West Semi-Private Rooms / Bathrooms: 3rd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
40LED	Soiled Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
182	Toilet Room / Ante Room: 3rd Floor	Restroom w/ OCC	7	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.46	OCC	1400	647	None	
40LED	Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
182	Illegible: 3rd Floor	Storage Areas	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	1000	264	OCC	
261LED	Toilet Room : 3rd Floor	Restroom w/ OCC	3	PAR 38 SP	H100/1	100	0.30	OCC	1400	420	None	
40LED	Clean Storage: 3rd Floor	Storage Areas	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1000	60	OCC	
261LED	Toilet Rooms: 3rd Floor	Restroom w/ OCC	3	PAR 38 SP	H100/1	100	0.30	OCC	1400	420	None	
182	Toilet Rooms: 3rd Floor	Restroom w/ OCC	2	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.13	OCC	1400	185	None	
40LED	Laundry Room: 3rd Floor	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1400	84	OCC	
97	Tub / Shower Room: 3rd Floor	Restroom w/ OCC	2	EP 13 R CF 2	CFQ13/2-L	28	0.06	OCC	1400	78	None	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	8	1T 32 R F 2 (ELE)	F42LL	60	0.48	SW	4368	2,097	None	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	16	W 25 C F 2 (ELE) 3' T8	F32EE	66	1.06	SW	4368	4,613	None	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	8	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.53	SW	4368	2,306	None	
97	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	EP 13 R CF 2	CFQ13/2-L	28	0.11	SW	4368	489	None	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
261LED	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	PAR 38 SP	H100/1	100	0.40	SW	4368	1,747	None	
182	E-Wing North Semi-Private Rooms/ Bathrooms: 3rd Floor	Med Rooms	4	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.26	SW	4368	1,153	None	
182	E-Wing Exterior Patio: 3rd Floor	Outdoor Lighting	5	W 25 C F 2 (ELE) 3' T8	F32EE	66	0.33	SW	4368	1,441	PHC	
116	E-Wing Exterior Patio: 3rd Floor	Outdoor Lighting	1	X 7.0 W 1	EI7.5/1	8	0.01	SW	4368	35	PHC	
231LED		Outdoor Lighting	60	WP400MH1	MH400/1	458	27.48	SW	4368	120,033	NONE	

Energy Audit of New Hospital Center
CHA Project No. 29142
Existing Lighting & Audit Input

Cost of Electricity: $0.107 $/kWh
$6.74 $/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
	Total		3,007				218.69			1,022,024		

Energy Audit of New Hospital Center
CHA Project No. 29142
ECM-L1 Lighting Replacements

		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	N3 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". Example 2T 40 R F(U) lamps U shape	2T - 2'x2' Troff 40 w Recess. Floor 2	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	Pre-inst. control device	Estimated daily hours for the usage group	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example 2T 40 R F(U) Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/fixture) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kWh/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	001 - Stair #1 - Lower Level	3	1T 32 R F 2 (EL)	F32EL	90	0.2	Breaker	8760	1,577	3	4 ft LED Tube	2007/32w2	30	0.1	Breaker	8,760	788	788 | 0.1	$ 91.64	$ 701.10 | $105			7.7	6.5
2BB	002- Stair #2 - Lower Level	2	W 25 C F 2 (EL) 2 T 8	F32EL	66	0.1	Breaker	8760	1,156	2	W 25 C F 2 (EL) 2 T 8	F32EL	66	0.1	Breaker	8,760	1,156	0 | 0.0	$ -	$ - | $0				#DIV/0!
32LED	A016 - Electrical Room- Lower Level	1	1T 32 R F 2 (EL)	F32EL	90	0.1	Breaker	8760	788	1	4 ft LED Tube	2007/32w2	30	0.0	Breaker	8,760	263	525 | 0.1	$ 6.92	$ 233.70 | $35	33.8		5.1	4.8
56LED	A020 - Corridor- Lower Level	20	2T 17 R F 3 (EL)	F23ILL	47	0.9	Breaker	8760	8,234	20	2T 25 R LED	2RFLED	25	0.5	Breaker	8,760	4,380	3,854 | 0.4	$ 448.01	$ 4,050.00 | $5,000	9.0		9.0	6.8
261LED	A020 - Corridor - Lower Level	4	PAR 38 SP	H030/1	100	0.4	Breaker	8760	3,504	4	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	1,387	2,117 | 0.2	$ 248.44	$ 1,755.00 | $140	7.1		6.5	6.5
261LED	A007 - Corridor- Lower Level	11	2T 17 R F 3 (EL)	F23ILL	47	0.5	Breaker	8760	4,529	11	2T 25 R LED	2RFLED	25	0.3	Breaker	8,760	2,409	2,120 | 0.2	$ 248.40	$ 2,227.50 | $550	9.0		9.0	6.8
261LED	A007 - Corridor- Lower Level	2	PAR 38 SP	H030/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	Breaker	8,760	683	1,069 | 0.1	$ 124.22	$ 877.50 | $70	7.1		6.5	6.5
56LED	A029 - Corridor- Lower Level	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	Breaker	8760	3,294	8	2T 25 R LED	2RFLED	25	0.2	Breaker	8,760	1,752	1,542 | 0.2	$ 179.20	$ 1,820.00 | $400	9.0		9.0	6.8
261LED	A029 - Corridor- Lower Level	1	PAR 38 SP	H030/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	Breaker	8,760	342	534 | 0.1	$ 62.11	$ 438.75 | $35	7.1		6.5	6.5
56LED	A026 - Corridor- Lower Level	7	2T 17 R F 3 (EL)	F23ILL	47	0.3	Breaker	8760	2,882	7	2T 25 R LED	2RFLED	25	0.2	Breaker	8,760	1,533	1,349 | 0.2	$ 156.60	$ 1,417.50 | $350	9.0		9.0	6.8
261LED	A026 - Corridor- Lower Level	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	Breaker	8,760	1,025	1,603 | 0.2	$ 186.33	$ 1,316.25 | $105	7.1		6.5	6.5
261LED	A028 - Corridor- Lower Level	1	PAR 38 SP	H030/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	Breaker	8,760	342	534 | 0.1	$ 62.11	$ 438.75 | $35	7.1		6.5	6.5
55LED	A033 - Corridor- Lower Level	6	2T 17 R F 3 (EL)	F23ILL	47	0.3	Breaker	8760	2,470	6	2T 25 R LED	2RFLED	25	0.2	Breaker	8,760	1,314	1,156 | 0.1	$ 134.40	$ 1,215.00 | $300	9.0		6.8	6.5
32LED	A033 - Corridor- Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	1,051	2	4 ft LED Tube	2007/32w2	30	0.0	Breaker	8,760	526	525 | 0.1	$ 61.09	$ 467.40 | $70	7.7		6.5	6.5
11E	A033 - Corridor- Lower Level	2	X 7.0 W 1	E17 5/1	8	0.0	Breaker	8760	140	2	X 1 SC LED	ELED1 5/2	1	0.0	Breaker	8,760	53	88 | 0.0	$ 10.18	$ 256.50 | $0	25.2		25.2	25.2
48LED	A012 - Dietary- Lower Level	30	2T 32 R F 2 (EL)	F42LL	60	0.1	SW	3094	5,569	30	2T 38 R LED	RTLED38	38	0.1	SW	3,094	1,547	4,021 | 0.2	$ 271.88	$ 7,087.50 | $1,500	26.1		20.6	20.6
48LED	A012 - Dietary- Lower Level	2	T 32 R F 2 (EL)	F42LL	60	0.1	SW	3094	371	2	T 38 R LED	RTLED38	38	0.1	SW	3,094	236	136 | 0.0	$ 18.13	$ 472.50 | $100	26.1		20.6	20.6
48LED	A012 - Dietary- Lower Level	3	PAR 38 SP	H030/1	100	0.3	SW	3094	928	3	EVO35/10	EVO35/10	39	0.1	SW	3,094	362	566 | 0.2	$ 75.38	$ 1,316.25 | $105	17.5		17.5	16.1
48LED	A039 - Non Food Storage- Lower Level	3	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180	3	T 38 R LED	RTLED38	38	0.1	SW	1,000	114	66 | 0.1	$ 12.40	$ 708.75 | $150	57.2		57.2	45.1
48LED	A039 - Storage- Lower Level	1	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	60	1	T 38 R LED	RTLED38	38	0.0	SW	1,000	38	22 | 0.0	$ 4.13	$ 236.25 | $50	57.2		57.2	45.1
48LED	A039 - Non Food Storage- Lower Level	3	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180	3	T 38 R LED	RTLED38	38	0.1	SW	1,000	114	66 | 0.1	$ 12.40	$ 708.75 | $150	57.2		57.2	45.1
48LED	A039 - Storage- Lower Level	1	T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60	1	T 38 R LED	RTLED38	38	0.0	SW	1,000	38	22 | 0.0	$ 4.13	$ 236.25 | $50	57.2		57.2	45.1
32LED	A018 - Elevator Mechanical Room: Lower Level	3	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1820	328	3	4 ft LED Tube	2007/32w2	30	0.0	SW	1,820	164	164 | 0.1	$ 24.81	$ 701.10 | $105	28.3		24.0	
56LED	A106 - Open Offices- Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	4400	827	4	2T 25 R LED	2RFLED	25	0.1	SW	4,400	440	387 | 0.1	$ 49.56	$ 810.00 | $200	16.3		12.6	
32LED	A018A - Janitor's Closet- Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1400	84	1	4 ft LED Tube	2007/32w2	30	0.0	SW	1,400	42	42 | 0.0	$ 6.92	$ 233.70 | $35	33.8		28.7	
56LED	A014 - Office- Lower Level	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	4400	414	2	2T 25 R LED	2RFLED	25	0.1	SW	4,400	220	194 | 0.0	$ 24.27	$ 405.00 | $100	16.7		12.6	
55LED	A013 - Lockers / Toilet Room: Lower Level	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	5096	479	2	2T 25 R LED	2RFLED	25	0.1	SW	5,096	255	224 | 0.0	$ 27.56	$ 405.00 | $100	14.7		11.1	
97	A013 - Lockers / Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	SW	5096	285	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5,096	285	0 | 0.0	$ -	$ - | $0			#DIV/0!	#DIV/0!
35LED	A021 - Gym: Lower Level	4	T 32 R F 3 (EL)	F43ILL/2	90	0.4	SW	3640	1,310	4	T 59 R LED	RTLED38	38	0.2	SW	3,640	563	757 | 0.2	$ 97.83	$ 945.00 | $0	9.7		9.7	
56LED	A022 - Toilet Room: Lower Level	2	2T 17 R F 3 (EL)	F23ILL	47	0.0	SW	5096	240	2	2T 25 R LED	2RFLED	25	0.0	SW	5,096	127	112 | 0.0	$ 13.78	$ 202.50 | $50	14.7		11.1	
56LED	A023 - Lockers: Lower Level	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	SW	5096	1,916	8	2T 25 R LED	2RFLED	25	0.2	SW	5,096	1,019	897 | 0.2	$ 110.20	$ 1,620.00 | $400	14.7		11.1	
56LED	A023 - Lockers: Lower Level	3	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	5096	479	3	2T 25 R LED	2RFLED	25	0.1	SW	5,096	255	224 | 0.0	$ 27.56	$ 405.00 | $100	14.7		11.1	
56LED	A024 - Toilet Room: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	SW	5096	240	1	2T 25 R LED	2RFLED	25	0.0	SW	5,096	127	112 | 0.0	$ 13.78	$ 202.50 | $50	14.7		11.1	
56LED	A025 - Corridor- Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	4400	413	4	2T 25 R LED	2RFLED	25	0.1	SW	4,400	220	193 | 0.0	$ 24.27	$ 405.00 | $100	16.7		12.6	
48LED	A010 - Bulk Storage- Lower Level	4	T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360	4	T 38 R LED	RTLED38	38	0.3	SW	4,000	228	132 | 0.1	$ 24.80	$ 1,417.50 | $300	57.2		57.2	45.1
48LED	A008 - Storage- Lower Level	4	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.2	SW	1,000	152	88 | 0.1	$ 16.53	$ 945.00 | $200	57.2		57.2	45.1
48LED	A009 - Unpacked- Lower Level	2	T 32 R F 2 (EL)	F42LL	60	0.1	SW	4400	526	2	T 38 R LED	RTLED38	38	0.1	SW	4,400	334	194 | 0.0	$ 24.27	$ 472.50 | $100	19.5		15.3	
48LED	A003 - Plan Room- Lower Level	2	T 32 R F 2 (EL)	F42LL	60	0.1	SW	4400	528	2	T 38 R LED	RTLED38	38	0.1	SW	4,400	334	194 | 0.0	$ 24.27	$ 472.50 | $100	19.5		15.3	
261LED	A005 - Women's Toilet: Lower Level	2	PAR 38 SP	H030/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	OCC	1,400	109	171 | 0.1	$ 28.14	$ 877.50 | $70	31.2		28.7	
261LED	A005 - Men's Toilet: Lower Level	2	PAR 38 SP	H030/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	OCC	1,400	109	171 | 0.1	$ 28.14	$ 877.50 | $70	31.2		28.7	
56LED	A002 - Shop & Storage: Lower Level	6	2T 17 R F 3 (EL)	F23ILL	47	0.5	SW	1000	342	6	2T 38 R LED	RTLED38	38	0.3	SW	1,000	342	0 | 0.0	$ 27.20	$ 1,336.25 | $450	57.2		45.1	
35LED	A004 - Facility Manager Office: Lower Level	2	T 32 R F 3 (EL)	F43ILL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTLED38	38	0.1	SW	4,400	334	458 | 0.1	$ 57.37	$ 472.50 | $0	8.2		8.2	
48LED	A001 - Shop & Warehouse, Lower Level	6	T 32 R F 2 (EL)	F42LL	60	0.4	SW	4400	1,584	6	T 38 R LED	RTLED38	38	0.2	SW	4,400	1,003	581 | 0.1	$ 72.82	$ 2,417.50 | $300	19.5		15.3	
32LED	S03 - Stair #3: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	1,051	2	4 ft LED Tube	2007/32w2	30	0.0	Breaker	8,760	526	526 | 0.1	$ 61.09	$ 467.40 | $70	7.7		6.5	
48LED	A011 - Bulk Storage: Lower Level	6	T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360	6	T 38 R LED	RTLED38	38	0.2	SW	1,000	228	132 | 0.1	$ 24.80	$ 1,417.50 | $300	57.2		45.1	
32LED	A032 - Site Storage: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	120	2	4 ft LED Tube	2007/32w2	30	0.1	SW	1,000	60	60 | 0.1	$ 11.27	$ 467.40 | $70	41.5		35.3	
32LED	A030 - Fire Pump - Water Service: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1820	437	2	4 ft LED Tube	2007/32w2	30	0.1	SW	1,820	218	219 | 0.1	$ 33.07	$ 944.80 | $140	28.3		24.0	
56LED	A036 - Dining: Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	3094	582	4	2T 25 R LED	2RFLED	25	0.1	SW	3,094	309	272 | 0.1	$ 36.25	$ 810.00 | $200	22.3		16.8	
48LED	A037 - Bulk Storage: Lower Level	6	T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360	6	T 38 R LED	RTLED38	38	0.2	SW	1,000	228	132 | 0.1	$ 24.80	$ 1,417.50 | $300	57.2		45.1	
56LED	A038 - Emergency Lower Level	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	SW	4400	827	8	2T 25 R LED	2RFLED	25	0.1	SW	4,400	440	387 | 0.1	$ 49.56	$ 810.00 | $200	16.3		12.6	
56LED	A031 - Receiving: Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	4400	827	4	2T 25 R LED	2RFLED	25	0.1	SW	4,400	440	387 | 0.1	$ 49.56	$ 810.00 | $200	16.3		12.6	
48LED	A035 - Chemicals: Lower Level	4	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.1	SW	1,000	152	88 | 0.1	$ 16.53	$ 945.00 | $200	57.2		45.1	
48LED	A034 - Soiled Held / Contamination: Lower Level	3	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180	3	T 38 R LED	RTLED38	38	0.1	SW	1,000	114	66 | 0.1	$ 12.40	$ 708.75 | $150	57.2		45.1	
32LED	A041 - Oxygen Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60	1	4 ft LED Tube	2007/32w2	30	0.0	SW	1,000	30	30 | 0.0	$ 5.64	$ 233.70 | $35	41.5		35.3	
97	Emergency Exit Corridor: Lower Level	1	6P 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	Breaker	8,760	245	0 | 0.0	$ -	$ - | $0			#DIV/0!	#DIV/0!
32LED	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	Breaker	8,760	263	263 | 0.0	$ 30.55	$ 233.70 | $35	7.7		6.5	
32LED	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	Breaker	8,760	263	263 | 0.0	$ 30.55	$ 233.70 | $35	7.7		6.5	
11E	Exterior: Lower Level	8	X 7.0 W 1	E17 5/1	8	0.0	SW	4368	105	8	X 1 SC LED	ELED1 5/2	1	0.0	SW	4,368	105	175 | 0.0	$ 21.63	$ 1,026.00 | $0	48.8		48.8	48.8
11E	Exterior: Lower Level	2	X 7.0 W 1	E17 5/1	8	0.0	SW	4368	70	2	X 1 SC LED	ELED1 5/2	1	0.0	SW	4,368	26	44 | 0.0	$ 5.48	$ 256.50 | $0	48.8		48.8	48.8
32LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (EL)	F42LL	60	0.3	SW	1400	420	5	4 ft LED Tube	2007/32w2	30	0.2	SW	1,400	210	210 | 0.2	$ 34.60	$ 1,168.50 | $175	33.8		28.7	
32LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (EL)	F42LL	60	0.3	SW	1400	420	5	4 ft LED Tube	2007/32w2	30	0.2	SW	1,400	210	210 | 0.2	$ 34.60	$ 1,168.50 | $175	33.8		28.7	
55LED	B020 - Emergency Switch: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	SW	1400	64	1	2T 25 R LED	2RFLED	25	0.0	SW	1,400	42	42 | 0.0	$ 6.92	$ 233.70 | $35	33.8		28.7	
55LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	Breaker	8760	412	1	2T 25 R LED	2RFLED	25	0.0	Breaker	8,760	219	193 | 0.0	$ 22.40	$ 202.50 | $50	9.0		6.8	
55LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	Breaker	8760	412	1	2T 25 R LED	2RFLED	25	0.0	Breaker	8,760	219	193 | 0.0	$ 22.40	$ 202.50 | $50	9.0		6.8	
261LED	B Wing Corridor: Lower Level	20	PAR 38 SP	H030/1	100	2.0	Breaker	8760	17,520	20	EVO35/10	EVO35/10	39	0.8	Breaker	8,760	8,633	10,887 | 1.2	$ 1,242.20	$ 8,775.00 | $700	7.1		6.5	
261LED	B Wing Corridor: Lower Level	3	PAR 38 SP	H030/1	100	0.3	SW	2912	874	3	EVO35/10	EVO35/10	39	0.1	SW	2,912	341	533 | 0.2	$ 71.82	$ 1,316.25 | $105	18.3		16.9	
261LED	B Wing Corridor: Lower Level	1	PAR 38 SP	H030/1	100	0.1	SW	2912	291	1	EVO35/10	EVO35/10	39	0.0	SW	2,912	114	178 | 0.1	$ 23.94	$ 438.75 | $35	18.3		16.9	
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H030/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	2,050	3,206 | 0.4	$ 372.66	$ 2,632.50 | $210	7.1		6.5	
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H030/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	2,050	3,206 | 0.4	$ 372.66	$ 2,632.50 | $210	7.1		6.5	
48LED	B006 - Storage: Lower Level	4	T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.2	SW	1,000	152	88 | 0.1	$ 16.53	$ 945.00 | $200	57.2		45.1	
261LED	B006 - Office: Lower Level	4	PAR 38 SP	H030/1	100	0.4	SW	4400	1,760	4	EVO35/10	EVO35/10	39	0.2	SW	4,400	660	1,100 | 0.2	$ 124.61	$ 1,755.00 | $140	13.0		12.0	
261LED	B008 - Computer Lab: Lower Level	6	PAR 38 SP	H030/1	100	0.6	SW	5096	3,058	6	EVO35/10	EVO35/10	39	0.2	SW	5,096	1,192	1,865 | 0.4	$ 229.17	$ 2,632.50 | $210	11.5		10.6	
261LED	B008 - Classroom: Lower Level	4	PAR 38 SP	H030/1	100	0.4	SW	5096	2,038	4	EVO35/10	EVO35/10	39	0.2	SW	5,096	795	1,243 | 0.3	$ 152.78	$ 1,755.00 | $140	11.5		10.6	
261LED	B009 - Classroom: Lower Level	12	PAR 38 SP	H030/1	100	1.2	SW	5096	6,115	12	EVO35/10	EVO35/10	39	0.5	SW	5,096	2,385	3,730 | 0.7	$ 458.34	$ 5,265.00 | $420	11.5		10.6	
261LED	B009 - Classroom: Lower Level	8	PAR 38 SP	H030/1	100	0.8	SW	5096	4,077	8	EVO35/10	EVO35/10	39	0.3	SW	5,096	1,590	2,487 | 0.5	$ 305.56	$ 3,510.00 | $280	11.5		10.6	
261LED	B011 - Classroom: Lower Level	6	PAR 38 SP	H030/1	100	0.6	SW	5096	3,058	6	EVO35/10	EVO35/10	39	0.2	SW	5,096	1,192	1,865 | 0.4	$ 229.17	$ 2,632.50 | $210	11.5		10.6	
261LED	B011 - Classroom: Lower Level	3	PAR 38 SP	H030/1	100	0.3	SW	5096	1,529	3	EVO35/10	EVO35/10	39	0.1	SW	5,096	596	933 | 0.2	$ 114.59	$ 1,316.25 | $105	11.5		10.6	
32LED	B015 - Elevator Mechanical Room: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1820	109	1	4 ft LED Tube	2007/32w2	30	0.0	SW	1,820	55	55 | 0.0	$ 8.27	$ 233.70 | $35	28.3		24.0	
97	B013 - Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	78	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	78	0 | 0.0	$ -	$ - | $0			#DIV/0!	#DIV/0!

Energy Audit of New Hospital Center
CHA Project No. 2914f
ECM-L1 Lighting Replacements

		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	N3 Smart Start Lighting Incentive	Simple Payback With Out Incentive
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 2F 48 R F(U) lamps U shape 2' x 2x2' Troff 48 w Recess. Floor 2	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	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example 2T 48 R F(U) 2 x 2x2' Troff 48 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 device	Estimated annual hours for the usage group	(kWh/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
261/LED	A108 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	437	1	EVO35/10	EVO35/10	39	0.0	SW	4,368	170	266 [0.1]	$ 33.44	$ -438.75	$35	13.1	12.1
261/LED	A107 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	A105 - Sem Private Room: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	2007/32w2	30	0.1	SW	4,368	262	262 [0.1]	$ 32.90	$ -467.40	$70	14.2	12.1
261/LED	A105 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	SW	4,368	341	533 [0.1]	$ 66.89	$ -877.50	$70	13.1	12.1
261/LED	A108 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	437	1	EVO35/10	EVO35/10	39	0.0	SW	4,368	170	266 [0.1]	$ 33.44	$ -438.75	$35	13.1	12.1
261/LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	A104 - Sem Private Room: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	OCC	1400	140	2	4 ft LED Tube	2007/32w2	30	0.1	SW	4,368	262	262 [0.1]	$ 32.90	$ -467.40	$70	14.2	12.1
261/LED	A104 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	SW	4,368	341	533 [0.1]	$ 66.89	$ -877.50	$70	13.1	12.1
261/LED	A103 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	A101 - Sem Private Room: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	2007/32w2	30	0.1	SW	4,368	262	262 [0.1]	$ 32.90	$ -467.40	$70	14.2	12.1
261/LED	A101 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	SW	4,368	341	533 [0.1]	$ 66.89	$ -877.50	$70	13.1	12.1
261/LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
32/LED	A170 - Sem Private Room: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	2007/32w2	30	0.1	SW	4,368	262	262 [0.1]	$ 32.90	$ -467.40	$70	14.2	12.1
97	A170 - Sem Private Room: 1st Floor	2	2P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4,368	122	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A170 - Sem Private Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4,368	122	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A169 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A169 - Toilet/Shower: 1st Floor	1	2P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
32/LED	A167 - Sem Private Room: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	2007/32w2	30	0.1	SW	4,368	262	262 [0.1]	$ 32.90	$ -467.40	$70	14.2	12.1
97	A167 - Sem Private Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	245	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4,368	245	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A167 - Sem Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4,368	122	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A168 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A168 - Toilet/Shower: 1st Floor	1	2P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A166 - Janitor's Closet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	78	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1,400	78	0 [0.0]	$ -	$ -	$0		#DIV/0!
40/LED	A166 - Laundry: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,400	53	31 [0.0]	$ 5.07	$ -236.25	$50	46.6	36.7
97	A164 - PT Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	118	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	A163 - PT Toilet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	118	0 [0.0]	$ -	$ -	$0		#DIV/0!
40/LED	A146 - Janitor's Closet: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,400	53	31 [0.0]	$ 5.07	$ -236.25	$50	46.6	36.7
40/LED	A145 - Visiting Room: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,400	67	17 [0.0]	$ 12.14	$ -236.25	$50	19.5	15.3
40/LED	A144 - Quiet Room: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	264	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,400	167	97 [0.0]	$ 12.14	$ -236.25	$50	19.5	15.3
97	A142 - Table Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	78	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	78	0 [0.0]	$ -	$ -	$0		#DIV/0!
40/LED	A142 - Table Shower: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,400	53	31 [0.0]	$ 5.07	$ -236.25	$50	46.6	36.7
97	A132 - Toilet Room: 1st Floor	1	2P 13 R CF 2	CFQ13/2-L	28	0.0	SW	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
116	A163 - External Paint: 1st Floor	4	X 7.0 W 1	6T/5/1	8	0.0	SW	4368	140	4	X 1.5C LED	ELED1.5/2	1	0.0	SW	4,368	52	87 [0.0]	$ 10.97	$ -513.00	$0	46.8	46.8
35/LED	A161 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A160 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A159 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A157 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A158 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A154 - Office: 1st Floor	1	T 32 R F 3 (ELE)	F43/L/2	90	0.1	SW	4400	396	1	T 59 R LED	RTL8T3/8	38	0.0	SW	4,400	167	229 [0.1]	$ 28.69	$ -236.25	$0	8.2	8.2
35/LED	A153 - Office: 1st Floor	1	T 32 R F 3 (ELE)	F43/L/2	90	0.1	SW	4400	396	1	T 59 R LED	RTL8T3/8	38	0.0	SW	4,400	167	229 [0.1]	$ 28.69	$ -236.25	$0	8.2	8.2
35/LED	A155 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	A148 - Work: 1st Floor	1	T 32 R F 3 (ELE)	F43/L/2	90	0.1	SW	8736	786	1	T 59 R LED	RTL8T3/8	38	0.0	SW	8,736	332	454 [0.1]	$ 52.81	$ -236.25	$0	4.5	4.5
32/LED	A146 - Telecommunications: 1st Floor	2	2T 32 R F 2 (ELE)	F42/L	60	0.1	SW	3000	360	2	4 ft LED Tube	2007/32w2	30	0.1	SW	3,000	180	180 [0.1]	$ 24.11	$ -467.40	$70	19.4	16.5
56/LED	S04 - Stair #4: 1st Floor	1	1T 32 R F 2 (ELE)	F42/L	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	SW	8,760	263	263 [0.0]	$ 61.09	$ -467.40	$70	7.7	6.5
56/LED	B101 - Corridor: 1st Floor	7	2T 17 R F 3 (ELE)	F23/L/L	47	0.3	Breaker	8760	2,882	7	2T 25 R LED	28TL/ED	25	0.2	Breaker	8,760	1,533	1,349 [0.2]	$ 156.80	$ -1,417.50	$350	9.0	6.8
56/LED	B102 - Corridor: 1st Floor	7	2T 17 R F 3 (ELE)	F23/L/L	47	0.3	Breaker	8760	2,882	7	2T 25 R LED	28TL/ED	25	0.2	Breaker	8,760	1,533	1,349 [0.2]	$ 156.80	$ -1,417.50	$350	9.0	6.8
261/LED	B101 - Corridor: 1st Floor	3	PAR 38 SP	H100/1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	1,025	1,603 [0.2]	$ 186.93	$ -1,316.25	$105	7.1	6.5
261/LED	B102 - Corridor: 1st Floor	6	PAR 38 SP	H100/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	2,050	3,206 [0.4]	$ 372.66	$ -2,632.50	$210	7.1	6.5
261/LED	B102 - Corridor: 1st Floor	3	PAR 38 SP	H100/1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	Breaker	8,760	683	1,945 [0.1]	$ 226.93	$ -1,316.25	$105	7.1	6.5
261/LED	B102 - Corridor: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	Breaker	8,760	683	1,069 [0.1]	$ 124.22	$ -877.50	$70	7.1	6.5
261/LED	B110 - Corridor: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	Breaker	8,760	683	1,069 [0.1]	$ 124.22	$ -877.50	$70	7.1	6.5
261/LED	B110 - Corridor: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	Breaker	8,760	342	534 [0.1]	$ 62.11	$ -438.75	$35	7.1	6.5
261/LED	S04 - Stair #4 Entry: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	Breaker	8,760	342	534 [0.1]	$ 62.11	$ -438.75	$35	7.1	6.5
261/LED	S04 - Stair #4 Entry: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	Breaker	8,760	342	534 [0.1]	$ 62.11	$ -438.75	$35	7.1	6.5
56/LED	B111/B112 - Conference Room: 1st Floor	8	2T 17 R F 3 (ELE)	F23/L/L	47	0.4	SW	2184	821	8	2T 25 R LED	28TL/ED	25	0.2	SW	2,184	437	384 [0.2]	$ 55.36	$ -1,620.00	$400	29.3	22.0
97	B111/B112 - Conference Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2,184	122	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	B111/B112 - Conference Room: 1st Floor	2	2P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2,184	122	0 [0.0]	$ -	$ -	$0		#DIV/0!
35/LED	B109 - Medical Director Office: 1st Floor	4	T 32 R F 3 (ELE)	F43/L/2	90	0.4	SW	4400	1,584	4	T 59 R LED	RTL8T3/8	38	0.2	SW	4,400	669	915 [0.2]	$ 114.75	$ -945.00	$0	8.2	8.2
35/LED	B108 - Executive Assistant: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B107 - Executive Assistant: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B106 - Hospital Director Office: 1st Floor	4	T 32 R F 3 (ELE)	F43/L/2	90	0.4	SW	4400	1,584	4	T 59 R LED	RTL8T3/8	38	0.2	SW	4,400	669	915 [0.2]	$ 114.75	$ -945.00	$0	8.2	8.2
40/LED	B105 - Storage: 1st Floor	1	T 32 R F 2 (ELE)	F42/L/2	60	0.1	SW	1000	60	1	T 38 R LED	RTL8T8/8	38	0.0	SW	1,000	38	22 [0.0]	$ 4.13	$ -236.25	$50	57.2	45.1
97	B121 - Director's Office: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4400	123	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4,400	123	0 [0.0]	$ -	$ -	$0		#DIV/0!
35/LED	B121 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B122 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B123 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B124 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
35/LED	B125 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43/L/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	SW	4,400	334	458 [0.1]	$ 57.37	$ -472.50	$0	8.2	8.2
32/LED	B114 / B126 / B127 - Waiting Area: 1st Floor	10	1T 32 R F 2 (ELE)	F42/L	60	0.6	SW	5096	3,058	10	4 ft LED Tube	2007/32w2	30	0.3	SW	5,096	1,529	1,529 [0.3]	$ 187.85	$ -2,337.00	$350	12.4	10.6
56/LED	B114 / B126 / B127 - Waiting Area: 1st Floor	5	1T 32 R F 2 (ELE)	F42/L	60	0.3	SW	5096	1,529	5	4 ft LED Tube	2007/32w2	30	0.2	SW	5,096	764	764 [0.2]	$ 93.92	$ -1,168.50	$175	12.4	10.6
97	B114 / B126 / B127 - Waiting Area: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5,096	285	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	B114 / B126 / B127 - Waiting Area: 1st Floor	2	2P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5,096	285	0 [0.0]	$ -	$ -	$0		#DIV/0!
56/LED	B119 - Registre: 1st Floor	4	2T 17 R F 3 (ELE)	F23/L/L	47	0.2	SW	4400	827	4	2T 25 R LED	28TL/ED	25	0.1	SW	4,400	440	387 [0.1]	$ 48.55	$ -810.00	$200	16.7	12.6
40/LED	B118 - Kitchen: 1st Floor	1	T 32 R F 2 (ELE)	F42/L/2	60	0.1	SW	3000	180	1	T 38 R LED	RTL8T8/8	38	0.0	SW	3,000	114	66 [0.0]	$ 8.84	$ -236.25	$50	26.7	21.1
40/LED	B117 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L/2	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	SW	4,400	334	194 [0.0]	$ 24.27	$ -472.50	$100	19.5	15.3
40/LED	B116 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L/2	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	SW	4,400	334	194 [0.0]	$ 24.27	$ -472.50	$100	19.5	15.3
40/LED	B115 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L/2	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	SW	4,400	334	194 [0.0]	$ 24.27	$ -472.50	$100	19.5	15.3
56/LED	B113 - Kitchen: 1st Floor	4	2T 17 R F 3 (ELE)	F23/L/L	47	0.2	SW	4400	827	4	2T 25 R LED	28TL/ED	25	0.1	SW	4,400	440	387 [0.1]	$ 48.55	$ -810.00	$200	16.7	12.6
56/LED	B129 - MDF Room: 1st Floor	1	2T 17 R F 3 (ELE)	F23/L/L	47	0.0	SW	4400	207	1	2T 25 R LED	28TL/ED	25	0.0	SW	4,400	110	97 [0.0]	$ 12.14	$ -202.50	$50	16.7	12.6
56/LED	B129 - MDF Room: 1st Floor	1	2T 17 R F 3 (ELE)	F23/L/L	47	0.0	SW	4400	207	1	2T 25 R LED	28TL/ED	25	0.0	SW	4,400	110	97 [0.0]	$ 12.14	$ -202.50	$50	16.7	12.6
35/LED	B129 - MDF Room: 1st Floor	5	T 32 R F 3 (ELE)	F43/L/2	90	0.5	SW	4400	1,980	5	T 59 R LED	RTL8T3/8	38	0.2	SW	4,400	836	1,144 [0.3]	$ 143.44	$ -1,181.25	$0	8.2	8.2
35/LED	B128 - Electrical Room: 1st Floor	1	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	4 ft LED Tube	2007/32w2	30	0.0	SW	1,400	42	42 [0.0]	$ 6.92	$ -233.70	$35	33.8	28.7
97	Regiltre - Men's Toilet: 1st Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	118	0 [0.0]	$ -	$ -	$0		#DIV/0!
97	Regiltre - Men's Toilet: 1st Floor	1	2P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1,400	39	0 [0.0]	$ -	$ -	$0		#DIV/0!
261/LED	Regiltre - Women's Toilet: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	OCC	1,400	109	171 [0.1]	$ 28.14	$ -877.50	$70	31.2	28.7
261/LED	Regiltre - Women's Toilet: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	OCC	1,400	109	171 [0.1]	$ 28.14	$ -877.50	$70	31.2	28.7
261/LED	Regiltre - Women's Toilet: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
261/LED	B130 - Closet: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	1400	140	1	EVO35/10	EVO35/10	39	0.0	SW	1,400	55	85 [0.1]	$ 14.07	$ -438.75	$35	31.2	28.7
116	B103 - Cooing Towers: 1st Floor	6	X 7.0 W 1	6T/5/1	8	0.0	SW	4368	210	6	X 1.5C LED	ELED1.5/2	1	0.0	SW	4,368	79	131 [0.0]	$ 16.45	$ -769.50	$0	46.8	46.8
32/LED	S05 - Stair #5: 1st Floor	3	1T 32 R F 2 (ELE)	F42/L	60	0.2	Breaker	8760	1,577	3	4 ft LED Tube	2007/32w2	30	0.1	SW	8,760	788	788 [0.1]	$ 91.64	$ -701.10	$105	7.7	6.5
261/LED	C106 - Corridor: 1st Floor	7	PAR 38 SP	H100/1	100	0.7	Breaker	8760	6,132	7	EVO35/10	EVO35/10	39	0.3	Breaker	8,760	2,391	3,741 [0.4	$ 434.77	$ -3,071.25	$245	7.1	6.5
261/LED	C106 - Corridor: 1st Floor	14	PAR 38 SP	H100/1	100	1.4	Breaker	8760	12,264	14	EVO35/10	EVO35/10	39	0.5	Breaker	8,760	4,783	7,481 [0.9	$ 869.54	$ -6,142.50	$490	7.1	6.5
261/LED	C106 - Corridor: 1st Floor	5	PAR 38 SP	H100/1	100	0.5	Breaker	8760	4,380	5	EVO35/10	EVO35/10	39	0.2	Breaker	8,760	1,708	2,672 [0.3	$ 310.55	$ -2,193.75	$175	7.1	6.5
261/LED	C106 - Corridor: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39

Energy Audit of New Hospital Center
CHA Project No. 29147
ECM-L1 Lighting Replacements

		EXISTING CONDITIONS								RETROFIT CONDITIONS								COST & SAVINGS ANALYSIS					
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt) * (Fixt No.)	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	N3 Smart Start Lighting Incentive	Simple Payback With Out Incentive
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 27 R8 F(U) lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Pre-inst. control device	Estimated daily hours for the usage group	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example 27 R8 F(U) 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	(kWh/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
182	D137 - Exam Room: 1st Floor	2	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.1	SW	4368	577	2	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.1	SW	4,368	577	-	0.0	$ -	$ -	$0	#DIV/0!
55LED	D777 - Transportation: 1st Floor	2	27 1T R F 3 (EL)	F23ILL	47	0.1	SW	4400	414	2	27_25 R LED	28TLED	25	0.1	SW	4,400	220	194	0.0	$ 24.27	$ 405.00	$100	16.7 12.6
182	D139 - Therapy: 1st Floor	4	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	SW	4400	1,162	4	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	SW	4,400	1,162	-	0.0	$ -	$ -	$0	#DIV/0!
182	D138 - Therapy: 1st Floor	4	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	SW	4400	1,162	4	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	SW	4,400	1,162	-	0.0	$ -	$ -	$0	#DIV/0!
182	D770 - Reg/ble: 1st Floor	2	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.1	SW	4400	481	2	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.1	SW	4,400	481	-	0.0	$ -	$ -	$0	#DIV/0!
97	D777 - Reg/ble: 1st Floor	4	EF 13 R OF 2	CFQ13/2-L	28	0.1	SW	4400	493	4	EF 13 R OF 2	CFQ13/2-L	28	0.1	SW	4,400	493	-	0.0	$ -	$ -	$0	#DIV/0!
97	Exterior D wing: 1st Floor	4	EF 13 R OF 2	CFQ13/2-L	28	0.1	SW	4368	489	4	EF 13 R OF 2	CFQ13/2-L	28	0.1	SW	4,368	489	-	0.0	$ -	$ -	$0	#DIV/0!
182	507 - Stair #7: 1st Floor	3	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.2	Breaker	8760	1,734	3	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.2	Breaker	8,760	1,734	-	0.0	$ -	$ -	$0	#DIV/0!
97	507 - Stair #7: 1st Floor	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8,760	245	-	0.0	$ -	$ -	$0	#DIV/0!
182	508 - Stair #8: 1st Floor	3	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.2	Breaker	8760	1,734	3	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.2	Breaker	8,760	1,734	-	0.0	$ -	$ -	$0	#DIV/0!
97	508 - Stair #8: 1st Floor	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8,760	245	-	0.0	$ -	$ -	$0	#DIV/0!
182	E-Wing West Corridor: 1st Floor	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8760	2,891	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8,760	2,891	-	0.0	$ -	$ -	$0	#DIV/0!
182	E-Wing West Corridor: 1st Floor	7	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	Breaker	8760	4,047	7	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	Breaker	8,760	4,047	-	0.0	$ -	$ -	$0	#DIV/0!
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628	3	EV035/20	EV035/10	39	0.3	Breaker	8,760	1,025	1,603	0.2	$ 186.33	$ 3,316.25	$105	7.1 6.5
261LED	E-Wing East Corridor: 1st Floor	7	PAR 38 SP	H030/1	100	0.7	Breaker	8760	6,132	7	EV035/20	EV035/10	39	0.3	Breaker	8,760	2,391	3,741	0.4	$ 434.77	$ 3,071.25	$245	7.1 6.5
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628	3	EV035/20	EV035/10	39	0.3	Breaker	8,760	1,025	1,603	0.2	$ 186.33	$ 3,316.25	$105	7.1 6.5
261LED	E-Wing East Corridor: 1st Floor	4	PAR 38 SP	H030/1	100	0.4	Breaker	8760	3,504	4	EV035/20	EV035/10	39	0.2	Breaker	8,760	1,367	2,137	0.2	$ 248.44	$ 1,755.00	$140	7.1 6.5
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628	3	EV035/20	EV035/10	39	0.3	Breaker	8,760	1,025	1,603	0.2	$ 186.33	$ 3,316.25	$105	7.1 6.5
182	E-Wing North Corridor: 1st Floor	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8760	2,891	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8,760	2,891	-	0.0	$ -	$ -	$0	#DIV/0!
182	E-Wing North Corridor: 1st Floor	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8760	2,891	5	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.3	Breaker	8,760	2,891	-	0.0	$ -	$ -	$0	#DIV/0!
97	E-Wing North Corridor: 1st Floor	3	EF 13 R OF 2	CFQ13/2-L	28	0.1	Breaker	8760	736	3	EF 13 R OF 2	CFQ13/2-L	28	0.1	Breaker	8,760	736	-	0.0	$ -	$ -	$0	#DIV/0!
182	Dining/Activity: 1st Floor	30	W 25 C F 2 (EL) 2 T 8	F32E6	56	2.0	SW	2912	5,766	30	W 25 C F 2 (EL) 2 T 8	F32E6	56	2.0	SW	2,912	5,766	-	0.0	$ -	$ -	$0	#DIV/0!
182	Dining/Activity: 1st Floor	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	2912	1,538	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	2,912	1,538	-	0.0	$ -	$ -	$0	#DIV/0!
261LED	Dining/Activity: 1st Floor	6	PAR 38 SP	H030/1	100	0.6	SW	2912	1,747	6	EV035/20	EV035/10	39	0.2	SW	2,912	681	1,066	0.4	$ 143.64	$ 2,632.50	$210	18.3 16.9
261LED	Dining/Activity: 1st Floor	10	PAR 38 SP	H030/1	100	1.0	SW	2912	2,912	10	EV035/20	EV035/10	39	0.4	SW	2,912	1,136	1,776	0.6	$ 239.40	$ 4,387.50	$350	18.3 16.9
261LED	Nurse Station: 1st Floor	9	PAR 38 SP	H030/1	100	0.9	SW	4400	3,960	9	EV035/20	EV035/10	39	0.4	SW	4,400	1,544	2,416	0.5	$ 302.87	$ 3,945.75	$315	13.0 12.0
261LED	Nurse Station: 1st Floor	1	PAR 38 SP	H030/1	100	0.1	SW	4400	440	1	EV035/20	EV035/10	39	0.0	SW	4,400	172	268	0.1	$ 33.66	$ 438.75	$35	13.0 12.0
261LED	Nurse Station: 1st Floor	1	PAR 38 SP	H030/1	100	0.1	SW	4400	440	1	EV035/20	EV035/10	39	0.0	SW	4,400	172	268	0.1	$ 33.66	$ 438.75	$35	13.0 12.0
55LED	Nurse Station: 1st Floor	1	2 32 R F 2 (EL/E)	F42LL	60	0.1	SW	4400	264	1	T 38 R LED	RTLED38	38	0.0	SW	4,400	167	97	0.0	$ 12.14	$ 236.25	$50	19.5 15.3
40LED	Nurse Office Extension: 1st Floor	2	2 32 R F 2 (EL/E)	F42LL	60	0.1	SW	4400	528	2	T 38 R LED	RTLED38	38	0.1	SW	4,400	334	194	0.0	$ 24.27	$ 472.50	$100	19.5 15.3
55LED	Nurse Office Extension: 1st Floor	1	27 1T R F 3 (EL/E)	F23ILL	47	0.0	SW	4400	207	1	27_25 R LED	28TLED	25	0.0	SW	4,400	110	97	0.0	$ 12.14	$ 202.50	$50	16.7 12.6
55LED	Nurse Office Extension: 1st Floor	3	27 1T R F 3 (EL/E)	F23ILL	47	0.1	SW	4400	620	3	27_25 R LED	28TLED	25	0.1	SW	4,400	330	290	0.1	$ 36.41	$ 607.50	$150	16.7 12.6
32LED	Nurse Office Extension: 1st Floor	2	2 32 R F 2 (EL/E)	F42LL	60	0.1	SW	4400	528	2	4 ft LED Tube	2SO732	32	0.1	SW	4,400	264	264	0.1	$ 33.10	$ 467.40	$70	14.1 12.0
97	Nurse Office Extension: 1st Floor	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	SW	4400	123	1	EF 13 R OF 2	CFQ13/2-L	28	0.0	SW	4,400	123	-	0.0	$ -	$ -	$0	#DIV/0!
182	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	4368	2,306	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	4,368	2,306	-	0.0	$ -	$ -	$0	#DIV/0!
182	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	4368	2,306	8	W 25 C F 2 (EL) 2 T 8	F32E6	56	0.5	SW	4,368	2,306	-	0.0	$ -	$ -	$0	#DIV/0!
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	16	PAR 38 SP	H030/1	100	1.6	SW	4368	6,989	16	EV035/20	EV035/10	39	0.8	SW	4,368	2,728	4,261	1.0	$ 535.10	$ 7,020.00	$560	13.1 12.1
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	8	PAR 38 SP	H030/1	100	0.8	SW	4368	3,494	8	EV035/20	EV035/10	39	0.3	SW	4,368	1,363	2,131	0.5	$ 267.55	$ 3,510.00	$280	13.1 12.1
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	4	PAR 38 SP	H030/1	100	0.4	SW	4368	1,747	4	EV035/20	EV035/10	39	0.2	SW	4,368	681	1,066	0.2	$ 133.77	$ 1,755.00	$140

Energy Audit of New Hospital Center
CHA Project No. 2914
ECM-L1 Lighting Replacements

		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	Standard Fixture Code "Lighting Fixture Code". Example 2T 48 R F(U) 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)	Number of Fixtures No. of fixtures after the retrofit	Standard Fixture Code "Lighting Fixture Code". Example 2T 48 R F(U) 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 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
97	Toilet Room / Ante Room: 2nd Floor	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	OCC	1400	274	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	OCC	1,400	274	- 0.0	$ -	$ -	$ -	$ -	$ -	$ -	#DIV/0!
40LED	Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1000	60	1	T 38 R LED	RTL8T8	38	0.0	SW	1,000	38	22 0.0	$ 4.13	$ 236.25	$50	57.2	45.1	#DIV/0!
182	Toilet Rooms: 2nd Floor	4	W 25 C F 2 (EL) 2 T8	F32/E	66	0.3	SW	1400	184	4	W 25 C F 2 (EL) 2 T8	F32/E	66	0.3	SW	1,400	184	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
97	Toilet Room: 2nd Floor	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1,400	118	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
40LED	Clean Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1000	60	1	T 38 R LED	RTL8T8	38	0.0	SW	1,000	38	22 0.0	$ 4.13	$ 236.25	$50	57.2	45.1	#DIV/0!
97	Toilet Rooms: 2nd Floor	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1,400	118	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
182	Toilet Rooms: 2nd Floor	2	W 25 C F 2 (EL) 2 T8	F32/E	66	0.1	OCC	1400	185	2	W 25 C F 2 (EL) 2 T8	F32/E	66	0.1	OCC	1,400	185	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
40LED	Laundry Room: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8	38	0.0	SW	1,400	53	31 0.0	$ 5.07	$ 236.25	$50	46.6	36.7	#DIV/0!
97	Tub / Shower Room: 2nd Floor	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	78	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1,400	78	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,097	8	4 ft LED Tube	2007/32x2	30	0.2	SW	4,368	1,048	1,048 0.2	$ 131.58	$ 1,869.60	$280	14.2	12.1	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,097	8	4 ft LED Tube	2007/32x2	30	0.2	SW	4,368	1,048	1,048 0.2	$ 131.58	$ 1,869.60	$280	14.2	12.1	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	16	6P 36 R OF 1	CFT36/1	51	0.8	SW	4368	3,564	16	6P 36 R OF 1	CFT36/1	51	0.8	SW	4,368	3,564	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	6P 36 R OF 1	CFT36/1	51	0.4	SW	4368	1,782	8	6P 36 R OF 1	CFT36/1	51	0.4	SW	4,368	1,782	- 0.0	$ -	$ -	$ -		#DIV/0!	#DIV/0!
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	4	6P 36 R OF 1	CFT36/1	51	0.2	SW	4368	891	4	6P 36 R OF 1	CFT36/1	51	0.2	SW	4,368	891

Energy Audit of New Hospital Center
CHA Project No. 29142
ECM-L2 Install Occupancy Sensors

		EXISTING CONDITIONS								RETROFIT CONDITIONS								COST & SAVINGS ANALYSIS						
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual $ Saved	Retrofit Cost	No 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	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example 2T 40 R F(U) = 2*u2 T*off 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 device	Estimated annual hours for the usage group	(kWh/space) * (Annual Hours)	Original Annual kWh - (Retrofit Annual kWh)	Original Annual kW - (Retrofit Annual kW)	(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	501 - Stair #1: Lower Level	3	1T 32 R F 2 (EL)	F42EL	60	0.1	Breaker	8760	1,576.8	3	1T 32 R F 2 (EL)	F42EL	60	0.1	None	8760	1,576.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
28E	502 - Stair #2: Lower Level	1	W 25 C F 2 (EL) 2 T T8	F32EE	66	0.1	Breaker	8760	1,156.3	1	W 25 C F 2 (EL) 2 T T8	F32EE	66	0.1	None	8760	1,156.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A016 - Electrical Room: Lower Level	2	1T 32 R F 2 (EL)	F42EL	60	0.1	Breaker	8760	1,051.2	2	1T 32 R F 2 (EL)	F42EL	60	0.1	None	8760	1,051.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	A020 - Corridor: Lower Level	20	2T 17 R F 3 (EL)	F23ILL	47	0.9	Breaker	8760	6,234.4	20	2T 17 R F 3 (EL)	F23ILL	47	0.9	None	8760	6,234.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A020 - Corridor: Lower Level	4	PAR 38 SP	H030/3	100	0.4	Breaker	8760	3,504.0	4	PAR 38 SP	H030/3	100	0.4	None	8760	3,504.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	A007 - Corridor: Lower Level	11	2T 17 R F 3 (EL)	F23ILL	47	0.5	Breaker	8760	4,528.9	11	2T 17 R F 3 (EL)	F23ILL	47	0.5	None	8760	4,528.9	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A007 - Corridor: Lower Level	2	PAR 38 SP	H030/3	100	0.2	Breaker	8760	1,752.0	2	PAR 38 SP	H030/3	100	0.2	None	8760	1,752.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	A029 - Corridor: Lower Level	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	Breaker	8760	3,293.8	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	None	8760	3,293.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A029 - Corridor: Lower Level	1	PAR 38 SP	H030/3	100	0.1	Breaker	8760	876.0	1	PAR 38 SP	H030/3	100	0.1	None	8760	876.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	A026 - Corridor: Lower Level	7	2T 17 R F 3 (EL)	F23ILL	47	0.3	Breaker	8760	2,882.0	7	2T 17 R F 3 (EL)	F23ILL	47	0.3	None	8760	2,882.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A026 - Corridor: Lower Level	3	PAR 38 SP	H030/3	100	0.3	Breaker	8760	2,628.0	3	PAR 38 SP	H030/3	100	0.3	None	8760	2,628.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A026 - Corridor: Lower Level	1	PAR 38 SP	H030/3	100	0.1	Breaker	8760	876.0	1	PAR 38 SP	H030/3	100	0.1	None	8760	876.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	A033 - Corridor: Lower Level	6	2T 17 R F 3 (EL)	F23ILL	47	0.3	Breaker	8760	2,470.3	6	2T 17 R F 3 (EL)	F23ILL	47	0.3	None	8760	2,470.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A033 - Corridor: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	1,051.2	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	8760	1,051.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
11E	A033 - Corridor: Lower Level	2	X 7.0 W 1	E17 5/1	8	0.0	Breaker	8760	140.2	2	X 7.0 W 1	E17 5/1	8	0.0	None	8760	140.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A012 - Dietary: Lower Level	30	2T 32 R F 2 (EL)	F42LL	60	0.1	SW	3094	5,568.2	30	2T 32 R F 2 (EL)	F42LL	60	1.8	OCC	2165.8	3,868.4	1,670.8	0.0	$178.77	$126.25	$20.00	0.7	0.6	
48LED	A012 - Dietary: Lower Level	3	2T 32 R F 2 (EL)	F42LL	60	0.1	SW	3094	371.3	2	2T 32 R F 2 (EL)	F42LL	60	0.1	OCC	2165.8	259.9	111.4	0.0	$11.92	$126.25	$20.00	10.8	9.1	
261LED	A012 - Dietary: Lower Level	3	PAR 38 SP	H030/3	100	0.3	SW	3094	348.7	3	PAR 38 SP	H030/3	100	0.3	OCC	2165.8	649.7	299.1	0.0	$32.00	$126.25	$20.00	3.9	3.3	
48LED	A039 - Non Food Storage: Lower Level	3	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180.0	3	1T 32 R F 2 (EL)	F42LL	60	0.2	OCC	750	135.0	45.0	0.0	$4.82	$126.25	$20.00	26.2	22.5	
48LED	A039 - Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	OCC	750	45.0	15.0	0.0	$1.61	$126.25	$20.00	78.4	67.5	
48LED	A039 - Non Food Storage: Lower Level	3	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180.0	3	1T 32 R F 2 (EL)	F42LL	60	0.2	OCC	750	135.0	45.0	0.0	$4.82	$126.25	$20.00	26.2	22.5	
48LED	A039 - Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1000	60.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A039 - Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1000	60.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A018 - Elevator Mechanical Room: Lower Level	3	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1820	327.6	3	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1820	327.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
53LED	A106 - Open Offices: Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	4400	827.2	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	None	4400	827.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A016A - Janitor's Closet: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1400	84.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1400	84.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
53LED	A014 - Office: Lower Level	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	4400	413.6	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	None	4400	413.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
55LED	A013 - Lockers / Toilet Room: Lower Level	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	5096	479.6	2	2T 17 R F 3 (EL)	F23ILL	47	0.1	OCC	3567.2	335.3	143.7	0.0	$15.38	$126.25	$20.00	8.3	7.0	
97	A013 - Lockers / Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	SW	5096	286.4	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	3567.2	199.9	86.4	0.0	$9.16	$126.25	$20.00	14.0	11.8	
35LED	A021 - Gym: Lower Level	4	T 32 R F 3 (EL)	F43ILL/2	90	0.4	SW	3640	1,310.4	4	T 32 R F 3 (EL)	F43ILL/2	90	0.4	None	3640	1,310.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
55LED	A022 - Toilet Room: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	SW	5096	239.8	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	None	5096	239.5	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
55LED	A023 - Lockers: Lower Level	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	SW	5096	1,916.1	8	2T 17 R F 3 (EL)	F23ILL	47	0.4	OCC	3567.2	1,341.3	574.8	0.0	$61.51	$126.25	$20.00	2.1	1.8	
55LED	A023 - Lockers: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.1	SW	5096	479.0	1	2T 17 R F 3 (EL)	F23ILL	47	0.1	OCC	3567.2	335.3	143.7	0.0	$15.38	$126.25	$20.00	8.3	7.0	
55LED	A024 - Toilet Room: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	SW	5096	239.5	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	OCC	3567.2	167.7	71.9	0.0	$7.69	$126.25	$20.00	16.7	14.1	
48LED	A032 - Bulk Hold: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1000	120.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A032 - Bulk Hold: Lower Level	4	1T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360.0	4	1T 32 R F 2 (EL)	F42LL	60	0.4	None	1000	360.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A008 - Storage: Lower Level	4	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240.0	4	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1000	240.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A009 - Unspecified: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	4400	528.0	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	4400	528.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A003 - Plan Room: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	4400	528.0	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	4400	528.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A005 - Women's Toilet: Lower Level	2	PAR 38 SP	H030/3	100	0.2	OCC	1400	280.0	2	PAR 38 SP	H030/3	100	0.2	None	1400	280.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A005 - Men's Toilet: Lower Level	2	PAR 38 SP	H030/3	100	0.2	OCC	1400	280.0	2	PAR 38 SP	H030/3	100	0.2	None	1400	280.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A002 - Shop & Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.5	SW	1000	540.0	1	1T 32 R F 2 (EL)	F42LL	60	0.5	None	1000	540.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
35LED	A004 - Facility Manager Office: Lower Level	2	T 32 R F 3 (EL)	F43ILL/2	90	0.2	SW	4400	792.0	2	T 32 R F 3 (EL)	F43ILL/2	90	0.2	None	4400	792.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A001 - Shop & Workstations: Lower Level	6	1T 32 R F 2 (EL)	F42LL	60	0.4	SW	4400	1,584.0	6	1T 32 R F 2 (EL)	F42LL	60	0.4	OCC	3080	1,108.8	475.2	0.0	$50.85	$126.25	$20.00	2.5	2.1	
32LED	S03 - Stair #3: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	1,051.2	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	8760	1,051.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A011 - Bulk Storage: Lower Level	6	1T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360.0	6	1T 32 R F 2 (EL)	F42LL	60	0.4	None	1000	360.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A032 - Site Storage: Lower Level	2	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	120.0	2	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1000	120.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A030 - Fire Pump / Water Service: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1820	436.8	1	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1820	436.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
53LED	A036 - Dining: Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	3094	581.7	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	OCC	2165.8	407.2	174.5	0.0	$18.67	$126.25	$20.00	6.9	5.8	
48LED	A037 - Bulk Storage: Lower Level	6	1T 32 R F 2 (EL)	F42LL	60	0.4	SW	1000	360.0	6	1T 32 R F 2 (EL)	F42LL	60	0.4	None	1000	360.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
53LED	A038 - Pharmacy: Lower Level	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	SW	4400	827.2	4	2T 17 R F 3 (EL)	F23ILL	47	0.2	OCC	3080	579.0	248.2	0.0	$26.55	$126.25	$20.00	4.8	4.1	
261LED	A031 - Receiving: Lower Level	2	PAR 38 SP	H030/3	100	0.2	SW	1000	200.0	2	PAR 38 SP	H030/3	100	0.2	None	1000	200.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A035 - Clean Linen: Lower Level	4	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240.0	4	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1000	240.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	A034 - Soiled Hold / Contamination: Lower Level	3	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	180.0	3	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1000	180.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A041 - Oxygen Storage: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1000	60.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1000	60.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	Emergency Exit Corridor: Lower Level	1	6P 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245.3	1	6P 13 R OF 2	CFQ13/2-L	28	0.0	None	8760	245.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	525.6	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	8760	525.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	Breaker	8760	525.6	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	8760	525.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
11E	Exterior: Lower Level	1	X 7.0 W 1	E17 5/1	8	0.0	SW	4368	279.6	1	X 7.0 W 1	E17 5/1	8	0.0	PHC	3000	214.0	65.6	0.0	$6.98	$126.25	$20.00	0.0	0.0	
11E	Exterior: Lower Level	2	X 7.0 W 1	E17 5/1	8	0.0	SW	4368	69.9	2	X 7.0 W 1	E17 5/1	8	0.0	PHC	3000	56.0	13.9	0.0	$1.49	$0.00	$0.00	0.0	0.0	
33LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (EL)	F42LL	60	0.3	SW	1400	420.0	5	1T 32 R F 2 (EL)	F42LL	60	0.3	None	1400	420.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
33LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (EL)	F42LL	60	0.3	SW	1400	420.0	5	1T 32 R F 2 (EL)	F42LL	60	0.3	OCC	980	294.0	126.0	0.0	$13.48	$126.25	$20.00	9.5	8.0	
55LED	B020 - Emergency Switch: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1400	84.0	1	1T 32 R F 2 (EL)	F42LL	60	0.1	OCC	980	58.8	25.2	0.0	$2.70	$126.25	$20.00	47.6	40.1	
56LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	Breaker	8760	411.7	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	None	8760	411.7	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	Breaker	8760	411.7	1	2T 17 R F 3 (EL)	F23ILL	47	0.0	None	8760	411.7	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B Wing Corridor: Lower Level	20	PAR 38 SP	H030/3	100	2.0	Breaker	8760	17,520.0	20	PAR 38 SP	H030/3	100	2.0	None	8760	17,520.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B Wing Corridor: Lower Level	1	PAR 38 SP	H030/3	100	0.1	SW	4368	436.8	1	PAR 38 SP	H030/3	100	0.1	OCC	2912	291.2	145.6	0.0	$15.44	$126.25	$20.00	8.2	7.0	
261LED	B Wing Corridor: Lower Level	9	PAR 38 SP	H030/3	100	0.9	Breaker	8760	7,884.0	9	PAR 38 SP	H030/3	100	0.9	None	8760	7,884.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H030/3	100	0.6	Breaker	8760	5,256.0	6	PAR 38 SP	H030/3	100	0.6	None	8760	5,256.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H030/3	100	0.6	Breaker	8760	5,256.0	6	PAR 38 SP	H030/3	100	0.6	None	8760	5,256.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
48LED	B006 - Storage: Lower Level	4	1T 32 R F 2 (EL)	F42LL	60	0.2	SW	1000	240.0	4	1T 32 R F 2 (EL)	F42LL	60	0.2	None	1000	240.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B009 - Office: Lower Level	4	PAR 38 SP	H030/3	100	0.4	SW	4400	1,760.0	4	PAR 38 SP	H030/3	100	0.4	OCC	3080	1,232.0	528.0	0.0	$56.58	$126.25	$20.00	2.3	1.9	
261LED	B008 - Computer Lab: Lower Level	6	PAR 38 SP	H030/3	100	0.6	SW	5096	3,057.6	6	PAR 38 SP	H030/3	100	0.6	OCC	3567.2	2,140.3	917.3	0.0	$98.15	$126.25	$20.00	1.3	1.1	
261LED	B008 - Computer Lab: Lower Level	4	PAR 38 SP	H030/3	100	0.4	SW	5096	2,038.4	4	PAR 38 SP	H030/3	100	0.4	OCC	3567.2	1,425.9	611.5	0.0	$65.43	$126.25	$20.00	2.0	1.7	
261LED	B009 - Classroom: Lower Level	12	PAR 38 SP	H030/3	100	1.2	SW	5096	6,115.2	12	PAR 38 SP	H030/3	100	1.2	OCC	3567.2	4,280.6	1,834.6	0.0	$196.30	$126.25	$20.00	0.7	0.6	
261LED	B009 - Classroom: Lower Level	8	PAR 38 SP	H030/3	100	0.8	SW	5096	4,076.8	8	PAR 38 SP	H030/3	100	0.8	OCC	3567.2	2,853.8	1,223.0	0.0	$130.87	$126.25	$20.00	1.0	0.8	
261LED	B011 - Classroom: Lower Level	6	PAR 38 SP	H030/3	100	0.6	SW	5096	3,057.6	6	PAR 38 SP	H030/3	100	0.6	OCC	3567.2	2,140.3	917.3	0.0	$98.15	$126.25	$20.00	1.3	1.1	
261LED	B011 - Classroom: Lower Level	5	PAR 38 SP	H030/3	100	0.5	SW	5096	2,548.8	5	PAR 38 SP	H030/3	100	0.5	OCC	3567.2	1,070.2	458.6	0.0	$49.07	$126.25	$20.00	2.6	2.2	
32LED	B015 - Elevator Mechanical Room: Lower Level	1	1T 32 R F 2 (EL)	F42LL	60	0.1	SW	1820	109.2	1	1T 32 R F 2 (EL)	F42LL	60	0.1	None	1820	109.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	B013 - Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	78.4	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	None	1400	78.4

Energy Audit of New Hospital Center
CH4 Project No. 2914f
ECM-L2 Install Occupancy Sensors

		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	Cost for Innovations to lighting system	No 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	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example (2T 40 R F15). 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	(kWh/space) * (Annual Hours)	Original Annual kWh - (Retrofit Annual kWh)	Original Annual kW - (Retrofit Annual kW)	kW Saved * $/kWh	Cost for innovations to lighting system	Incentive	Length of time for innovations cost to be recovered	Length of time for innovations cost to be recovered
261LED	A108 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	436.8	1	PAR 38 SP	H100/1	100	0.1	None	4368	436.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A107 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A105 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A105 - Sem Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4368	524.2	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	4368	524.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A105 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	873.6	2	PAR 38 SP	H100/1	100	0.2	None	4368	873.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A106 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	436.8	1	PAR 38 SP	H100/1	100	0.1	None	4368	436.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A104 - Sem Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4368	524.2	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	4368	524.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A104 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	873.6	2	PAR 38 SP	H100/1	100	0.2	None	4368	873.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A104 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	436.8	1	PAR 38 SP	H100/1	100	0.1	None	4368	436.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A103 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A103 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A101 - Sem Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4368	524.2	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	4368	524.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A101 - Sem Private Room: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	SW	4368	873.6	2	PAR 38 SP	H100/1	100	0.2	None	4368	873.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A101 - Sem Private Room: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	SW	4368	436.8	1	PAR 38 SP	H100/1	100	0.1	None	4368	436.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A170 - Sem Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4368	524.2	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	4368	524.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A170 - Sem Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122.3	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4368	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A170 - Sem Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122.3	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4368	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A169 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A169 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A167 - Sem Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4368	524.2	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	4368	524.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A167 - Sem Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122.3	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4368	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A167 - Sem Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122.3	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4368	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A166 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A166 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A165 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A165 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39.2	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	39.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	A166 - Laundry: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1400	84.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	None	1400	84.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A164 - PT Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	117.6	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1400	117.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	A163 - PT Toilet: 1st Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	117.6	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1400	117.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	A146 - Janitor's Closet: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1400	84.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	None	1400	84.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	A145 - Visiting Room: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	264.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	184.8	79.2	0.0	$8.47	$126.25	$20.00	15.1	12.8	
40LED	A144 - Quiet Room: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	264.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	184.8	79.2	0.0	$8.47	$126.25	$20.00	15.1	12.8	
97	A142 - Toilet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	78.4	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1400	78.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	A141 - Quiet Room: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	264.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	184.8	79.2	0.0	$8.47	$126.25	$20.00	15.1	12.8	
116	A143 - External Patio: 1st Floor	4	X 7.0 W 1	E7/5/1	8	0.0	SW	4368	139.8	4	X 7.0 W 1	E7/5/1	8	0.0	PHC	3500	112.0	27.8	0.0	$2.97	$0.00	$0.00	0.0	0.0	
35LED	A161 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A160 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A159 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A157 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A158 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A154 - Office: 1st Floor	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	SW	4400	396.0	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	OCC	3080	277.2	118.8	0.0	$12.71	$126.25	$20.00	10.1	8.5	
35LED	A153 - Office: 1st Floor	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	SW	4400	396.0	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	OCC	3080	277.2	118.8	0.0	$12.71	$126.25	$20.00	10.1	8.5	
35LED	A155 - Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	A148 - Work: 1st Floor	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	SW	4400	396.0	1	1T 32 R F 3 (ELE)	F43/LL/2	90	0.1	None	4400	396.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	A146 - Telecommunications: 1st Floor	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3000	360.0	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	3000	360.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	S04 - Stair #4: 1st Floor	4	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	1,051.2	4	1T 32 R F 2 (ELE)	F42/LL	60	0.1	None	8760	1,051.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	B101 - Corridor: 1st Floor	7	2T 17 R F 3 (ELE)	F23/LL	47	0.3	Breaker	8760	2,882.0	7	2T 17 R F 3 (ELE)	F23/LL	47	0.3	None	8760	2,882.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B101 - Corridor: 1st Floor	6	PAR 38 SP	H100/1	100	0.6	Breaker	8760	5,256.0	6	PAR 38 SP	H100/1	100	0.6	None	8760	5,256.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B101 - Corridor: 1st Floor	3	PAR 38 SP	H100/1	100	0.3	Breaker	8760	1,628.0	3	PAR 38 SP	H100/1	100	0.3	None	8760	1,628.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B102 - Corridor: 1st Floor	6	PAR 38 SP	H100/1	100	0.6	Breaker	8760	5,256.0	6	PAR 38 SP	H100/1	100	0.6	None	8760	5,256.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B102 - Corridor: 1st Floor	3	PAR 38 SP	H100/1	100	0.3	Breaker	8760	2,628.0	3	PAR 38 SP	H100/1	100	0.3	None	8760	2,628.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B102 - Corridor: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752.0	2	PAR 38 SP	H100/1	100	0.2	None	8760	1,752.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B110 - Corridor: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752.0	2	PAR 38 SP	H100/1	100	0.2	None	8760	1,752.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	B110 - Corridor: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	Breaker	8760	876.0	1	PAR 38 SP	H100/1	100	0.1	None	8760	876.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	S04 - Stair #4 Entry: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	Breaker	8760	1,752.0	2	PAR 38 SP	H100/1	100	0.2	None	8760	1,752.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	S04 - Stair #4 Entry: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	Breaker	8760	876.0	1	PAR 38 SP	H100/1	100	0.1	None	8760	876.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
56LED	B111/B112 - Conference Room: 1st Floor	8	2T 17 R F 3 (ELE)	F23/LL	47	0.4	SW	2184	821.2	8	2T 17 R F 3 (ELE)	F23/LL	47	0.4	None	2184	821.2	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	B111/B112 - Conference Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122.3	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	2184	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	B111/B112 - Conference Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122.3	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	2184	122.3	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
35LED	B109 - Medical Director Office: 1st Floor	4	1T 32 R F 3 (ELE)	F43/LL/2	90	0.4	SW	4400	1,584.0	4	1T 32 R F 3 (ELE)	F43/LL/2	90	0.4	OCC	3080	1,108.8	475.2	0.0	$50.85	$126.25	$20.00	2.5	2.1	
35LED	B108 - Executive Assistant: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B107 - Executive Assistant: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B106 - Hospital Director Office: 1st Floor	4	1T 32 R F 3 (ELE)	F43/LL/2	90	0.4	SW	4400	1,584.0	4	1T 32 R F 3 (ELE)	F43/LL/2	90	0.4	OCC	3080	1,108.8	475.2	0.0	$50.85	$126.25	$20.00	2.5	2.1	
40LED	B105 - Storage: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1400	84.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	None	1400	84.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	B104 - Toilet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	78.4	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1400	78.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
35LED	B121 - Director's Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B122 - Director's Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B123 - Director's Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B124 - Director's Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
35LED	B125 - Director's Office: 1st Floor	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792.0	2	1T 32 R F 3 (ELE)	F43/LL/2	90	0.2	OCC	3080	554.4	237.6	0.0	$25.42	$126.25	$20.00	5.0	4.3	
32LED	B114 / B126 / B127 - Waiting Area: 1st Floor	10	1T 32 R F 2 (ELE)	F42/LL	60	0.6	SW	5096	3,057.6	10	1T 32 R F 2 (ELE)	F42/LL	60	0.6	OCC	3557.2	2,140.3	917.3	0.0	$98.15	$126.25	$20.00	1.3	1.1	
261LED	B114 / B126 / B127 - Waiting Area: 1st Floor	5	1P 13 R F 3 (ELE)	F23/LL	47	0.3	SW	2500	705.0	5	1P 13 R F 3 (ELE)	F23/LL	47	0.3	OCC	1875	528.8	176.3	0.0	$18.86	$126.25	$20.00	6.8	5.7	
97	B114 / B126 / B127 - Waiting Area: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285.4	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1875	187.5	97.9	0.0	$9.69	$126.25	$20.00	19.2	16.2	
97	B114 / B126 / B127 - Waiting Area: 1st Floor	2	1P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285.4	2	1P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1875	187.5	97.9	0.0	$9.69	$126.25	$20.00	19.2	16.2	
56LED	B119 - Regiite: 1st Floor	4	2T 17 R F 3 (ELE)	F23/LL	47	0.2	SW	4400	827.2	4	2T 17 R F 3 (ELE)	F23/LL	47	0.2	OCC	3080	579.0	248.2	0.0	$26.55	$126.25	$20.00	4.8	4.1	
40LED	B118 - Kitchen: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3000	180.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	2100	126.0	54.0	0.0	$5.78	$126.25	$20.00	13.3	11.2	
40LED	B117 - Office: 1st Floor	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	528.0	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	369.6	158.4	0.0	$16.95	$126.25	$20.00	7.5	6.4	
40LED	B116 - Office: 1st Floor	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	528.0	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	369.6	158.4	0.0	$16.95	$126.25	$20.00	7.5	6.4	
40LED	B115 - Office: 1st Floor	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	528.0	2	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	3080	369.6	158.4	0.0	$16.95	$126.25	$20.00	7.5	6.4	
56LED	B129 - MDF Room: 1st Floor	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	SW	4400	206.8	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	OCC	3080	144.8	62.0	0.0	$6.64	$126.25	$20.00	19.3	16.3	
56LED	B129 - MDF Room: 1st Floor	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	SW	4400	206.8	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	OCC	3080	144.8	62.0	0.0	$6.64	$126.25	$20.00	19.3	16.3	
35LED	B129 - MDF Room: 1st Floor	5	1T 32 R F 3 (ELE)	F43/LL/2	90	0.5	SW	4400	1,980.0	5	1T 32 R F 3 (ELE)	F43/LL/2	90	0.5	OCC	3080	1,386.0	594.0	0.0	$63.56	$126.25	$20.00	2.0	1.7	
40LED	B128 - Electrical Room: 1st Floor	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1400	84.0	1	3 32 R F 2 (ELE)	F42/LL	60	0.1	OCC	980	58.8	25.2	0.0	$2.70	$126.25	$20.00	47.6	40.1	
97	Regiite - Men's Toilet: 1st Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	117.6	3	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	117.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	Regiite - Women's Toilet: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	78.4	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1400	78.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	Regiite - Women's Toilet: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	OCC	1400	280.0	2	PAR 38 SP	H100/1	100	0.2	None	1400	280.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	Regiite - Women's Toilet: 1st Floor	2	PAR 38 SP	H100/1	100	0.2	OCC	1400	280.0	2	PAR 38 SP	H100/1	100	0.2	None	1400	280.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
261LED	Regiite - Women's Toilet: 1st Floor	1	PAR 38 SP	H100/1	100	0.1	OCC	1400	140.0	1	PAR 38 SP	H100/1	100	0.1	None	1400	140.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
116	B130

Energy Audit of New Hospital Center
CH4 Project No. 2914f
ECM-L2 Install Occupancy Sensors

		EXISTING CONDITIONS								RETROFIT CONDITIONS								COST & SAVINGS ANALYSIS						
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual $ Saved	Retrofit Cost		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	(kWh/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	(kWh/space) * (Annual Hours)	Original Annual kWh - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kW Saved) * ($/kWh)	Cost for renovations to lighting system	'NJ Smart Start Lighting Incentive	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
182	D137 - Exam Room: 1st Floor	2	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.1	SW	4368	576.6	2	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.1	OCC	3660	501.6	75.0	0.0	88.02	$128.25	$20.00	16.0	13.5
55LED	D777 - Transportation: 1st Floor	2	2T 17 R F 3 (EL)	F23HL	47	0.1	SW	4400	413.6	2	2T 17 R F 3 (EL)	F23L1	47	0.1	OCC	3080	289.5	124.1	0.0	$13.28	$128.25	$20.00	9.7	8.2
182	D139 - Therapy: 1st Floor	4	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	OCC	4400	1,161.6	4	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	OCC	3080	813.1	348.5	0.0	$37.29	$128.25	$20.00	3.4	2.9
182	D138 - Therapy: 1st Floor	2	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	OCC	4400	581.8	2	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	OCC	3080	407.4	174.4	0.0	$18.67	$128.25	$20.00	6.9	5.8
97	D777 - Illegible: 1st Floor	4	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	SW	4400	582.8	4	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	OCC	3080	345.0	147.8	0.0	$15.82	$128.25	$20.00	8.1	6.8
97	Exterior D Wing: 1st Floor	4	6P 13 R OF 2	CFQ132-L	28	0.1	SW	4368	489.2	4	6P 13 R OF 2	CFQ132-L	28	0.1	OCC	3080	392.0	97.2	0.0	$10.40	$128.25	$20.00	12.3	10.4
182	507 - Stair #7: 1st Floor	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734.5	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	None	8760	1,734.5	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
97	507 - Stair #7: 1st Floor	1	6P 13 R OF 2	CFQ132-L	28	0.0	Breaker	8760	245.3	1	6P 13 R OF 2	CFQ132-L	28	0.0	None	8760	245.3	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	508 - Stair #8: 1st Floor	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734.5	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	None	8760	1,734.5	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
97	508 - Stair #8: 1st Floor	1	6P 13 R OF 2	CFQ132-L	28	0.0	Breaker	8760	245.3	1	6P 13 R OF 2	CFQ132-L	28	0.0	None	8760	245.3	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	E-Wing West Corridor: 1st Floor	5	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	Breaker	8760	2,890.8	5	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	None	8760	2,890.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	E-Wing West Corridor: 1st Floor	7	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	Breaker	8760	4,047.1	7	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	None	8760	4,047.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing West Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628.0	3	PAR 38 SP	H030/1	100	0.3	None	8760	2,628.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing East Corridor: 1st Floor	7	PAR 38 SP	H030/1	100	0.7	Breaker	8760	6,132.0	7	PAR 38 SP	H030/1	100	0.7	None	8760	6,132.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628.0	3	PAR 38 SP	H030/1	100	0.3	None	8760	2,628.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing East Corridor: 1st Floor	4	PAR 38 SP	H030/1	100	0.4	Breaker	8760	3,504.0	4	PAR 38 SP	H030/1	100	0.4	None	8760	3,504.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H030/1	100	0.3	Breaker	8760	2,628.0	3	PAR 38 SP	H030/1	100	0.3	None	8760	2,628.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	E-Wing North Corridor: 1st Floor	5	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	Breaker	8760	2,890.8	5	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.3	None	8760	2,890.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	E-Wing North Corridor: 1st Floor	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734.5	3	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.2	None	8760	1,734.5	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
97	E-Wing North Corridor: 1st Floor	3	6P 13 R OF 2	CFQ132-L	28	0.1	Breaker	8760	735.8	3	6P 13 R OF 2	CFQ132-L	28	0.1	None	8760	735.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
182	Dining/Activity: 1st Floor	30	W 25 C F 2 (EL) 2 T 8	F32E6	66	2.0	SW	2912	5,765.8	30	W 25 C F 2 (EL) 2 T 8	F32E6	66	2.0	OCC	2100	4,158.0	1,607.8	0.0	$172.03	$128.25	$20.00	0.7	0.6
182	Dining/Activity: 1st Floor	8	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	SW	2912	1,537.5	8	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	OCC	2100	1,108.8	428.7	0.0	$45.87	$128.25	$20.00	2.8	2.4
261LED	Dining/Activity: 1st Floor	6	PAR 38 SP	H030/1	100	0.6	SW	2912	1,747.2	6	PAR 38 SP	H030/1	100	0.6	OCC	2100	1,260.0	487.2	0.0	$52.13	$128.25	$20.00	2.5	2.1
261LED	Dining/Activity: 1st Floor	10	PAR 38 SP	H030/1	100	1.0	SW	2912	2,912.0	10	PAR 38 SP	H030/1	100	1.0	OCC	2100	2,100.0	812.0	0.0	$86.88	$128.25	$20.00	1.5	1.2
261LED	Dining/Activity: 1st Floor	9	PAR 38 SP	H030/1	100	0.9	SW	4400	3,960.0	9	PAR 38 SP	H030/1	100	0.9	OCC	3080	2,772.0	1,188.0	0.0	$127.12	$128.25	$20.00	1.0	0.9
261LED	Nurse Station: 1st Floor	1	PAR 38 SP	H030/1	100	0.1	SW	4400	440.0	1	PAR 38 SP	H030/1	100	0.1	OCC	3080	308.0	132.0	0.0	$14.12	$128.25	$20.00	9.1	7.7
261LED	Nurse Station: 1st Floor	1	PAR 38 SP	H030/1	100	0.1	SW	4400	440.0	1	PAR 38 SP	H030/1	100	0.1	OCC	3080	308.0	132.0	0.0	$14.12	$128.25	$20.00	9.1	7.7
49LED	Nurse Station: 1st Floor	4	T 32 R F 2 (EL)	F42L1	60	0.1	SW	4400	264.0	1	T 32 R F 2 (EL)	F42L1	60	0.1	OCC	3080	184.8	79.2	0.0	$8.47	$128.25	$20.00	15.1	12.8
49LED	Nurse Office Extension: 1st Floor	2	T 32 R F 2 (EL)	F42L1	60	0.1	SW	4400	528.0	2	T 32 R F 2 (EL)	F42L1	60	0.1	OCC	3080	369.6	158.4	0.0	$16.95	$128.25	$20.00	7.6	6.4
55LED	Nurse Office Extension: 1st Floor	2	2T 17 R F 3 (EL)	F23L1	47	0.0	SW	4400	206.8	1	2T 17 R F 3 (EL)	F23L1	47	0.0	OCC	3080	144.8	62.0	0.0	$6.64	$128.25	$20.00	19.3	16.3
55LED	Nurse Office Extension: 1st Floor	3	2T 17 R F 3 (EL)	F23L1	47	0.1	SW	4400	620.4	3	2T 17 R F 3 (EL)	F23L1	47	0.1	OCC	3080	434.3	186.1	0.0	$19.91	$128.25	$20.00	6.4	5.4
49LED	Nurse Office Extension: 1st Floor	3	T 32 R F 2 (EL)	F42L1	60	0.1	SW	4400	528.0	3	T 32 R F 2 (EL)	F42L1	60	0.1	OCC	3080	369.6	158.4	0.0	$16.95	$128.25	$20.00	7.6	6.4
97	Nurse Office Extension: 1st Floor	1	6P 13 R OF 2	CFQ132-L	28	0.0	SW	4400	123.2	1	6P 13 R OF 2	CFQ132-L	28	0.0	OCC	3080	86.2	37.0	0.0	$3.95	$128.25	$20.00	32.4	27.4
182	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	8	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	SW	4368	2,306.3	8	W 25 C F 2 (EL) 2 T 8	F32E6	66	0.5	None	4368	2,306.3	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	16	PAR 38 SP	H030/1	100	1.6	SW	4368	6,988.8	16	PAR 38 SP	H030/1	100	1.6	None	4368	6,988.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	8	PAR 38 SP	H030/1	100	0.8	SW	4368	2,494.4	8	PAR 38 SP	H030/1	100	0.8	None	4368	2,494.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
261LED	E-Wing West Semi-Private Rooms / Bathrooms: 1st Floor	4	PAR 38 SP	H030/1	100	0.4	SW	4368	1,747.2	4	PAR 38 SP	H030/1	100	0.4	None	4368	1,747.2

Energy Audit of New Hospital Center
CH4 Project No. 2914I
ECM-L2 Install Occupancy Sensors

		EXISTING CONDITIONS								RETROFIT CONDITIONS								COST & SAVINGS ANALYSIS						
	Area Description	No. of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Exist Control	Annual Hours	Annual kWh	Number of Fixtures	Standard Fixture Code	Fixture Code	Watts per Fixture (Watts/Fixt)	kW/Space	Retrofit Control	Annual Hours	Annual kWh	Annual kWh Saved	Annual kW Saved	Annual $ Saved	Retrofit Cost	No 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	(Watts/Fixt) * (Fixt No.)	Pre-inst. control device	Estimated annual hours for the usage group	(kWh/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code". Example 2T 40 R F(G) = 2*x2' 7roff 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	(kWh/space) * (Annual Hours)	Original Annual kWh - (Retrofit Annual kWh)	Original Annual kW - (Retrofit Annual kW)	(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
97	Toilet Room / Ante Room: 2nd Floor	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	OCC	1400	274.4	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	None	1400	274.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1000	60.0	1	T 32 R F 2 (EL)	F42/L	60	0.1	None	1000	60.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
182	Toilet Rooms: 2nd Floor	3	W 25 C F 2 (EL) 2 T8	F32EE	56	0.3	SW	1400	184.8	3	W 25 C F 2 (EL) 2 T8	F32EE	56	0.3	None	1400	184.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	Toilet Room / Ante Room: 3rd Floor	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	OCC	1400	274.4	7	6P 13 R OF 2	CFQ13/2-L	28	0.2	None	1400	274.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	Clean Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	OCC	1000	60.0	1	T 32 R F 2 (EL)	F42/L	60	0.1	None	1000	60.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	Toilet Rooms: 2nd Floor	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	117.6	3	6P 13 R OF 2	CFQ13/2-L	28	0.1	None	1400	117.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
182	Toilet Rooms: 2nd Floor	2	W 25 C F 2 (EL) 2 T8	F32EE	56	0.1	OCC	1400	184.8	2	W 25 C F 2 (EL) 2 T8	F32EE	56	0.1	None	1400	184.8	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
40LED	Laundry Room: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1400	84.0	1	T 32 R F 2 (EL)	F42/L	60	0.1	None	1400	84.0	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
97	Tub / Shower Room: 2nd Floor	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	OCC	1400	78.4	2	6P 13 R OF 2	CFQ13/2-L	28	0.1	None	1400	78.4	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,096.6	8	1T 32 R F 2 (EL)	F42/L	60	0.5	None	4368	2,096.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,096.6	8	1T 32 R F 2 (EL)	F42/L	60	0.5	None	4368	2,096.6	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	16	6P 36 R OF 1	CFT36/1	51	0.8	SW	4368	3,564.1	16	6P 36 R OF 1	CFT36/1	51	0.8	None	4368	3,564.1	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	6P 36 R OF 1	CFT36/1	51	0.4	SW	4368	1,782.1	8	6P 36 R OF 1	CFT36/1	51	0.4	None	4368	1,782.1	0.0	0.0	$0.00	$0.00	$0.00			#DIV/0!
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	4	6P 36 R OF 1	CFT36/1	51	0.2	SW	4368	891.1	4	6P 36 R OF 1	CFT36/1	51	0.2	None	4368	891

Energy Audit of New Hospital Center
CHA Project No. 29142
ECM-L3 Lighting Replacements with Occupancy Sensors

		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 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 daily hours for the usage group	Annual kWh (kW/space) * (Annual Hours)	Number of Fixtures No. 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 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	501 - Stair #1: Lower Level	3	1T 32 F R F 2 (ELE)	F42/LL	60	0.2	Breaker	8760	1,577	3	4 ft LED Tube	2007/32w2	30	0.1	None	8,760	788	788 | 0.1	$ 91.64	$ 701.31	$ 105	7.7	6.5		
28B	502 - Stair #2: Lower Level	7	W 25 C F 2 (ELE) 2 T 8	F28/E	66	0.1	Breaker	8760	1,156	7	W 25 C F 2 (ELE) 2 T 8	F28/E	66	0.1	None	8,760	1,156	0 | 0	$ -	$ -	$ -				
32LED	A016 - Electrical Room: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	None	8,760	263	263 | 0.0	$ 6.92	$ 233.70	$ 35	33.8	28.7		
56LED	A020 - Corridor: Lower Level	20	2T 17 R F 3 (ELE)	F23/LL	47	0.9	Breaker	8760	8,234	20	2T 25 R LED	2RTLED	25	0.5	None	8,760	4,380	3,854 | 0.4	$ 448.01	$ 4,060.00	$ 1,000	9.0	6.8		
261LED	A020 - Corridor: Lower Level	4	PAR 38 SP	H/100/1	100	0.4	Breaker	8760	3,504	4	EVO35/10	EVO35/10	39	0.1	None	8,760	1,367	2,137 | 0.2	$ 248.44	$ 1,756.00	$ 140	7.1	6.5		
56LED	A007 - Corridor: Lower Level	11	2T 17 R F 3 (ELE)	F23/LL	47	0.5	Breaker	8760	4,529	11	2T 25 R LED	2RTLED	25	0.3	None	8,760	2,409	2,120 | 0.2	$ 246.40	$ 2,207.50	$ 550	9.0	6.8		
261LED	A007 - Corridor: Lower Level	2	PAR 38 SP	H/100/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	None	8,760	683	1,069 | 0.1	$ 124.22	$ 877.50	$ 70	7.1	6.5		
56LED	A029 - Corridor: Lower Level	8	2T 17 R F 3 (ELE)	F23/LL	47	0.4	Breaker	8760	3,294	8	2T 25 R LED	2RTLED	25	0.2	None	8,760	1,752	1,542 | 0.1	$ 179.20	$ 1,620.00	$ 400	9.0	6.8		
261LED	A029 - Corridor: Lower Level	1	PAR 38 SP	H/100/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	None	8,760	342	534 | 0.1	$ 62.11	$ 438.75	$ 35	7.1	6.5		
56LED	A026 - Corridor: Lower Level	7	2T 17 R F 3 (ELE)	F23/LL	47	0.3	Breaker	8760	2,880	7	2T 25 R LED	2RTLED	25	0.2	None	8,760	1,533	1,349 | 0.2	$ 156.60	$ 1,417.50	$ 350	9.0	6.8		
261LED	A026 - Corridor: Lower Level	3	PAR 38 SP	H/100/1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	None	8,760	1,025	1,603 | 0.2	$ 186.33	$ 1,316.25	$ 105	7.1	6.5		
261LED	A026 - Corridor: Lower Level	1	PAR 38 SP	H/100/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	None	8,760	342	534 | 0.1	$ 62.11	$ 438.75	$ 35	7.1	6.5		
56LED	A033 - Corridor: Lower Level	6	2T 17 R F 3 (ELE)	F23/LL	47	0.3	Breaker	8760	2,470	6	2T 25 R LED	2RTLED	25	0.2	None	8,760	1,314	1,156 | 0.1	$ 134.40	$ 1,215.00	$ 300	9.0	6.8		
261LED	A033 - Corridor: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	1,051	2	4 ft LED Tube	2007/32w2	30	0.1	None	8,760	526	526 | 0.1	$ 61.09	$ 467.40	$ 70	7.7	6.5		
11E	A033 - Corridor: Lower Level	2	X 7-0 W 1	E/7 5/1	8	0.0	Breaker	8760	140	2	X 1 SC LED	ELED1 5/2	3	0.0	None	8,760	53	88 | 0.0	$ 10.18	$ 256.50	$ -	25.2	25.3		
48LED	A012 - Dietary: Lower Level	30	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3094	5,569	30	T 38 R LED	RTLED38	38	1.1	OCC	2,166	2,469	3,100 | 0.4	$ 365.10	$ 7,215.75	$ 1,530	18.7	14.6		
48LED	A012 - Dietary: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3094	371	2	T 38 R LED	RTLED38	38	0.1	OCC	2,166	165	207 | 0.0	$ 25.67	$ 600.75	$ 120	23.4	18.7		
48LED	A012 - Dietary: Lower Level	6	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3094	742	6	T 38 R LED	RTLED38	38	0.2	OCC	2,166	330	412 | 0.0	$ 51.34	$ 1,444.50	$ 175	14.5	15.2		
48LED	A039 - Non Food Storage: Lower Level	3	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	3094	186	3	T 38 R LED	RTLED38	38	0.1	OCC	2,166	83	103 | 0.0	$ 12.83	$ 337.50	$ 105	49.1	43.2		
48LED	A039 - Storage: Lower Level	3	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	180	3	T 38 R LED	RTLED38	38	0.1	OCC	750	86	95 | 0.1	$ 11.85	$ 337.50	$ 170	54.2	43.2		
48LED	A038 - Non Food Storage: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	180	1	T 38 R LED	RTLED38	38	0.0	OCC	750	86	95 | 0.1	$ 11.85	$ 337.50	$ 170	54.2	43.2		
48LED	A039 - Storage: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1000	60	1	T 38 R LED	RTLED38	38	0.0	None	1,000	38	22 | 0.0	$ 4.13	$ 236.25	$ 50	57.2	45.1		
32LED	A018 - Elevator Mechanical Room: Lower Level	3	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1820	328	3	4 ft LED Tube	2007/32w2	30	0.0	None	1,820	164	164 | 0.1	$ 24.81	$ 701.10	$ 105	28.3	24.0		
32LED	A106 - Open Offices: Lower Level	4	2T 17 R F 3 (ELE)	F23/LL	47	0.2	SW	4400	827	4	2T 25 R LED	2RTLED	25	0.1	None	4,400	443	387 | 0.1	$ 49.56	$ 810.00	$ 200	16.7	12.0		
32LED	A018A - Janitor's Closet: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1400	84	1	4 ft LED Tube	2007/32w2	30	0.0	None	1,400	42	42 | 0.0	$ 6.92	$ 233.70	$ 35	33.8	28.7		
56LED	A014 - Office: Lower Level	4	2T 17 R F 3 (ELE)	F23/LL	47	0.1	SW	4460	414	4	2T 25 R LED	2RTLED	25	0.1	None	4,460	220	194 | 0.0	$ 24.27	$ 405.00	$ 100	16.7	12.6		
55LED	A013 - Lockers / Toilet Room: Lower Level	2	2T 17 R F 3 (ELE)	F23/LL	47	0.1	SW	5096	479	2	2T 25 R LED	2RTLED	25	0.1	OCC	3,567	178	301 | 0.0	$ 35.73	$ 533.25	$ 120	14.9	11.6		
97	A013 - Lockers / Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	26	0.1	SW	5096	265	2	6P 13 R CF 2	CFQ13/2-L	26	0.1	OCC	3,567	200	66 | 0.0	$ 9.16	$ 128.25	$ 20	14.0	11.8		
35LED	A021 - Gym: Lower Level	4	T 32 R F 3 (ELE)	F43/LL/2	90	0.4	SW	3640	1,310	4	T 59 R LED	RTLED38	38	0.2	None	3,640	553	757 | 0.2	$ 97.83	$ 945.00	$ -	9.7	9.7		
55LED	A022 - Toilet Room: Lower Level	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	SW	5096	240	1	2T 25 R LED	2RTLED	25	0.0	None	5,096	127	112 | 0.0	$ 13.78	$ 202.50	$ 50	14.7	11.1		
55LED	A023 - Lockers: Lower Level	8	2T 17 R F 3 (ELE)	F23/LL	47	0.4	SW	5096	1,916	8	2T 25 R LED	2RTLED	25	0.2	OCC	3,567	713	1,203 | 0.2	$ 142.92	$ 1,748.25	$ 420	12.2	9.3		
55LED	A023 - Lockers: Lower Level	2	2T 17 R F 3 (ELE)	F23/LL	47	0.1	SW	5096	479	2	2T 25 R LED	2RTLED	25	0.1	OCC	3,567	178	301 | 0.0	$ 35.73	$ 533.25	$ 120	14.9	11.6		
55LED	A024 - Toilet Room: Lower Level	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	SW	5096	240	1	2T 25 R LED	2RTLED	25	0.0	OCC	3,567	89	150 | 0.0	$ 17.86	$ 337.75	$ 70	18.5	14.6		
48LED	A010 - Stock Room: Lower Level	4	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.1	None	1,000	152	88 | 0.1	$ 16.53	$ 946.00	$ 200	57.2	45.1		
48LED	A010 - Stock Room: Lower Level	4	1T 32 R F 2 (ELE)	F42/LL	60	0.4	SW	1000	360	4	T 38 R LED	RTLED38	38	0.2	None	1,000	228	132 | 0.1	$ 24.80	$ 1,417.50	$ 300	57.2	45.1		
48LED	A008 - Storage: Lower Level	4	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.2	None	1,000	152	88 | 0.1	$ 16.53	$ 946.00	$ 200	57.2	45.1		
48LED	A009 - Unspecified: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	528	2	T 38 R LED	RTLED38	38	0.1	None	4,400	334	194 | 0.0	$ 24.27	$ 472.50	$ 100	19.5	15.3		
48LED	A003 - Plan Room: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	4400	528	2	T 38 R LED	RTLED38	38	0.1	None	4,400	334	194 | 0.0	$ 24.27	$ 472.50	$ 100	19.5	15.3		
261LED	A005 - Women's Toilet: Lower Level	2	PAR 38 SP	H/100/1	100	0.2	OCC	1460	280	2	EVO35/10	EVO35/10	39	0.0	None	1,460	109	171 | 0.1	$ 28.14	$ 877.50	$ 70	31.2	28.7		
261LED	A005 - Men's Toilet: Lower Level	2	PAR 38 SP	H/100/1	100	0.2	OCC	1460	280	2	EVO35/10	EVO35/10	39	0.1	None	1,460	109	171 | 0.1	$ 28.14	$ 877.50	$ 70	31.2	28.7		
48LED	A002 - Shop & Storage: Lower Level	8	1T 32 R F 2 (ELE)	F42/LL	60	0.4	SW	1000	640	8	T 38 R LED	RTLED38	38	0.3	None	1,000	342	298 | 0.3	$ 37.20	$ 2,125.25	$ 450	57.2	45.1		
35LED	A004 - Facility Manager Office: Lower Level	2	T 32 R F 3 (ELE)	F43/LL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTLED38	38	0.1	None	4,400	334	458 | 0.1	$ 57.37	$ 472.50	$ -	8.2	8.2		
48LED	A001 - Shop & Storage: Lower Level	6	1T 32 R F 2 (ELE)	F42/LL	60	0.4	SW	4400	1,584	6	T 38 R LED	RTLED38	38	0.2	OCC	3,080	702	882 | 0.1	$ 105.02	$ 1,545.75	$ 300	14.7	11.7		
32LED	503 - Stair #3: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	1,051	2	4 ft LED Tube	2007/32w2	30	0.1	None	8,760	526	526 | 0.1	$ 61.09	$ 467.40	$ 70	7.7	6.5		
48LED	A011 - Bulk Storage: Lower Level	6	1T 32 R F 2 (ELE)	F42/LL	60	0.4	SW	1000	360	6	T 38 R LED	RTLED38	38	0.2	OCC	1,000	228	132 | 0.1	$ 24.80	$ 1,417.50	$ 300	57.2	45.1		
32LED	A032 - Site Storage: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1000	120	2	4 ft LED Tube	2007/32w2	30	0.0	None	1,000	60	60 | 0.1	$ 11.27	$ 467.40	$ 70	41.5	35.3		
32LED	A030 - Fire Pump - Water Service: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1820	437	1	4 ft LED Tube	2007/32w2	30	0.0	None	1,820	218	218 | 0.1	$ 33.07	$ 594.00	$ 140	28.3	24.0		
56LED	A036 - Dining: Lower Level	4	2T 17 R F 3 (ELE)	F23/LL	47	0.2	SW	3094	582	4	2T 25 R LED	2RTLED	25	0.1	OCC	2,166	217	365 | 0.1	$ 46.18	$ 938.25	$ 220	20.3	15.6		
48LED	A037 - Bulk Storage: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1000	240	2	T 38 R LED	RTLED38	38	0.0	None	1,000	152	88 | 0.1	$ 16.53	$ 472.50	$ 100	57.2	45.1		
56LED	A031 - Receiving: Lower Level	4	2T 17 R F 3 (ELE)	F23/LL	47	0.2	SW	3094	582	4	2T 25 R LED	2RTLED	25	0.1	OCC	2,166	217	365 | 0.1	$ 46.18	$ 1,417.50	$ 300	30.7	22.7		
48LED	A031 - Receiving: Lower Level	2	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1000	120	2	4 ft LED Tube	2007/32w2	30	0.0	None	1,000	60	60 | 0.1	$ 11.27	$ 467.40	$ 70	41.5	35.3		
48LED	A035 - Clean Linen: Lower Level	4	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.2	None	1,000	152	88 | 0.1	$ 16.53	$ 946.00	$ 200	57.2	45.1		
48LED	A034 - Soiled Held / Contamination: Lower Level	3	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	180	3	T 38 R LED	RTLED38	38	0.1	None	1,000	114	66 | 0.1	$ 12.40	$ 708.75	$ 150	57.2	45.1		
32LED	A041 - Oxygen Storage: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1000	60	1	4 ft LED Tube	2007/32w2	30	0.0	None	1,000	30	30 | 0.0	$ 5.64	$ 233.70	$ 35	41.5	35.3		
97	Emergency Exit Corridor: Lower Level	1	6P 13 R OF 2	CFQ13/2-L	26	0.0	Breaker	8760	245	1	6P 13 R CF 2	CFQ13/2-L	26	0.0	None	8,760	245	0 | 0	$ -	$ -	$ -				
32LED	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	None	8,760	263	263 | 0.0	$ 30.55	$ 233.70	$ 35	7.7	6.5		
11E	Emergency Exit Corridor: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	Breaker	8760	526	1	4 ft LED Tube	2007/32w2	30	0.0	None	8,760	263	263 | 0.0	$ 30.55	$ 233.70	$ 35	7.7	6.5		
11E	Exterior: Lower Level	8	X 7-0 W 1	E/7 5/1	8	0.0	SW	4368	280	8	X 1 SC LED	ELED1 5/2	3	0.0	PHC	3,900	21	259 | 0.0	$ 24.16	$ 1,026.00	$ -	42.5	42.5		
11E	Exterior: Lower Level	2	X 7-0 W 1	E/7 5/1	8	0.0	SW	4368	70	2	X 1 SC LED	ELED1 5/2	3	0.0	PHC	3,900	21	49 | 0.0	$ 6.04	$ 256.50	$ -	42.5	42.5		
33LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (ELE)	F42/LL	60	0.3	SW	1400	420	5	4 ft LED Tube	2007/32w2	30	0.2	None	1,400	210	210 | 0.2	$ 34.60	$ 1,188.00	$ 175	33.8	28.7		
33LED	B002 - Main Electrical Room: Lower Level	5	1T 32 R F 2 (ELE)	F42/LL	60	0.3	SW	1400	420	5	4 ft LED Tube	2007/32w2	30	0.2	OCC	980	147	273 | 0.2	$ 41.34	$ 1,296.75	$ 195	31.4	26.6		
261LED	B020 - Emergency Switch: Lower Level	1	PAR 38 SP	H/100/1	100	0.1	SW	1460	84	1	EVO35/10	EVO35/10	39	0.0	OCC	680	39	45 | 0.0	$ 8.27	$ 365.95	$ 55	43.8	37.1		
11LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	Breaker	8760	412	1	2T 25 R LED	2RTLED	25	0.0	None	8,760	219	193 | 0.0	$ 22.40	$ 202.50	$ 50	9.0	6.8		
11LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	Breaker	8760	412	1	2T 25 R LED	2RTLED	25	0.0	None	8,760	219	193 | 0.0	$ 22.40	$ 202.50	$ 50	9.0	6.8		
261LED	B Wing Corridor: Lower Level	20	PAR 38 SP	H/100/1	100	2.0	Breaker	8760	17,520	20	EVO35/10	EVO35/10	39	0.8	None	8,760	8,833	10,687 | 1.2	$ 1,242.20	$ 8,775.00	$ 700	7.1	6.5		
261LED	B Wing Corridor: Lower Level	4	PAR 38 SP	H/100/1	100	0.4	SW	2912	1,165	4	EVO35/10	EVO35/10	39	0.2	OCC	2,100	329	837 | 0.2	$ 109.32	$ 1,883.25	$ 160	17.2	15.6		
261LED	B Wing Corridor: Lower Level	3	PAR 38 SP	H/100/1	100	0.3	SW	2912	874	3	EVO35/10	EVO35/10	39	0.1	OCC	2,100	246	628 | 0.2	$ 81.99	$ 1,444.50	$ 125	17.6	16.1		
261LED	B Wing Corridor: Lower Level	1	2T 17 R F 3 (ELE)	F23/LL	47	0.0	Breaker	8760	412	1	2T 25 R LED	2RTLED	25	0.0	None	8,760	219	193 | 0.0	$ 22.40	$ 202.50	$ 50	9.0	6.8		
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H/100/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	None	8,760	2,050	3,206 | 0.4	$ 372.66	$ 2,632.50	$ 210	7.1	6.5		
261LED	B Wing Corridor: Lower Level	6	PAR 38 SP	H/100/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	None	8,760	2,050	3,206 | 0.4	$ 372.66	$ 2,632.50	$ 210	7.1	6.5		
48LED	B006 - Storage: Lower Level	4	1T 32 R F 2 (ELE)	F42/LL	60	0.2	SW	1000	240	4	T 38 R LED	RTLED38	38	0.2	None	1,000	152	88 | 0.1	$ 16.53	$ 946.00	$ 200	57.2	45.1		
261LED	B005 - Office: Lower Level	4	PAR 38 SP	H/100/1	100	0.4	SW	4460	1,760	4	EVO35/10	EVO35/10	39	0.2	OCC	3,567	880	880 | 0.2	$ 156.64	$ 1,893.25	$ 160	12.0	11.0		
261LED	B008 - Computer Lab: Lower Level	6	PAR 38 SP	H/100/1	100	0.6	SW	5096	3,058	6	EVO35/10	EVO35/10	39	0.2	OCC	3,567	835	2,223 | 0.4	$ 267.45	$ 2,760.75	$ 230	10.3	9.5		
261LED	B008 - Classroom: Lab: Lower Level	4	PAR 38 SP	H/100/1	100	0.4	SW	5096	2,038	4	EVO35/10	EVO35/10	39	0.1	OCC	3,567	557	1,482 | 0.3	$ 178.30	$ 1,841.50	$ 160	10.6	9.7		
261LED	B009 - Classroom: Lower Level	12	PAR 38 SP	H/100/1	100	1.2	SW	5096	6,115	12	EVO35/10	EVO35/10	39	0.5	OCC	3,567	1,669	4,446 | 0.7	$ 534.90	$ 5,393.25	$ 440	10.1	9.3		
261LED	B009 - Classroom: Lower Level	8	PAR 38 SP	H/100/1	100	0.8	SW	5096	4,077	8	EVO35/10	EVO35/10	39	0.3	OCC	3,567	1,113	2,964 | 0.5	$ 356.60	$ 3,638.25	$ 300	10.2	9.4		
261LED	B011 - Classroom: Lower Level	6	PAR 38 SP	H/100/1	100	0.6	SW	5096	3,058	6	EVO35/10	EVO35/10	39	0.2	OCC	3,567	835	2,223 | 0.4	$ 267.45	$ 2,760.75	$ 230	10.3	9.5		
261LED	B011 - Classroom: Lower Level	3	PAR 38 SP	H/100/1	100	0.3	SW	5096	1,529	3	EVO35/10	EVO35/10	39	0.1	OCC	3,567	417	1,111 | 0.2	$ 133.72	$ 1,444.50	$ 125	10.8	9.9		
32LED	B015 - Elevator Mechanical Room: Lower Level	1	1T 32 R F 2 (ELE)	F42/LL	60	0.1	SW	1820	109	1	4 ft LED Tube	2007/32w2	30	0.0	None	1,820	55	55 | 0.0	$ 8.27	$ 233.70	$ 35	28.3	24.0		
97	B013 - Toilet Room: Lower Level	2	6P 13 R OF 2	CFQ13/2-L	26	0.1	OCC	1400	78	2	6P 13 R CF 2	CFQ13/2-L	26	0.1	None	1,400	78	0 | 0	$ -	$ -	$ -	

Energy Audit of New Hospital Center
CHA Project No. 29147
ECM-L3 Lighting Replacements with Occupancy Sensors

		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 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 daily hours for the usage group	(kWh/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	(kWh/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
261LED	A108 - Semi Private Room: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	SW	4368	437	1	EVO35/10	EVO35/10	39	0.0	None	4,368	170	266 [0.1]	$ 33.44	$ 438.75	$ 35	13.1		12.1
261LED	A107 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
261LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
261LED	A105 - Semi Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	20/T32/2	30	0.1	None	4,368	262	262 [0.1]	$ 32.90	$ 467.40	$ 70	14.2		12.1
261LED	A105 - Semi Private Room: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	None	4,368	341	533 [0.1]	$ 66.89	$ 877.50	$ 70	13.1		12.1
261LED	A106 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
32LED	A104 - Semi Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	20/T32/2	30	0.1	None	4,368	262	262 [0.1]	$ 32.90	$ 467.40	$ 70	14.2		12.1
261LED	A104 - Semi Private Room: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	None	4,368	341	533 [0.1]	$ 66.89	$ 877.50	$ 70	13.1		12.1
261LED	A104 - Semi Private Room: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	SW	4368	437	1	EVO35/10	EVO35/10	39	0.0	None	4,368	170	266 [0.1]	$ 33.44	$ 438.75	$ 35	13.1		12.1
261LED	A103 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
32LED	A101 - Semi Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	20/T32/2	30	0.1	None	4,368	262	262 [0.1]	$ 32.90	$ 467.40	$ 70	14.2		12.1
261LED	A101 - Semi Private Room: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	SW	4368	874	2	EVO35/10	EVO35/10	39	0.1	None	4,368	341	533 [0.1]	$ 66.89	$ 877.50	$ 70	13.1		12.1
261LED	A101 - Semi Private Room: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	SW	4368	437	1	EVO35/10	EVO35/10	39	0.0	None	4,368	170	266 [0.1]	$ 33.44	$ 438.75	$ 35	13.1		12.1
261LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
261LED	A102 - Toilet/Shower: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
32LED	A170 - Semi Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	20/T32/2	30	0.1	None	4,368	262	262 [0.1]	$ 32.90	$ 467.40	$ 70	14.2		12.1
97	A170 - Semi Private Room: 1st Floor	2	6T 19 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4,368	122	0 [0.0]	$ -	$ -	$ -			
97	A170 - Semi Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4,368	122	0 [0.0]	$ -	$ -	$ -			
97	A169 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
97	A168 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
32LED	A167 - Semi Private Room: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4368	524	2	4 ft LED Tube	20/T32/2	30	0.1	None	4,368	262	262 [0.1]	$ 32.90	$ 467.40	$ 70	14.2		12.1
97	A167 - Semi Private Room: 1st Floor	2	6T 19 R CF 2	CFQ13/2-L	28	0.0	SW	4368	245	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4,368	245	0 [0.0]	$ -	$ -	$ -			
97	A167 - Semi Private Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	4368	122	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	4,368	122	0 [0.0]	$ -	$ -	$ -			
97	A168 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
97	A168 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
97	A165 - Toilet/Shower: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
40LED	A166 - Laundry: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	None	1,400	53	31 [0.0]	$ 5.07	$ 236.25	$ 50	46.6		36.7
97	A164 - PT Sheet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	118	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	118	0 [0.0]	$ -	$ -	$ -			
97	A163 - PT Toilet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	118	0 [0.0]	$ -	$ -	$ -			
40LED	A146 - Janitor's Closet: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	None	1,400	53	31 [0.0]	$ 5.07	$ 236.25	$ 50	46.6		36.7
40LED	A145 - Visiting Room: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	264	1	T 38 R LED	RTL8T8/8	38	0.0	OCC	3,080	117	147 [0.0]	$ 17.50	$ 364.50	$ 70	20.8		16.8
40LED	A144 - Quiet Room: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	264	1	T 38 R LED	RTL8T8/8	38	0.0	OCC	3,080	117	147 [0.0]	$ 17.50	$ 364.50	$ 70	20.8		16.8
97	A142 - Janitor's Closet: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
40LED	A141 - Janitor's Closet: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	OCC	1400	84	1	T 38 R LED	RTL8T8/8	38	0.0	None	1,400	53	31 [0.0]	$ 5.07	$ 236.25	$ 50	46.6		36.7
97	A132 - Toilet Room: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	SW	1400	39	1	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	39	0 [0.0]	$ -	$ -	$ -			
116	A163 - External Paint: 1st Floor	4	X 7.0 W L	E7 5/1	8	0.0	SW	4368	140	4	X 1.5C LED	ELC/1.5/2	3	0.0	PHC	3,500	42	98 [0.0]	$ 12.08	$ 513.00	$ -	42.5		42.5
35LED	A161 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A160 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A159 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A157 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A158 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A154 - Office: 1st Floor	1	T 32 R F 3 (ELE)	F43SL/2	90	0.1	SW	4400	396	1	T 59 R LED	RTL8T3/8	38	0.0	OCC	3,080	117	279 [0.1]	$ 34.06	$ 364.50	$ 20	10.7		10.1
35LED	A153 - Office: 1st Floor	1	T 32 R F 3 (ELE)	F43SL/2	90	0.1	SW	4400	396	1	T 59 R LED	RTL8T3/8	38	0.0	OCC	3,080	117	279 [0.1]	$ 34.06	$ 364.50	$ 20	10.7		10.1
35LED	A155 - Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	A148 - Work: 1st Floor	1	T 32 R F 3 (ELE)	F43SL/2	90	0.1	SW	8730	786	1	T 59 R LED	RTL8T3/8	38	0.0	None	8,730	332	454 [0.1]	$ 52.81	$ 298.75	$ 20	4.5		4.5
32LED	A146 - Telecommunications: 1st Floor	2	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	3000	360	2	4 ft LED Tube	20/T32/2	30	0.1	None	3,000	180	180 [0.1]	$ 24.11	$ 467.40	$ 70	19.4		16.5
261LED	504 - Stair #4: 1st Floor	1	1T 32 R F 2 (ELE)	F42/L	60	0.1	Breaker	8760	526	1	4 ft LED Tube	20/T32/2	30	0.0	None	8,760	526	61 [0.0]	$ 40.87	$ 467.40	$ 70	7.7		6.5
56LED	B101 - Corridor: 1st Floor	7	2T 17 R F 3 (ELE)	F23SL/L	47	0.3	Breaker	8760	2,882	7	2T 25 R LED	28T/LED	25	0.2	None	8,760	1,533	1,349 [0.2]	$ 156.80	$ 1,417.50	$ 350	9.0		6.8
261LED	B100 - Corridor: 1st Floor	5	PAR 38 SP	H009/1	100	0.5	Breaker	8760	4,380	5	EVO35/10	EVO35/10	39	0.2	None	8,760	1,705	2,675 [0.2]	$ 311.05	$ 2,189.75	$ 175	7.0		6.5
261LED	B101 - Corridor: 1st Floor	4	PAR 38 SP	H009/1	100	0.3	Breaker	8760	3,504	4	EVO35/10	EVO35/10	39	0.1	None	8,760	1,026	1,403 [0.1]	$ 166.32	$ 1,316.25	$ 140	7.2		6.5
261LED	B102 - Corridor: 1st Floor	6	PAR 38 SP	H009/1	100	0.6	Breaker	8760	5,256	6	EVO35/10	EVO35/10	39	0.2	None	8,760	2,050	3,206 [0.4	$ 372.66	$ 2,632.50	$ 210	7.1		6.5
261LED	B102 - Corridor: 1st Floor	3	PAR 38 SP	H009/1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	None	8,760	1,025	1,603 [0.1]	$ 186.33	$ 1,316.25	$ 105	7.1		6.5
261LED	B102 - Corridor: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	None	8,760	683	1,069 [0.1]	$ 124.22	$ 877.50	$ 70	7.1		6.5
261LED	B110 - Corridor: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	Breaker	8760	1,752	2	EVO35/10	EVO35/10	39	0.1	None	8,760	683	1,069 [0.1]	$ 124.22	$ 877.50	$ 70	7.1		6.5
261LED	B110 - Corridor: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	None	8,760	342	534 [0.1]	$ 62.11	$ 438.75	$ 35	7.1		6.5
261LED	504 - Stair #4 Entry: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	None	8,760	342	534 [0.1]	$ 62.11	$ 438.75	$ 35	7.1		6.5
261LED	504 - Stair #4 Entry: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	Breaker	8760	876	1	EVO35/10	EVO35/10	39	0.0	None	8,760	342	534 [0.1]	$ 62.11	$ 438.75	$ 35	7.1		6.5
56LED	B111/B112 - Conference Room: 1st Floor	8	2T 17 R F 3 (ELE)	F23SL/L	47	0.4	SW	2184	821	8	2T 25 R LED	28T/LED	25	0.2	None	2,184	437	384 [0.2]	$ 55.36	$ 1,620.00	$ 400	29.3		22.0
97	B111/B112 - Conference Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	2,184	122	0 [0.0]	$ -	$ -	$ -			
97	B111/B112 - Conference Room: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	2184	122	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	2,184	122	0 [0.0]	$ -	$ -	$ -			
35LED	B109 - Medical Director Office: 1st Floor	4	T 32 R F 3 (ELE)	F43SL/2	90	0.4	SW	4400	1,584	4	T 59 R LED	RTL8T3/8	38	0.2	OCC	3,080	468	1,116 [0.2	$ 136.22	$ 1,073.25	$ 20	7.9		7.7
35LED	B108 - Executive Assistant: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B107 - Executive Assistant: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B106 - Hospital Director Office: 1st Floor	4	T 32 R F 3 (ELE)	F43SL/2	90	0.4	SW	4400	1,584	4	T 59 R LED	RTL8T3/8	38	0.2	OCC	3,080	468	1,116 [0.2	$ 136.22	$ 1,073.25	$ 20	7.9		7.7
40LED	B105 - Storage: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1000	60	1	T 38 R LED	RTL8T8/8	38	0.0	None	1,000	38	22 [0.0]	$ 4.13	$ 236.25	$ 50	57.2		45.1
261LED	B121 - Director's Office: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	SW	4400	440	1	EVO35/10	EVO35/10	39	0.0	None	4,400	171	269 [0.1]	$ 33.77	$ 438.75	$ 35			
35LED	B121 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B122 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B123 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B124 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
35LED	B125 - Director's Office: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.2	SW	4400	792	2	T 59 R LED	RTL8T3/8	38	0.1	OCC	3,080	234	558 [0.1]	$ 68.11	$ 600.75	$ 20	8.8		8.5
32LED	B114 / B126 / B127 - Waiting Area: 1st Floor	10	1T 32 R F 2 (ELE)	F42/L	60	0.6	SW	5096	3,058	10	4 ft LED Tube	20/T32/2	30	0.3	OCC	3,567	1,070	1,987 [0.3	$ 236.92	$ 2,465.25	$ 370	10.4		8.8
261LED	B114 / B126 / B127 - Waiting Area: 1st Floor	5	PAR 38 SP	H009/1	100	0.5	SW	5096	1,529	5	4 ft LED Tube	20/T32/2	30	0.2	OCC	3,567	535	994 [0.2]	$ 118.46	$ 1,296.75	$ 195	10.9		9.3
97	B114 / B126 / B127 - Waiting Area: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	3,567	200	86 [0.0]	$ 9.18	$ 126.25	$ 20	14.0		11.8
97	B114 / B126 / B127 - Waiting Area: 1st Floor	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	SW	5096	285	1	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	3,567	200	86 [0.0]	$ 9.18	$ 126.25	$ 20	14.0		11.8
56LED	B119 - Illegible: 1st Floor	4	2T 17 R F 3 (ELE)	F23SL/L	47	0.2	SW	4400	827	4	2T 25 R LED	28T/LED	25	0.1	OCC	3,080	308	519 [0.1	$ 62.67	$ 938.25	$ 220	15.0		11.5
40LED	B118 - Kitchen: 1st Floor	1	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	3000	180	1	T 38 R LED	RTL8T8/8	38	0.0	OCC	3,000	57	123 [0.0]	$ 14.94	$ 364.50	$ 70	24.4		19.7
40LED	B117 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	OCC	3,080	234	294 [0.0	$ 35.01	$ 600.75	$ 120	17.2		13.7
40LED	B116 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	OCC	3,080	234	294 [0.0	$ 35.01	$ 600.75	$ 120	17.2		13.7
40LED	B115 - Office: 1st Floor	2	T 32 R F 2 (ELE)	F42/L	60	0.1	SW	4400	528	2	T 38 R LED	RTL8T8/8	38	0.1	OCC	3,080	234	294 [0.0	$ 35.01	$ 600.75	$ 120	17.2		13.7
56LED	B113 - Conference: 1st Floor	4	2T 17 R F 3 (ELE)	F23SL/L	47	0.2	SW	4400	827	4	2T 25 R LED	28T/LED	25	0.1	OCC	3,080	308	519 [0.1	$ 62.67	$ 938.25	$ 220	15.0		11.5
56LED	B129 - MDF Room: 1st Floor	1	2T 17 R F 3 (ELE)	F23SL/L	47	0.0	SW	4400	207	1	2T 25 R LED	28T/LED	25	0.0	OCC	3,080	77	130 [0.0]	$ 15.67	$ 390.75	$ 70	5.3		4.6
56LED	B128 - MDF Room: 1st Floor	5	2T 17 R F 3 (ELE)	F23SL/L	47	0.2	SW	4400	1,033	5	2T 25 R LED	28T/LED	25	0.1	OCC	3,080	385	648 [0.1	$ 78.34	$ 1,140.75	$ 270	14.4		11.1
35LED	B127 - Electrical Room: 1st Floor	2	T 32 R F 3 (ELE)	F43SL/2	90	0.5	SW	4400	1,980	5	T 59 R LED	RTL8T3/8	38	0.2	OCC	3,080	585	1,395 [0.3	$ 170.27	$ 1,300.50	$ 70	3.7		3.2
32LED	B126 - Electrical Room: 1st Floor	1	1T 32 R F 2 (ELE)	F42/L	60	0.1	SW	1400	84	1	4 ft LED Tube	20/T32/2	30	0.0	OCC	1,400	25	55 [0.0]	$ 6.27	$ 361.50	$ 55	43.8		37.1
97	Illegible - Men's Toilet: 1st Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	118	0 [0.0]	$ -	$ -	$ -			
97	Illegible - Men's Toilet: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	OCC	1400	78	2	6P 13 R CF 2	CFQ13/2-L	28	0.0	None	1,400	78	0 [0.0]	$ -	$ -	$ -			
97	Illegible - Women's Toilet: 1st Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	78	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	78	0 [0.0]	$ -	$ -	$ -			
261LED	Illegible - Women's Toilet: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	None	1,400	109	171 [0.1	$ 28.14	$ 877.50	$ 70	31.2		28.7
261LED	Illegible - Women's Toilet: 1st Floor	2	PAR 38 SP	H009/1	100	0.2	OCC	1400	280	2	EVO35/10	EVO35/10	39	0.1	None	1,400	109	171 [0.1	$ 28.14	$ 877.50	$ 70	31.2		28.7
261LED	Illegible - Women's Toilet: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	OCC	1400	140	1	EVO35/10	EVO35/10	39	0.0	None	1,400	55	85 [0.1]	$ 14.07	$ 438.75	$ 35	31.2		28.7
261LED	B130 - Closet: 1st Floor	1	PAR 38 SP	H009/1	100	0.1	SW	1400	140	1	EVO35/10	EVO35/10	39	0.0	OCC	980	38	102 [0.1	$ 15.82	$ 567.00	$ 56	35.8		32.4
116	B103 - Cooling Towers: 1st Floor	6	X 7.0 W L	E7 5/1	8	0.0	SW	4368	210	6	X 1.5C LED	ELC/1.5/2	3	0.0	OCC	3,500	63	147 [0.0]	$ 18.12	$ 897.75	$ 20	49.5		48.4
32LED	505 - Stair #5: 1st Floor	3	1T 32 R F 2 (ELE)	F42/L	60	0.2	Breaker	8760	1,577	3	4 ft LED Tube	20/T32/2	30	0.1	None	8,760	788	788 [0.1	$ 91.64	$ 701.10	$ 105	7.7		6.5
261LED	C106 - Corridor: 1st Floor	7	PAR 38 SP	H009/1	100	0.7	Breaker	8760	6,132	7	EVO35/10	EVO35/10	39	0.3	None	8,760	2,391	3,741 [0.4	$ 434.77	$ 3,071.25	$ 245	7.1		6.5
261LED	C106 - Corridor: 1st Floor	14	PAR 38 SP	H009/1	100	1.4	Breaker	8760	12,264	14	EVO35/10	EVO35/10	39	0.5	None	8,760	4,783	7,481 [0.9	$ 869.54	$ 6,142.50	$ 490	7.1		6.5
261LED	C106 - Corridor: 1st Floor	5	PAR 38 SP	H

Energy Audit of New Hospital Center
CHA Project No. 29142
ECM-L3 Lighting Replacements with Occupancy Sensors

		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 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 daily hours for the usage group	(kWh/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	(kWh/space) * (Annual Hours)	[Original Annual kWh] - [Retrofit Annual kWh]	[Original Annual kW] - [Retrofit Annual kW]	[Annual $ Saved (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
182	D137 - Exam Room: 1st Floor	2	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.1	SW	4368	577	2	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.1	OCC	3,000	502	75	0.0	$ 8.02	$ 128.25	$ 20	16.0	13.5
55LED	D777 - Transportation: 1st Floor	2	2T 17 R F 3 (EL6)	F28LL	47	0.1	SW	4400	414	2	2T 25 R LED	28TLED	25	0.1	OCC	3,000	154	260	0.0	$ 31.34	$ 533.25	$ 120	17.0	13.2
182	D138 - Therapy: 1st Floor	4	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	SW	4400	1,162	4	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	OCC	3,000	613	549	0.0	$ 57.29	$ 128.25	$ 80	2.4	2.0
182	D139 - Therapy: 1st Floor	4	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	SW	4400	1,162	4	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	OCC	3,000	613	549	0.0	$ 57.29	$ 128.25	$ 80	2.4	2.0
182	D777 - Reglite: 1st Floor	2	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.1	SW	4400	581	2	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.1	OCC	3,000	307	274	0.0	$ 28.64	$ 128.25	$ 20	4.9	4.4
97	D777 - Reglite: 1st Floor	4	EP 13 R OF 2	CFQ13/2-L	28	0.1	SW	4400	493	4	EP 13 R OF 2	CFQ13/2-L	28	0.1	OCC	3,000	345	148	0.0	$ 15.82	$ 128.25	$ 20	8.1	6.8
97	Exterior D Wing: 1st Floor	4	EP 13 R OF 2	CFQ13/2-L	28	0.1	SW	4368	489	4	EP 13 R OF 2	CFQ13/2-L	28	0.1	OCC	3,000	392	97	0.0	$ 10.40	$ 128.25	$ 20	12.3	10.4
182	507 - Stair #7: 1st Floor	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	None	8,760	1,734	0	0.0	$ -	$ -	$ -	-	-
97	507 - Stair #7: 1st Floor	1	EP 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245	1	EP 13 R OF 2	CFQ13/2-L	28	0.0	None	8,760	245	0	0.0	$ -	$ -	$ -	-	-
182	508 - Stair #8: 1st Floor	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	None	8,760	1,734	0	0.0	$ -	$ -	$ -	-	-
97	508 - Stair #8: 1st Floor	1	EP 13 R OF 2	CFQ13/2-L	28	0.0	Breaker	8760	245	1	EP 13 R OF 2	CFQ13/2-L	28	0.0	None	8,760	245	0	0.0	$ -	$ -	$ -	-	-
182	E-Wing West Corridor: 1st Floor	5	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	Breaker	8760	2,891	5	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	None	8,760	2,891	0	0.0	$ -	$ -	$ -	-	-
182	E-Wing West Corridor: 1st Floor	7	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	Breaker	8760	4,047	7	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	None	8,760	4,047	0	0.0	$ -	$ -	$ -	-	-
261LED	E-Wing West Corridor: 1st Floor	3	PAR 38 SP	H026V1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.3	None	8,760	1,025	1,603	0.2	$ 186.33	$ 1,316.25	$ 105	7.1	6.5
261LED	E-Wing East Corridor: 1st Floor	7	PAR 38 SP	H026V1	100	0.7	Breaker	8760	6,132	7	EVO35/10	EVO35/10	39	0.3	None	8,760	2,391	3,741	0.4	$ 434.77	$ 3,071.25	$ 245	7.1	6.5
261LED	E-Wing East Corridor: 1st Floor	4	PAR 38 SP	H026V1	100	0.4	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	None	8,760	1,025	1,603	0.2	$ 186.33	$ 1,316.25	$ 105	7.1	6.5
261LED	E-Wing East Corridor: 1st Floor	4	PAR 38 SP	H026V1	100	0.4	Breaker	8760	3,504	4	EVO35/10	EVO35/10	39	0.2	None	8,760	1,367	2,137	0.2	$ 248.44	$ 1,755.00	$ 140	7.1	6.5
261LED	E-Wing East Corridor: 1st Floor	3	PAR 38 SP	H026V1	100	0.3	Breaker	8760	2,628	3	EVO35/10	EVO35/10	39	0.1	None	8,760	1,025	1,603	0.2	$ 186.33	$ 1,316.25	$ 105	7.1	6.5
182	E-Wing North Corridor: 1st Floor	5	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	Breaker	8760	2,891	5	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.3	None	8,760	2,891	0	0.0	$ -	$ -	$ -	-	-
182	E-Wing North Corridor: 1st Floor	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	Breaker	8760	1,734	3	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.2	None	8,760	1,734	0	0.0	$ -	$ -	$ -	-	-
97	E-Wing North Corridor: 1st Floor	3	EP 13 R OF 2	CFQ13/2-L	28	0.1	Breaker	8760	736	3	EP 13 R OF 2	CFQ13/2-L	28	0.1	None	8,760	736	0	0.0	$ -	$ -	$ -	-	-
182	Dining/Activity: 1st Floor	30	W 25 C F 2 (EL6) 2 T 8	F32E6	66	2.0	SW	2912	5,766	30	W 25 C F 2 (EL6) 2 T 8	F32E6	66	2.0	OCC	2,100	4,158	1,608	0.0	$ 172.03	$ 128.25	$ 20	0.7	0.6
182	Dining/Activity: 1st Floor	8	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	SW	2912	1,538	8	W 25 C F 2 (EL6) 2 T 8	F32E6	66	0.5	OCC	2,100	1,109	429	0.0	$ 45.87	$ 128.25	$ 20	2.8	2.4
261LED	Dining/Activity: 1st Floor	6	PAR 38 SP	H026V1	100	0.6	SW	2912	1,747	6	EVO35/10	EVO35/10	39	0.2	OCC	2,100	491	1,256	0.4	$ 163.97	$ 2,760.75	$ 230	16.8	15.4
261LED	Dining/Activity: 1st Floor	10	PAR 38 SP	H026V1	100	1.0	SW	2912	2,912	10	EVO35/10	EVO35/10	39	0.4	OCC	2,100	819	2,093	0.6	$ 273.29	$ 4,515.75	$ 370	16.5	15.2
261LED	Nurse Station: 1st Floor	9	PAR 38 SP	H026V1	100	0.9	SW	4400	3,960	9	EVO35/10	EVO35/10	39	0.4	OCC	3,000	1,081	2,879	0.5	$ 352.45	$ 4,077.00	$ 335	11.6	10.6
261LED	Nurse Station: 1st Floor	1	PAR 38 SP	H026V1	100	0.1	SW	4400	440	1	EVO35/10	EVO35/10	39	0.0	OCC	3,000	120	320	0.1	$ 39.16	$ 567.00	$ 55	14.5	13.1

Energy Audit of New Hospital Center
CHA Project No. 29142
ECM-L3 Lighting Replacements with Occupancy Sensors

		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 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 daily hours for the usage group	Annual kWh (kW/space) * (Annual Hours)	Number of Fixtures No. 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 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
97	Toilet Room / Ante Room: 2nd Floor	7	6P 13 R CF 2	CFQ13/2-L	28	0.2	OCC	1400	274	7	6P 13 R CF 2	CFQ13/2-L	28	0.2	None	1,400	274	- 0.0	$ -	$ -	$ -			
40LED	Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1000	60	1	T 38 R LED	RTLED38	38	0.0	None	1,000	38	22 0.0	$ 4.13	$ 236.25	$ 50	57.2	45.1	
182	Storage: 2nd Floor	3	W 25 C F 2 (EL) 2 T 8	F32/E	66	0.1	OCC	1400	185	2	W 25 C F 2 (EL) 2 T 8	F32/E	66	0.1	None	1,400	264	- 0.0	$ -	$ -	$ -			
97	Toilet Rooms: 2nd Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	118	- 0.0	$ -	$ -	$ -			
40LED	Clean Storage: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1000	60	1	T 38 R LED	RTLED38	38	0.0	None	1,000	38	22 0.0	$ 4.13	$ 236.25	$ 50	57.2	45.1	
97	Toilet Rooms: 2nd Floor	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	118	3	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	118	- 0.0	$ -	$ -	$ -			
182	Toilet Rooms: 2nd Floor	2	W 25 C F 2 (EL) 2 T 8	F32/E	66	0.1	OCC	1400	185	2	W 25 C F 2 (EL) 2 T 8	F32/E	66	0.1	None	1,400	185	- 0.0	$ -	$ -	$ -			
40LED	Laundry Room: 2nd Floor	1	T 32 R F 2 (EL)	F42/L	60	0.1	SW	1400	84	1	T 38 R LED	RTLED38	38	0.0	None	1,400	53	31 0.0	$ 5.07	$ 236.25	$ 50	46.6	36.7	
97	Tub / Shower Room: 2nd Floor	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	OCC	1400	78	2	6P 13 R CF 2	CFQ13/2-L	28	0.1	None	1,400	78	- 0.0	$ -	$ -	$ -			
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,097	8	4 ft LED Tube	2SOT32/2	30	0.2	None	4,368	1,048	1,048 0.2	$ 131.58	$ 1,869.60	$ 280	14.2	12.1	
32LED	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	1T 32 R F 2 (EL)	F42/L	60	0.5	SW	4368	2,097	8	4 ft LED Tube	2SOT32/2	30	0.2	None	4,368	1,048	1,048 0.2	$ 131.58	$ 1,869.60	$ 280	14.2	12.1	
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	16	5P 36 R OP 1	CFT36/1	51	0.8	SW	4368	3,564	16	5P 36 R OP 1	CFT36/1	51	0.8	None	4,368	3,564	- 0.0	$ -	$ -	$ -			
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	8	5P 36 R OP 1	CFT36/1	51	0.4	SW	4368	1,782	8	5P 36 R OP 1	CFT36/1	51	0.4	None	4,368	1,782	- 0.0	$ -	$ -	$ -			
80	E-Wing North Semi-Private Rooms/ Bathrooms: 2nd Floor	4	5P 36 R OP 1	CFT36/1	51	0.2	SW	4368	891	4	5P 36 R OP 1	CFT36/1	51	0.2	None	4,368	891

APPENDIX C

ECM Calculations

Essex County
CHA Project Number: 29142

Rate of Discount (used for NPV) 3.0%

Utility Costs		Yearly Usage	Metric Ton Carbon Dioxide Equivalent
$ 0.149	$/kWh blended		0.000420205
$ 0.141	$/kWh supply	3,469,649	0.000420205
$ 3.53	$/kW	828.4	0
$ 0.78	$/Therm	148,806	0.00533471
$ 5.51	$/kgals	909	0
	$/Gal		

Building Area	Annual Utility Cost		
	Electric	Natural Gas	Fuel Oil
205,925	$ 518,005	$ 116,601	

New Hospital Center

Recommend? Y or N		Item	Savings kW	Savings kWh	Savings therms	Savings No. 2 Oil gal	Savings Water kgal	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 kW	Simple Projected Lifetime Savings kWh	Simple Projected Lifetime Savings therms	Simple Projected Lifetime Savings kgal/yr	Simple Projected Lifetime Savings $	ROI	NPV	IRR
Y	ECM-1	Door Sweeps and Seals	0.0	94	71	0	0	69	$ 1,383	19.9	25.0	0.4		N	19.9	0.0	2,345	1,768	0	$ 1,736	0.3	($174)	1.8%
Y	ECM-2	Replace Boiler with Condensing Boiler	0.0	0	6,206	0	0	4,865	$ 136,674	28.1	15.0	33.1	$ 6,000	N	26.9	0.0	0	93,090	0	$ 72,982	(0.5)	($72,590)	-6.5%
Y	ECM-3	Intall Kitchen Hood Controller	2.0	2,379	2,739	0	0	2,568	$ 30,787	12.0	20.0	15.6	$ -	N	12.0	40.2	47,589	54,787	0	$ 51,747	0.7	$7,423	5.5%
Y	ECM-4	Install Walk-In Cooler / Freezer Controls	0.0	9,142	0	0	0	1,362	$ 41,250	30.3	10.0	3.8	$ 100	N	30.2	0.0	91,420	0	0	$ 13,622	(0.7)	($29,531)	-16.3%
N	ECM-L1	Lighting Replacements / Upgrades	89.3	400,215	0	0	0	50,049	$ 558,244	11.2	10.0	168.2	$ 61,380	N	9.9	893.0	4,002,150	0	0	$ 634,148	0.1	($69,936)	0.1%
N	ECM-L2	Install Lighting Controls (Add Occupancy Sensors)	0.0	84,088	0	0	0	8,997	$ 35,782	4.0	10.0	35.3	$ 5,580	N	3.4	0.0	840,880	0	0	$ 125,291	2.5	$46,544	27.1%
Y	ECM-L3	Lighting Replacements with Controls (Occupancy Sensors)	89.3	451,382	0	0	0	55,524	$ 594,025	10.7	10.0	189.7	$ 66,960	N	9.5	893.0	4,513,820	0	0	$ 710,387	0.2	($53,434)	1.0%
		Total (Not Including ECMs L1, L2)	**91.3**	**462,997**	**9,016**	**0**	**0**	**$ 64,389**	**$ 804,119**	**12.5**	**16.0**	**259**	**$ 73,060**		**11.4**	**933**	**4,655,174**	**149,645**	**-**	**$ 850,473**	**0.1**	**$77,743**	**4.4%**
		Recommended Measures (highlighted green above)	**91.3**	**462,997**	**9,016**	**0**	**0**	**$ 64,389**	**$ 804,119**	**12.5**	**16.0**	**243**	**$ 73,060**	**0**	**11.4**	**933**	**4,655,174**	**149,645**	**-**	**$ 850,473**	**0.1**	**$77,743**	**4.4%**
		% of Existing	**11%**	**13.34%**	**6.06%**	**0**	**0**																

	City:	Newark, NJ				
	Occupied Hours/Week	70	70	70	70	50
		Building Operating Hours	Auditorium Occupied Hours	Gymnasium Occupied Hours	Library Occupied Hours	Classrooms Occupied Hours

Temp	Enthalpy h (Btu/lb)	Bin Hours	Building Operating Hours	Auditorium Occupied Hours	Gymnasium Occupied Hours	Library Occupied Hours	Classrooms Occupied 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

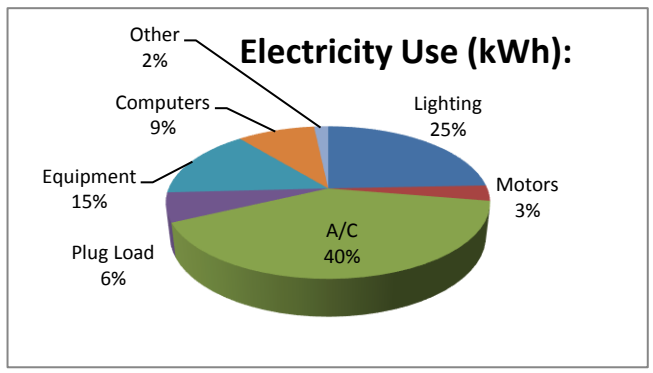
Heating System Efficiency	80%
Cooling Eff (kW/ton)	1.2

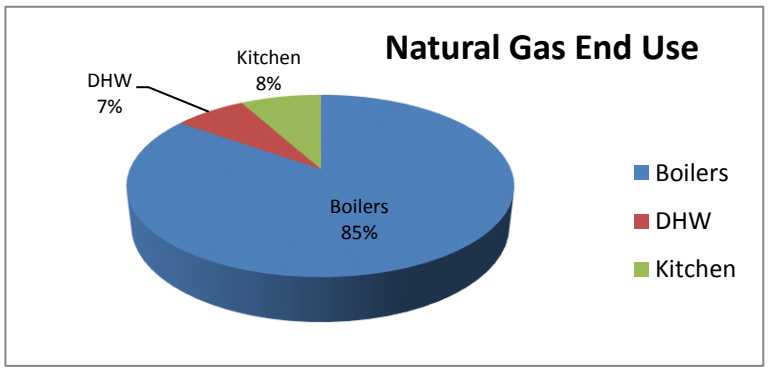
Heating		
Hours	4,427	Hrs
Weighted Avg	40	F
Avg	28	F

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

Essex County
CHA Project Number: 29142
New Hospital Center

Utility End Use Analysis			
Electricity Use (kWh):		**Notes/Comments:**	
3,469,649	Total	Based on utility analysis	
845,000	Lighting	From Lighting Calculations	24.35%
113,000	Motors	Estimated	3.26%
1,400,000	A/C	Estimated	40.35%
215,000	Plug Load	Estimated	6.20%
517,000	Equipment	Estimated	14.90%
321,000	Computers	Estimated	9.25%
58,649	Other	Remaining	1.69%
			100.00%
Natural Gas Use (Therms):		**Notes/Comments:**	
148,806	Total	Based on utility analysis	
135,921	Boilers	Therms/SF x Square Feet Served	0.91341075
11,454	DHW	Based on utility analysis	0.076972703
12,885	Kitchen	Based on utility analysis	0.08658925





Essex County
CHA Project Number: 29142
New Hospital Center

ECM-1: Install Door Seals

Description: This ECM evaluates the thermal and electrical savings associate with adding door seals and sweeps to prevent infiltration of cold (hot) outdoor air.

Heating System Efficiency	82%		Ex Occupied Clng Temp.	73	*F	Ex Occupied Htg Temp.	72	*F
Cooling System Efficiency	1.20	kW/ton	Ex Unoccupied Clng Temp.	73	*F	Ex Unoccupied Htg Temp.	72	*F
Linear Feet of Door Edge	30	LF	Cooling Occ Enthalpy Setpoint	27.5	Btu/lb	Electricity	$ 0.15	$/kWh
Existing Infiltration Factor*	1.5	cfm/LF	Cooling Unocc Enthalpy Setpoint	27.5	Btu/lb	Natural Gas	$ 0.78	$/therm
Proposed Infiltration Factor*	0.45	cfm/LF						

*Infiltration Factor per Carrier Handbook of Air Conditioning System Design
based on average door seal gap calculated below.

					EXISTING LOADS		PROPOSED LOADS		COOLING ENERGY		HEATING ENERGY	
					Occupied	Unoccupied	Occupied	Unoccupied				
Avg Outdoor Air Temp. Bins °F	Avg Outdoor Air Enthalpy	Existing Equipment Bin Hours	Occupied Equipment Bin Hours	Unoccupied Equipment Bin Hours	Door Infiltration Load BTUH	Door Infiltration Load BTUH	Door Infiltration Load BTUH	Door Infiltration Load BTUH	Existing Cooling Energy kWh	Proposed Cooling Energy kWh	Existing Heating Energy therms	Proposed Heating Energy therms
A		B	C	D	E	F	G	H	I	J	K	L
102.5	0.0	0	0	0	5,569	5,569	1,671	1,671	0	0	0	0
97.5	35.4	6	3	4	-1,601	-1,601	-480	-480	1	0	0	0
92.5	37.4	31	13	18	-2,005	-2,005	-602	-602	6	2	0	0
87.5	35.0	131	55	76	-1,516	-1,516	-455	-455	20	6	0	0
82.5	33.0	500	208	292	-1,123	-1,123	-337	-337	56	17	0	0
77.5	31.5	620	258	362	-820	-820	-246	-246	51	15	0	0
72.5	29.9	664	277	387	0	0	0	0	0	0	0	0
67.5	27.2	854	356	498	219	219	66	66	0	0	2	1
62.5	24.0	927	386	541	462	462	139	139	0	0	5	2
57.5	20.3	600	250	350	705	705	211	211	0	0	5	2
52.5	18.2	730	304	426	948	948	284	284	0	0	8	3
47.5	16.0	491	205	286	1,191	1,191	357	357	0	0	7	2
42.5	14.5	656	273	383	1,434	1,434	430	430	0	0	11	3
37.5	12.5	1,023	426	597	1,677	1,677	503	503	0	0	21	6
32.5	10.5	734	306	428	1,920	1,920	576	576	0	0	17	5
27.5	8.7	334	139	195	2,163	2,163	649	649	0	0	9	3
22.5	7.0	252	105	147	2,406	2,406	722	722	0	0	7	2
17.5	5.4	125	52	73	2,649	2,649	795	795	0	0	4	1
12.5	3.7	47	20	27	2,892	2,892	868	868	0	0	2	0
7.5	2.1	34	14	20	3,135	3,135	940	940	0	0	1	0
2.5	1.3	1	0	1	3,378	3,378	1,013	1,013	0	0	0	0
-2.5	0.0	0	0	0	3,621	3,621	1,086	1,086	0	0	0	0
-7.5	0.0	0	0	0	3,864	3,864	1,159	1,159	0	0	0	0
TOTALS		**8,760**	**3,650**	**5,110**					**134**	**40**	**101**	**30**

Existing Door Infiltration	**45**	**cfm**
Existing Unoccupied Door Infiltration	**45**	**cfm**
Proposed Door Infiltration	**14**	**cfm**
Proposed Unoccupied Door Infiltration	**14**	**cfm**

Savings	**71**	**therms**	**$ 55**
	94	**kWh**	**$ 14**
			$ 69

Door	Width (ft)	Height (ft)	Linear Feet (LF)	gap (in)	gap location	LF of gap	% door w/ gap	Average gap for door (in)
1a	3	7	20	0.25	bottom/seam	5	25%	0.0625
1b	3	7	20	0.25	bottom/seam	5	25%	0.0625
2a	3	7	20	0.25	bottom/seam	5	25%	0.0625
2b	3	7	20	0.25	bottom/seam	5	25%	0.0625
3a	3	7	20	0.25	bottom/seam	5	25%	0.0625
3b	3	7	20	0.25	bottom/seam	5	25%	0.0625
Total	**18**	**42**	**120**	**0.207**		**30**	**25%**	**0.063**

Note: Doors labeled 'a', 'b', etc. are a part of the same door assembly.

Essex County
CHA Project Number: 29142
New Hospital Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-1: Install Door Seals - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									$ -	
Door Weatherization Seals & Sweeps	6	EA	$ 40	$ 115	$ -	$ 246	$ 860	$ -	$ 1,106	RS Means 2012
						$ -	$ -	$ -	$ -	

$ 1,106	Subtotal
$ 277	25% Contingency
$ 1,383	**Total**

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

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-2: Boiler Replacement

Description: This ECM evaluates the replacement of an existing hot water gas boiler with a high efficiency condensing gas boiler. The existing boiler efficiency is 82% and the proposed boiler efficiency is 90% (average seasonal efficiency). Electrical power consumption due to pumps is considered to be the same for both the proposed system and the baseline system.

Item	Value	Units	Formula/Comments
Baseline Fuel Cost	$ 0.78	/ Therm	Natural Gas
Baseline Fuel Cost		/ Gal	No. 2 Oil
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	6,000,000	btu/hr	
Heating Combustion Efficiency	82%		
Heating Degree-Day	2,783	Degree-day	
Design Temperature Difference	56	F	
Fuel Conversion	100,000	btu/therm	
PROPOSED			
Capacity	6,000,000	btu/hr	
Efficiency	90%		
SAVINGS			
Fuel Savings	6,206	Therms	NJ Protocols Calculation
Fuel Cost Savings	$ 4,865		

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

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-2: Boiler Replacement - 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.		
6,000 MBH NG Condensing Boiler	1	EA	$ 83,700	$ 13,100		$ 85,960	$ 16,323	$ -	$ 102,283	Vendor Estimate
Flue Installation	25	LF	$ 75.0	$ 15.00		$ 1,926	$ 467	$ -	$ 2,393	Vendor Estimate
Reprogram DDC system	1	EA	$ 100.0	$ 350.00		$ 103	$ 436	$ -	$ 539	RS Means 2012
Miscellaneous Electrical	1	LS	$ 500	$ 250		$ 514	$ 312	$ -	$ 825	RS Means 2012
Miscellaneous HW Piping	1	LS	$ 2,000	$ 1,000		$ 2,054	$ 1,246	$ -	$ 3,300	RS Means 2012
						$ -	$ -	$ -	$ -	
						$ -	$ -	$ -	$ -	
						$ -	$ -	$ -	$ -	
						$ -	$ -	$ -	$ -	
						$ -	$ -	$ -	$ -	

$ 109,339	Subtotal
$ 27,335	25% Contingency
$ 136,674	**Total**

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

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-3: Kitchen Hood Control

Description: This ECM evaluates the thermal and electrical energy savings associated with the implementation of a variable flow controlled exhaust hood (Fan) and make-up air unit. The Hood controller uses infrared heat sensors to detect the level of smoke produced by the cooking operations and automatically adjsustes the

Item	Value	Units	Formula/Comments	
Fuel Cost	$ 0.78	/ Therm		
Electricity Cost	$ 0.15	/kWh		
FORMULA CONSTANTS				
Conversion	0.746	HP/kW		
Constant	24	hrs/day		
Constant	1.08	(btu/hr)/CFM·F		
Conversion	3,412	btu/kWh		
ELECTRIC FAN SAVINGS				
Facility Type	Other			
Quantity of Kitchen Hood Fan Motors	2			Q
Kitchen Hood Fan Motor HP	0.5	HP		HP
Motor Load Factor	0.90		NJ Protocols	LF
Efficiency of Fan Motor(s)	86.5%			FEFF
Kitchen Hood Fan Run Hours	5,250			RH
Fan Motor Power Reduction (From VFD)	0.584			PR
Fan Electricity Savings	2,379	kWh		
HEATING SAVINGS				
Kitchen is Heated?	Y			
Square Footage of Kitchen	1,000	ft^2	Estimated	SF
Code Required Ventilation Rate	0.70	CFM/ft^2	NJ Protocols	CFM/SF
Ventilation Oversize Factor	1.40		NJ Protocols	OF
Flow Reductuion (from VFD/Control)	0.310			FR
Heating Degree Day	2,783		NJ Protocols Table	HDD
Heating System Efficiency	80%		AFUE (%)	HEFF
Heating Savings	274	MMbtu		
Heating Savings	2,739	Therms		
COOLING SAVINGS				
Kitchen is Cooled?	N			
Cooling Degree Day	-		NJ Protocols Table	CDD
Cooling System Efficiency	-		COP	CEFF
Cooling Savings	-	kWh		
TOTAL SAVINGS				
Electricity Savings	2,379	kWh		
Fuel Savings	2,739	Therms		
Cost Savings	$ 2,502			

Savings calculation formulas are taken from NJ Protocols document for Kitchen Hood

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-3 Kitchen Hood Control - 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.		
Me-Link Kitchen Hood Control System	1	ea	$ 15,000	$ 2,000		$ 15,405	$ 2,492	$ -	$ 17,897	Vendor Estimation
5.0 HP VFDs (1-exhaust fan)	1	ea	$ 1,485	$ 490		$ 1,525	$ 611	$ -	$ 2,136	RS Means 2012
5.0 HP Motor	1	ea	$ 525	$ 85		$ 539	$ 106	$ -	$ 645	RS Means 2012
Reprogram DDC system	1	ea	$ 100	$ 1,200		$ 103	$ 1,495	$ -	$ 1,598	RS Means 2012
Electrical - misc.	1	ls	$ 200	$ 500		$ 205	$ 623	$ -	$ 828	RS Means 2012
Remote bulb thermostat	2	ea	$ 500	$ 200		$ 1,027	$ 498	$ -	$ 1,525	RS Means 2012
						$ -	$ -	$ -	$ -	

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

$ 24,629	Subtotal
$ 6,157	25% Contingency
$ 30,787	**Total**

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-4: Walk-in Cooler & Freezer EC Motor Retrofits

ECM Description :
For kitchens that contain walk-in coolers and freezers, CoolTrol is a controller that reduces energy consumption by controlling off of dewpoint temperature. Compressor cycling is reduced and the evaporator fans run 25% to 80% less. Door and frame heaters are also installed and controlled by store dew point temperature; this can reduce run time by up to 95% in coolers and 60% in freezers. The evaporator fan motors are also replaced with hi-efficiency fan motors saving 40% to 70% in energy. The proposed system comprises of an anti-sweat door controller, evaporator fan motor replacement and CoolTrol Cooler Control System.

Utility Cost
$0.15 $/kWh Blended

E X I S T I N G C O N D I T I O N S			
Walk-In Freezer(s)			
Existing Freezer Controls?	N		
Quantity of Walk-In Freezers	1		
Nameplate Amps of Freezer Evaporator Fan	4		AmpsEF
Nameplate Volts of Freezer Evaporator Fan	280		VoltsEF
Phase of Evaporator Fan	1		PhaseEF
Power Factor of Evaporator Fan	0.55		PFEF
Operating Hours	8,760	hrs	
Load Reduction	65%		LR
Electricity Savings (Evaporator Fan)	3,157	kWh	kWhEF
Electricity Savings (Evaporator Fan Reduced Heat)	1,414	kWh	kWhRH
Total Walk-In Freezer(s) Electricity Savings	4,571	kWh	
Walk-In Cooler(s)			
Existing Cooler Controls?	N		
Quantity of Walk-In Coolers	1		
Nameplate Amps of Cooler Evaporator Fan	4		
Nameplate Volts of Cooler Evaporator Fan	280		
Phase of Evaporator Fan	1		
Power Factor of Evaporator Fan	0.55		
Operating Hours	8,760	hrs	
Load Reduction	65%		
Electricity Savings (Evaporator Fan)	3,157	kWh	
Electricity Savings (Evaporator Fan Reduced Heat)	1,414	kWh	
Total Walk-In Cooler(s) Electricity Savings	4,571	kWh	
S A V I N G S			
Total Electricity Savings	**9,142**	**kWh**	
Total Cost Savings	**$ 1,362**		
Estimated Cost	$ 41,250		
Simple Payback	30.3	**years**	

Savings calculation formulas are taken from NJ Protocols document for Walk-in Controller

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

Essex County
CHA Project Number: 29142
New Hospital Center

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-4: Walk-in Cooler & Freezer EC Motor Retrofits - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									$ -	
Turnkey Walk-In Controller & Equipment	2	EA	$ 10,000	$ 5,000	$ -	$ 20,540	$ 12,460	$ -	$ 33,000	Vendor Estimate
						$ -	$ -	$ -	$ -	

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

$ 33,000	Subtotal
$ 8,250	25% Contingency
$ 41,250	**Total**

Essex County
CHA Project Number: 29142

ECM - 5: Solar Thermal DHW System

Summary:
This ECM evaluates energy savings potential associated with installing a roof mounted solar thermal array to supplement the existing domestic hot water heating system. An approximately 670 SF evacuated tube solar panel array was utilized to perform the thermal energy production simulation in T*Sol Pro 4.5 solar modeling software. Energy savings results from a reduction of DHW that must be made by the existing boiler system.

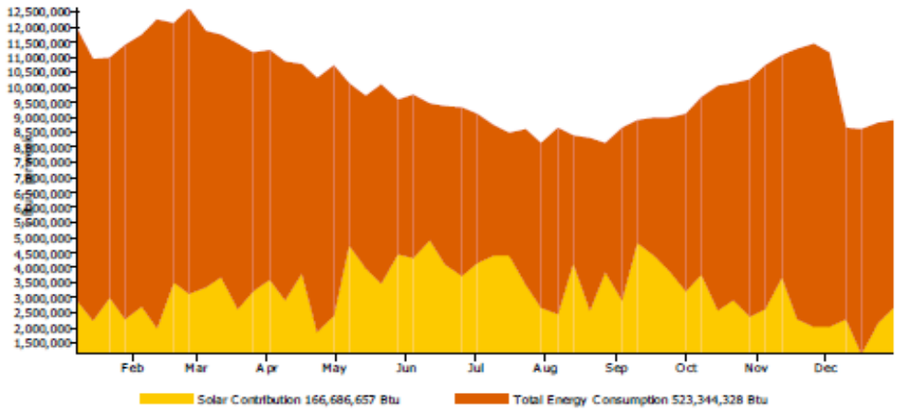
Existing Conditions	
80%	Existing DHW System Efficiency
	Therms - Existing DHW Consumption

Solar System Characteristics:	
40	Tilt Angle
0	Azimuth
670	SF - Solar Array Surface Area
3,000	Gallons - Solar DHW Standby Tank
750	Gallons - Solar Preheating Tank

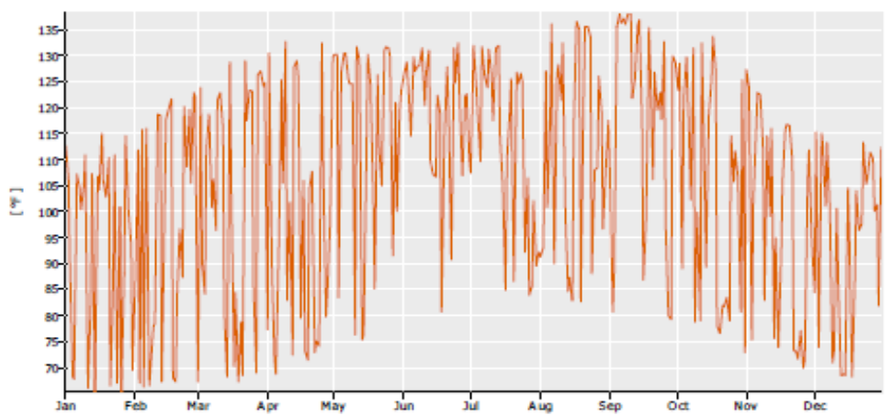
Thermal Energy Prodution:	
166,070	**Mbtu Solar Contribution**
1,984	**Therms - Proposed Natural Gas Savings**

ECM - 5: Solar Thermal DHW System
Solar System Output Profiles:

Solar Energy Consumption as Percentage of Total Consumption



Daily Maximum Collector Temperature



These calculations were carried out by T*SOL Expert 4.5 - the Simulation Programme for Solar Thermal Heating Systems. The results are determined by a mathematical model calculation with variable time steps of up to 6 minutes. Actual yields can deviate from these values due to fluctuations in climate, consumption and other factors.The system schematic diagram above does not represent and cannot replace a full technical drawing of the solar system.

Essex County
CHA Project Number: 29142
New Hospital Center

ECM-5 Solar DHW - 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.		
670 SF Domestic Hot Water System	1	ea	$ 15,000	$ 2,000		$ 15,405	$ 2,492	$ -	$ 17,897	Vendor Estimation
5.0 HP VFDs (1-exhaust fan)	1	ea	$ 1,485	$ 490		$ 1,525	$ 611	$ -	$ 2,136	RS Means 2012
5.0 HP Motor	1	ea	$ 525	$ 85		$ 539	$ 106	$ -	$ 645	RS Means 2012
Reprogram DDC system	1	ea	$ 100	$ 1,200		$ 103	$ 1,495	$ -	$ 1,598	RS Means 2012
Electrical - misc.	1	ls	$ 200	$ 500		$ 205	$ 623	$ -	$ 828	RS Means 2012
Remote bulb thermostat	2	ea	$ 500	$ 200		$ 1,027	$ 498	$ -	$ 1,525	RS Means 2012
						$ -	$ -	$ -	$ -	

$ 24,629	Subtotal
$ 6,157	Contingency 25%
$ 30,787	**Total**

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

Essex County
CHA Project Number: 29142
New Hospital Center

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 governements 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)	205,925
Is this audit funded by NJ BPU (Y/N)	Yes

Board of Public Utilites (BPU)

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

	Annual Utilities	
	kWh	Therms
Existing Cost (from utility)	$518,005	$116,601
Existing Usage (from utility)	3,469,649	148,806
Proposed Savings	467,387	9,016
Existing Total MMBtus	26,723	
Proposed Savings MMBtus	2,497	
% Energy Reduction	**9.3%**	
Proposed Annual Savings	$64,389	

	Min (Savings = 15%)		Increase (Savings > 15%)		Max Incentive		Achieved Incentive	
	$/kWh	$/therm	$/kWh	$/therm	$/kWh	$/therm	$/kWh	$/therm
Incentive #2	$0.09	$0.90	$0.005	$0.05	$0.11	$1.25	$0.00	$0.00
Incentive #3	$0.09	$0.90	$0.005	$0.05	$0.11	$1.25	$0.00	$0.00

	Incentives $		
	Elec	Gas	Total
			$10,296
Incentive #1	$0	$0	$0
Incentive #2	$0	$0	$0
Incentive #3	$0	$0	$0
Total All Incentives	**$0**	**$0**	**$0**

Total Project Cost	$804,119

		Allowable Incentive
% Incentives #1 of Utility Cost*	0.0%	$0
% Incentives #2 of Project Cost**	0.0%	$0
% Incentives #3 of Project Cost**	0.0%	$0
Total Eligible Incentives***	**$0**	
Project Cost w/ Incentives	$804,119	

Project Payback (years)	
w/o Incentives	w/ Incentives
12.5	12.5

* 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

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

BPU

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

Program Overview

New Jersey SmartStart BUILDINGS®

With New Jersey SmartStart Buildings ...

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

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings im Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have 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 — 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. T you must submit an application form (and applicable worksheets) and receive an approv from the program before any equipment is installed (click here for complete Terms and (Upon receipt of an approval letter, you may proceed to install the equipment listed on yc approved application. Equipment installed prior to the date of the approval letter is not e an incentive. **Any customer and/or agent who purchases equipment prior to the re 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 constructi 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 c install. The application should be accompanied by a related worksheet, where applicabl manufacturer's specification sheet (refer to the specific program requirements on the ba application for specs needed for your project) for the equipment you are planning to inst (Program representatives will review your application package and approve it, reject it, a advise you of upgrades in equipment that will save energy costs and/or increase your in

Support for Custom Energy-Efficiency Measures

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

Incentives for Qualifying Equipment and Projects

Financial incentives are available for large and small projects. These incentives offset s maybe even all! — of the added cost to purchase qualifying energy-efficient equipment, provides significant long-term energy savings. Ranges of incentives are available for qu 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 ince equipment not listed here, contact a program representative. Fiscal year financial incent be limited to a maximum of $500,000 per customer utility account and are available as f permits.

BPU

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

EQUIPMENT INCENTIVES

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ENERGY SAVINGS IMPROVEMENT PROGRAM

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ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

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Equipment Incentives

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings im Hurricane Sandy. Eligible projects receive an additional 50% and new incentives have 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 types 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 specificatic needed for your project) and a current utility bill(s).

In order to be eligible to receive financial incentives under this Program, Applicants mus receive electric and/or gas service from one of the regulated electric and/or gas utilities 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

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 Measur
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 discor effective March 1, 2013 except for buildings impacted by Hurri Sandy. Approved applications will have the standard timefram year from the program commitment date to complete the instal**

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/freeze

Prescriptive Lighting

New Linear Fluorescent

- T-12, HID and Incandescent to T-5 and T-8 ($25 - $200 pe 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 p 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 Spa *Linear panels ($50 per fixture)*
  - Fuel pump canopy ($100 per fixture)
  - LED retrofit kits (custom measures)
- New Pulse-Start Metal Hallide ($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. Appro applications will have the standard timeframe of one year from the prog 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 fixtu office applications only)
  - Occupancy controlled hi-low fluorescent controls ($25 per 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 per door)
  - Aluminum Night Curtains for open refrigerated cases ($3.5 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 progra incentive threshold, currently 5% more energy efficient than ASHR 2007 for New Construction only.)
- Custom electric and gas equipment incentives (not prescriptive)

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

II. DIRECT INSTALL

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND FUEL CELLS

LOCAL 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

Direct Install

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 t and how to get through the process. Created specifically for existing small to mediun facilities, Direct Install is a turnkey solution that makes it easy and affordable to upgr high efficiency equipment. Direct Install is designed to cut your facility's energy costs replacing lighting, HVAC and other outdated operational equipment with energy effic alternatives. The program pays up to 70% of retrofit costs, dramatically improving yo payback on the project. There is a $125,000 incentive cap on each project.

ELIGIBILITY

Existing small to mid-sized commercial and industrial f with a peak electric demand that did not exceed 200 k any of the preceding 12 months are eligible to particip Direct Install. Applicants will submit the last 12 months electric utility bills indicating that they are below the de threshold and have occupied the building during that ti Buildings must be located in New Jersey and served b the state's public, regulated electric or natural gas utilit 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 capacities. Boilers may not exceed 500,000 Btuh and furnaces may not exceed 140,

III. PAY FOR PERFORMANCE (P4P)

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

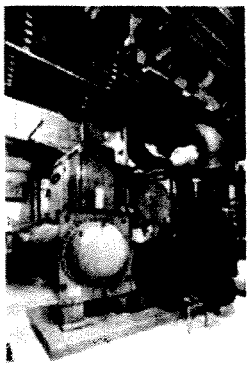
ENERGY BENCHMARKING

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 facilit earn incentives that are directly linked to your savings. Pay for Performance relies on a program partners who provide technical services under direct you. Acting as your energy expert, your partner will develop a reduction plan for each project with a whole-building technica component of a traditional energy audit, a financial plan for fu energy efficient measures and a construction schedule for ins



Eligibility

Existing commercial, industrial and institutional buildings with demand over 100 kW for any of the preceding twelve months to participate including hotels and casinos, large office buildir family buildings, supermarkets, manufacturing facilities, scho shopping malls and restaurants. Buildings that fall into the fol customer classes are not required to meet the 100 kW dema to participate in the program: hospitals, public colleges and universities, 501(c)(3) non-p affordable multifamily housing, and local governmental entities. Your energy reduction p 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, manuf water treatment and datacenter building types whose annual energy consumption is hea weighted on process loads. Details are available in the high energy intensity section of t 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 ir facilities and comparing it to similar buildings. That can be a big help in locating opportu cost-justified energy efficiency upgrades. And, based on our findings, you may be invite participate in the Building Performance with ENERGY STAR initiative and receive speci recognition as an industry leader in energy efficiency.

Incentives

OIL, PROPANE & MUNICIPAL ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

PAST PROGRAMS

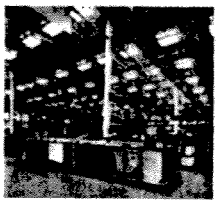
TOOLS AND RESOURCES

PROGRAM UPDATES

CONTACT US

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

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.



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.

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

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.

New Jersey's Clean Energy PROGRAM™
Your Power to Save
njcleanenergy.com

New Jersey Board of Public Utilities BPU

PAY FOR PERFORMANCE APPLICATION FORM

July 1, 2014 – June 30, 2015

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 for all accounts, organized in chronological order and separated by account. Utilize Utility Tool for applications with multiple accounts to organize data.
6. Provide brief description of facility, noting any special or unusual circumstances and/or site conditions.
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.

Pay For Performance-Existing Buildings

Participation Agreement

Definitions:

ADMINISTRATOR – New Jersey Board of Public Utilities (NJBPU)

APPLICATION PROCESS – The Program pays incentives in phases upon satisfactory completion of each of three Program milestones - approval of a complete Energy Reduction Plan, installation of all recommended measures per the Energy Reduction Plan, completion of Post-Construction Benchmarking Report (for incentive amounts, please refer to Incentive Amounts). In order to be eligible for Program Incentives,a Participating Customer or an agent authorized by a Customer, must submit to the Market Manager a properly completed application package – application form, Participating Customer's company W-9, twelve consecutive months of the project's utility bills and executed Participation Agreement. All components of the application package must be filled out completely, truthfully and accurately. This application package must be received on or before June 30, 2015 in order to be eligible for the Fiscal Year 2015 Incentives. The Market Manager will review the application package to determine if the project is eligible for a Program Incentive. When approved, the Participating Customer will receive an approval letter from their Case Manager with the estimated authorized first incentive amount and the date by which the Energy Reduction Plan must be submitted. Upon receipt of the approval letter, the Participating Customer and Partner may proceed with work on the Energy Reduction Plan. The Market Manager or agent thereof 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 Energy Reduction Plan approval letter. 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.

CHANGES TO THE PROGRAM – The Program and Participation Agreements may be changed by the Market Manager at any time without notice. Approved applications, however, will be processed to completion under the agreements in effect at the time of the Market Manager's approval.

ELIGIBILITY - Program Incentives are available to existing commercial, industrial and certain multifamily buildings with peak kilowatt demand usage of more than 100 kW in any of the most recent preceding twelve months of utility bills and a customer of the New Jersey Utilities. Market Manager has the discretion to approve applications that fall below the 100 kW minimum by no more than 10%. If the Participant is a municipal electric company customer, and a customer of an investor-owned gas New Jersey Utility, only gas measures will be eligible for incentives under the Program. Similarly, if the Participant is an oil/propane customer and a customer of an investor-owned electric New Jersey Utility, only electricity measures will be eligible for incentives under the Program.

Equipment procured by participating Customer through another program offered by the New Jersey Utilities, as applicable, is not eligible for incentives through this Program. Customers who, from July 1, 2013 – June 30, 2014, have not contributed to the Societal benefits Charge of the applicable New Jersey Utility may not be eligible for incentives offered through this program.

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

ENERGY-EFFICIENT MEASURES – Any device eligible to receive a Program Incentive payment through the New Jersey's Clean Energy Commercial and Industrial Program. The total package of measures as presented in the Energy Reduction Plan must have at least a 10% internal rate of return (IRR).

ENERGY REDUCTION PLAN – A document created by the Participating Customer's selected Partner that defines several key aspects of the project including (but not limited to) existing conditions as a result of a whole-building technical analysis, benchmarking summaries, recommended measures, financing plan and implementation schedule.

ENERGY REDUCTION PLAN APPROVAL – After application approval, the Participating Customer and Partner must work together to finalize and submit an Energy Reduction Plan which incorporates a work scope that will achieve the minimum 15% reduction in source energy performance target in accordance with the Program rules and policies along with the Benchmarking Tool, modeling software file, a copy of the executed Partner and Participating Customer contract, an original copy of the executed Installation Agreement and a Request for Incentive #1 Payment form. All components of the submittal package must be filled out completely, truthfully and accurately. The Market Manager, agents thereof and/or the selected Partner must be provided reasonable access to the Participating Customer's facility, staff, tenants and/or others necessary to develop an Energy Reduction Plan that will achieve the minimum 15% performance target as well as the necessary utility billing data as dictated by the Program. The Energy Reduction Plan submittal package will be reviewed and must be approved by the Market Manager prior to payment of Incentive #1. Upon approval of the submittal package, the Customer will receive an Incentive #1 approval letter indicating the date by which all measures in the Energy Reduction Plan must be installed (no later than twelve months following the Energy Reduction Plan submittal approval date).

INCENTIVE AMOUNTS – Incentive #1 - $0.10 per square foot of the project with a maximum amount of $50,000 and minimum of $5,000, not to exceed 50% of the project's annual energy cost and contingent on installation of measures in the Energy Reduction Plan and receipt of a signed Installation Agreement. If installation does not commence within the required timeframe, Incentive #1 may be required to be returned to the program. In the event the project is cancelled and Incentive #1 is not returned, the project may reapply to the program in the future but another Incentive #1 will not be paid. Incentive #2 – 50% of the total performance-based incentive (combination of Incentives #2 and #3) calculated per Program's incentive structure; Incentive #3 – remaining amount based on the realized energy savings of the project. For customers that have successfully participated in the Local Government Energy Audit Program, Incentive #1 will be reduced by 50% to $0.05 per square foot up to $25,000. Actual Incentive #1 paid shall not be higher than 5% over the committed amount. Actual Incentive #2 paid shall not be higher than the committed amount, unless the Energy Reduction Plan has been resubmitted due to changes in the work scope. Actual Incentive #3 paid shall be higher or lower than the committed amount based on actual energy savings but shall not be greater than program Incentive Caps.

The Market Manager will provide incentives according to those described in this section or as modified upon notice to Participating Customer. All incentive payments are paid directly to the Participating Customer or the Participating Customer's designee as indicated on the application form. The Program is not bound to pay any incentive unless the submittal package associated with the incentive payment is approved by the Market Manager who reserves the sole discretion of approving or disapproving the submittal packages.

INCENTIVE CAP – Program Incentives #2 and #3 will be capped not to exceed 50% of the total actual project cost. Incentive #1 will be capped not to exceed 50% of the project's annual energy cost. The Market Manager reserves the right to limit the amount of the Program Incentives (Incentive #1, #2 and #3) to $1M per gas and electric account (limited to $2M per project) in a program year. Campus style facilities, which are mastered-metered, are subject to the annual incentive cap of $1 million per gas and electric account. The Participating Customer will also be subject to an annual Entity Cap of $4M (Definition of an Entity can be found in the Board Order Docket No. EO07030203).

INSTALLATION AGREEMENT – The Participating Customer must submit an executed Installation Agreement as part of the Request for Incentive #1 Form. By executing the Installation Agreement, the Customer agrees to install all of the measures in the Energy Reduction Plan, which are estimated to result in meeting or exceeding the minimum 15% performance target. The Customer agrees to the performance-based incentives (Incentives #2 & #3) as indicated in the document which are based on the results of the Energy Reduction Plan. Implementation of the measures must commence in the time period twelve months following the approval date of the Energy Reduction Plan. Failure to complete the installation of the measures in the Energy Reduction Plan may result in the repayment of Incentive #1. In the event the project is cancelled and Incentive #1 is not returned, the project may reapply to the program in the future but another Incentive #1 will not be paid.

LIMITATION OF LIABILITY – By virtue of participating in this Program, Participating Customers agree to waive any and all claims or damages against TRC Energy Services, the Market Manager, and the Administrator, except the receipt of the Program Incentive. Participating Customers agree that the Market Manager's and Administrator's liability, in connection with this Program, is limited to paying the Program Incentive specified. Under no circumstances shall the Market 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 Market Manager under this Program shall be individual, and not joint and/or several.

The Market Manager's review and approval of the Energy Reduction Plan cannot be construed to be a determination as to performance, applicability, dollar savings, energy savings, or any other aspect of the proposed project. The Market Manager and Administrator offer no guarantee or warranty of performance of the project's equipment or system. The participant assumes full responsibility and liability for the installation of all equipment, including but not limited to design, specification, all permits, installation, maintenance, performance and financing. By participating in the program and accepting incentive dollars, you agree to hold harmless the Market Manager and Administrator and their respective staffs with respect to the Project

MARKET MANAGER – TRC Energy Services is responsible for managing the New Jersey Clean Energy Commercial & Industrial Programs.

MEASUREMENT & VERIFICATION APPROVAL – Twelve months subsequent to the Incentive #2 Payment Submittal package submission date, measurement and verification of the projected energy reduction will be conducted by the Participating Customer's Partner using the project's post-installation utility data (supplied by the Customer). The Participating Customer must work with their Partner to submit the Incentive #3 Payment Submittal, consisting of the Post-Construction Benchmarking Pay For Performance-Existing Buildings Report, Benchmarking Tool, and Request for Incentive #3 form. All components of the submittal package must be filled out

completely, truthfully and accurately. Upon review of the submittal package (by the Market Manager or agent thereof), the remaining 50% of the total performance-based incentive (Incentives #2 & #3) will be released to the Participating Customer. If the Post-Construction Benchmarking Report indicates that the project did not meet the minimum performance target, the post-installation completion period may be extended to up to twenty-four months subsequent to the Incentive Payment #2 package submission date. Upon approval of the submittal package, the Customer will receive an Incentive #3 Submittal approval letter indicating successful completion of the program.

NEW JERSEY UTILITIES – The investor-owned 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.

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

PARTICIPATING CUSTOMER'S CERTIFICATION – Participating Customer agrees that all information is true and that he/she has conformed to all of the Program and equipment requirements per the Program Guidelines. Participating Customer certifies that he/she purchased and installed the equipment listed in the Energy Reduction Plan at their defined New Jersey project location.

PARTNER– An approved professional who provides technical building performance services to Participating Customers, acting as their "energy efficiency expert". Participating Customers are required to hire an approved Pay for Performance Partner to develop the Energy Reduction Plan and facilitate installation of the recommended package of Energy-Efficient Measures. Participants are required to enter into a contractual agreement with a selected Partner which outlines the set of minimum services the Partner will provide to the Participating Customer throughout the life of the project. It is strongly recommended that Participating Customers perform due diligence in selecting a Pay for Performance Partner. Fees charged by the Partner are not regulated by the Program and could vary between Partners.

PERFORMANCE-BASED INCENTIVES – The combination of Incentives #2 and #3, which are based on the projected and actual energy reduction performance of the project.

PERFORMANCE TARGET – A minimum of a 15% annual source energy savings performance target must be achieved in order to participate. The performance target is based on reducing the total energy consumption for the facility. No more than 50% of the total source energy savings may be derived from lighting measures. The total energy savings may not come from a single measure. A 4% performance target may be offered to customers whose annual energy consumption is heavily weighted to manufacturing and process loads. This approach will be reviewed on a case-by-case basis and must be pre-approved by the Market Manager. In order to be considered, the project must involve: A manufacturing facility, including such industries as plastics and packaging, chemicals, petrochemicals, metals, paper and pulp, transportation, biotechnology, pharmaceutical, food and beverage, mining and mineral processing, general manufacturing, equipment manufacturers and data centers; and manufacturing and/or process-related loads, including data center consumption, consume 50% or more of total facility energy consumption. No more than 50% of the total source energy savings may be derived from non-investor owned utilities or fuels.

POST-INSTALLATION APPROVAL – After the complete installation of all measures in the Energy Reduction Plan, the Customer and their Partner must finalize and submit the Incentive #2 Payment Submittal, consisting of the Installation Report, invoices, and Request for Incentive #2 Payment form. All components of the submittal package must be filled out completely, truthfully and accurately. Upon review of the submittal package and verification of the complete installation of all measures in the Energy Reduction Plan (via inspection by the Market Manager or agent thereof), 50% of the total performancebased incentive (Incentives #2 & #3) will be released to the Participating Customer. Upon approval of the submittal package, the Customer will receive an Incentive #2 approval letter indicating the date by which the post-installation Measurement & Verification phase began and will end (twelve months in length).

The Market Manager reserves the right to verify sales transactions and to have reasonable access to Participating Customer's facility to inspect both pre-existing products 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 the service territory of one of the New Jersey Utilities (as defined by the Program) as designated on the Participating Customer's Pay for Performance application. Program Incentives are available for qualified Energy-Efficient Measures as listed and described in the Program Guidelines. The Participating Customer must ultimately own the equipment, either through an up-front purchase or at the end of a short-term lease.

PRE-INSTALLED MEASURES - An Energy Reduction Plan must be approved by the program and an approval letter sent to the customer in order for incentives to be committed. Upon receipt of an Energy Reduction Plan, all project facilities must be preinspected. Measures installed prior to pre-inspection of the facility shall not be included as part of the ERP scope of work and will not be eligible for incentives. Measure installation undertaken prior to ERP approval, but after pre-inspection, is done at the customer's own risk. In the event that an Energy Reduction Plan is rejected by the program, the customer will not receive any incentives.

PRODUCT INSTALLATION OR EQUIPMENT INSTALLATION – Installation of the Energy-Efficient Measures.

Projects with a contract threshold of $15,444 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 – New Jersey's Clean Energy Pay for Performance Program offered herein by the New Jersey Board of Public Utilities pursuant to state regulatory approval under the New Jersey Electric Discount and Energy Competition Act, NJSA 48:3-49, et seq.

PROGRAM GUIDELINES – See Pay for Performance Program Guidelines available from your Partner.

PROGRAM INCENTIVES – Refers to the amount or level of incentive that the Program provides to participating customers pursuant to the Program offered herein (see the description under "Incentive Amount" heading).

PROGRAM OFFER – The Program covers products purchased and/or services rendered on or after July 1, 2014. Program Incentives are available to non-residential retail electric and/or gas service customers of the New Jersey Utilities.

PROJECT – A commercial, industrial or multifamily existing building with peak demand in excess of 100 kW in any of the most recent preceding twelve months of electric usage. Multifamily building(s) must be four (4) stories or greater or three (3) stories and under having central heating, cooling, or metering serving more than one building. The 100 kW requirement is waived for the following customer classes: hospitals, non-profits (as defined by section 501(c)(3) of the Internal Revenue Code), public colleges and universities, local government entities, including K-12 schools, and affordable multifamily customers (defined as low income, subsidized, HUD, etc.)

TAX CLEARANCE CERTIFICATION – Businesses must apply for and receive a Tax Clearance Certificate from the New Jersey Division of Taxation before they can receive any incentive, grant or other financial assistance from the Program.

TAX LIABILITY – The Market 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 on the application form in addition to providing a copy of their W-9 form as part of the application package in order to receive a Program Incentive.

TERMINATION – New Jersey's Clean Energy Program reserves the right to extend, modify (this includes modification of Program Incentive levels) or terminate this Program without prior or further notice.

WARRANTIES – THE MARKET MANAGER AND ADMINISTRATOR DO NOT WARRANT THE PERFORMANCE OF INSTALLED EQUIPMENT, AND/OR SERVICES RENDERED AS PART OF THIS PROGRAM, EITHER EXPRESSLY OR IMPLICITY. 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.

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 Market Manager permission to share my records with the New Jersey Board of Public Utilities, and contractors it selects to manage, coordinate or evaluate the Pay For Performance Program, including the release of electric and natural gas utility billing information, as well as make available to the public non-sensitive information. 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. This arrangement supersedes all other communications and representations.

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)

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND FUEL CELLS

LOCAL GOVERNMENT ENERGY AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT PROGRAM

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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 t facilities and pay for the costs using the value of energy savings that result from the imp 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 and reduce energy usage with minimal expenditure of new financial resources.

This Local Finance Notice outlines how local governments can develop and implement a 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 effic improvements. Local units should carefully consider all alternatives to develop an appro best meets their needs. Local units considering an ESIP should carefully review the Loc Notice, the law, and consult with qualified professionals to determine how they should a task.

The NJ Board of Public Utilities sponsored Sustainable Jersey in the creation of an ESIF Guidebook that explains how to implement the program. The guidebook also includes ca 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 ene 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, plea 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

ALTERNATIVE ENERGY ANALYSIS

SOLAR DOMESTIC HOT WATER

COMBINED HEAT AND POWER SCREENING

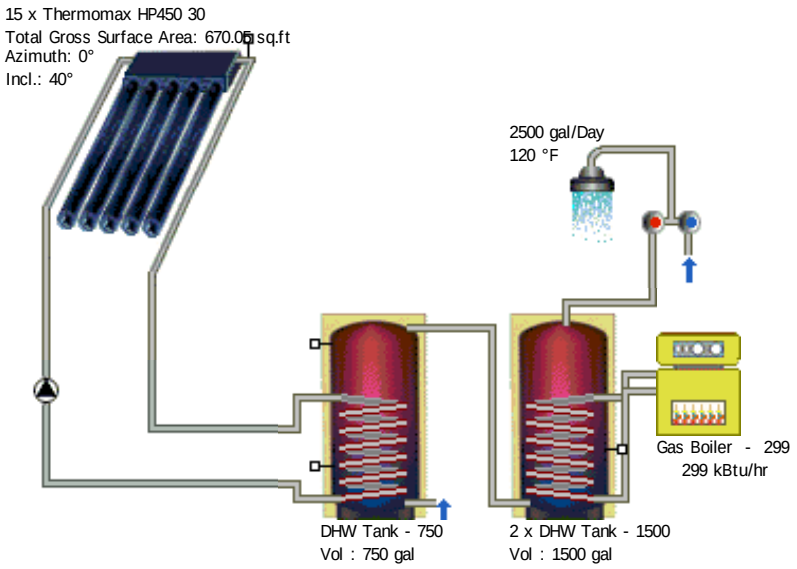
SOLAR PHOTOVOLTAIC

Project Report: KS3559BC Essex County Energy Audit - DHW

Planning Office

Technical Specification
Finbarr McCarthy

Tel:
Fax:
E-Mail:



Results of Annual Simulation

Installed Collector Power:	148.68 kBtu/hr	
Installed Gross Solar Surface Area:	670.05 sq.ft	
Collector Surface Area Irradiation (Active Surface):	257.12 MMBTU	497.67 kBtu/sq.ft
Energy Produced by Collectors:	170.57 MMBTU	330.15 kBtu/sq.ft
Energy Produced by Collector Loop:	166.03 MMBTU	321.37 kBtu/sq.ft
DHW Heating Energy Supply:	501.18 MMBTU	
Solar Contribution to DHW:	166.07 MMBTU	
Energy from Auxiliary Heating:	355.34 MMBTU	
Natural Gas (H) Savings:		**5,560.8 m³**
Natural Gas (H) Savings:		**1,984.37 therm**
CO2 Emissions Avoided:		**25,924.51 lbs**
DHW Solar Fraction:		**31.9 %**
Fractional Energy Saving (EN 12976):		**30.8 %**
System Efficiency:		**64.6 %**

Basic Data

Climate File

Location:	CALDWELL/ESSEX CO.
Climate Data Record:	"CALDWELL/ESSEX CO."
Total Annual Global Radiation:	4.67 MMBTU
Latitude:	40.87 °
Longitude:	74.27 °

Domestic Hot Water

Average Daily Consumption:	2500 gal
Desired Temperature:	120 °F
Load Profile:	Hospital - Essex County
Cold Water Temperature:	February:48.2 °F / August:59.7 °F
Circulation:	No

System Components

Collector Loop

Manufacturer:	Kingspan Renewables Ltd. (Thermomax)
Type:	Thermomax HP450 30
Number:	15.00
Total Gross Surface Area:	670.05 sq.ft
Total Active Solar Surface Area:	516.67 sq.ft
Tilt Angle:	40 °
Azimuth:	0 °

DHW Standby Tank

Manufacturer:	T*SOL Database
Type:	2 x DHW Tank - 1500
Volume:	2 x 1500 gal

Solar Preheating Tank

Manufacturer:	T*SOL Database
Type:	DHW Tank - 750
Volume:	750 gal

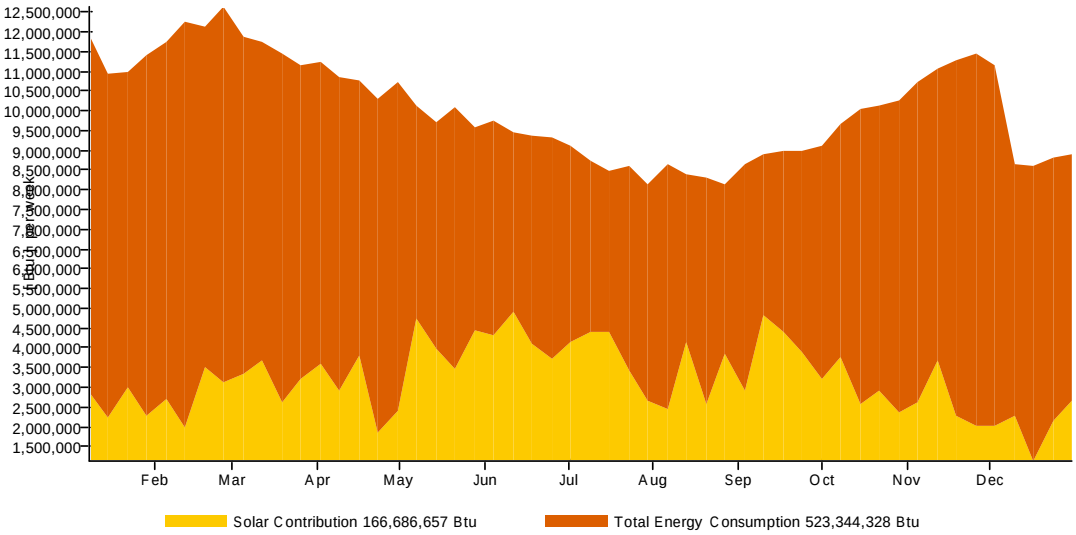
Auxiliary Heating

Manufacturer:	T*SOL Database
Type:	Gas Boiler - 299
Nominal Output:	299 kBtu/hr

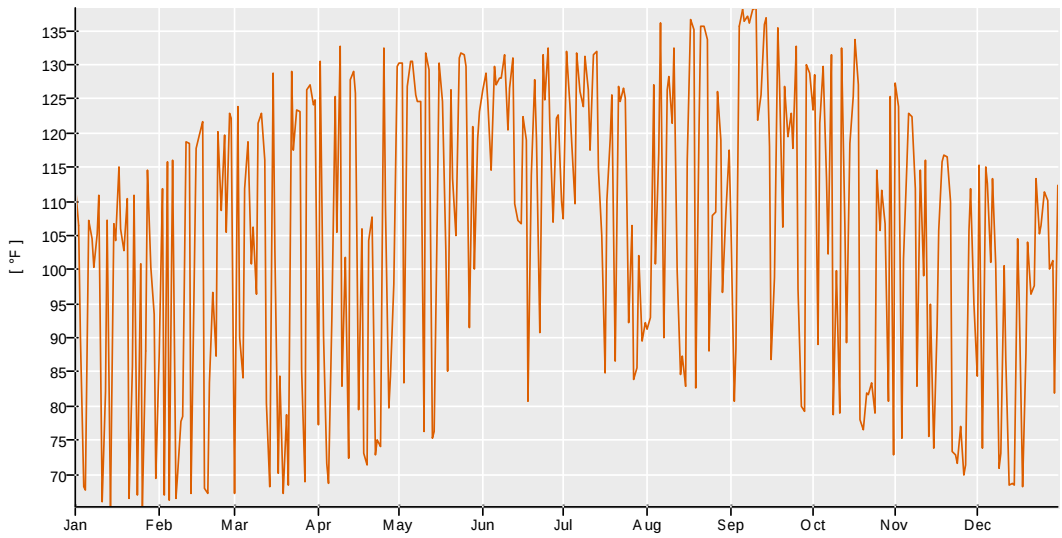
Legend

Original T*SOL Database
With Test Report
Solar Keymark

Solar Energy Consumption as Percentage of Total Consumption

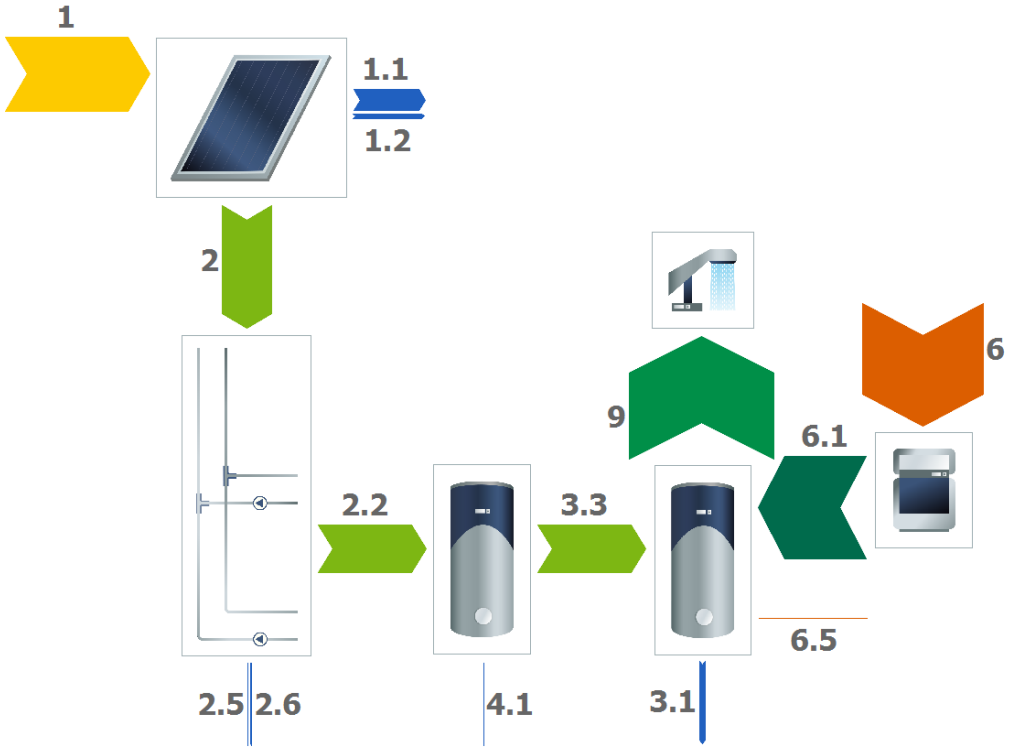


Daily Maximum Collector Temperature



These calculations were carried out by T*SOL Expert 4.5 - the Simulation Programme for Solar Thermal Heating Systems. The results are determined by a mathematical model calculation with variable time steps of up to 6 minutes. Actual yields can deviate from these values due to fluctuations in climate, consumption and other factors.The system schematic diagram above does not represent and cannot replace a full technical drawing of the solar system.

Energy Balance Schematic



Legend

1	Collector Surface Area Irradiation (Active Surface)	2,581 therm
1.1	Optical Collector Losses	725 therm
1.2	Thermal Collector Losses	14,401 kBtu
2	Energy from Collector Array	1,712 therm
2.2	Solar Energy to Preheating Tank	1,666 therm
2.5	Internal Piping Losses	494 kBtu
2.6	External Piping Losses	4,060 kBtu
3.1	Tank Losses	20,270 kBtu
3.3	Preheating Tank to Tank	1,667 therm
4.1	Tank Losses (S)	-72 kBtu
6	Final Energy	4,246 therm
6.1	Supplementary Energy to Tank	3,567 therm
6.5	Heating Element	0 kBtu
9	DHW Energy from Tank	5,030 therm

Glossary

1 Collector Surface Area Irradiation (Active Surface)
Energy Irradiated onto Tilted Collector Area (Active Solar Surface)

1.1 Optical Collector Losses
Reflection and Other Losses

1.2 Thermal Collector Losses
Heat Conduction and Other Losses

2 Energy from Collector Array
Energy Output at Collector Array Outlet (i.e. Before the Piping)

2.2 Solar Energy to Preheating Tank
Collector Array Energy Minus Piping Losses

2.5 Internal Piping Losses
Internal Piping Losses

2.6 External Piping Losses
External Piping Losses

3.1 Tank Losses
Heat Losses via Surface Area

3.3 Preheating Tank to Tank
Heat from Preheating Tank to Tank

4.1 Tank Losses (S)
Heat Losses via Surface Area

6 Final Energy
Final Energy Current into System. This can flow in as natural gas, oil or electricity (not including solar energy) taking efficiency levels into account

6.1 Supplementary Energy to Tank
Supplementary Energy (e.g. Boiler) to Tank

6.5 Heating Element
Energy from Heating Element

9 DHW Energy from Tank
Heat for DHW Appliances from Tank (Exluding Circulation)

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CHP SCREENING LEVEL PRELIMINARY EVALUATION
NEW HOSPITAL CENTER **22-Dec-14**
CASE 1 - Two 210kW Reciprocating Engines **1**

BASE CASE		
Boiler Efficiency	80%	
Natural Gas Cost	7.84	$/MMBtu
Electricity Purchase Cost	0.15	$/kWh
Total Electricity Purchase Cost	$516,978	
Total Gas Purchase Cost	$116,664	
Total Energy Purchase Cost	**$633,642**	
CHP CASE		
CHP Basis	Recip Cogen Eng.	
Engine Generator	Ener-G 210	
Configuration	(2) Recip. Engines	
Power Gross Output	420	kW
Plant Auxiliary Power	6%	
Engine Availability	0.97	
Plant Net Output	395	kW
Fuel Gas LHV	1736	Btu/scft
Fuel Gas HHV	1927	Btu/scft
Fuel Consumption (HHV)	2.3	MMBtu/hr
Heat Recovery Jacket Water Cooler	0.8	MMBtu/hr
Heat Recovery Engine Exhaust	0.4	MMBtu/hr
Engine Maintenance Cost	0.018	$/kWh
Natural Gas Cost	7.84	$/MMBtu
Electricity Purchase Cost	0.15	$/kWh
Total Electricity Purchase Cost	$0	
Total Gas Purchase Cost	$505,159	
Engine Maintenance Cost	$0	
Total CHP Operating Cost	**$505,159**	
New Jersey Incentive	**$462,000**	
ECONOMIC EVALUATION		
Annual Energy Cost Savings	**$128,483**	
Project Cost Multiplier	3,800	$/kW
Project Cost (Incentive Not Included)	$1,596,000	
Total Cost (+20% Soft Cost Markup)	$1,915,200.0	
Simple Payback	**14.9**	**Years**
	11.3	

Notes:
1) Existing electrical loads are an based on electrical utility data provided by the facility.
2) Existing natural gas loads are based on natural gas utility data provided by the facility.
3) Reciprocating engine purchase and maintenance costs are budget costs are estimated based on previous projects

BASE CASE

Month	Days	Electricity			Natural Gas (HHV)		Heating Hot Water			Heat to	Chiller
		Peak	Average	Total	Total	Average	Average	Total	Avg. Flow	Power	Load
		kW	kW	kWh	MMBtu	MMBtu/hr	MMBtu/hr	MMBtu	GPM	Ratio	Ton
Jan	31	652.00	329.6	245,200	2067.5	2.8	1.83	1,365	92	0.82	7
Feb	28	621.10	393.5	264,400	2353.0	3.5	2.31	1,553	116	1.09	65
Mar	31	631.40	333.9	248,400	1919.5	2.6	1.70	1,267	85	0.79	120
Apr	30	735.20	352.8	254,000	995.5	1.4	0.91	657	46	0.36	218
May	31	723.10	360.8	268,400	844.9	1.1	0.75	558	37	0.30	551
Jun	30	828.40	521.4	375,429	621.6	0.9	0.57	410	28	0.20	800
Jul	31	791.00	524.0	389,893	566.1	0.8	0.50	374	25	0.19	644
Aug	31	783.00	476.2	354,262	585.9	0.8	0.52	387	26	0.19	428
Sep	30	691.90	387.3	278,865	649.0	0.9	0.59	428	30	0.25	165
Oct	31	611.40	338.2	251,600	747.7	1.0	0.66	493	33	0.32	44
Nov	30	596.70	386.7	278,400	1771.3	2.5	1.62	1,169	81	0.80	20
Dec	31	685.30	350.5	260,800	1758.5	2.4	1.56	1,161	78	0.67	5
	Annual	696		3,469,649	14,881	#DIV/0!	1.13	9,821	56	0.48	256

CHP CASE

Month	Power Generation		Power	Engine Gas Usage (HHV)		Absorption Chiller			Total Heating Required		Engine Heat Recovery Available			Heat Used by Facility		Existing Boilers		Total Fuel	CHP
	Average	Total	Import	Average	Total	Cooling	Power Red.	Heat	Total	Total	Coolers	Exhaust	Average	From Recip. Engine		Heat	Gas Use	Consumption	Efficiency
	kW	kWh	kWh	MMBtu/hr	MMBtu	Ton	kW	MMBtu/hr	MMBtu/hr	MMBtu	MMBtu/hr	MMBtu/hr	MMBtu/hr	MMBtu/hr	MMBtu	MMBtu	MMBtu	MMBtu	%
Jan	395	284,919	0	2.28	1,647	7	0.0	0.1	1.95	1,448	0.77	0.38	1.15	1.15	830	618	773	2,420	122%
Feb	395	257,346	0	2.28	1,488	65	45.5	1.0	3.35	2,252	0.77	0.38	1.15	1.15	750	1,502	1,878	3,366	122%
Mar	395	284,919	0	2.28	1,647	120	84.0	1.9	3.62	2,695	0.77	0.38	1.15	1.15	830	1,866	2,332	3,979	122%
Apr	395	275,728	0	2.28	1,594	218	152.4	3.5	4.40	3,166	0.77	0.38	1.15	1.15	803	2,363	2,953	4,547	122%
May	395	284,919	0	2.28	1,647	551	386.0	8.8	9.57	7,121	0.77	0.38	1.15	1.15	830	6,291	7,864	9,511	122%
Jun	395	275,728	0	2.28	1,594	800	560.0	12.8	13.37	9,626	0.77	0.38	1.15	1.15	803	8,823	11,029	12,623	122%
Jul	395	284,919	0	2.28	1,647	644	450.9	10.3	10.81	8,042	0.77	0.38	1.15	1.15	830	7,212	9,015	10,662	122%
Aug	395	284,919	0	2.28	1,647	428	299.8	6.9	7.37	5,485	0.77	0.38	1.15	1.15	830	4,655	5,819	7,466	122%
Sep	395	275,728	0	2.28	1,594	165	115.5	2.6	3.23	2,329	0.77	0.38	1.15	1.15	803	1,526	1,908	3,502	122%
Oct	395	284,919	0	2.28	1,647	44	30.8	0.7	1.37	1,017	0.77	0.38	1.15	1.15	830	187	234	1,882	122%
Nov	395	275,728	0	2.28	1,594	20	14.0	0.3	1.94	1,399	0.77	0.38	1.15	1.15	803	596	746	2,340	122%
Dec	395	284,919	0	2.28	1,647	5	3.5	0.1	1.64	1,220	0.77	0.38	1.15	1.15	830	390	488	2,135	122%
Annual	395	3,354,695	0	2.28	19,396	256	179	4.1	5.22	45,801	0.77	0.38	1.15	1.15	9,770	36,030	45,038	64,434	122%

AC Energy & Cost Savings

Cautions for Interpreting the Results

(Type comments here to appear on printout; maximum 1 row of 90 characters.)

Saving Text from a Browser

Station Identification

Cell ID:	0268370
State:	New Jersey
Latitude:	40.9 ° N
Longitude:	74.2 ° W

PV System Specifications

DC Rating:	50.0 kW
DC to AC Derate Factor:	0.830
AC Rating:	41.5 kW
Array Type:	Fixed Tilt
Array Tilt:	40.9 °
Array Azimuth:	180.0 °

Energy Specifications

Cost of Electricity:	14.9 ¢/kWh

Results

Month	Solar Radiation (kWh/m²/day)	AC Energy (kWh)	Energy Value ($)
1	3.18	4250	633.25
2	3.90	4675	696.58
3	5.05	6407	954.64
4	5.16	6108	910.09
5	5.47	6561	977.59
6	5.70	6435	958.82
7	5.36	6121	912.03
8	5.32	6124	912.48
9	5.16	5903	879.55
10	4.60	5649	841.70
11	3.32	4048	603.15
12	3.00	3933	586.02
Year	4.60	66213	9865.74

Output Hourly Performance Data

(Gridded data is monthly, hourly output not available.)

Output Results as Text

(Output Results as Text - Temporarily Unavailable)

Run PVWATTS v.2 for another location

Run PVWATTS v.1

Please send questions and comments to Webmaster

Disclaimer and copyright notice.

RReDC home page (*http://rredc.nrel.gov*)

Essex County Department of Parks
New Hospital Center

Cost of Electricity	$0.149	/kWh
Electricity Usage	3,469,649	kWh/yr
System Unit Cost	$4,000	/kW

Photovoltaic (PV) Solar Power Generation - Screening Assessment

Budgetary Cost	Annual Utility Savings				Estimated Maintenance Savings	Total Savings	Federal Tax Credit	New Jersey Renewable ** SREC	Payback (without incentive)	Payback (with incentive)
$	kW	kWh	therms	$	$	$	$	$	Years	Years
$200,000	**50.0**	**66,213**	**0**	**$9,866**	**0**	**$9,866**	**$0**	**$11,256**	**20.3**	**9.5**

** Estimated Solar Renewable Energy Certificate Program (SREC) SREC for 15 Years= $170 /1000kwh

Area Output*
3,611 m2
38,866 ft2

Perimeter Output*
916 m
3,006 ft

Available Roof Space for PV:
(Area Output - 10 ft x Perimeter) x 85%
7,484 ft2

Approximate System Size: Is the roof flat? (Yes/No) Yes

8	watt/ft2	
59,876	DC watts	
50	kW	Enter into PV Watts

PV Watts Inputs***

Array Tilt Angle	20	Enter into PV Watts (always 20 if flat, if pitched - enter estimated roof angle)
Array Azimuth	180	Enter into PV Watts (default)
Zip Code	07009	Enter into PV Watts
DC/AC Derate Factor	0.83	Enter info PV Watts

PV Watts Output
66,213 annual kWh calculated in PV Watts program

% Offset Calc

Usage	3,469,649	(from utilities)
PV Generation	66,213	(generated using PV Watts)
% offset	2%	

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

APPENDIX F

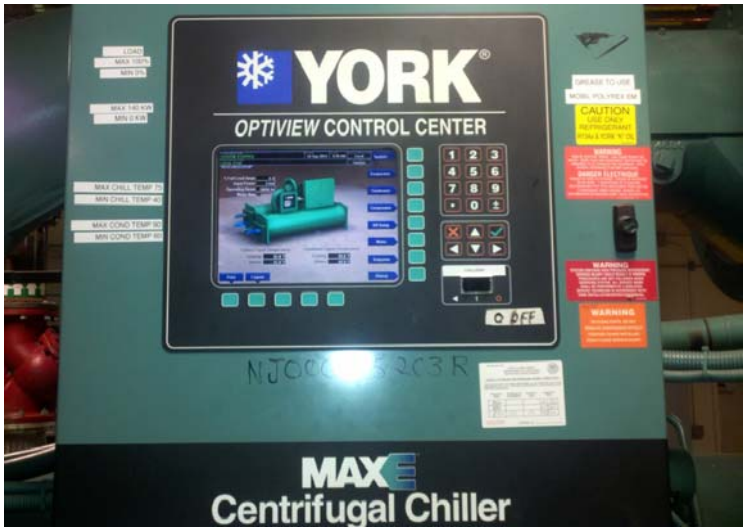
Photos

1: Aerial view of the New Hospital Center

2: Base mounted heating pumps in Boiler Room

3: H.B. Smith Boiler

4: Rooftop unit RTU-4



5: Control screen for York Chiller

APPENDIX G

EPA Benchmarking Report

ENERGY STAR® Statement of Energy Performance

N/A

ENERGY STAR® Score[1]

New Hospital Center

Primary Property Function: Other - Specialty Hospital
Gross Floor Area (ft²): 205,925
Built: 2006

For Year Ending: December 31, 2013
Date Generated: October 29, 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	Property Owner	Primary Contact
New Hospital Center 204 Grove Avenue Cedar Grove, New Jersey 07009	_____ , (____)____-_____	____ _____ , (____)____-_____ _____

Property ID: 4198886

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
129.8 kBtu/ft²

Source EUI
256.4 kBtu/ft²

Annual Energy by Fuel	
Electric - Grid (kBtu)	11,838,443 (44%)
Natural Gas (kBtu)	14,880,619 (56%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	197.3
National Median Source EUI (kBtu/ft²)	389.8
% Diff from National Median Source EUI	-34%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	2,375

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)