TOMS RIVER REGIONAL SCHOOL DISTRICT

HIGH SCHOOL NORTH

1245 Old Freehold Road, Toms River, NJ 08753

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

July 2014

Prepared by:

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

CHA PROJECT NO. 28485

TABLE OF CONTENTS

APPENDICES

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 Toms River Regional School District (TRS), 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
High School North	1245 Old Freehold Road, Toms River, NJ 08753	310,000	1969

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)	Water Savings (kGal)	Total Savings ($)	Payback (years)
High School North	1,414,626	(14,529)	2,275	180,908	8.8

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

CHA typically recommends ECMs that have an individual payback of 15 years or less, however if a particular piece of equipment or system is in poor condition or beyond its useful life, we will recommend that ECM as well regardless of simple payback. If the owner chooses to pursue an Energy Savings Improvement Plan (ESIP), high payback measures could be bundled with lower payback measures which ultimately can result in a payback which is favorable for an ESIP project to proceed.

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	Replace Electric EDPAC w/ Heat Pumps	$641,800	$7,606	84.4	$3,588	83.9	N
2	Replace Electric Rooftop Equipment with Natural Gas RTUs	$294,900	$43,133	6.8	$1,200	6.8	Y
3	Replace DX / RTU Equipment w/ Higher Efficiency Equipment	$703,600	$9,089	77.4	$13,320	75.9	N
4	Install VFDs & Premium Efficiency Motors on AHUs	$42,209	$4,528	9.3	$11,675	6.7	Y
5	Install Window A/C Controllers	$1,900	$810	2.3	$0	2.3	Y
6	Extend Energy Management System	$132,388	$1,195	110.9	$0	110.8	N
7	Retro-Commission Controls and Equipment	$42,980	$13,730	3.1	$0	3.1	Y
8	Replace DHW Boiler with a High Efficiency Water Heater	$22,413	$776	28.9	$1,340	27.1	Y
9	Install Kitchen Hood Controller	$31,555	$5,634	5.6	$1,000	5.4	Y
10	Install Walk-In Controls	$20,625	$1,274	16.2	$175	16.1	Y
11	Replace Electric Booster Heater w/ Natural Gas Fired Unit	$14,800	$2,354	6.3	$2,635	5.2	Y
12	Install Vending Machine Controls	$5,602	$5,813	1.0	$0	1.0	Y
13	Replace CRT Monitors w/ LCD	$20,814	$1,239	16.8	$0	16.8	Y
14	Install Low Flow Plumbing Fixtures	$260,678	$23,237	11.2	$0	11.2	Y
L1**	Lighting Replacements / Upgrades	$741,366	$69,225	10.7	$15,400	10.5	N
L2**	Install Lighting Controls (Add Occupancy Sensors)	$81,000	$17,235	4.7	$10,500	4.1	N
L3	Lighting Replacements with Controls (Occupancy Sensors)	$822,366	$77,299	10.6	$25,900	10.3	Y
	Total**	**$3,058,629**	**$197,718**	**15.5**	**$60,833**	**15.2**	
	Total (Recommended)	**$1,580,842**	**$179,827**	**8.8**	**$43,925**	**8.5**	

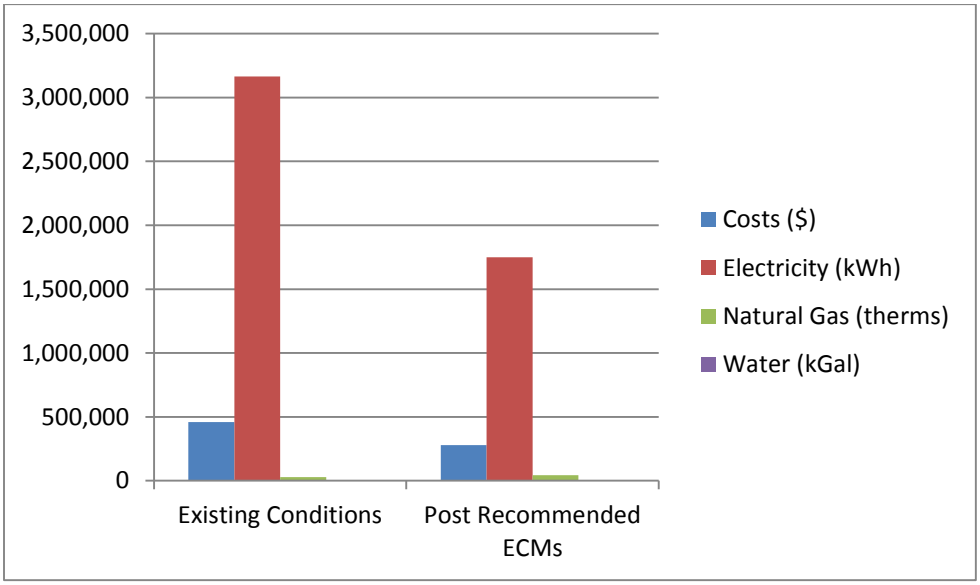
* Incentive shown is per the New Jersey SmartStart Program.

** Does not include alternate ECMs.

There are no renewable energy ECMs recommended for further study because the school already has a large solar photovoltaic array which generates electricity and is not a good candidate for other renewable energy technologies such as wind generation.

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

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs ($)	458,615	277,923	39%
Electricity (kWh)	3,164,313	1,749,687	45%
Natural Gas (therms)	31,321	45,834	-46%
Water (kGal)	3,178	903	72%
Site EUI (kbtu/SF/Yr)	44.3	34.0	



2.0 BUILDING INFORMATION AND EXISTING CONDITIONS

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

Building Name: Toms River High School North
Address: 1245 Old Freehold Road, Toms River, NJ 08753
Gross Floor Area: 310,000 Square Feet
Number of Floors: 2
Year Built: 1969
Additions: 1972, 1978, 1987, 1992, 2001

Description of Spaces: Classrooms, offices, cafeteria (including stage), kitchen, gymnasium, two (2) auxiliary gymnasiums, media center, computer labs, support services, restrooms and mechanical rooms.
Description of Occupancy: The school serves 2,315 students from 9th to 12th grade. There are 170 school faculty and staff members.
Number of Computers: The school has approximately 250 desktop and laptop computers. There were 100 CRT computer monitors and televisions counted while onsite which could be replaced with more energy efficient LCD flat screens.
Building Usage: Hours of operation are 7:45 AM – 1:40 PM Monday through Friday, with various after-school activities until 6:00 PM. Custodians are in the building until 11:00 each night. As the hours vary from day to day, 70 hours per week, 10 months per year is considered the typical for this report.

Additional Buildings: In addition to the main building, there is also a field house, two concession stands, a grounds shed, a security house and several sports fields on the grounds.

The field house is located on the Southern portion of the property adjacent to the security building and contains varsity locker rooms, restrooms and a coach's room. The equipment includes Energy Star window air conditioners, an electric domestic hot water (DHW) heater, electric unit heaters (UH) and an ice machine. The football concession's stand is located

adjacent to the football bleachers and contains a residential electric range/oven, a residential refrigerator/freezer and a small electric DHW heater. The baseball concessions stand is located on the North East corner of the main building near the varsity baseball field. The building contains a residential refrigerator/freezer, an electric range/oven and a microwave. The ground's shed is located next to the football concessions stand and contains grounds maintenance equipment. The security house is located next to the field house and serves as the office and break room for security personnel. The building equipment includes a split system air conditioner with electric heating coil, residential refrigerator/freezer and a microwave.

There are no ECMs associated with any of the additional buildings besides for lighting upgrades as the hours of operation each year are relatively small.

Building Envelope

Construction Materials: The building is constructed of brick and concrete masonry units (CMU) with steel framing. Insulation is assumed to be minimal based on building age. The interior walls are a mixture of brick, CMU, concrete and sheetrock.
Façade: Red brick
Roof: The roof is flat with two different roofing systems on different vintages. The roofing systems consists of built up roof atop steel decking with either rubber membrane / tar covered in ballast stones or rolled asphalt sheets. The roof appeared to be in good condition and was covered in solar panel arrays. It is assumed that the roofs have minimal insulation. There are no ECMs associated with either replacing the roof or adding insulation because there is a large array of solar panels.
Windows: Windows throughout the school are either single or double pane, operable windows, some of which had an exterior film applied. More the most part, the seals around windows appeared to be in good condition. There are no ECMs associated with the windows.

Exterior Doors: Exterior doors are FRP with double pane glass where applicable. The door seals appeared to be in good condition. There are no ECMs associated with the exterior doors.

Heating Ventilation & Air Conditioning (HVAC) Systems

Heating: There is no central source of heating in this building. Each wing (vintage) has a different type of heating system. The majority of the heating is provided by electric resistance heat from unit ventilators (UV) in classrooms; cabinet unit heaters (CUH) in corridors, storage rooms, auxiliary gymnasium and stage; heating and ventilation (HV) units in the gymnasium and kitchen; unit heaters (UH) in storage areas and mechanical rooms; and controlled radiators in various other rooms. A floor plan (1st floor) has been included below for reference.

Heating in the F-wing is provided by two (2) natural gas fired Lochinvar hot water boilers which were installed in 2002. The units have a rated output of 440 MBH each and can operate as high as 88% efficiency. Heating hot water (HHW) is circulated throughout the wing by two (2) 3 HP pumps which operate in lead/lag to variable air volume (VAV) reheat boxes located in each classroom.

Heating in the Pine Belt Arena is also provided by two (2) natural gas fired Lochinvar hot water boilers installed in 2002 but have rated outputs of 1,720 MBH each and operate at a maximum efficiency of 86%. HHW is circulated by two (2) 3 HP pumps which operate in lead/lag and provide hot water to air handling units (AHU) located on the roof of the arena.

There are also several rooftop units (RTU) which either have natural gas fired furnaces or electric resistance heat. There are approximately 19 total RTUs which provide either primary or secondary heating for the Auditorium, F-Wing, Cafeteria North/South Annexes, Guidance, Media Center and BB-Wing. The RTUs which support the Cafeteria North Annex and Cafeteria South Annex are equipped with heat recovery wheels which allow them to recover some energy from the exhaust air to pre-condition the supply air. There units likely supply a large percentage of OA, if not 100%.

The guidance wing also utilizes several packaged terminal air conditioning units (PTAC) for supplemental heating and cooling in office spaces. Some classrooms, for instance those in the A wing and BB wing have heating and cooling supplied by packaged heating and cooling units manufactured by EDPAC. The building has approximately 21 EDPAC units.

There are two ECMs included in this report which evaluate energy savings associated with the heating system. The first ECM assesses the replacement of the electric EDPAC units by installing more efficient heat pumps. The second ECM assesses the replacement of electrically heating RTUs with equivalently sized natural gas fired RTUs.

Cooling: There is no central cooling in this building. Each wing has a separate system and there are several different types. Cooling in the older parts of the building is either supplied by packaged RTUs which have direct expansion DX systems (19 RTUs have both heating and cooling) or by split systems having condensing units located either outside on the ground or on the roof. In the newer portions of the building, Auditorium and the Pine Belt Area, cooling is supplied by chilled glycol/chilled water (CHW) which is generated by air cooled chillers located on the roofs of those sections. The Auditorium chiller condenser is remote mounted on the ground next to the building. The CHW is circulated to AHUs which contain both CHW and HHW coils (electric heat in the Auditorium). There are two (2) 10 HP pumps which serve the Auditorium system; while two (2) 25 HP pumps serve the Pine Belt Arena system.

In addition there are 10 classrooms / offices which have window air conditioner units.

Specific information relative to each unit for both heating and cooling equipment including capacity and efficiency are listed in Appendix B.

There are three ECMs associated with the cooling systems. The first ECM assesses replacing the existing DX equipment with higher efficiency DX equipment. The second evaluates the replacement of AHU motors with premium efficiency motors and installing VFDs. The last ECM calculates the savings associated with installing plug-in air conditioner controllers which will automatically controls window A/Cs based on occupancy.

Ventilation: Ventilation throughout the building is either supplied by RTUs, AHUs, HV units, UVs or by PTACs. There is one (1) make-up air (MUA) unit which serves the kitchen with 8,000 CFM of 100% OA. This unit operates only when the exhaust fan for the kitchen is operated by kitchen staff. The exact CFMs of all equipment listed above are not known.

There are two ECMs associated with ventilation in the building. The first has been introduced above which addresses installing premium efficiency motors with VFDs to replace existing standard/energy efficient motors with operate at constant speed in AHUs. The second ECM is to install a kitchen hood controller and is explained in more detail in the Kitchen section below.

Exhaust: There are a number of fractional horsepower exhaust fans throughout the building located on the roof which provide general purpose exhaust for corridors, restrooms, storage rooms, mechanical rooms, gymnasium and auditorium. There is one kitchen exhaust fan which is controlled by staff in the kitchen when excess heat is being generated by cooking which is estimated to be roughly 5 HP. Kitchen staff indicated that the fan is used consistently between 6am – 1pm while cooking is occurring.

An ECM has been included to evaluate exhaust fan energy savings, but is described in more detail in the Kitchen section below.

Controls Systems

The controls in this building include both stand-alone and systems which are tied into the districts Energy Management System (EMS). The areas which have equipment controlled by the EMS include the Pine Belt Arena, F-Wing, Guidance, Cafeteria North Annex, Cafeteria South Annex, E-01 and E-03 (computer rooms), Nurse's Office, Administrative offices and Auditorium/Stage. According to the EMS, the heating and cooling set points on average are roughly 70F and 70-74F respectively. The remaining RTUs and split systems in the building

have their own stand-alone controls via both programmable and non-programmable thermostats programmable depending on the space.

There are two ECMs associated with the controls system. The first evaluates extending the existing EMS system to include equipment which is presently controlled by stand-alone controls. The second ECM evaluates re-commissioning the building controls to ensure all EMS controlled equipment and controls are operating as intended.

Domestic Hot Water Systems

Domestic hot water (DHW) is generated in three (3) different locations within the building. DHW is generated for the majority of the building in an electrical room located in the E-Wing by an AO Smith natural gas fired DHW heater which circulates water through a large 750 gallon storage tank. This unit is estimated to have 80% efficiency and was installed in 2004. An additional AO Smith Cyclone DHW heater is located in the F-Wing, has a rated input of 120,000 btu/h and is capable of efficiencies up to 96%. This unit was installed in 2002 and has a storage capacity of 60 gallons. The Pine Belt Arena also has an AO Smith Cyclone 120,000 btu/h DHW heater and also appears to have been installed in 2002.

DHW is supplied to restroom faucets, custodial mop sinks and kitchen scullery sinks. It is not believed that the showers in the building are used very often, if at all.

An ECM has been included which looks at replacing the existing lower efficiency DHW heater connected to the 750 gallon tank with a higher efficiency unit connected to a smaller capacity tank.

Kitchen Equipment

The kitchen in this building is used for cooking food as well as reheating frozen food. The cooking equipment is primarily natural gas fired and includes:

- Three (3) [single door] convection ovens
- One (1) [double door] convection oven
- One (1) range with an oven below
- One (1) vegetable steamer
- Two (2) [double door] reach-in cooler
- Four (4) reach-in beverage coolers
- One (1) walk-in freezer
- One (1) walk-in cooler

The units listed above appeared to be in good condition and therefore there are no ECMs associated with replacing them. An O&M is included which suggests the equipment should be replaced with Energy Star equivalents when they fail.

The walk-in units were not seen during the facility visit but are estimated to be 8’ x 10’ each. There is additionally one (1) dishwasher with a 45 kW electric booster heater. The dishwasher is used varyingly between 6am – 1pm each school day.

Three ECMs have been proposed which will save energy in the kitchen area if implemented. The first ECM is to install a kitchen hood controller which will automatically control the kitchen hood exhaust fan based on how much cooking is taking place. The second ECM analyzes the

installation of a walk-in cooler/freezer controller which will optimize evaporator run-time and will sequence defrost and door heater cycles. The final ECM takes advantage of the lower cost of natural gas compared to electricity and evaluates the replacement of the existing electric booster heater versus an equivalent capacity natural gas fired unit.

Plug Load

This school has computers, copiers, residential appliances (microwave, refrigerator), printers and portable electric heaters (personal) and vending machines 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. In addition, an ECM is included which recommends the replacement of all CRT monitors with more energy efficient LCD monitors.

Plumbing Systems

Plumbing fixtures in the toilet rooms seem to consist mostly of high flow urinals and toilets and metering type faucets. Depending on the age and style of the actual plumbing fixtures, occasionally flush valves can be retro-fitted with low flow flush valve technology, although other times the entire fixture will require replacement. Metering type faucets on the other hand offer low-usage times regardless of the flow rate of the individual faucet.

An ECM is included to evaluate the water savings potential of replacing existing fixtures with low- flow toilets and urinals which use sensor technology.

Lighting Systems

The lighting system consists of mostly 4' 4-lamp T8 recessed mounted troffer fluorescent fixtures with a handful of other fluorescent fixtures of different arrangements including but not limited to 4', 3-, 2- and 1-lamp; 2' 2-lamp; 2' U-shaped 2-lamp; that are either ceiling (flush), pendant (hanging), or recessed fixtures. The lamps in the school are both T8 and less efficient T12 lamps. In addition, both the main gymnasium and Pine Belt Arena are illuminated with 400W metal halide (MH) high bay fixtures.

Exterior lighting consists of 70W and 400W MH wall packs which provide area lighting. It is likely the exterior lighting is controlled by photocell mounted on the light fixture.

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

3.0 UTILITIES

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

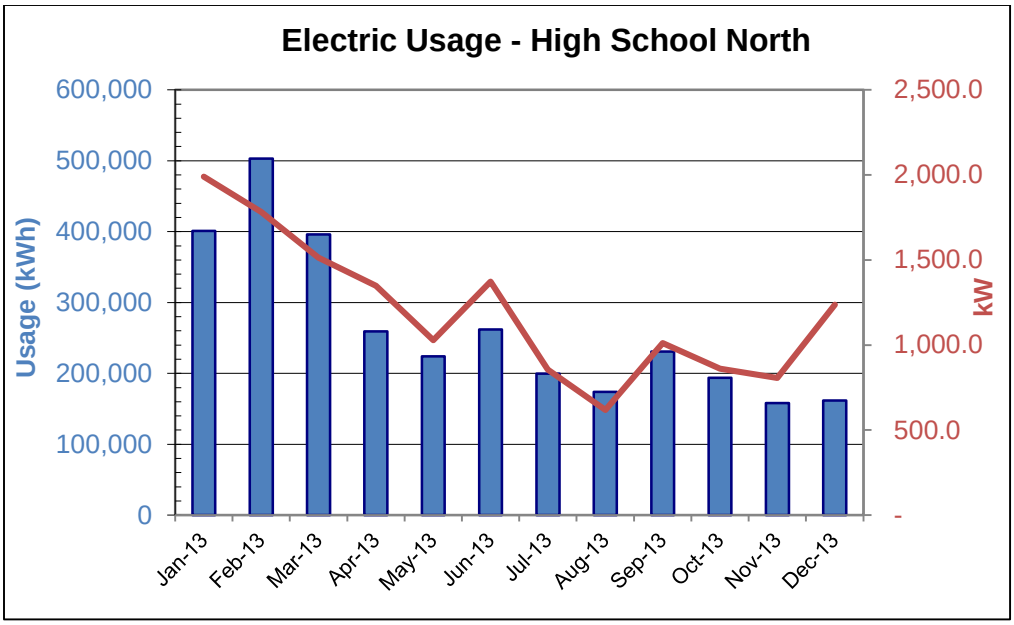
	Electric	Natural Gas
Deliverer	JCP&L	NJ Natural Gas
Supplier	Direct Energy LLC	NJ Natural Gas

This school district owns a large solar panel array which is located on the roof. The array generates some electricity for use in the building. JCP&L *banks* electricity for any months where the electricity generated is greater than the amount used by the school and uses the *banked* kWh for the rest of the months until it runs out; when it runs out the building pays for electricity as normal. This reduced usage is reflected in the monthly utility bills. For the 12-month period ending in December 2013, the utilities usages and costs for the building were as follows:

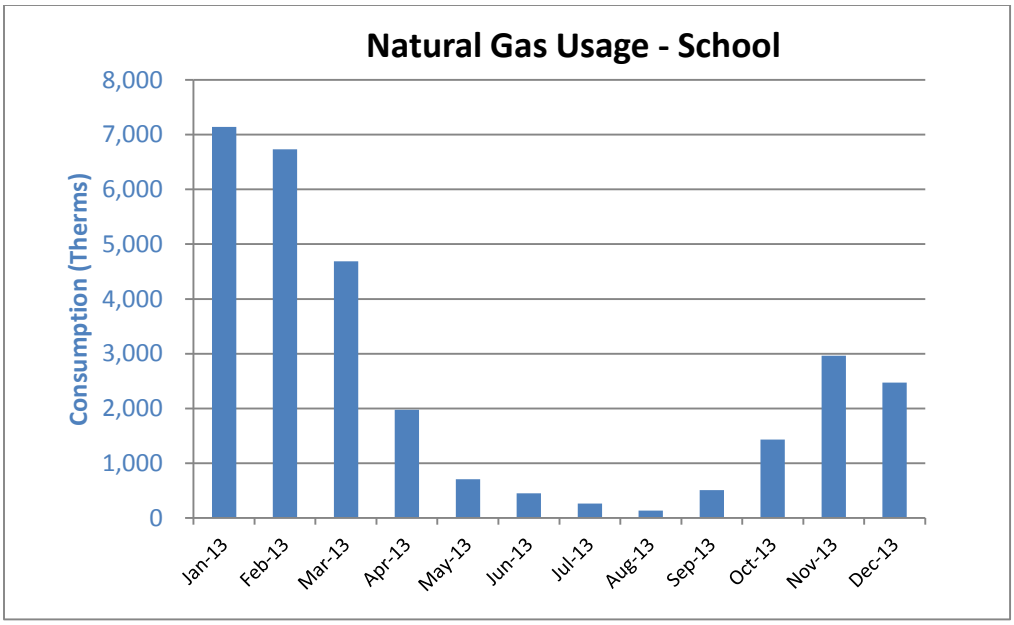
Electric		
Annual Consumption	3,164,313	kWh
Annual Cost	$391,989	$
Blended Unit Rate	$0.124	$/kWh
Supply Rate	$0.093	$/kWh
Demand Rate	$6.75	$/kW
Peak Demand	1,416.0	kW
Natural Gas		
Annual Consumption	31,321	Therms
Annual Cost	$38,644	$
Unit Rate	$1.23	$/therm
Water		
Annual Usage	3,178	kGal
Annual Cost	$32,466	$
Unit Rate	$10.21	$/kGal

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)

Domestic water and sewer services are provided by the City of Toms River.



The electric usage at this school appears to be trending downward. District personnel indicated that there have been several personnel education programs implemented in an attempt to save energy; which could account for the reduction in energy consumption seen on this chart. The demand and usage peak in June is likely attributed to cooling equipment in use; and drops off in the summer months when students are out for summer vacation.



It can be seen from the natural gas profile above that natural gas is primarily used for space heating, which in the case of this building is supplied by both RTUs and hot water boilers. The baseline usage in the summer months is attributed to HW reheat in F-wing, DHW production and some kitchen equipment usage. This is a fairly typical profile for school usage.

See Appendix A for a utility analysis.

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

Comparison of Utility Rates to NJ State Average Rates*				Recommended to Shop for Third Party Supplier?
Utility	Units	School Average Rate	NJ Average Rate	
Electricity	$/kWh	$0.093	$0.125	N
Natural Gas	$/Therm	$1.159	$0.955	Y

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

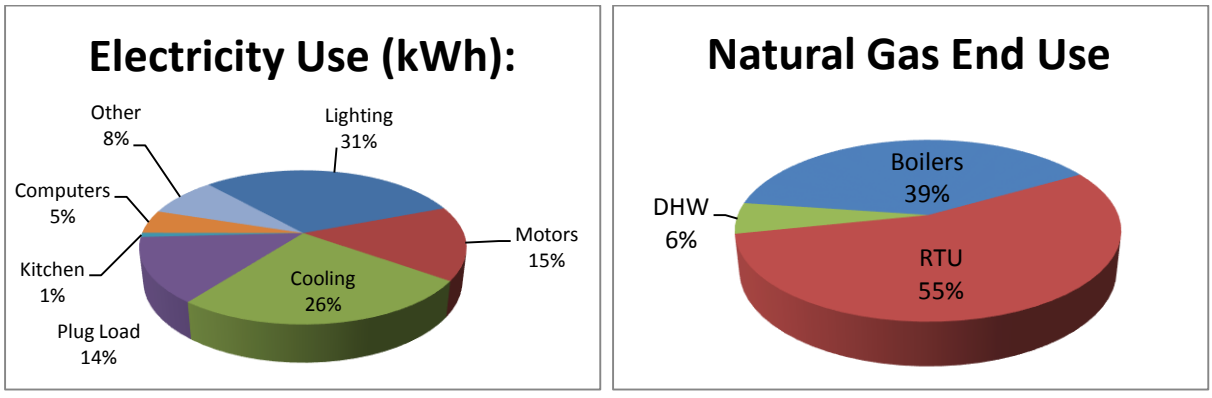
Additional information on selecting a third party energy supplier is available here:

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

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

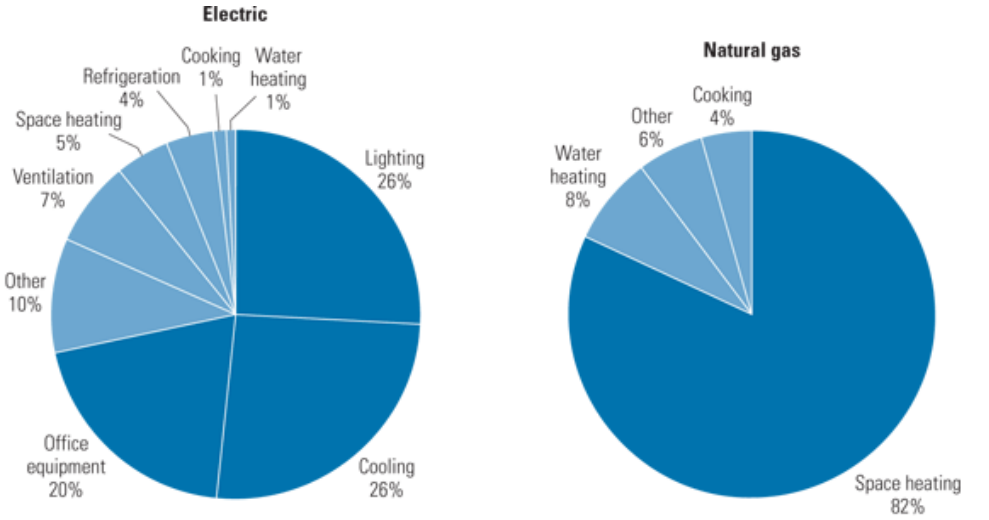
The charts below represent estimated utility end-use utility profiles for the building. The values used within the charts were estimated from a review of the utility analysis and the energy savings calculations.

Site End-Use Utility Profile



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

Typical End-Use Utility Profile for Educational Facilities



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

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.

Site EUI kBtu/ft^2/yr	Source EUI (kBtu/ft^2/yr)	Energy Star Rating (1-100)
44.3	113.2	94

The school has an above average Energy Star Rating Score (50 being the median score), and is considered an energy efficient building.

Copies of the benchmarking report are available in Appendix F.

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 Electric EDPAC with Heat Pumps

Classrooms in the A Wing and BB wing have heating and air conditioning supplied by a total of 21 EDPAC packaged terminal units which utilize electric resistance heating and DX A/C. Six of the 21 units are already heat pumps, leaving 13 that can be upgraded. For units which supply both heating and cooling, it is often more efficient to use packaged heat pump units which operate similarly DX refrigeration systems, except in the winter time have the ability to also produce heat through reversing the cycle (the compressor acts as the evaporator and evaporator acts as the compressor, i.e. heat is rejected to the room rather than outdoors). Therefore electrical savings will be seen in the winter from a higher COP and in the summer from a higher EER.

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

ECM-1 Replace Electric EDPAC with Heat Pumps

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
641,800	38	48,847	-	7,606	(0.8)	3,588	84.4	83.9

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

This measure is not recommended due to the high capital cost and long payback period. As some of the EDPAC units are beyond their service life (*1984*), it is recommended that they be replaced with packaged heat pumps as the fail.

5.2 ECM-2 Replace Electric Rooftop Equipment with Natural Gas RTUs

The three (3) RTUs which serve the auditorium are 26 ton units with 3 stages of electric resistance heating (110 kW max). Electric resistance heating is a more expensive way to heat than natural gas. This ECM evaluates the replacement of the existing RTUs with equivalently sized units that contain more efficient DX systems as well as indirect natural gas fired furnaces.

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

ECM-2 Replace Electric Rooftop Equipment with Natural Gas RTUs

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
294,900	221	545,083	(20,687)	43,133	4.1	1,200	6.8	6.8

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

This measure is recommended.

5.3 ECM-3 Replace DX / RTU Equipment with Higher Efficiency Equipment

The school has several split system air conditioning units as well as packaged RTUs with DX cooling and natural gas fired furnaces. As most of the equipment was installed in 2002 and is approaching its useful service life (20 years), this ECM evaluates replacement with more efficient technology. The calculation methodology estimates the average existing EER (10.3) for cooling compared to what is currently available (14.0). The units which have natural gas fired furnaces will not see any efficiency increase as condensing natural gas furnaces are not readily available; therefore no natural gas savings are included below.

The assumption of this calculation is that the operating hours and capacity remain the same. The energy savings is the result of operating a higher efficiency unit.

ECM-3 Replace DX / RTU Equipment with Higher Efficiency Equipment

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
703,600	38	64,425	-	9,089	(0.7)	13,320	77.4	75.9

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

This measure is not recommended due to the high capital cost and long associated payback period.

5.4 ECM-4 Install VFDs & Premium Efficiency Motors

Presently the air handling unit return and supply fans for the units which supply the Pine Belt Arena were observed to not utilize variable frequency drives (VFD) on the fan motors. Furthermore the fan motors were estimated to be standard efficiency based on the model numbers. Installing premium efficiency motors driven by VFDs will save energy when full capacity operation is not required. As the heating or cooling load is reduced and the VFD will slow the motor down to maintain the required space temperature and the energy consumption of the fan motors will be reduced.

The savings of this measure are calculated from the motor efficiency improvement and the motor speed reduction the results when the air handling system is operating at partial capacity.

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

ECM-4 Install VFDs & Premium Efficiency Motors

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
42,209	36	16,915	-	4,528	0.8	11,675	9.3	6.7

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

This measure is recommended.

5.5 ECM-5 Install Window A/C Controller

There are ten (10) rooms in the building which are cooled by window a/c units that can be occasionally left on by occupants when they leave the room.

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

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

ECM-5 Install Window A/C Controller

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
1,900	-	6,536	-	810	5.4	-	2.3	2.3

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

This measure is recommended.

5.6 ECM-6 Extend HVAC Controls System

Approximately 20% of the building currently has HVAC equipment that is controlled by the Energy Management control system; 5% of the building has stand-alone controls. This ECM evaluates the savings associated with extending the Energy Management System to incorporate the equipment still on stand-alone controls.

Energy savings is estimated at 10% overall energy reduction based on past experience with similar sized school buildings having fully functioning digital controls.

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

ECM-6 Extend HVAC Controls System

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
132,388	-	9,493	16	1,195	(0.9)	-	110.8	110.8

* 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 period.

5.7 ECM-7 Re-Commission Controls and Equipment

The building is equipped with an Energy Management controls system which is supported by a Tracer Summit front end. As observed during the site visit, however, the integration and functionality of the system with respect to building systems could be improved.

Commissioning is the process of verifying that systems are designed, installed, functionally tested, and capable of being operated and maintained according to the owner's operational needs. Retro-commissioning is the same systematic process applied to existing buildings.

Both controls and components of the heating and cooling systems present saving opportunities during the retro-commissioning process. The DDC system and controls within a building play a crucial role in providing a comfortable building environment. Over time, temperature sensors or thermostats may drift out of synch. Poorly calibrated sensors can increase heating and cooling loads and lead to occupant discomfort. The following procedure is recommended:

- Calibrate the indoor and outdoor building sensors. Calibration of room thermostats, duct thermostats, humidistats, and pressure and temperature sensors should be in accordance with the original design specifications. Calibrating these controls may require specialized skills or equipment and may require outside expertise.
- Inspect damper and valve controls to verify proper functioning. Dampers should also be examined for proper opening and closing. Stiff dampers can cause improper modulation of the amount of outside air being used in the supply airstream. In some cases, dampers may be wired in a single position or disconnected, violating minimum outside air requirements.
- Review building operating schedules. HVAC controls must be adjusted to heat and cool the building properly during occupied hours. Occupancy schedules can change frequently over the life of a building, and control schedules should be adjusted accordingly. When the building is unoccupied, the temperature should be set back to save heating or cooling energy; however, minimal heating and cooling may be required when the building is unoccupied. In cold climates, for example, heating may be needed to keep water pipes from freezing.

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

ECM-7 Re-Commission Controls and Equipment

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
42,980	-	81,263	2,970	13,730	3.8	-	3.1	3.1

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

This measure is recommended.

5.8 ECM-8 Replace DHW Heater with a High Efficiency Water Heater

The existing domestic hot water heating system consists of one (1) natural gas fired DHW heater connected to one (1) 750 gallons of storage tank. The DHW heater has a thermal efficiency of 80%. There are additionally two (2) 60 gallon AO Smith Cyclone DHW heaters which are not being recommended for replacement at this time.

Implementation of this ECM will entail replacing the existing DHW heater with a high efficiency condensing water heater. The proposed DHW heater will operate at 96% efficiency and be connected to a new to a 500 gallon storage tank.

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

ECM-8 Replace DHW Heater with a High Efficiency Water Heater

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
22,413	-	-	629	729	(0.1)	1,340	28.9	27.1

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

This measure is recommended, as inclusion of this measure allows for a total project payback of under 15 years.

5.9 ECM-9 Install Kitchen Hood Controller

Installing a variable air volume hood control system is 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 actual 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 supplied by the kitchen's make-up air unit (MUA).

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

ECM-9 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
31,555	-	4,556	4,109	5,634	1.7	1,000	5.6	5.4

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

This measure is recommended.

5.10 ECM-10 Install Walk-in Cooler / Freezer Controls

Presently there is one (1) walk-in cooler and one (1) walk-in freezer in this building.

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. Implementation will include the installation of one (1) walk-in control system which can control multiple different units.

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

ECM-10 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
20,625	-	10,285	-	1,274	(0.1)	175	16.2	16.1

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

This measure is recommended.

5.11 ECM-11 Replace Electric Booster Heater with a Natural Gas Fired Unit

The school's kitchen uses an electric dishwasher booster heater to increase the temperature of the incoming hot water from 140 degrees to 180 degrees. The kitchen typically uses these heaters for 1,000 hours per year. Natural gas is available in the kitchen and could be used instead of electricity as a means of boosting DHW temperature. Implementation would require a new DHW booster heater and venting.

Energy cost savings would be achieved through the lower cost of natural gas versus the higher cost of electricity.

The calculation uses estimated electrical consumption and cost for the unit as the baseline, which was converted to natural gas for the proposed case. The difference between the two values is the energy savings.

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

ECM-11 Replace Electric Booster Heater with a Natural Gas Fired Unit

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
14,800	11	36,342	(1,550)	2,354	4.9	2,635	6.3	5.2

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

This measure is recommended.

5.12 ECM-12 Install Vending Machine Controls

The building presently has 12 cold beverage and eight (8) snack-type vending machines.

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

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

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

ECM-12 Install Vending Machine Controls

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
5,602	-	46,929	-	5,813	14.6	-	1.0	1.0

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

This measure is recommended.

5.13 ECM-13 Replace CRT Monitors with LCD

While onsite it was observed that there are approximately 100 CRT computer monitors in the building. According to the EPA, LCD monitors offer a variety of benefits over equivalently sized CRT monitors including: smaller size, less eyestrain, lower power consumption, less heat generation, lighter weight and better image contrast. The EPA estimates that LCDs on average consume roughly 100 kWh less annually when compared to CRT monitors.

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

ECM-13 Replace CRT Monitors with LCD

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
20,814	-	10,000	-	1,239	(0.4)	-	16.8	16.8

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

This measure is recommended.

5.14 ECM-14 Install Low Flow Plumbing Fixtures

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

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

ECM-14 Install Low Flow Plumbing Fixtures

Budgetary Cost	Annual Utility Savings					ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Water	Total				
$	kW	kWh	Therms	kGal	$		$	Years	Years
260,678	0	0	0	2,275	23,237	1.7	-	11.2	11.2

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

This measure is recommended.

5.15.1 ECM-L1 Lighting Replacement / Upgrades

The existing lighting system consists of mostly of linear fluorescent T8 with some T12 lamps still in use. Exterior lighting includes 70W and 400W wall mounted area light

fixtures. Recent technological improvements in light emitting diode (LED) technologies have driven down the initial costs making it a viable option for installation.

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

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

ECM-L1 Lighting Replacement / Upgrades

Budgetary Cost	Annual Utility Savings				ROI	Potential Incentive*	Payback (without incentive)	Payback (with incentive)
	Electricity		Natural Gas	Total				
$	kW	kWh	Therms	$		$	Years	Years
741,366	199	569,994	-	69,225	0.8	15,400	10.7	10.5

* 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 not recommended in lieu of ECM L3.

5.15.2 ECM-L2 Install Lighting Controls (Occupancy Sensors)

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

This measure recommends installing occupancy sensors for the current lighting system. Using a process similar to that utilized in Section 5.15.1, 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
81,000	0	185,129	-	17,235	3.2	10,500	4.7	4.1

* 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.

5.15.3 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
822,366	199	656,718	-	77,299	0.8	25,900	10.6	10.3

* 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.

5.16 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:

- Install Covers on Window Air Conditioners
- Clean Window AC filters before each season
- Replace Unit Ventilator filters at least twice a year
- Clear surface above unit ventilators of materials, plants, or books
- 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

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 the School District wishes to and is eligible to participate in the Energy Savings Improvement Plan (ESIP) program and/or the Pay for Performance Incentive Program (P4P), it cannot participate in either the Smart Start or Direct Install Programs. Refer to Appendix D for more information on the Smart Start program.

6.1.1 New Jersey Smart Start Program

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

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

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

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

6.1.2 Direct Install Program

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

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

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

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

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

Refer to Appendix D for more information on this program.

6.1.3 New Jersey Pay For Performance Program (P4P)

This building may be eligible for incentives from the New Jersey Office of Clean Energy. The most significant incentives are available from the New Jersey Pay for Performance (P4P) Program. The P4P program is designed to offset the cost of energy conservation projects for facilities that pay the Societal Benefits Charge (SBC) and whose demand (kW) in any of the preceding 12 months exceeds 100 kW. This demand minimum has been waived for buildings owned by local governments or municipalities and non-profit organizations and *is not applicable to public 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.

Electric

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

Gas

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

Incentive cap: 25% of total project cost

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

Electric

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

Gas

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

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

For the purpose of demonstrating the eligibility of the ECM's to meet the minimum savings requirement of 15% annual savings and 10% IRR for the Pay for Performance Program, all recommended ECM's identified in this report have been included in the incentive calculations.

The recommended savings presented in this report reduce energy consumption by an estimated 24.4%, however their combined IRR is roughly 9.4%. Based on this, the recommended measures would not be eligible to receive P4P incentives. There may exist other combinations of ECMs which meet both requirements of eligibility, but all combinations were not evaluated as part of this assessment.

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

This building currently has a large solar array installed on the roof which is owned by the school district. The size of the solar array is 485 kW which generates an estimated 472,000 kWh per year which represents 8% of the electricity used by the building. All solar electricity which is generated is used in the building. It is not recommended that any additional photovoltaic panels be added to the building at this time.

7.1.2 Solar Thermal Hot Water Generation

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

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

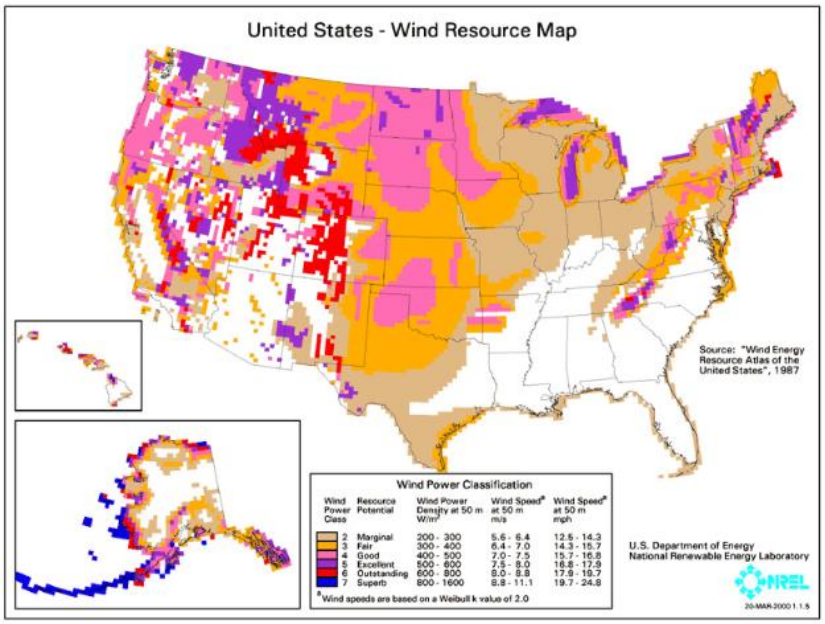
Several options exist for using active solar thermal systems for space heating. The most common method is called a passive solar hot water system involves using glazed collectors to heat a liquid held in a storage tank (similar to an active solar hot water system described above which requires pumping). The most practical system would transfer the heat from the panels to thermal storage tanks and then use the pre-heated water for domestic hot water production. DHW is presently produced by natural gas fired water heaters and, therefore, this measure would offer natural gas utility savings. Unfortunately, the amount of domestic hot water that is currently used by this school is very small.

This measure is not recommended because the existing PV array takes up much of the available roof area; and there are no suitable areas on the ground to put thermal hot water generation panels.

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, Toms River, 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 school.

7.3 Combined Heat and Power Plant

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

Any proposed CHP project will need to consider many factors, such as existing system load, use of thermal energy produced, system size, natural gas fuel availability, and proposed plant location. The building has sufficient need for electrical generation and the ability to use most of the thermal byproduct during the winter; however thermal usage during the summer months does not exist. Thermal energy produced by the CHP plant in the warmer months will be wasted. An absorption chiller could be installed to utilize the heat to produce chilled water; however, there is limited building usage during the summer months.

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

7.4 Demand Response Curtailment

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

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

A pre-approved CSP will require a minimum of 100 kW of load reduction to participate in any curtailment program. From 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
1,416	1,071	1,273	Y	Y

This measure although eligible; is not recommended because the amount of on-site generation at the school is not enough to cover the minimum 100 kW reduction required for demand curtailment and it is not advised that the school shut down equipment while students are present.

8.0 CONCLUSIONS & RECOMMENDATIONS

The following section summarizes the LGEA energy audit conducted by CHA for High School North

The following projects should be considered for implementation:

- ECM-2 Replace Electric Rooftop Equipment for with Natural Gas RTUs
- ECM-4 Install VFDs & Premium Efficiency Motors on AHUs
- ECM-5 Install Window A/C Controllers
- ECM-7 Retro-Commission Controls and Equipment
- ECM-8 Replace DHW Boiler with a High Efficiency Water Heater
- ECM-9 Install Kitchen Hood Controller
- ECM-10 Install Walk-in Controls
- ECM-11 Replace Electric Booster Heater with a Natural Gas Fired Unit
- ECM-12 Install Vending Machine Controls
- ECM-13 Replace CRT Monitors with LCD
- ECM-14 Install Low Flow Plumbing Fixtures
- ECM-L3 Lighting Replacements with Controls (Occupancy Sensors)

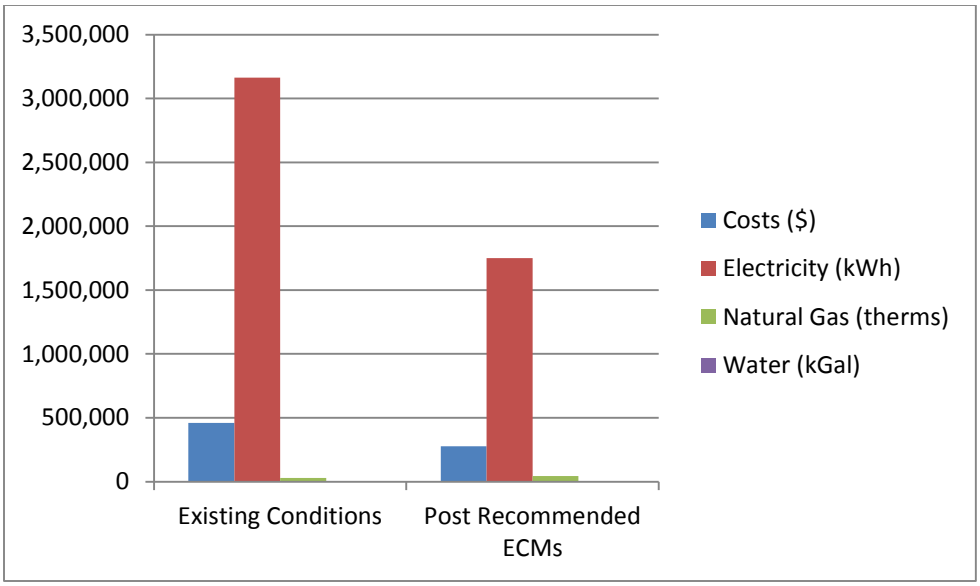
The potential annual energy and cost savings for the recommended ECMs are shown in the following table.

Electric Savings (kWh)	Natural Gas Savings (therms)	Water Savings (kGal)	Total Savings ($)	Payback (years)
1,414,626	(14,529)	2,275	180,692	8.8

There are no renewable energy ECMs recommended for further study because the school already has a large solar photovoltaic array which generates electricity and is not a good candidate for other renewable energy technologies such as wind generation.

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

	Existing Conditions	Post Recommended ECMs	Percent Savings
Costs ($)	458,615	277,923	39%
Electricity (kWh)	3,164,313	1,749,687	45%
Natural Gas (therms)	31,321	45,834	-46%
Water (kGal)	3,178	903	72%
Site EUI (kbtu/SF/Yr)	44.3	34.0	



Next Steps: This energy audit has identified several areas of potential energy savings. Toms River Schools 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

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

Annual Utilities

12-month Summary

Electric		
Annual Usage	3,164,313	kWh/yr
Annual Cost	391,989	$
Blended Rate	0.124	$/kWh
Consumption Rate	0.093	$/kWh
Demand Rate	6.75	$/kW
Peak Demand	1,416.0	kW
Min. Demand	1,071.0	kW
Avg. Demand	1,273.3	kW
Natural Gas		
Annual Usage	31,321	therms/yr
Annual Cost	38,644	$
Rate	1.234	$/therm
Water		
Annual Usage	3,178	gallons (1000)/yr
Annual Cost	32,466	$
Rate	10.215	$/kgal

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753
Account No.: **100 106 100 587**
Meter No.: **G28819244, G28819206, L013870883, L013670884**
Electric Service

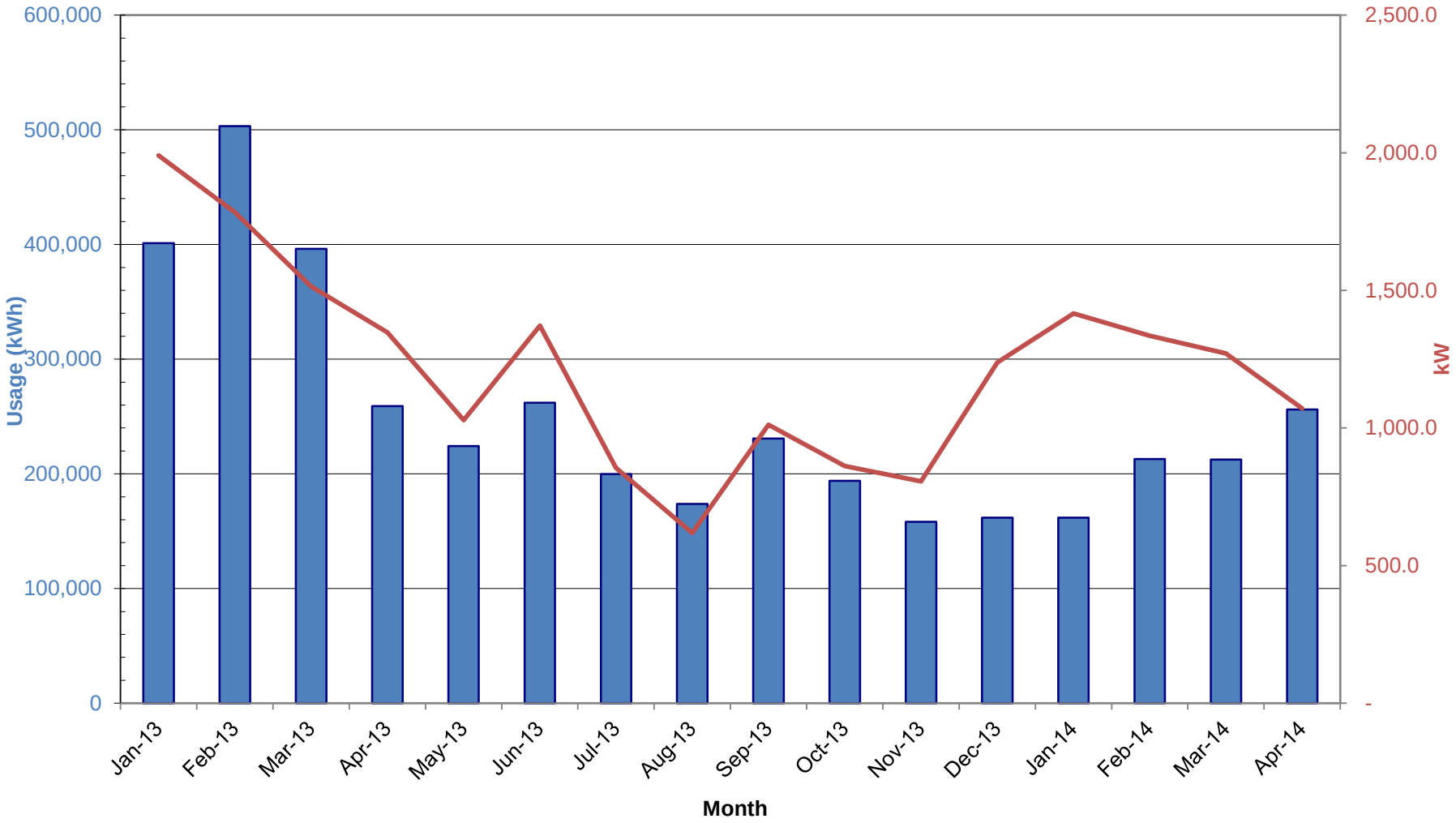
Delivery - Jersey Central Power & Lighting
Supplier - Direct Energy LLC
Building owns solar panels

					Provider Charges			Usage (kWh) vs. Demand (kW) Charges		Unit Costs		
Month	Delivery (kWh)	Generated (kWh)	Consumption (kWh)	Demand (kW)	Delivery ($)	Supplier ($)	Total ($)	Consumption ($)	Demand ($)	Blended Rate ($/kWh)	Consumption ($/kWh)	Demand ($/kW)
January-13	401,163		401,163	1,989.9	$ 50,330	$ 31,479	$ 50,330	$ 36,898	$ 13,432	0.13	0.09	6.75
February-13	503,155		503,155	1,783.3	$ 58,201	$ 39,483	$ 58,201	$ 46,163	$ 12,037	0.12	0.09	6.75
March-13	396,267		396,267	1,514.2	$ 46,585	$ 31,095	$ 46,585	$ 36,364	$ 10,221	0.12	0.09	6.75
April-13	259,108		259,108	1,347.7	$ 32,887	$ 20,332	$ 32,887	$ 23,790	$ 9,097	0.13	0.09	6.75
May-13	183,258	40,965	224,223	1,029.0	$ 23,782	$ 17,595	$ 41,376	$ 34,431	$ 6,946	0.18	0.15	6.75
June-13	221,304	40,809	262,113	1,372.0	$ 13,462	$ 17,366	$ 30,828	$ 21,567	$ 9,261	0.12	0.08	6.75
July-13	167,996	31,871	199,867	855.0	$ 9,744	$ 13,183	$ 22,926	$ 17,155	$ 5,771	0.11	0.09	6.75
August-13	142,560	31,219	173,779	619.0	$ 8,268	$ 11,187	$ 19,455	$ 15,277	$ 4,178	0.11	0.09	6.75
September-13	209,361	21,345	230,706	1,012.0	$ 12,143	$ 16,449	$ 28,592	$ 21,761	$ 6,831	0.12	0.09	6.75
October-13	157,860	36,009	193,869	862.0	$ 8,376	$ 12,387	$ 20,763	$ 14,944	$ 5,819	0.11	0.08	6.75
November-13	130,887	27,296	158,183	806.0	$ 7,574	$ 10,271	$ 17,845	$ 12,403	$ 5,442	0.11	0.08	6.75
December-13	129,162	32,718	161,880	1,238.0	$ 12,065	$ 10,135	$ 22,201	$ 13,843	$ 8,358	0.14	0.09	6.75
January-14	128,746	33,039	161,785	1,416.0	$ 13,202	$ 10,103	$ 23,305	$ 13,744	$ 9,561	0.14	0.08	6.75
February-14	167,654	45,299	212,953	1,335.0	$ 13,867	$ 13,156	$ 27,023	$ 18,012	$ 9,011	0.13	0.08	6.75
March-14	151,663	60,874	212,537	1,271.0	$ 12,874	$ 11,901	$ 24,775	$ 16,196	$ 8,579	0.12	0.08	6.75
April-14	185,275	70,880	256,155	1,071.0	$ 10,049	$ 14,539	$ 24,588	$ 17,356	$ 7,232	0.10	0.07	6.75
Total (All)	**3,535,419**	**472,324**	**4,007,743**	**1,989.9**	**$ 333,409**	**$ 280,661**	**$ 491,680**	**$ 359,904**	**$ 131,776**	**$ 0.123**	**$ 0.090**	**$ 6.75**
Total (2013)	**2,902,081**	**262,232**	**3,164,313**	**1,989.9**	**$ 283,416**	**$ 230,962**	**$ 391,989**	**$ 294,596**	**$ 97,393**	**$ 0.124**	**$ 0.093**	**$ 6.75**
Notes			1	2	3	4	5	6	7	8	9	10

1.) Number of kWh of electric energy used per month
2.) Number of kW of power measured
3.) Electric charges from Delivery provider
4.) Electric charges from Supply provider
5.) Total charges (Delivery + Supplier)
6.) Charges based on the number of kWh of electric energy used
7.) Charges based on the number of kW of power measured
8.) Total Charges ($) / Consumption (kWh)
9.) Consumption Charges ($) / Consumption (kWh)
10.) Demand Charges ($) / Demand (kW)

No data provided, most recent rate used
No data provided, interpolated value
Months taking from banked kWh
Calculated using supplier rate of 0.07847

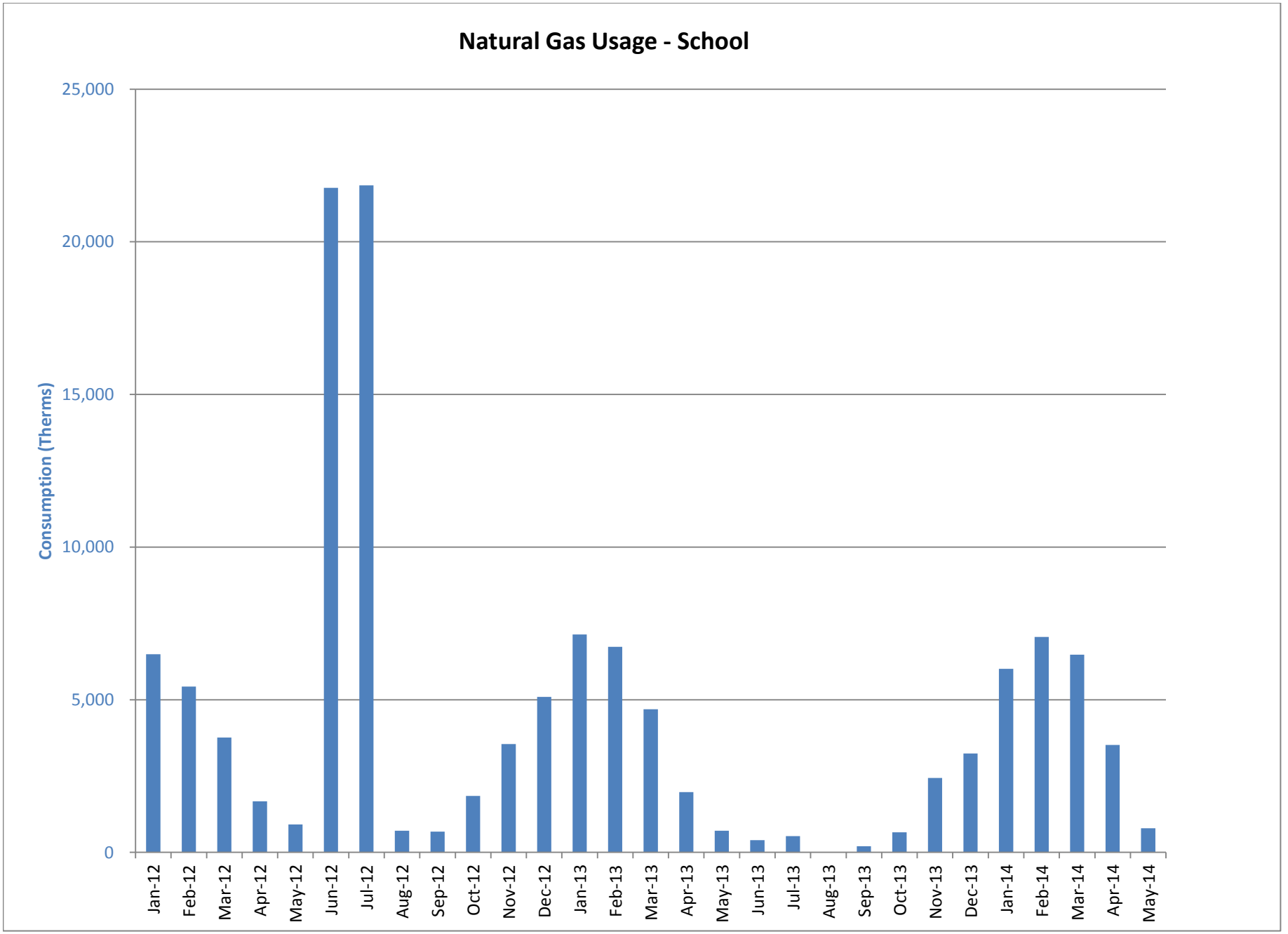
Electric Usage - School



Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753
Account No.: **164573147024, 220007980486**
Meter No:
Natural Gas Service **Delivery -** **New Jersey Natural Gas**
Supplier - **New Jersey Natural Gas**

		Charges			Unit Costs		
Month	**Consumption (Therms)**	**Delivery ($)**	**Supply ($)**	**Total ($)**	**Delivery ($/Therm)**	**Supply ($/Therm)**	**Total ($/Therm)**
January-12	6,491	$ -	$ -	$ 9,129	$ -	$ -	$ 1.41
February-12	5,428	$ -	$ -	$ 7,637	$ -	$ -	$ 1.41
March-12	3,765	$ -	$ -	$ 5,491	$ -	$ -	$ 1.46
April-12	1,672	$ -	$ -	$ 2,726	$ -	$ -	$ 1.63
May-12	913	$ -	$ -	$ 1,729	$ -	$ -	$ 1.89
June-12	21,771	$ -	$ -	$ 29,023	$ -	$ -	$ 1.33
July-12	21,847	$ -	$ -	$ 29,310	$ -	$ -	$ 1.34
August-12	710	$ -	$ -	$ 1,455	$ -	$ -	$ 2.05
September-12	681	$ -	$ -	$ 1,109	$ -	$ -	$ 1.63
October-12	1,851	$ -	$ -	$ 2,201	$ -	$ -	$ 1.19
November-12	3,549	$ -	$ -	$ 3,833	$ -	$ -	$ 1.08
December-12	5,093	$ -	$ -	$ 5,339	$ -	$ -	$ 1.05
January-13	7,139	$ -	$ -	$ 7,151	$ -	$ -	$ 1.00
February-13	6,733	$ -	$ -	$ 6,766	$ -	$ -	$ 1.00
March-13	4,687	$ -	$ -	$ 4,972	$ -	$ -	$ 1.06
April-13	1,973	$ -	$ -	$ 2,420	$ -	$ -	$ 1.23
May-13	708	$ -	$ -	$ 1,259	$ -	$ -	$ 1.78
June-13	404	$ 730.80	$ 214.67	$ 945	$ 1.808	$ 0.531	$ 2.34
July-13	530	$ 800.01	$ 268.50	$ 1,069	$ 1.509	$ 0.506	$ 2.02
August-13	8	$ 302.93	$ 242.73	$ 546	$ 39.755	$ 31.854	$ 71.61
September-13	201	$ 639.07	$ 92.73	$ 732	$ 3.179	$ 0.461	$ 3.64
October-13	661	$ 953.76	$ 307.78	$ 1,262	$ 1.444	$ 0.466	$ 1.91
November-13	2,435	$ 1,762.57	$ 1,123.00	$ 2,886	$ 0.724	$ 0.461	$ 1.18
December-13	3,237	$ 2,090.24	$ 1,521.67	$ 3,612	$ 0.646	$ 0.470	$ 1.12
January-14	6,009	$ 3,557.11	$ 3,098.30	$ 6,655	$ 0.592	$ 0.516	$ 1.11
February-14	7,054	$ 4,065.38	$ 3,824.26	$ 7,890	$ 0.576	$ 0.542	$ 1.12
March-14	6,475	$ 3,773.00	$ 3,665.31	$ 7,438	$ 0.583	$ 0.566	$ 1.15
April-14	3,518	$ 2,197.67	$ 1,978.22	$ 4,176	$ 0.625	$ 0.562	$ 1.19
May-14	790	$ 965.87	$ 468.61	$ 1,434	$ 1.223	$ 0.593	$ 1.82
Total (all)	**126,333**	**$ 21,838.40**	**$ 16,805.77**	**$ 160,194**	$ 0.17	$ 0.13	**$ 1.27**
Total (last 12 months)	**31,321**	**$ 21,838.40**	**$ 16,805.77**	**$ 38,644**	$ 0.70	$ 0.54	**$ 1.23**

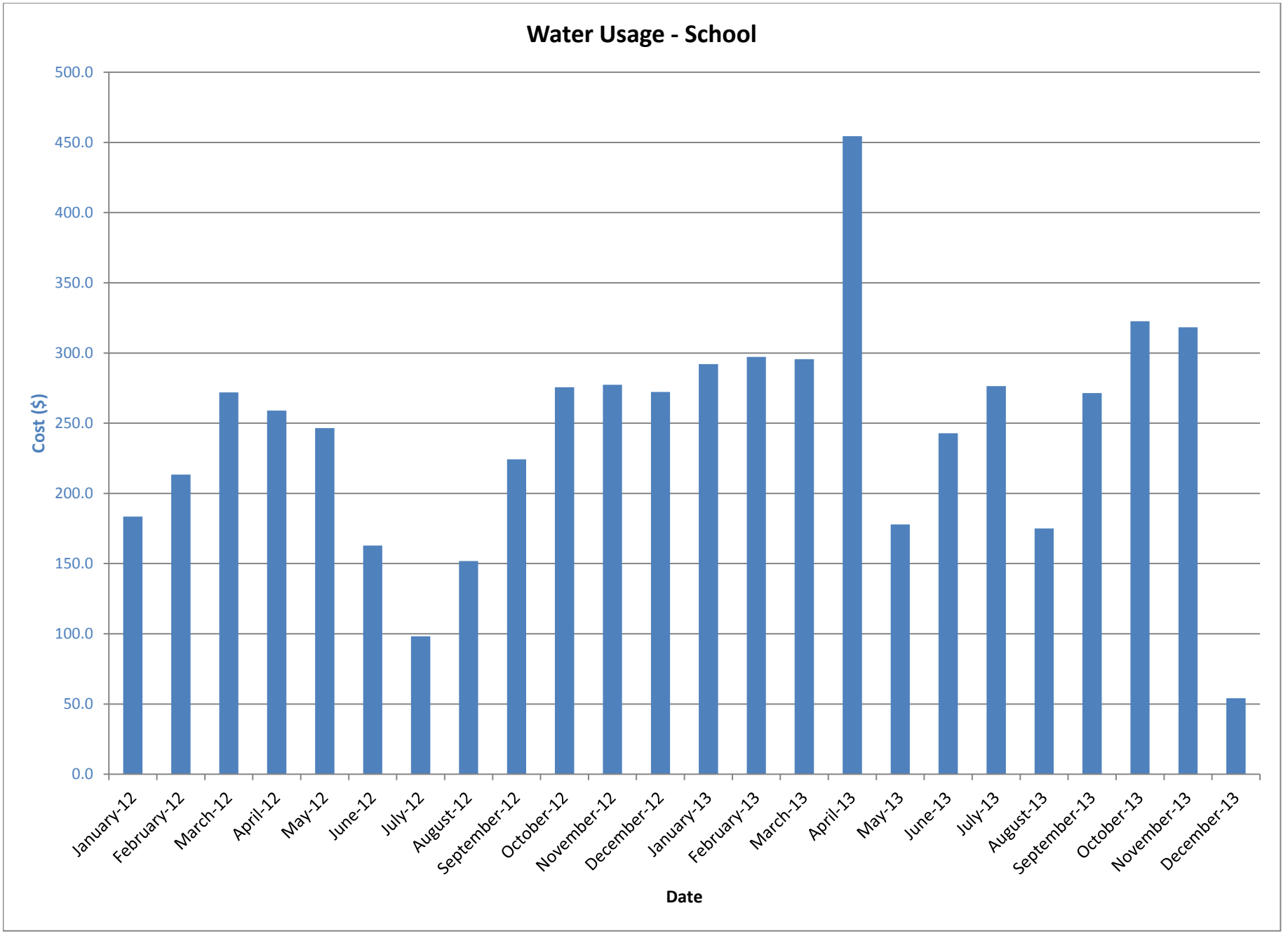

Natural Gas Usage - School
Consumption (Therms)
25,000
20,000
15,000
10,000
5,000
0
Jan-12
Feb-12
Mar-12
Apr-12
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Feb-13
Mar-13
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
Apr-14
May-14

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753

Account No.:
Meter No.:
Water Service

Month	Total ($)	Gallons (1000)	$/kGal
January-12	$ 2,315	183.6	$ 12.61
February-12	$ 2,365	213.4	$ 11.09
March-12	$ 2,866	271.9	$ 10.54
April-12	$ 3,041	258.9	$ 11.74
May-12	$ 2,670	246.5	$ 10.83
June-12	$ 1,995	162.9	$ 12.25
July-12	$ 1,688	98.3	$ 17.18
August-12	$ 1,893	151.9	$ 12.47
September-12	$ 2,395	224.3	$ 10.68
October-12	$ 2,677	275.7	$ 9.71
November-12	$ 2,646	277.4	$ 9.54
December-12	$ 2,686	272.3	$ 9.87
January-13	$ 2,888	292.2	$ 9.88
February-13	$ 2,872	297.2	$ 9.66
March-13	$ 2,872	295.6	$ 9.72
April-13	$ 3,090	454.4	$ 6.80
May-13	$ 1,714	177.9	$ 9.64
June-13	$ 2,705	242.9	$ 11.14
July-13	$ 2,977	276.4	$ 10.77
August-13	$ 2,358	175.1	$ 13.47
September-13	$ 3,059	271.5	$ 11.27
October-13	$ 3,346	322.7	$ 10.37
November-13	$ 3,313	318.4	$ 10.40
December-13	$ 1,271	54.1	$ 23.47
Total all)	**$ 61,704**	**5,815**	**$ 10.61**
Total (last 12 months)	**$ 32,466**	**3,178**	**$ 10.21**


Water Usage - School
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Cost ($)
January-12
February-12
March-12
April-12
May-12
June-12
July-12
August-12
September-12
October-12
November-12
December-12
January-13
February-13
March-13
April-13
May-13
June-13
July-13
August-13
September-13
October-13
November-13
December-13
Date

JCP&L SERVICE TERRITORY
Last Updated: 10/24/12

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

Supplier	Telephone & Web Site	*Customer Class
AEP Energy, Inc. 309 Fellowship Road, Fl.2 Mount Laurel, NJ 08054	(866) 258-3782 www.aepenergy.com	**C/I** **ACTIVE**
Alpha Gas and Electric, LLC 641 5th Street Lakewood, NJ 08701	(855) 553-6374 www.alphagasandelectric.com	**R/C** **ACTIVE**
Ambit Northeast, LLC 103 Carnegie Center Suite 300 Princeton, NJ 08540	(877) 30-AMBIT (877) 302-6248 www.ambitenergy.com	**R/C** **ACTIVE**
AP Gas & Electric, LLC 10 North Park Place, Suite 420 Morristown, NJ 07960	(855) 544-4895 www.apge.com	**R/C/I** **ACTIVE**
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	(201) 384-5552 www.astralenergyllc.com	**R/C/I** **ACTIVE**
BBPC, LLC d/b/a Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	(888) 651-4121 www.greateasternenergy.com	**C/I** **ACTIVE**
Champion Energy Services, LLC 72 Avenue L Newark, NJ 07105	(877) 653-5090 www.championenergyservices.com	**R/C/I** **ACTIVE**
Choice Energy, LLC 4257 US Highway 9, Suite 6C Freehold, NJ 07728	888-565-4490 www.4choiceenergy.com	**R/C** **ACTIVE**
Clearview Electric, Inc. 505 Park Drive Woodbury, NJ 08096	(888) CLR-VIEW (800) 746-4702 www.clearviewenergy.com	**R/C/I** **ACTIVE**
Commerce Energy, Inc. 7 Cedar Terrace Ramsey, NJ 07446	1-866-587-8674 www.commerceenergy.com	**R** **ACTIVE**

ConEdison Solutions Cherry Tree Corporate Center 535 State Highway Suite 180 Cherry Hill, NJ 08002	(888) 665-0955 www.conedsolutions.com	**C/I** **ACTIVE**
Constellation NewEnergy, Inc. 900A Lake Street, Suite 2 Ramsey, NJ 07446	(866) 237-7693 www.constellation.com	**R/C/I** **ACTIVE**
Constellation Energy 900A Lake Street, Suite 2 Ramsey, NJ 07446	(877) 997-9995 www.constellation.com	**R** **ACTIVE**
Direct Energy Business, LLC 120 Wood Avenue Suite 611 Iselin, NJ 08830	(888) 925-9115 www.directenergybusiness.com	**C/I** **ACTIVE**
Direct Energy Services, LLC 120 Wood Avenue Suite 611 Iselin, NJ 08830	(866) 547-2722 www.directenergy.com	**C/I** **ACTIVE**
Discount Energy Group, LLC 811 Church Road, Suite 149 Cherry Hill, NJ 08002	(800) 282-3331 www.discountenergygroup.com	**R/C** **ACTIVE**
Dominion Retail, Inc. **d/b/a Dominion Energy Solutions** 395 Route 70 West, Suite 125 Lakewood, NJ 08701	(866) 275-4240 www.dom.com/products	**R/C** **ACTIVE**
DTE Energy Supply, Inc. One Gateway Center, Suite 2600 Newark, NJ 07102	(877) 332-2450 www.dtesupply.com	**C/I** **ACTIVE**
Energy Plus Holdings LLC 309 Fellowship Road East Gate Center, Suite 200 Mt. Laurel, NJ 08054	(877) 866-9193 www.energypluscompany.com	**R/C** **ACTIVE**
Energy.me Midwest LLC 90 Washington Blvd Bedminster, NJ 07921	(855) 243-7270 www.energy.me	**R/C/I** **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**
FirstEnergy Solutions Corp. 300 Madison Avenue Morristown, NJ 07962	(800) 977-0500 www.fes.com	**C/I** **ACTIVE**
Gateway Energy Services Corp. 44 Whispering Pines Lane Lakewood, NJ 08701	(800) 805-8586 www.gesc.com	**R/C/I** **ACTIVE**
GDF SUEZ Energy Resources NA, Inc. 333 Thornall Street Sixth Floor Edison, NJ 08819	(866) 999-8374 www.gdfsuezenergyresources.com	**C/I** **ACTIVE**
Glacial Energy of New Jersey, Inc. 75 Route 15 Building E Lafayette, NJ 07848	(888) 452-2425 www.glacialenergy.com	**C/I** **ACTIVE**
Green Mountain Energy Company 211 Carnegie Center Drive Princeton, NJ 08540	(866) 767-5818 www.greenmountain.com/commercial-home	**C/I** **ACTIVE**
Hess Corporation 1 Hess Plaza Woodbridge, NJ 07095	(800) 437-7872 www.hess.com	**C/I** **ACTIVE**
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666	(888) 264-4908 www.hikoenergy.com	**R/C** **ACTIVE**
HOP Energy, LLC d/b/a Metro Energy, HOP Fleet Fueling, HOP Energy Fleet Fueling 1011 Hudson Avenue Ridgefield, NJ 07657	(877) 390-7155 www.hopenergy.com	**R/C/I** **ACTIVE**
IDT Energy, Inc. 550 Broad Street Newark, NJ 07102	(973) 438-4380 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**
Integrys Energy Services, Inc. 99 Wood Ave, South, Suite 802 Iselin, NJ 08830	(877) 763-9977 www.integrysenergy.com	**C/I** **ACTIVE**
Liberty Power Delaware, LLC 3000 Atrium Way Suite 273 Mt. Laurel, NJ 08054	(866) 769-3799 www.libertypowercorp.com	**R/C/I** **ACTIVE**
Liberty Power Holdings, LLC 3000 Atrium Way Suite 273 Mt. Laurel, NJ 08054	(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**
NATGASCO, Inc. 532 Freeman St. Orange, NJ 07050	(973) 678-1800 x. 251 www.supremeenergyinc.com	**R/C** **ACTIVE**
NextEra Energy Services New Jersey, LLC 651 Jernee Mill Road Sayreville, NJ 08872	(877) 528-2890 Commercial (800) 882-1276 Residential www.nexteraenergyservices.com	**R/C/I** **ACTIVE**
NJ Gas & Electric 1 Bridge Plaza fl.2 Fort Lee, NJ 07024	(866) 568-0290 www.NJGandE.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**
North American Power and Gas, LLC 222 Ridgedale Ave. Cedar Knolls, NJ 07927	(888) 313-9086 www.napower.com	**R/C/I** **ACTIVE**

Palmco Power NJ, LLC One Greentree Centre 10,000 Lincoln Drive East, Suite 201 Marlton, NJ 08053	(877) 726-5862 www.PalmcoEnergy.com	**R/C/I** **ACTIVE**
Pepco Energy Services, Inc. 112 Main St. Lebanon, NJ 08833	(800) ENERGY-9 (363-7499) www.pepco-services.com	**R/C** **ACTIVE**
Plymouth Rock Energy, LLC 338 Maitland Avenue Teaneck, NJ 07666	(855) 32-POWER (76937) www.plymouthenergy.com	**R/C/I** **ACTIVE**
PPL EnergyPlus, LLC 811 Church Road Cherry Hill, NJ 08002	(800) 281-2000 www.pplenergyplus.com	**C/I** **ACTIVE**
Public Power & Utility of New Jersey, LLC 39 Old Ridgebury Rd. Suite 14 Danbury, CT 06810	(888) 354-4415 www.ppandu.com	**R/C/I** **ACTIVE**
Reliant Energy 211 Carnegie Center Princeton, NJ 08540	(877) 297-3795 (877) 297-3780 www.reliant.com/pjm	**R/C/I** **ACTIVE**
ResCom Energy LLC 18C Wave Crest Ave. Winfield Park, NJ 07036	(888) 238-4041 http://rescomenergy.com	**R/C/I** **ACTIVE**
Respond Power LLC 10 Regency CT Lakewood, NJ 08701	(877) 973-7763 www.respondpower.com	**R/C/I** **ACTIVE**
South Jersey Energy Company 1 South Jersey Plaza Route 54 Folsom, NJ 08037	(800) 800-266-6020 www.southjerseyenergy.com	**C/I** **ACTIVE**
Sperian Energy Corp. 1200 Route 22 East, Suite 2000 Bridgewater, NJ 08807	(888) 682-8082	**R/C/I** **ACTIVE**
Starion Energy PA Inc. 101 Warburton Avenue Hawthorne, NJ 07506	(800) 600-3040 www.starionenergy.com	**R/C/I** **ACTIVE**

Stream Energy 309 Fellowship Road Suite 200 Mt. Laurel, NJ 08054	(877) 369-8150 www.streamenergy.net	**R** **ACTIVE**
UGI Energy Services, Inc. **d/b/a GASMARK** 224 Strawbridge Drive Suite 107 Moorestown, NJ 08057	(856) 273-9995 www.ugienergyservices.com	**C/I** **ACTIVE**
Verde Energy USA, Inc. 50 East Palisades Avenue Englewood, NJ 07631	(800) 388-3862 www.lowcostpower.com	**R/C/I** **ACTIVE**
Viridian Energy 2001 Route 46 Waterview Plaza Suite 310 Parsippany, NJ 07054	(866) 663-2508 www.viridian.com	**R/C/I** **ACTIVE**
Xoom Energy New Jersey, LLC 744 Broad Street Newark, NJ 07102	(888)997-8979 www.xoomenergy.com	**R/C/I** **ACTIVE**
YEP Energy 89 Headquarters Plaza North #1463 Morristown, NJ 07960	(855) 363-7736 www.yepenergyNJ.com	**R/C/I** **ACTIVE**
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	(855) 732-2493 www.thisisyourenergy.com	**R/C/I** **ACTIVE**

NJ NATURAL GAS CO. SERVICE TERRITORY
Last Updated: 10/24/12

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

Supplier	Telephone & Web Site	*Customer Class
Alpha Gas and Electric, LLC 641 5th Street Lakewood, NJ 08701	855-553-6374 www.alphagasandelectric.com	**R/C** **ACTIVE**
Astral Energy LLC 16 Tyson Place Bergenfield, NJ 07621	201-384-5552 www.astralenergyllc.com	**R/C/I** **ACTIVE**
BBPC, LLC d/b/a Great Eastern Energy 116 Village Blvd. Suite 200 Princeton, NJ 08540	888-651-4121 www.greateasternenergy.com	**C/I** **ACTIVE**
Clearview Electric Inc. **d/b/a Clearview Gas** 1744 Lexington Ave. Pennsauken, New Jersey 08110	800-746-4720 www.clearviewenergy.com	**R/C** **ACTIVE**
Colonial Energy, Inc. 83 Harding Road Wyckoff, NJ 07481	845-429-3229 www.colonialgroupinc.com	**C/I** **ACTIVE**
Commerce Energy, Inc. 7 Cedar Terrace Ramsey, NJ 07746	(888) 817-8572 www.commerceenergy.com	**R** **ACTIVE**
Compass Energy Services, Inc. 1085 Morris Avenue, Suite 150 Union, NJ 07083	866-867-8328 908-638-6605 www.compassenergy.net	**C/I** **ACTIVE**
ConocoPhillips Company 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	800-646-4427 www.conocophillips.com	**C/I** **ACTIVE**
Constellation NewEnergy-Gas Division, LLC 900A lake Street, Suite 2 Ramsey, NJ 07466	800-900-1982 www.constellation.com	**C/I** **ACTIVE**
Consolidated Edison Solutions, Inc. Cherry Tree Corporate Center 535 State Highway 38, Suite 140 Cherry Hill, NJ 08002	888-665-0955 www.conedsolutions.com	**C/I** **ACTIVE**

Core Energy Inc. 37 West 55th Street Suite 200 Ocean City, NJ 08226	877-329-3495 www.core-energy.net	**R/C** **ACTIVE**
Direct Energy Business, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830	888-925-9115 www.directenergy.com	**C/I** **ACTIVE**
Direct Energy Services, LLP 120 Wood Avenue, Suite 611 Iselin, NJ 08830	866-547-2722 www.directenergy.com	**R/C/I** **INACTIVE**
Dominion Retail, Inc. **d/b/a Dominion Energy Solutions** 395 Route #70 West, Suite 125 Lakewood, NJ 08701	866-645-9802 www.dom.com/products	**R/C** **ACTIVE**
Energy Plus Natural Gas LP 309 Fellowship Road, East Gate Center, Suite 200 Mt. Laurel, NJ 08054	877-866-9193 www.energypluscompany.com	**R/I** **ACTIVE**
Gateway Energy Services Corp. 44 Whispering Pines Lane Lakewood, NJ 08701	800-805-8586 www.gesc.com	**R/C/I** **ACTIVE**
Global Energy Marketing LLC 129 Wentz Avenue Springfield, NJ 07081	800-542-0778 www.globalp.com	**C/I** **ACTIVE**
Greenlight Energy 330 Hudson Street, Suite 4 Hoboken, NJ 07030	718-204-7467 www.greenlightenergy.us	**C** **ACTIVE**
HIKO Energy, LLC 655 Suffern Road Teaneck, NJ 07666	(888) 264-4908 www.hikoenergy.com	**R/C** **ACTIVE**
UGI Energy Services, Inc. **d/b/a/ GASMARK** 224 Strawbridge Drive, Suite 107 Moorestown, NJ 08057	856-273-9995 www.ugienergyservices.com	**C/I** **ACTIVE**
Hess Energy, Inc. One Hess Plaza Woodbridge, NJ 07095	800-437-7872 www.hess.com	**C/I** **ACTIVE**
Hess Small Business Services, LLC One Hess Plaza Woodbridge, NJ 07095	888-494-4377 www.hessenergy.com	**C/I** **ACTIVE**
IDT Energy, Inc. 550 Broad Street Newark, New Jersey 07102	973-438-4380 www.idtenergy.com	**R/C** **ACTIVE**

Integrys Energy Services-Natural Gas, LLC 99 Wood Avenue South Suite #802 Iselin, NJ 08830	(800) 536-0151 www.integrysenergy.com	**C/I** **ACTIVE**
Intelligent Energy 2050 Center Avenue, Suite 500 Fort Lee, NJ 07024	800-927-9794 www.intelligentenergy.org	**R/C/I** **ACTIVE**
Keil & Sons, Inc. **d/b/a Systrum Energy** 1 Bergen Blvd. Fairview, NJ 07022	1-877-797-8786 www.systrumenergy.com	**R/C/I** **ACTIVE**
Marathon Power LLC 302 Main Street Paterson, NJ 07505	888-779-7255 www.mecny.com	**R/C/I** **ACTIVE**
Metromedia Energy, Inc. 6 Industrial Way Eatontown, NJ 07724	800-828-9427 www.metromediaenergy.com	**C** **ACTIVE**
MxEnergy, Inc. 900 Lake Street Ramsey, NJ 07446	800-785-4374 www.mxenergy.com	**R/C/I** **ACTIVE**
NATGASCO (Mitchell Supreme) 532 Freeman Street Orange, NJ 07050	800-840-4GAS www.natgasco.com	**C** **ACTIVE**
New Energy Services LLC 101 Neptune Avenue Deal, NJ 07723	800-660-3643 www.newenergyservicesllc.com	**R/C/I** **ACTIVE**
New Jersey Gas & Electric 1 Bridge Plaza, Fl. 2 Fort Lee, NJ 07024	866-568-0290 www.NJGandE.com	**R/C** **ACTIVE**
North American Power & Gas, LLC d/b/a North American Power 197 Route 18 South Ste. 3000 East Brunswick, NJ 08816	(888) 313-9086 www.napower.com	**R/C/I** **ACTIVE**
Palmco Energy NJ, LLC One Greentree Centre 10,000 Lincoln Drive East Suite 201 Marlton, NJ 08053	877-726-5862 www.PalmcoEnergy.com	**R/C/I** **ACTIVE**

Pepco Energy Services, Inc. 112 Main Street Lebanon, NJ 08833	800-363-7499 www.pepco-services.com	**C/I** **ACTIVE**
PPL EnergyPlus, LLC 811 Church Road - Office 105 Cherry Hill, NJ 08002	800-281-2000 www.pplenergyplus.com	**C/I** **ACTIVE**
Respond Power LLC 10 Recency CT Lakewood, NJ 08701	877-973-7763 www.respondpower.com	**R/C/I** **ACTIVE**
South Jersey Energy Company 1 South Jersey Plaza, Route 54 Folsom, NJ 08037	800-266-6020 www.southjerseyenergy.com	**C/I** **ACTIVE**
Sprague Energy Corp. 12 Ridge Road Chatham Township, NJ 07928	855-466-2842 www.spragueenergy.com	**C/I** **ACTIVE**
Systrum Energy 1 Bergen Blvd. Fairview, NJ 07022	877-797-8786 www.systrumenergy.com	**R/C/I** **ACTIVE**
Stream Energy New Jersey, LLC 309 Fellowship Road Suite 200 Mt. Laurel, NJ 08054	(973) 494-8097 www.streamenergy.net	**R/C** **ACTIVE**
Verde Energy USA, Inc. 50 East Palisades Avenue Englewood, NJ 07631	800-388-3862 www.lowcostpower.com	**R** **ACTIVE**
Woodruff Energy 73 Water Street Bridgeton, NJ 08302	800-557-1121 www.woodruffenergy.com	**R/C/I** **ACTIVE**
Woodruff Energy US LLC 73 Water Street, P.O. Box 777 Bridgeton, NJ 08302	856-455-1111 800-557-1121 www.woodruffenergy.com	**C/I** **ACTIVE**
Xoom Energy New Jersey, LLC 744 Broad Street Newark, NJ 07102	888-997-8979 www.xoomenergy.com	**R/C/I** **ACTIVE**
Your Energy Holdings, LLC One International Boulevard Suite 400 Mahwah, NJ 07495-0400	(855) 732-2493 www.thisisyourenergy.com	**R/C/I** **ACTIVE**

Back to main supplier information page

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753
Account No.: **100 106 100 587**
Meter No.: **G28819244, G28819206, L013870883, L013670884**
Electric Service

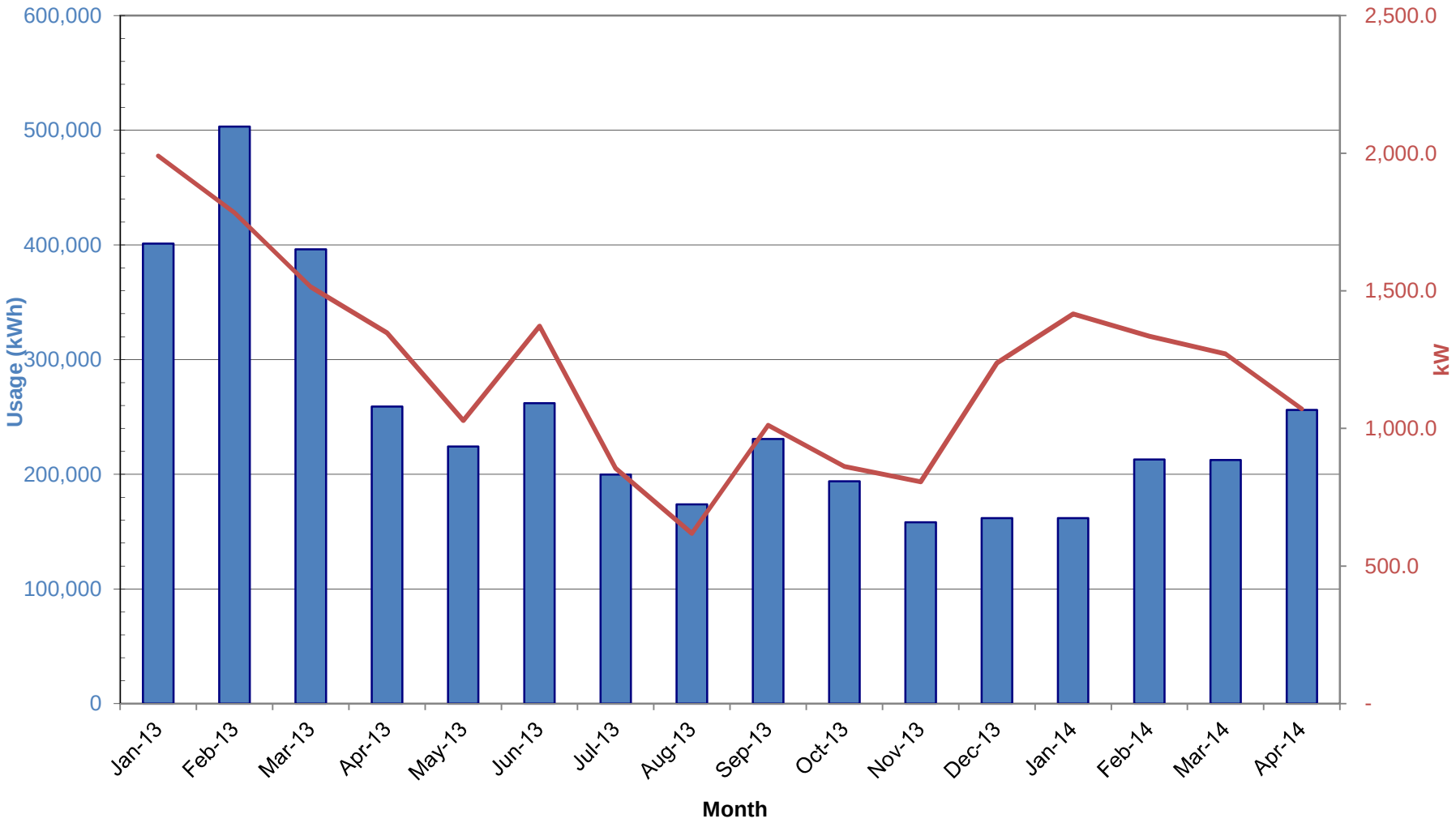
Delivery - Jersey Central Power & Lighting
Supplier - Direct Energy LLC
Building owns solar panels

					Provider Charges			Usage (kWh) vs. Demand (kW) Charges		Unit Costs		
Month	**Delivery (kWh)**	**Generated (kWh)**	**Consumption (kWh)**	**Demand (kW)**	**Delivery ($)**	**Supplier ($)**	**Total ($)**	**Consumption ($)**	**Demand ($)**	**Blended Rate ($/kWh)**	**Consumption ($/kWh)**	**Demand ($/kW)**
January-13	401,163		401,163	1,989.9	$ 50,330	$ 31,479	$ 50,330	$ 36,898	$ 13,432	0.13	0.09	6.75
February-13	503,155		503,155	1,783.3	$ 58,201	$ 39,483	$ 58,201	$ 46,163	$ 12,037	0.12	0.09	6.75
March-13	396,267		396,267	1,514.2	$ 46,585	$ 31,095	$ 46,585	$ 36,364	$ 10,221	0.12	0.09	6.75
April-13	259,108		259,108	1,347.7	$ 32,887	$ 20,332	$ 32,887	$ 23,790	$ 9,097	0.13	0.09	6.75
May-13	183,258	40,965	224,223	1,029.0	$ 23,782	$ 17,595	$ 41,376	$ 34,431	$ 6,946	0.18	0.15	6.75
June-13	221,304	40,809	262,113	1,372.0	$ 13,462	$ 17,366	$ 30,828	$ 21,567	$ 9,261	0.12	0.08	6.75
July-13	167,996	31,871	199,867	855.0	$ 9,744	$ 13,183	$ 22,926	$ 17,155	$ 5,771	0.11	0.09	6.75
August-13	142,560	31,219	173,779	619.0	$ 8,268	$ 11,187	$ 19,455	$ 15,277	$ 4,178	0.11	0.09	6.75
September-13	209,361	21,345	230,706	1,012.0	$ 12,143	$ 16,449	$ 28,592	$ 21,761	$ 6,831	0.12	0.09	6.75
October-13	157,860	36,009	193,869	862.0	$ 8,376	$ 12,387	$ 20,763	$ 14,944	$ 5,819	0.11	0.08	6.75
November-13	130,887	27,296	158,183	806.0	$ 7,574	$ 10,271	$ 17,845	$ 12,403	$ 5,442	0.11	0.08	6.75
December-13	129,162	32,718	161,880	1,238.0	$ 12,065	$ 10,135	$ 22,201	$ 13,843	$ 8,358	0.14	0.09	6.75
January-14	128,746	33,039	161,785	1,416.0	$ 13,202	$ 10,103	$ 23,305	$ 13,744	$ 9,561	0.14	0.08	6.75
February-14	167,654	45,299	212,953	1,335.0	$ 13,867	$ 13,156	$ 27,023	$ 18,012	$ 9,011	0.13	0.08	6.75
March-14	151,663	60,874	212,537	1,271.0	$ 12,874	$ 11,901	$ 24,775	$ 16,196	$ 8,579	0.12	0.08	6.75
April-14	185,275	70,880	256,155	1,071.0	$ 10,049	$ 14,539	$ 24,588	$ 17,356	$ 7,232	0.10	0.07	6.75
Total (All)	**3,535,419**	**472,324**	**4,007,743**	**1,989.9**	**$ 333,409**	**$ 280,661**	**$ 491,680**	**$ 359,904**	**$ 131,776**	**$ 0.123**	**$ 0.090**	**$ 6.75**
Total (2013)	**2,902,081**	**262,232**	**3,164,313**	**1,989.9**	**$ 283,416**	**$ 230,962**	**$ 391,989**	**$ 294,596**	**$ 97,393**	**$ 0.124**	**$ 0.093**	**$ 6.75**
Notes			1	2	3	4	5	6	7	8	9	10

1.) Number of kWh of electric energy used per month
2.) Number of kW of power measured
3.) Electric charges from Delivery provider
4.) Electric charges from Supply provider
5.) Total charges (Delivery + Supplier)
6.) Charges based on the number of kWh of electric energy used
7.) Charges based on the number of kW of power measured
8.) Total Charges ($) / Consumption (kWh)
9.) Consumption Charges ($) / Consumption (kWh)
10.) Demand Charges ($) / Demand (kW)

No data provided, most recent rate used
No data provided, interpolated value
Months taking from banked kWh
Calculated using supplier rate of 0.07847

Electric Usage - School

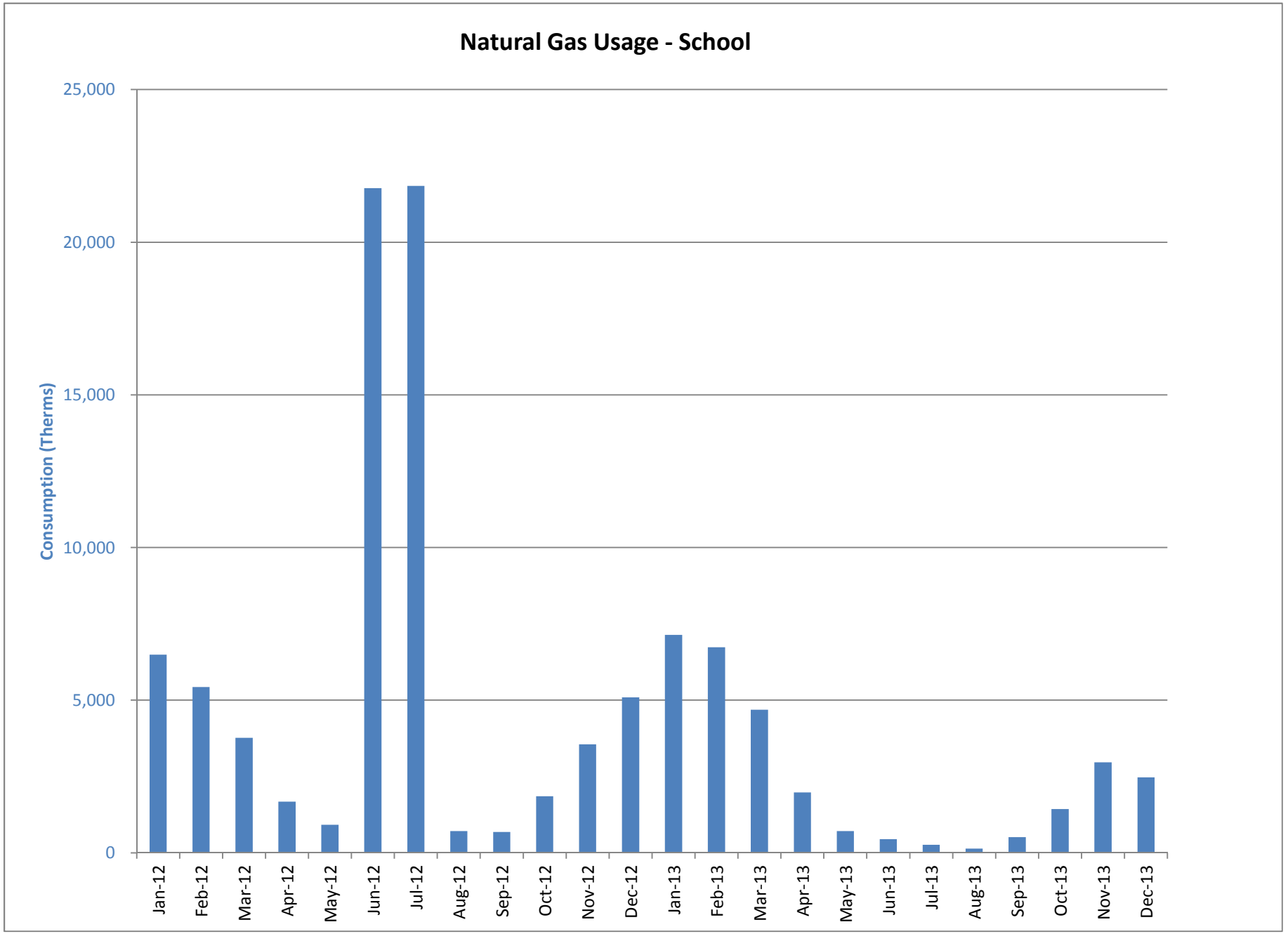


Utility Data - HS North
Electric Graph

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753
Account No.: **164573147024**
Meter No:
Natural Gas Service **Delivery -** **New Jersey Natural Gas**
Supplier - **New Jersey Natural Gas**

		Charges			Unit Costs		
Month	**Consumption (Therms)**	**Delivery ($)**	**Supply ($)**	**Total ($)**	**Delivery ($/Therm)**	**Supply ($/Therm)**	**Total ($/Therm)**
January-12	6,491			$ 9,129	$ -	$ -	$ 1.41
February-12	5,428			$ 7,637	$ -	$ -	$ 1.41
March-12	3,765			$ 5,491	$ -	$ -	$ 1.46
April-12	1,672			$ 2,726	$ -	$ -	$ 1.63
May-12	913			$ 1,729	$ -	$ -	$ 1.89
June-12	21,771			$ 29,023	$ -	$ -	$ 1.33
July-12	21,847			$ 29,310	$ -	$ -	$ 1.34
August-12	710			$ 1,455	$ -	$ -	$ 2.05
September-12	681			$ 1,109	$ -	$ -	$ 1.63
October-12	1,851			$ 2,201	$ -	$ -	$ 1.19
November-12	3,549			$ 3,833	$ -	$ -	$ 1.08
December-12	5,093			$ 5,339	$ -	$ -	$ 1.05
January-13	7,139			$ 7,151	$ -	$ -	$ 1.00
February-13	6,733			$ 6,766	$ -	$ -	$ 1.00
March-13	4,687			$ 4,972	$ -	$ -	$ 1.06
April-13	1,973			$ 2,420	$ -	$ -	$ 1.23
May-13	708			$ 1,259	$ -	$ -	$ 1.78
June-13	448			$ 960	$ -	$ -	$ 2.14
July-13	262			$ 821	$ -	$ -	$ 3.14
August-13	136			$ 722	$ -	$ -	$ 5.33
September-13	510			$ 1,065	$ -	$ -	$ 2.09
October-13	1,434			$ 1,914	$ -	$ -	$ 1.33
November-13	2,965			$ 3,367	$ -	$ -	$ 1.14
December-13	2,469			$ 2,744	$ -	$ -	$ 1.11
Total (all)	**103,235**	**$ -**	**$ -**	**$ 133,143**	$ -	$ -	**$ 1.29**
Total (last 12 months)	**29,463**	**$ -**	**$ -**	**$ 34,161**	$ -	$ -	**$ 1.16**

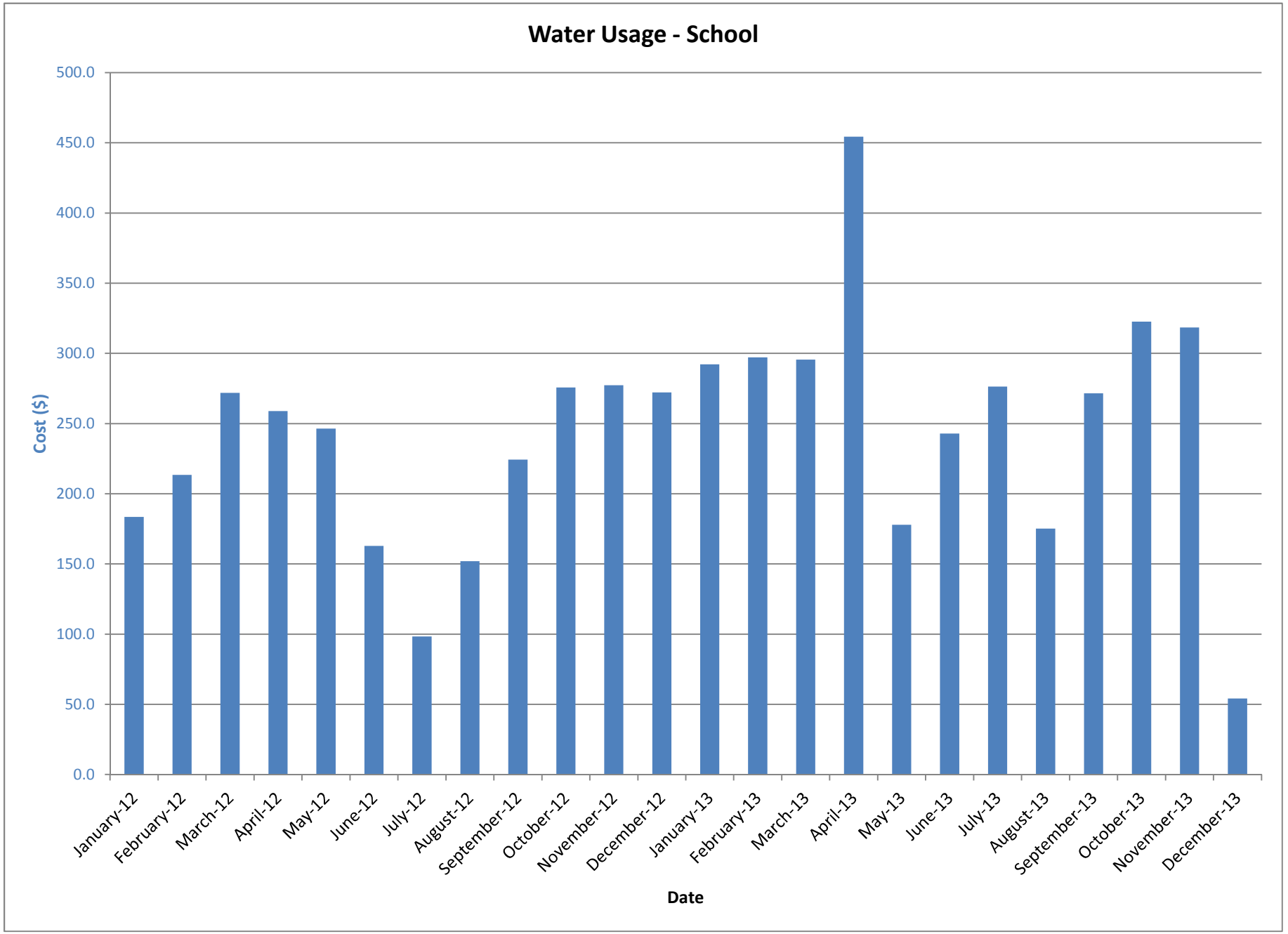

Natural Gas Usage - School
Consumption (Therms)
25,000
20,000
15,000
10,000
5,000
0
Jan-12
Feb-12
Mar-12
Apr-12
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Feb-13
Mar-13
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13

Toms River Regional Schools
123 Walnut St, Toms River, NJ 08753

For Service at: **Toms River High School North**
1245 Old Freehold Road, Toms River, NJ 08753

Account No.:
Meter No.:
Water Service

Month	Total ($)	Gallons (1000)	$/kGal
January-12	$ 2,315	183.6	$ 12.61
February-12	$ 2,365	213.4	$ 11.09
March-12	$ 2,866	271.9	$ 10.54
April-12	$ 3,041	258.9	$ 11.74
May-12	$ 2,670	246.5	$ 10.83
June-12	$ 1,995	162.9	$ 12.25
July-12	$ 1,688	98.3	$ 17.18
August-12	$ 1,893	151.9	$ 12.47
September-12	$ 2,395	224.3	$ 10.68
October-12	$ 2,677	275.7	$ 9.71
November-12	$ 2,646	277.4	$ 9.54
December-12	$ 2,686	272.3	$ 9.87
January-13	$ 2,888	292.2	$ 9.88
February-13	$ 2,872	297.2	$ 9.66
March-13	$ 2,872	295.6	$ 9.72
April-13	$ 3,090	454.4	$ 6.80
May-13	$ 1,714	177.9	$ 9.64
June-13	$ 2,705	242.9	$ 11.14
July-13	$ 2,977	276.4	$ 10.77
August-13	$ 2,358	175.1	$ 13.47
September-13	$ 3,059	271.5	$ 11.27
October-13	$ 3,346	322.7	$ 10.37
November-13	$ 3,313	318.4	$ 10.40
December-13	$ 1,271	54.1	$ 23.47
Total all)	**$ 61,704**	**5,815**	**$ 10.61**
Total (last 12 months)	**$ 32,466**	**3,178**	**$ 10.21**


Water Usage - School
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Cost ($)
January-12
February-12
March-12
April-12
May-12
June-12
July-12
August-12
September-12
October-12
November-12
December-12
January-13
February-13
March-13
April-13
May-13
June-13
July-13
August-13
September-13
October-13
November-13
December-13
Date

APPENDIX B

Equipment Inventory

Toms River Regional School District
CHA Project# 28485
Toms River High School North

EM - Energy Management

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.
ACC-1	1	Trane	RTAC 2504 UDON UAFN N1NY 1DDC NN0E N10K N0EX N	U02003760	Air Cooled Helical Rotary Screw Chiller w/ Glycol	233.8 Tons	1.25 kW/Ton	Pine Belt Roof	Pine Belt Chilled Gylcol System	*2002*	8	EM Controlled, 30% Glycol Solution
AHU- AHU- AHU-	3	Trane	WEHB26D4QKE6A3AD 1DD0AEYRT8	J96H72641	Packaged AHU with Remote Mounted Glycol Chiller and Electric Heat	Cooling: 26 Ton Heat: 110 kW	N/A	Roof Above Auditorium	Auditorium	*1996*	-3	EM Controlled: Economizer, CO2 Controls
AHU-PE-1	1	Trane	TSCX - SIZE 30	Unknown	Air Handling Unit, HHW / CHW	16,725 CFM (50% OA) CLG: 954 MBH HTG: 726 MBH (SF/RF) 20 / 15 HP	N/A	Pine Belt Roof	Gymnasium	*2002*	13	EM Controlled: Economizer, CO2 Controls; 16,725 CFM (50% OA)
AHU-PE-2	1	Trane	TSCX - SIZE 30	Unknown	Air Handling Unit, HHW / CHW	15,000 CFM (50% OA) CLG: 856 MBH HTG: 651 MBH (SF/RF) 15 / 15 HP	N/A	Pine Belt Roof	Gymnasium	*2002*	13	EM Controlled: Economizer, CO2 Controls; 15,000 CFM (50% OA)
AHU-PE-3	1	Trane	TSCX - SIZE 30	Unknown	Air Handling Unit, HHW / CHW	13,900 CFM (50% OA) CLG: 793 MBH HTG: 603 MBH (SF/RF) 15 / 10 HP	N/A	Pine Belt Roof	Gymnasium	*2002*	13	EM Controlled: Economizer, CO2 Controls; 13,900 CFM (50% OA)
AHU-PE-4	1	Trane	TSCX - SIZE 25	Unknown	Air Handling Unit, HHW / CHW	10,700 CFM (33% OA) CLG: 542 MBH (SF/RF) 10 / 5 HP	N/A	Pine Belt Roof	Hall of Fame	*2002*	13	EM Controlled; 10,170 CFM (33% OA)
Air Cooled Chiller	1	Trane	RTAA1004XH01A1D0BDF	U96L08032	Air Cooled Rotary Chiller w/ Glycol	100 Ton	~1.2 kW/Ton	Ground outside Auditorium	RTUs above Auditorium	*1996*	2	EM Controlled
B-1 B-2	2	Lochinvar	PBN0500	A021218 A021219	Hot Water Boiler / Natural Gas	Input: 500 MBH Output: 440 MBH,	88%	F-Wing Boiler Room	F-Wing	2002	13	EM Controlled
B-1 B-2	2	Lochinvar	PBN2000	Unknown	Hot Water Boiler / Natural Gas	Input: 2000 MBH Output: 1740 MBH	88%	Pine Belt Arena Boiler Room	Pine Belt Hot Water Heating System	*2002*	13	EM Controlled, 30% Glycol Solution
Backup Generator	1	Kohler	Unknown	Unknown	Backup Generator	100 kW	N/A	Ground outside Arena	Pine Belt Arena	*2010*	16	
Backup Generator	1	Baldor	TS130	Unknown	Backup Generator	*130 kW*	N/A	Ground outside Arena	Pine Belt Arena	*2010*	16	
BCP-1 BCP-2	2	Unknown	Series 60 2x2x5-1/4	Unknown	Boiler Primarly Circulating Pumps	1.5 HP	N/A	Pine Belt Arena Boiler Room	B-1 B-2	*2002*	6	EM Controlled
Condensing Unit	1	International Comfort Products	CAE120HAA	G044310054	Split System Condensing Unit	10 Ton	10.3 EER	Roof Above Main Office	Nurses / Main Office	*2004*	10	
Condensing Unit	1	Trane	TTP018C100A3	2043P5C3F	Split System Condensing Unit	1.5 Ton	12.0 EER	B-Wing Courtyard	B-Wing Classroom	2002	8	
Condensing Unit	1	Thermal Zone	MSC424A13230CA	N/A	Mini Split Air Conditioning Unit	24,000 btu/h	13 SEER	Roof (Near Cafe South)	Office	*2000*	6	
Condensing Unit	1	Unknown	Unknown	Unknown	Split System Condensing Unit	Unknown	N/A	BB Wing	BB Wing	*1992*	-2	
Condensing Unit	1	International Comfort Products	CBA090HA3	L991245906	Split System Condensing Unit	7.5 Ton	10.3 EER	Roof Above Weight Room	Weight Room	*1999*	5	
Condensing Unit	1	International Comfort Products	ACC060LA	E031492902	Split System Condensing Unit	4 Ton	10.7 EER	Ground near Exit 22	Athletic Trainers Office (?)	*2003*	9	
Condensing Unit	1	AAON	CA0152	200506-CCCE04972	Split System Condensing Unit	1.5 Ton	Unknown	Ground Outside E-01	E-01	2005	11	EM Controlled
Condensing Unit	1	AAON	CA0499	200506-CCCF04973	Split System Condensing Unit	4 Ton	Unknown	Ground Outside E-01	E-01	2005	11	EM Controlled
Condensing Unit	1	International Comfort Products	CBA0120FA3	L9920 85802	Split System Condensing Unit	10 Ton	8.6 EER	Ground Outside E-03	E-03	1999	5	EM Controlled
DHW	1	AO Smith	BTH 120 966	ML01 1276833-966	Domestic Hot Water Heater / Natural Gas	Input: 125,000 btu/h Recovery: 142 gal/hr Capacity: 60 gal	80%	F-Wing Boiler Room	F-Wing	2002	13	EM Controlled
DHW	1	AO Smith	DSE-30-6	SF93 48703 Y3	Domestic Hot Water Heater / Electric	6 kW	N/A	Custodial Closet BB Wing	Custodial Closet BB Wing	1993	4	EM Controlled
DHW	1	AO Smith	HW 670 932	L 04 05545	Domestic Hot Water Boiler / Natural Gas	670,000 btu/h	80%	E Wing Electrical Room	Main DHW System	2004	15	EM Controlled
DHW	1	AO Smith	BTH 120 966	MM01-1353202-966	Domestic Hot Water Heater / Natural Gas	Input: 125,000 btu/h Recovery: 142 gal/hr Capacity: 60 gal	80%	Pine Belt Arena Boiler Room	Pine Belt Arena Domestic Hot Water System	2002	13	EM Controlled
DHW Storage Tank	1	Unknown	N/A	N/A	DHW Storage Tank	Estimated 750 gallons	N/A	E Wing Electrical Room	Main DHW System	*2004*	20	EM Controlled

Toms River Regional School District
CHA Project# 28485
Toms River High School North

EM - Energy Management

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.
Dishwasher Booster Heater	1	Hatco	C-45	2821941246	Dishwasher Booster Heater / Electric	45 kW	N/A	Kitchen	Kitchen	*2000*	1	
EDPAC	13	EDPAC	SEHA-04	Unknown	Packaged DX Cooling Unit w/ Electric Heat	Reheat #1: 4.9 kW Reheat #2: 9.8 kW	N/A	A-Wing Classrooms	A-Wing Classrooms	1984	-15	
EDPAC	8	Compu-Aire	CASH334	SA92-009-4394	Special Purpose Air Conditioner (Heat Pump)	Reheat: 15 kW (2 Stage)	N/A	BB-Wing Classrooms	BB-Wing Classrooms	1993	-6	
Gylcol Pump-1 Glycol Pump-2	2	Baldor	VJMM3714T	N/A	Gylcol Pump Motor / Electric	10 HP	89.5% @ 1800 RPM	Ground outside Auditorium	Chilled Glycol System	*2002*	6	EM Controlled
Heat Wheel-CF-1 Heat Wheel-CF-2	2	Semco	SP700T-2RT4AA	27954/MO10734-000-01 27954/MO10734-000-02	Heat Recovery Wheel	CLG: 30,070 btu/h HTG: 55,780 btu/h	N/A	Roof Above Cafe North Annex	Cafeteria North Annex	2002	3	EM Controlled
Heat Wheel-CF-3 Heat Wheel-CF-4	2	Semco	SP2200T-6RT4AA	27954/MO10735-000-01 27954/MO10735-000-02	Heat Recovery Wheel	CLG: 333,270 btu/h HTG: 61,720 btu/h	N/A	Roof Above Cafe South Annex	Cafeteria South Annex	2002	3	EM Controlled
Hot Water Pump-1 Hot Water Pump-2	2	Baldor	M6211T	N/A	Hot Water Pump Motor / Electric	3 HP	86.5% @ 1800 rpm	F-Wing Boiler Room	F-Wing	2002	6	EM Controlled
HV Unit	1	Hastings	SBEV-115-4-33	49143-2	Heating & Ventilation Unit	Unknown	Unknown	Boys Cross Country / Track Locker Room	Boys Cross Country / Track Locker Room	*1999*	10	
HV Unit	1	Trane	Unknown	Unknown	Heating & Ventilation Unit	Unknown	Unknown	Boys Cross Country / Track Locker Room	Boys Cross Country / Track Locker Room	*1999*	10	
Kitchen Hood	2	Unknown	Unknown	Unknown	Kitchen Exhaust Hood	4' x 20'	N/A	Kitchen	Kitchen	*1995*	1	
MUA-1	1	Trane	GRAA12PFYDON6JU30 2A0CLP	Unknown	Indirect Gas Fired Makeup Air Unit	8000 CFM (100% OA), Input: 1200 MBH Output: 960 MBH 15 HP	80%	Roof Above Kitchen	Kitchen	2002	6	EM Controlled, Electronic Modulating Furnace (40-100%)
P-1 P-1S	2	Unknown	1510 2-1/2AB	Unknown	Main Hot Water Pumps	3 HP	86.5% @ 1800 rpm	Pine Belt Arena Boiler Room	Pine Belt Hot Water Heating System	*2002*	6	EM Controlled
P-2 P-2S	2	Unknown	1510 4E	Unknown	Main Chilled Water Pumps	25 HP	93.6% @ 1800 RPM	Pine Belt Arena Boiler Room	Pine Belt Chilled Gylcol System	*2002*	6	EM Controlled
Primary Pump-1 Primary Pump-2	2	Baldor	VL1201	N/A	Hot Water Pump Motor / Electric	1/3 HP	60% eff @ 1800 RPM	F-Wing Boiler Room	F-Wing	2002	6	EM Controlled
PTAC	1		PTHC0702EA	N/A	Packaged Terminal Heat Pump / Electric	CLG: 7.1 MBH (11.5 EER) HTG: 2.5 kW	N/A	Guidance Offices	Guidance Offices	2002	3	
RTU	1	Unknown	Unknown	Unknown	Packaged RTU	Unknown	Unknown	BB Wing	BB Wing	*1992*	-4	
RTU- RTU- RTU- RTU-	4	Trane	WCD048C400BC	L40102677D	Packaged Electric Heat Pump	4 Ton Heating: 45 kW 1 HP	9.6 EER 3.3 COP	Roof Above Cafe North	Cafeteria North	1996	-3	Not Working or Not Controllable
RTU- RTU- RTU- RTU-	4	Trane	WCD048C4D0BC	K40103257D K34101768D K19102062D K37101769D	Packaged Electric Heat Pump	4 Ton Heating: 45 kW 1 HP	9.6 EER 3.3 COP	Roof Above Cafe South	Cafeteria South	1995	-4	Not Working or Not Controllable
RTU-AC-1 RTU-AC-2	2	Trane	YCD420A4LJ0B6DA5AB 000F0HJ0000	C02A00491 C02A00492	Packaged RTU w/ DX and Low/High Natural Gas Fired Heat (VAV)	35 Ton Input: 350 MBH Output: 283 MBH AC-1: 7.5 HP AC-2: 10 HP	9.7 EER 81%	F-Wing Roof	F-Wing 1st Floor F-Wing 2nd Floor	2002	6	Fan Controlled by VFD, supplies VAV boxes w/ HW reheat
RTU-AC-3	1	Trane	YSC060A4RHA0HH000 C2010300	207100575L	Packaged RTU w/ DX and Natural Gas Fired Heat (VAV)	5 Ton Input: 130 MBH Output: 108 MBH 1.5 HP	10.2 EER 83%	F-Wing Roof	2nd Floor B Wing Biology 2	2002	6	EM Controlled; 10,000 CFM (46% OA)
RTU-CF-1 RTU-CF-2	2	Trane	YSC060A4RMA0J0000C 2010300	210101376L 21010316L	Packaged RTU w/ DX and NG Heat	5 Ton Input: 90 MBH Output: 73 MBH 1.5 HP	10.2 EER 81%	Roof Above Cafe North Annex	Cafeteria North Annex	2002	6	EM Controlled; 11,000 CFM (40% OA)
RTU-CF-3 RTU-CF-4	2	Trane	YSC072A4RMA0E0000 C20000300	210101258L 210101365L	Packaged RTU w/ DX and NG Heat	6.25 Ton Input: 120 MBH Output: 97 MBH 1.5 HP	11.2 EER 81%	Roof Above Cafe South Annex	Cafeteria South Annex	2002	6	EM Controlled; 1,600 CFM (39% OA)
RTU-CF-5 RTU-CF-6	2	Trane	YHC036A4RMA0DH000 C2010300	210101174L 210101323L	Packaged RTU w/ DX and NG Heat	3 Ton Input: 80 MBH Output: 65 MBH 1 HP	10.3 EER 81%	Roof Above Cafe North Annex	2nd Floor Corridor	2002	6	EM Controlled

Toms River Regional School District
CHA Project# 28485
Toms River High School North

EM - Energy Management

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.
RTU-GU-1	1	Trane	YHC120A4RLA0GH000 C2010300	210101242L	Packaged RTU w/ DX and High/Low NG Heat	10 Ton Input: 150 MBH Output: 120 MBH 3 HP	11.7 EER 80%	Roof Above Guidance	Guidance	2002	6	EM Controlled; 3,000 CFM (22% OA)
RTU-GU-2	1	Trane	YHC036A4RMA0DH000 C200300	210101175L	Packaged RTU w/ DX and NG Heat	3 Ton Input: 80 MBH Output: 64 MBH 1/3 HP	11.1 EER 80%	Roof Above Guidance	Guidance	2002	6	EM Controlled; 925 CFM (35% OA)
RTU-MC-1 RTU-MC-2 RTU-MC-3 RTU-MC-4	4	Trane	YHC092A4RLA0EH0000 C2010300	207100581L 207100455L 207100657L 207100635L	Packaged RTU w/ DX and Natural Gas Fired Heat	7 Ton Input: 120 MBH Output: 97 MBH 1.5 HP	8.9 SEER 81%	Media Center Roof	Media Center	2002	6	EM Controlled, Economizer Controls; 2,350 CFM (15% OA)
Walk-In Cooler	1	Unknown	Unknown	Unknown	Commercial Walk-In Cooler	8' x 10'	N/A	Kitchen	Kitchen	*2000*	6	EM Monitored
Walk-In Freezer	1	Unknown	Unknown	Unknown	Commercial Walk-In Freezer	8' x 10'	N/A	Kitchen	Kitchen	*2000*	6	EM Monitored
Window A/C	10	Various	Various	Various	Window Air Conditioner	8,000 - 24,000 btu/h	10.7 EER	Classrooms and Offices	Classrooms and Offices	*2008*	4	
Reach-in Cooler	2	Manitowoc Koolaire	Unknown	Unknown	2-Door Reach-In Commercial Cooler	Unknown Capacity ft^3	N/A	Kitchen	Kitchen	*2008*	4	
Range/Oven	1	Kenmore	Unknown	Unknown	Residential Range/Oven, Electric	Unknown Wattage	N/A	Football Concessions	Football Concessions	*2000*	-4	
DHW Heater	1	AO Smith	ELJF 15 917	GF00-5504966-917	Residential DHW Heater, Electric	15 Gal, 1500 W	N/A	Football Concessions	Football Concessions	2000	1	
Refrigerator/Freezer	1	General Electric	TBX21IABRRWW	SV557695	Residential Refrigerator/Freezer	Unknown Capacity ft^3	N/A	Football Concessions	Football Concessions	*2000*	-4	
Refrigerator/Freezer	1	General Electric	HTS18GBSFRWW	GT737656	Residential Refrigerator/Freezer	Unknown Capacity ft^3	N/A	Baseball Concessions	Baseball Concessions	*2002*	-2	
Range/Oven	1	Tappan	Unknown	Unknown	Residential Range/Oven, Electric	Unknown Wattage	N/A	Baseball Concessions	Baseball Concessions	*2005*	1	
Microwave	1	Kenmore	721.66227700	912TA03246	Residential Microwave Oven	900 W	N/A	Baseball Concessions	Baseball Concessions	*2008*	4	
Window A/C	2	LG	LWHD1500ER	Unknown	Window Air Conditioner	15,000 btu/h	10.8 EER	Field House	Field House	*2008*	4	Energy Star
Split System Evaporator	1	Sanyo	*No Tag*	Unknown	Split System Evaporator	Unknown btu/h	Unknown EER	Field House	Field House	*2002*	3	Condensing Unit not Accessible
Ice Machine	1	Scotsman	B330P	08021320012561	Commercial Ice Machine	344 lb Capacity	Unknown	Field House	Field House	*2008*	4	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
15LED	Boiler Room	Mechanical Room	10	S 32 C F 2 (ELE)	F42LL	60	0.60	SW	2080	1,248	NONE	
115	Main Office	Office	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
6LED	Main Office	Office	15	T 34 R F 4 (MAG)	F44EE	144	2.16	SW	2600	5,616	C-OCC	
18LED	Main Office	Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	2600	1,456	C-OCC	
18LED	C-25	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	C-20	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
52LED	Prep Room	Storage Area	5	W 34 C F 2 (MAG)	F42EE	72	0.36	SW	1560	562	C-OCC	
133	Women's Faculty Lavatory	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	C-22	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	C-27	Classroom	14	T 32 R F 4 (ELE)	F44ILL	112	1.57	SW	2600	4,077	C-OCC	
18LED	C-24	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
133	Men's Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	C-29	Classroom	15	T 32 R F 4 (ELE)	F44ILL	112	1.68	SW	2600	4,368	C-OCC	
46LED	Boys' Restroom	Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.36	SW	3120	1,123	C-OCC	
93	Custodial	Linen/Utility/Wet/Janitor/Electrical	1	I 75	I75/1	75	0.08	SW	1560	117	NONE	
46LED	Girls' Restroom	Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.36	SW	3120	1,123	C-OCC	
18LED	C-26	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	C-28	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	C-31	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
115	C-31	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
4LED	C-31	Classroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.07	SW	2600	187	C-OCC	
18LED	C-33	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
18LED	C-30	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	C-32	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	C-35	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
18LED	C-34	Classroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
35LED	Walkway	Hallway	32	T 32 R F 3 (ELE)	F43ILL/2	90	2.88	SW	3640	10,483	C-OCC	
18LED	Walkway	Hallway	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	3640	408	C-OCC	
46LED	Elevator 1	Hallway	2	W 32 C F 2 (ELE)	F42LL	60	0.12	SW	3640	437	C-OCC	
35LED	F Corridor	Hallway	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.34	SW	3640	8,518	C-OCC	
115	F-208	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-208	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
18LED	Teachers Lounge	Staff Lounge	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	2600	874	C-OCC	
18LED	F-210	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
115	F-210	Classroom	4	W 20 C F 2	F22SS	56	0.22	SW	2600	582	C-OCC	
18LED	F-206 (locked - no entry)	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-206 (locked - no entry)	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-209 (locked - no entry)	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
115	F-209 (locked - no entry)	Classroom	4	W 20 C F 2	F22SS	56	0.22	SW	2600	582	C-OCC	
18LED	F-207	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-207	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-204	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-204	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-202	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-202	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-205 (locked - no entry)	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-205 (locked - no entry)	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-203 (locked - no entry)	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-203 (locked - no entry)	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-201 (locked - no entry)	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
115	F-201 (locked - no entry)	Classroom	4	W 20 C F 2	F22SS	56	0.22	SW	2600	582	C-OCC	
18LED	Men's Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	Women's Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	F-212	Classroom	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	2600	1,456	C-OCC	
115	F-212	Classroom	1	W 20 C F 2	F22SS	56	0.06	SW	2600	146	C-OCC	
18LED	Men's Staff Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	Women's Staff Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
35LED	Corridor Outside F-212	Hallway	11	T 32 R F 3 (ELE)	F43ILL/2	90	0.99	SW	3640	3,604	C-OCC	
35LED	Corridor to B	Hallway	3	T 32 R F 3 (ELE)	F43ILL/2	90	0.27	SW	3640	983	C-OCC	
18LED	Corridor B	Hallway	20	T 32 R F 4 (ELE)	F44ILL	112	2.24	SW	3640	8,154	C-OCC	
18LED	B-19 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-21	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-23 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-25 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-20	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
133	Women's Staff Restroom (locked - no entry)	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	B-22	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-27	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
4LED	B-27	Classroom	2	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.14	SW	2600	374	C-OCC	
52LED	Prep Room	Storage Area	5	W 34 C F 2 (MAG)	F42EE	72	0.36	SW	1560	562	C-OCC	
133	Men's Staff Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
46LED	Men's Restroom	Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.36	SW	3120	1,123	C-OCC	
18LED	B-29	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
X5	Custodial Room	Linen/Utility/Wet/Janitor/Electrical	1	CF42/1	CF42/1-I	48	0.05	SW	1560	75	NONE	
46LED	Girls' Restroom	Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.36	SW	3120	1,123	C-OCC	
18LED	B-26	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	B-28	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	B-30	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-31	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
115	B-31	Classroom	4	W 20 C F 2	F22SS	56	0.22	SW	2600	582	C-OCC	
18LED	B-33	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-32	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-35	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-34	Classroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	A Corridor	Hallway	23	T 32 R F 4 (ELE)	F44ILL	112	2.58	SW	3640	9,377	C-OCC	
18LED	A-24	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	A-25	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	A-26	Classroom	10	T 32 R F 4 (ELE)	F44ILL	112	1.12	SW	2600	2,912	C-OCC	
15LED	Electrical Room (locked - no entry)	Mechanical Room	8	S 32 C F 2 (ELE)	F42LL	60	0.48	SW	2080	998	NONE	
18LED	A-27	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
18LED	A-28	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	A-29	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B Stairway	Hallway	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	3640	1,631	C-OCC	
52LED	B Stairway	Hallway	3	W 34 C F 2 (MAG)	F42EE	72	0.22	SW	3640	786	C-OCC	
18LED	C Wing Corridor	Hallway	25	T 32 R F 4 (ELE)	F44ILL	112	2.80	SW	3640	10,192	C-OCC	
217LED	C Wing Corridor	Hallway	1	2B 17 R F 4 (ELE)	F24ILL	61	0.06	SW	3640	222	C-OCC	
18LED	Attenance Office	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	C-01	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
18LED	C-02	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	C-03	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	C-04	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	C-06	Classroom	15	T 32 R F 4 (ELE)	F44ILL	112	1.68	SW	2600	4,368	C-OCC	
18LED	C-06 Closet	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	1560	175	NONE	
18LED	C-05	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	Boys' Restroom	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	Girls' Restroom	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	C-07	Classroom	15	T 32 R F 4 (ELE)	F44ILL	112	1.68	SW	2600	4,368	C-OCC	
133	Women's Staff Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
35LED	D Corridor	Hallway	28	T 32 R F 3 (ELE)	F43ILL/2	90	2.52	SW	3640	9,173	C-OCC	
35LED	F Wing Corridor	Hallway	40	T 32 R F 3 (ELE)	F43ILL/2	90	3.60	SW	3640	13,104	C-OCC	
18LED	F-108	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-108	Classroom	2	W 20 C F 2	F22SS	56	0.11	SW	2600	291	C-OCC	
18LED	F-111	Classroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	F-110	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-110	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-106	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-106	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-109	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-109	Classroom	1	W 20 C F 2	F22SS	56	0.06	SW	2600	146	C-OCC	
18LED	F-107	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-107	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-104	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-104	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-102	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-102	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-105	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-105	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-103	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-103	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	Men's Staff Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
18LED	Women's Staff Restroom (locked - no entry)	Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3120	1,048	C-OCC	
15LED	Electrical Room (locked - no entry)	Mechanical Room	8	S 32 C F 2 (ELE)	F42LL	60	0.48	SW	2080	998	NONE	
133	Janitor (locked - no entry)	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
18LED	F-101	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
115	F-101	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	F-Stairway	Hallway	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	3640	2,446	C-OCC	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
20LED	F Corridor	Hallway	50	S 32 C F 1 (ELE)	F41LL	32	1.60	SW	3640	5,824	C-OCC	
20LED	F Corridor	Hallway	26	S 32 C F 1 (ELE)	F41LL	32	0.83	SW	3640	3,028	C-OCC	
18LED	Boys' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
18LED	Girls' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
46LED	BB Corridor	Hallway	18	W 32 C F 2 (ELE)	F42LL	60	1.08	SW	3640	3,931	C-OCC	
18LED	BB-8	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-6	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-7	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-5	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-4	Classroom	20	T 32 R F 4 (ELE)	F44ILL	112	2.24	SW	2600	5,824	C-OCC	
18LED	BB-3	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-1	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	BB-2	Classroom	20	T 32 R F 4 (ELE)	F44ILL	112	2.24	SW	2600	5,824	C-OCC	
46LED	Women's Staff Restroom	Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.24	SW	3120	749	C-OCC	
52LED	Custodial Room	Linen/Utility/Wet/Janitor/Electrical	1	W 34 C F 2 (MAG)	F42EE	72	0.07	SW	1560	112	NONE	
46LED	Men's Staff Restroom	Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.24	SW	3120	749	C-OCC	
18LED	Storage Room (locked - no entry)	Storage Area	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	1560	349	C-OCC	
15LED	Elevator Equipment (locked - no entry)	Linen/Utility/Wet/Janitor/Electrical	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	1560	94	NONE	
15LED	Storage Room (locked - no entry)	Storage Area	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	1560	187	C-OCC	
18LED	B Corridor 1	Hallway	21	T 32 R F 4 (ELE)	F44ILL	112	2.35	SW	3640	8,561	C-OCC	
217LED	B Corridor 1	Hallway	1	2B 17 R F 4 (ELE)	F24ILL	61	0.06	SW	3640	222	C-OCC	
18LED	B-14	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	B-15	Classroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	B-13	Classroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	B-11	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-12	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-09	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
115	B-09	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	B-10	Classroom	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	B-08	Classroom	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	2600	1,456	C-OCC	
115	B-08	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
133	Custodial Room (locked - no entry)	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
4LED	Men's Staff Restroom	Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.07	SW	3120	225	C-OCC	
133	Storage	Storage Area	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	C-OCC	
18LED	Girls' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
104LED	Girls' Restroom	Restroom	1	S 32 PC F 1	F41LL	32	0.03	SW	3120	100	C-OCC	
4LED	Women's Staff Restroom	Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.07	SW	3120	225	C-OCC	
18LED	Boys' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
104LED	Boys' Restroom	Restroom	1	S 32 PC F 1	F41LL	32	0.03	SW	3120	100	C-OCC	
18LED	B-07	Classroom	15	T 32 R F 4 (ELE)	F44ILL	112	1.68	SW	2600	4,368	C-OCC	
115	B-07	Classroom	3	W 20 C F 2	F22SS	56	0.17	SW	2600	437	C-OCC	
18LED	B-06	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	B-05	Classroom	15	T 32 R F 4 (ELE)	F44ILL	112	1.68	SW	2600	4,368	C-OCC	
18LED	B-04 Teacher's Lounge	Staff Lounge	13	T 32 R F 4 (ELE)	F44ILL	112	1.46	SW	2600	3,786	C-OCC	
18LED	B-03	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	B-01	Classroom	10	T 32 R F 4 (ELE)	F44ILL	112	1.12	SW	2600	2,912	C-OCC	
18LED	B-02	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
18LED	Lower A Classroom	Classroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	2600	874	C-OCC	
18LED	Lower A Stairs	Hallway	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3640	815	C-OCC	
46LED	Lower A Stairs	Hallway	3	W 32 C F 2 (ELE)	F42LL	60	0.18	SW	3640	655	C-OCC	
18LED	A Wing Corridor	Hallway	27	T 32 R F 4 (ELE)	F44ILL	112	3.02	SW	3640	11,007	C-OCC	
52LED	Storage (locked - no entry)	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
133	Men's Staff Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	A-01	Classroom	7	T 32 R F 4 (ELE)	F44ILL	112	0.78	SW	2600	2,038	C-OCC	
133	Women's Staff Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	A-02	Classroom	7	T 32 R F 4 (ELE)	F44ILL	112	0.78	SW	2600	2,038	C-OCC	
18LED	Boys' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
133	Custodial	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
93	Custodial	Linen/Utility/Wet/Janitor/Electrical	1	I 75	I75/1	75	0.08	SW	1560	117	NONE	
18LED	Girls' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
52LED	A-04 Music Room	Classroom	50	W 34 C F 2 (MAG)	F42EE	72	3.60	SW	2600	9,360	C-OCC	
52LED	A-04 Storage	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
52LED	A-04 Instruments	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
52LED	A-04 Storage	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
52LED	A-04 Sheet Music Storage	Storage Area	3	W 34 C F 2 (MAG)	F42EE	72	0.22	SW	1560	337	C-OCC	
52LED	A-04 Office	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
93	A-04 Instruments	Storage Area	3	I 75	I75/1	75	0.23	SW	1560	351	C-OCC	
52LED	A-02 (locked - no entry)	Classroom	40	W 34 C F 2 (MAG)	F42EE	72	2.88	SW	2600	7,488	C-OCC	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
141LED	Auditorium	Auditorium	12	HPS 250	HPS250/1	295	3.54	SW	3120	11,045	NONE	
93	Backstage Right	Auditorium	3	I 75	I75/1	75	0.23	SW	3120	702	NONE	
93	Stage	Auditorium	2	I 75	I75/1	75	0.15	SW	3120	468	NONE	
20LED	Backstage Left	Auditorium	1	S 32 C F 1 (ELE)	F41LL	32	0.03	SW	3120	100	NONE	
52LED	Storage	Storage Area	3	W 34 C F 2 (MAG)	F42EE	72	0.22	SW	1560	337	C-OCC	
18LED	Auditorium Corridor	Hallway	20	T 32 R F 4 (ELE)	F44ILL	112	2.24	SW	3640	8,154	C-OCC	
18LED	D-27	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-16	Classroom	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
18LED	D-14 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-12	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
61	Office	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.23	SW	2600	598	C-OCC	
61	Office	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.23	SW	2600	598	C-OCC	
18LED	D-21 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	Gold Cafeteria	Cafeteria	38	T 32 R F 4 (ELE)	F44ILL	112	4.26	SW	2600	11,066	C-OCC	
18LED	Classroom in Cafeteria	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
52LED	Kitchen Storage	Storage Area	6	W 34 C F 2 (MAG)	F42EE	72	0.43	SW	1560	674	C-OCC	
133	Custodial	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
52LED	Storage (locked - no entry)	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
18LED	Serving Line	Cafeteria	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	2600	2,330	C-OCC	
18LED	Cafeteria	Cafeteria	54	T 32 R F 4 (ELE)	F44ILL	112	6.05	SW	2600	15,725	C-OCC	
18LED	D-19 (locked - no entry)	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	D-17 (locked - no entry)	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	D-10 Teacher's Lounge	Staff Lounge	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
35LED	Child Study Team Office	Office	39	T 32 R F 3 (ELE)	F43ILL/2	90	3.51	SW	2600	9,126	C-OCC	
35LED	Conference Room	Conference	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.36	SW	1560	562	NONE	
18LED	Main Office Corridor	Hallway	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3640	1,223	C-OCC	
18LED	Main Office 9th (locked - no entry)	Office	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
133	Main Office Restroom	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
18LED	Main Office 11th (locked - no entry)	Office	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	Main Office 12th (locked - no entry)	Office	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	Main Office 10th	Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	2600	1,456	C-OCC	
18LED	Guidance Office 1	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 2	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 3	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 4	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 5	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 6	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 7	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 8	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 9	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 10	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
18LED	Guidance Office 11	Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
35LED	Break Room	Staff Lounge	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.36	SW	2600	936	C-OCC	
52LED	Break Room Storage (locked - no entry)	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
52LED	Break Room Storage (locked - no entry)	Storage Area	2	W 34 C F 2 (MAG)	F42EE	72	0.14	SW	1560	225	C-OCC	
18LED	D-15 Break Room	Staff Lounge	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
20LED	Women's Staff Restroom	Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.06	SW	3120	200	C-OCC	
20LED	Men's Staff Restroom	Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.06	SW	3120	200	C-OCC	
15LED	Electrical Room (locked - no entry)	Mechanical Room	8	S 32 C F 2 (ELE)	F42LL	60	0.48	SW	2080	998	NONE	
18LED	D-13(locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-08 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-11(locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-09 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-06	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
18LED	D-07 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
61	D-05 (locked - no entry)	Classroom	2	T 34 R F 3 (MAG)	F43EE	115	0.23	SW	2600	598	C-OCC	
61	D-03 (locked - no entry)	Classroom	2	T 34 R F 3 (MAG)	F43EE	115	0.23	SW	2600	598	C-OCC	
18LED	D-04	Classroom	11	T 32 R F 4 (ELE)	F44ILL	112	1.23	SW	2600	3,203	C-OCC	
18LED	D-01 (locked - no entry)	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	
18LED	D-02	Classroom	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
133	Custodial (C-Wing) (locked - no entry)	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
133	Men's Staff Restroom (locked - no entry)	Restroom	1	CF 26	CFQ26/1-L	27	0.03	SW	3120	84	C-OCC	
133	Custodial Storage (locked - no entry)	Linen/Utility/Wet/Janitor/Electrical	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	NONE	
18LED	C-08	Classroom	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
18LED	C-09	Classroom	16	T 32 R F 4 (ELE)	F44ILL	112	1.79	SW	2600	4,659	C-OCC	
18LED	FDD	Office	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
18LED	C-12	Classroom	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
18LED	C-11	Classroom	12	T 32 R F 4 (ELE)	F44ILL	112	1.34	SW	2600	3,494	C-OCC	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
18LED	C-13	Classroom	7	T 32 R F 4 (ELE)	F44ILL	112	0.78	SW	2600	2,038	C-OCC	
18LED	C-14	Classroom	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	2600	2,621	C-OCC	
18LED	Loop Corridor	Hallway	9	T 32 R F 4 (ELE)	F44ILL	112	1.01	SW	3640	3,669	C-OCC	
35LED	Loop Corridor	Hallway	7	T 32 R F 3 (ELE)	F43ILL/2	90	0.63	SW	3640	2,293	C-OCC	
18LED	C Corridor Stairs	Hallway	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	3640	1,223	C-OCC	
46LED	C Corridor Stairs	Hallway	3	W 32 C F 2 (ELE)	F42LL	60	0.18	SW	3640	655	C-OCC	
18LED	Gym Wing Corridor	Hallway	24	T 32 R F 4 (ELE)	F44ILL	112	2.69	SW	3640	9,784	C-OCC	
18LED	Athletic Trainer	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	Office next to Trainer (locked - no entry)	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
146LED	Gymnasium	Gymnasium	64	High Bay MH 400	MH400/1	458	29.31	SW	3120	91,453	NONE	
11LED	Auxilary Gymnasium	Gymnasium	54	S 34 P F 2 (MAG)	F42EE	72	3.89	SW	3120	12,131	NONE	
18LED	Boys' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
18LED	Girls' Restroom	Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
46LED	Boys' Locker Room	Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.32	SW	3120	4,118	C-OCC	
46LED	Boy's Locker Room Restroom	Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
52LED	Boys' Locker Room Exit	Locker Room	1	W 34 C F 2 (MAG)	F42EE	72	0.07	SW	3120	225	C-OCC	
46LED	Boys' Locker Room Office (locked - no entry)	Office	2	W 32 C F 2 (ELE)	F42LL	60	0.12	SW	2600	312	C-OCC	
46LED	Girls' Locker Room	Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.32	SW	3120	4,118	C-OCC	
46LED	Girls' Locker Room Restroom	Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.06	SW	3120	187	C-OCC	
52LED	Girls' Locker Room Exit	Locker Room	1	W 34 C F 2 (MAG)	F42EE	72	0.07	SW	3120	225	C-OCC	
46LED	Girls' Locker Room Office (locked - no entry)	Office	2	W 32 C F 2 (ELE)	F42LL	60	0.12	SW	2600	312	C-OCC	
18LED	Custodial	Linen/Utility/Wet/Janitor/Electrical	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	1560	175	NONE	
18LED	E Corridor	Hallway	14	T 32 R F 4 (ELE)	F44ILL	112	1.57	SW	3640	5,708	C-OCC	
35LED	E-05	Classroom	38	T 32 R F 3 (ELE)	F43ILL/2	90	3.42	SW	2600	8,892	C-OCC	
18LED	E-Wing Weight Room Corridor	Hallway	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	3640	2,038	C-OCC	
141LED	Weight Room (locked - no entry)	Gymnasium	9	HPS 250	HPS250/1	295	2.66	SW	3120	8,284	NONE	
18LED	Community Office Room (locked - no entry)	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	Athletic Office	Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.56	SW	2600	1,456	C-OCC	
18LED	Athletic Office	Office	3	T 32 R F 4 (ELE)	F44ILL	112	0.34	SW	2600	874	C-OCC	
18LED	Team Rooms	Conference	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	1560	699	NONE	
18LED	Viewing Room (locked - no entry)	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	Cross Country/Track Locker Room	Locker Room	7	T 32 R F 4 (ELE)	F44ILL	112	0.78	SW	3120	2,446	C-OCC	
18LED	Track Coaches Office	Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	2600	1,165	C-OCC	
18LED	Locker Room Exit	Hallway	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	3640	408	C-OCC	
18LED	Locker Room Restroom	Restroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.45	SW	3120	1,398	C-OCC	
18LED	Team Room #2 (locked - no entry)	Locker Room	8	T 32 R F 4 (ELE)	F44ILL	112	0.90	SW	3120	2,796	C-OCC	
105LED	E-01	Classroom	16	1T 32 RF 1 - P	F41LL	32	0.51	SW	2600	1,331	C-OCC	
6LED	Main Electrician	Mechanical Room	58	T 34 R F 4 (MAG)	F44EE	144	8.35	SW	2080	17,372	NONE	
32LED	Media Center	Media Center	123	1T 32 R F 2 (ELE)	F42LL	60	7.38	SW	3120	23,026	C-OCC	
181	Media Center	Media Center	90	D 13 C CF 2	CFQ13/2-L	28	2.52	SW	3120	7,862	C-OCC	
18LED	Media Center Office	Media Center	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	3120	699	C-OCC	
18LED	Media Center Video Storage	Storage Area	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	1560	349	C-OCC	
18LED	Media Center Break Room	Staff Lounge	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	2600	582	C-OCC	
35LED	Corridor - Pine Belt	Hallway	15	T 32 R F 3 (ELE)	F43ILL/2	90	1.35	SW	3640	4,914	C-OCC	
181	Corridor - Pine Belt	Hallway	134	D 13 C CF 2	CFQ13/2-L	28	3.75	SW	3640	13,657	C-OCC	
181	Corridor Display	Display	12	D 13 C CF 2	CFQ13/2-L	28	0.34	SW	2080	699	C-OCC	
20LED	Corridor	Hallway	70	S 32 C F 1 (ELE)	F41LL	32	2.24	SW	3640	8,154	C-OCC	
175	Display	Display	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.61	SW	2080	1,265	C-OCC	
146LED	Pine Belt Gym	Gymnasium	44	High Bay MH 400	MH400/1	458	20.15	SW	3120	62,874	NONE	
24LED	Corridor	Hallway	30	1B 32 P F 2 (ELE)	F42LL	60	1.80	SW	3640	6,552	C-OCC	
133	Storage (locked - no entry)	Storage Area	1	CF 26	CFQ26/1-L	27	0.03	SW	1560	42	C-OCC	
18LED	Nurse's Office (locked - no entry)	Office	6	T 32 R F 4 (ELE)	F44ILL	112	0.67	SW	2600	1,747	C-OCC	
46LED	Men's Restroom	Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.84	SW	3120	2,621	C-OCC	
18LED	Men's Restroom	Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	3120	349	C-OCC	
46LED	Women's Restroom	Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.84	SW	3120	2,621	C-OCC	
18LED	Women's Restroom	Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.11	SW	3120	349	C-OCC	
33	Concession Stand	Concessions	6	13 W CF 1	CFQ13/1-L	15	0.09	SW	1040	94	NONE	
15LED	Grounds Shed	Grounds Shed	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	1560	374	NONE	
18LED	Grounds Shed	Grounds Shed	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	1560	349	NONE	
18LED	Grounds Shed - Backroom	Grounds Shed	2	T 32 R F 4 (ELE)	F44ILL	112	0.22	SW	1560	349	NONE	
15LED	Small Snack Shack	Concessions	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	1040	125	NONE	
15LED	Field House	Field House	20	S 32 C F 2 (ELE)	F42LL	60	1.20	SW	1560	1,872	NONE	
15LED	Field House - Sink Room	Field House	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	1560	94	NONE	
15LED	Field House - Towel Room	Field House	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	1560	187	NONE	
15LED	Field House - Shower Room	Field House	6	S 32 C F 2 (ELE)	F42LL	60	0.36	SW	1560	562	NONE	
15LED	Field House - Ice Room	Field House	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	1560	94	NONE	
40LED	Field House - Locker Room	Field House	18	T 32 R F 2 (ELE)	F42LL	60	1.08	SW	1560	1,685	NONE	
40LED	Field House - Varsity Locker	Field House	9	T 32 R F 2 (ELE)	F42LL	60	0.54	SW	1560	842	NONE	

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
Existing Lighting & Audit Input

Cost of Electricity: **$0.093** **$/kWh**
$6.75 **$/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
15LED	Field House - Back Hall	Field House	2	S 32 C F 2 (ELE)	F42LL	60	0.12	SW	1560	187	NONE	
15LED	Field House - Women's Restroom	Field House	3	S 32 C F 2 (ELE)	F42LL	60	0.18	SW	1560	281	NONE	
40LED	Field House - Storage	Field House	4	T 32 R F 2 (ELE)	F42LL	60	0.24	SW	1560	374	NONE	
15LED	Field House - Men's Restroom	Field House	3	S 32 C F 2 (ELE)	F42LL	60	0.18	SW	1560	281	NONE	
40LED	Field House - Water Fountain	Field House	1	T 32 R F 2 (ELE)	F42LL	60	0.06	SW	1560	94	NONE	
40LED	Field House - Coaches Room	Field House	8	T 32 R F 2 (ELE)	F42LL	60	0.48	SW	1560	749	NONE	
15LED	Field House - Coaches Room - Rest Room	Field House	1	S 32 C F 2 (ELE)	F42LL	60	0.06	SW	1560	94	NONE	
40LED	Security - Front Room	Security	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2600	468	NONE	
40LED	Security - Director (Locked - No Entry)	Security	3	T 32 R F 2 (ELE)	F42LL	60	0.18	SW	2600	468	NONE	
33	Security - Restroom	Security	1	13 W CF 1	CFQ13/1-L	15	0.02	SW	2600	39	NONE	
15LED	Security - Main Room	Security	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	2600	624	NONE	
15LED	Security - Storage	Security	4	S 32 C F 2 (ELE)	F42LL	60	0.24	SW	2600	624	NONE	
33	Security - Restroom	Security	1	13 W CF 1	CFQ13/1-L	15	0.02	SW	2600	39	NONE	
7LED	Security - Breakroom	Security	1	2T 32 R F 2 (u) (ELE) Thin Tube	FU2LL	60	0.06	SW	2600	156	NONE	
231LED	Exterior Building Lighting	Outdoor Lighting	15	WP400MH1	MH400/1	458	6.87	SW	3120	21,434	NONE	
133	Exterior Building Lighting	Outdoor Lighting	7	CF 26	CFQ26/1-L	27	0.19	SW	3120	590	NONE	
227LED	Exterior Building Lighting	Outdoor Lighting	10	70 W MH Wall Pack	MH70/1	95	0.95	SW	3120	2,964	NONE	
s	**Total**		**3,329**				**344.11**			**977,344**		

APPENDIX C

ECM Calculations

Toms River Regional Schools
CHA Project Number: 28485

Rate of Discount (used for NPV) 3.0%

Utility Costs		Yearly Usage	Metric Ton Carbon Dioxide Equivalent	Building Area
$ 0.124	$/kWh blended		0.000420205	310,000
$ 0.093	$/kWh supply	3,164,313	0.000420205	
$ 6.75	$/kW	1,416.0	0	
$ 1.23	$/Therm	31,321	0.00533471	
$ 10.21	$/kgals	3,178	0	

Annual Utility Cost		
Electric	Natural Gas	Water
$ 391,989	$ 38,644	$ 32,466

Toms River High School North

Recommend? Y or N		Item	Savings kW	Savings kWh	Savings therms	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	kWh	therms	kgal/yr	$	ROI	NPV	IRR
N	ECM-1	Replace Electric EDPAC w/ Heat Pumps	37.8	48,847	0	0	$ 7,606	$ 641,800	84.4	15	20.5	$ 3,588	N	83.9	566.3	732,699	0	0	$ 136,639	(0.8)	($547,414)	-16.4%
Y	ECM-2	Replace Electric Rooftop Equipment w/ Natural Gas	221.1	545,083	(20,687)	0	$ 43,133	$ 294,900	6.8	25	118.7	$ 1,200	Y	6.8	5,527.5	13,627,070	(517,176)	0	$ 1,497,746	4.1	$457,381	14.1%
N	ECM-3	Replace DX / RTU Equipment w/ Higher Efficiency Equipment	38.2	64,425	0	0	$ 9,089	$ 703,600	77.4	20	27.1	$ 13,320	Y	75.9	763.3	1,288,493	0	0	$ 221,445	(0.7)	($555,053)	-10.3%
Y	ECM-4	Install VFDs & Premium Efficiency Motors on AHUs	36.5	16,915	0	0	$ 4,528	$ 42,209	9.3	15	7.1	$ 11,675	Y	6.7	546.8	253,721	0	0	$ 75,722	0.8	$23,515	12.2%
Y	ECM-5	Install Window A/C Controllers	0.0	6,536	0	0	$ 810	$ 1,900	2.3	15	2.7	$ -	N	2.3	0.0	98,045	0	0	$ 12,146	5.4	$7,766	42.4%
N	ECM-6	Extend Energy Management System	0.0	9,493	16	0	$ 1,195	$ 132,388	110.8	15	4.1	$ -	N	110.8	0.0	142,394	235	0	$ 17,929	(0.9)	($118,118)	-18.5%
Y	ECM-7	Retro-Commission Controls and Equipment	0.0	81,263	2,970	0	$ 13,730	$ 42,980	3.1	15	50.0	$ -	N	3.1	0.0	1,218,942	44,543	0	$ 205,957	3.8	$120,934	31.4%
Y	ECM-8	Replace DHW Boiler with a High Efficiency Water Heater	0.0	0	629	0	$ 776	$ 22,413	28.9	25	3.4	$ 1,340	Y	27.1	0.0	0	15,729	0	$ 19,407	(0.1)	($7,555)	-0.6%
Y	ECM-9	Install Kitchen Hood Controller	0.0	4,556	4,109	0	$ 5,634	$ 31,555	5.6	15	23.8	$ 1,000	N	5.4	0.0	68,334	61,635	0	$ 84,511	1.7	$36,704	16.6%
Y	ECM-10	Install Walk-In Controls	0.0	10,285	0	0	$ 1,274	$ 20,625	16.2	15	4.3	$ 175	N	16.1	0.0	154,271	0	0	$ 19,111	(0.1)	($5,240)	-0.8%
Y	ECM-11	Replace Electric Booster Heater w/ Natural Gas Fired Unit	10.9	36,342	(1,550)	0	$ 2,354	$ 14,800	6.3	25	7.0	$ 2,635	N	5.2	272.6	908,558	(38,750)	0	$ 86,819	4.9	$28,829	19.1%
Y	ECM-12	Install Vending Machine Controls	0.0	46,929	0	0	$ 5,813	$ 5,602	1.0	15	19.7	$ -	N	1.0	0.0	703,935	0	0	$ 87,202	14.6	$63,799	103.8%
Y	ECM-13	Replace CRT Monitors w/ LCD	0.0	10,000	0	0	$ 1,239	$ 20,814	16.8	10	4.2	$ -	N	16.8	0.0	100,000	0	0	$ 12,388	(0.4)	($10,247)	-8.5%
Y	ECM-14	Install Low Flow Plumbing Fixtures	0.0	0	0	2,275	$ 23,237	$ 260,678	11.2	30	0.0	$ -	N	11.2	0.0	0	0	68,246	$ 697,117	1.7	$194,782	8.0%
N	ECM-L1	Lighting Replacements / Upgrades	199.5	569,994	0	0	$ 69,225	$ 741,366	10.7	15	239.5	$ 15,400	Y	10.5	2,992.2	8,549,908	0	0	$ 1,301,523	0.8	$100,433	4.8%
N	ECM-L2	Install Lighting Controls (Add Occupancy Sensors)	0.0	185,129	0	0	$ 17,235	$ 81,000	4.7	15	77.8	$ 10,500	Y	4.1	0.0	2,776,934	0	0	$ 344,001	3.2	$135,255	23.4%
Y	ECM-L3	Lighting Replacements with Controls (Occupancy Sensors)	199.5	656,718	0	0	$ 77,299	$ 822,366	10.6	15	276.0	$ 25,900	Y	10.3	2,992.2	9,850,772	0	0	$ 1,462,672	0.8	$126,320	5.1%
		Total (Not Including [B] Option ECMs or L1, L2)	**543.9**	**1,537,391**	**(14,514)**	**2,275**	**$ 197,718**	**$ 3,058,629**	**15.5**	**18.0**	**569**	**$ 60,833**		**15.2**	**10,669**	**29,147,233**	**(433,784)**	**68,246**	**$ 4,636,810**	**0.5**	**($278,482)**	**1.9%**
		Recommended Measures (highlighted green above)	**467.9**	**1,414,626**	**(14,529)**	**2,275**	**$ 179,827**	**$ 1,580,842**	**8.8**	**18.3**	**517**	**$ 43,925**	**0**	**8.5**	**9,339**	**26,983,648**	**(434,018)**	**68,246**	**$ 4,260,797**	**1.7**	**$936,341**	**9.4%**
		% of Existing	**33%**	**45%**	**-46%**	**72%**																

Multipliers	
Material:	1.027
Labor:	1.246
Equipment:	1.124

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

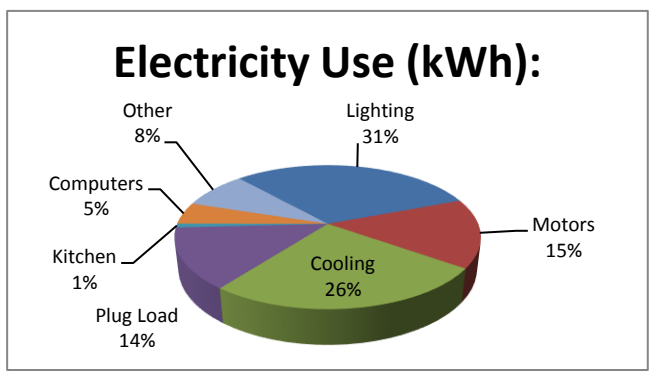
Heating		
Hours	4,427	Hrs
Weighted Avg	40	F
Avg	28	F

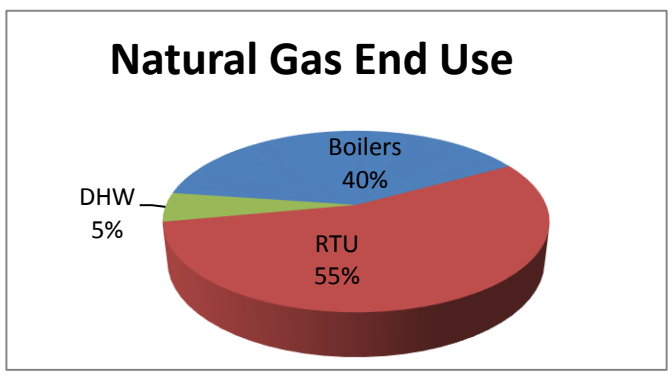
Cooling		
Hours	4,333	Hrs
Weighted Avg	68	F
Avg	78	F

	City:	Atlantic City, NJ				
	Occupied Hours/Week	70	70	70	70	70
		Building Operating Hours	Auditorium Occupied Hours	Gymnasium Occupied Hours	Library Occupied Hours	Classrooms Occupied Hours
Temp	Enthalpy h (Btu/lb)	Bin Hours				
102.5						
97.5	38.6	17	7	7	7	7	7
92.5	38.5	61	25	25	25	25	25
87.5	37.5	132	55	55	55	55	55
82.5	34.8	344	143	143	143	143	143
77.5	32.4	566	236	236	236	236	236
72.5	31.3	755	315	315	315	315	315
67.5	27.8	780	325	325	325	325	325
62.5	24.7	889	370	370	370	370	370
57.5	21.8	742	309	309	309	309	309
52.5	19.0	710	296	296	296	296	296
47.5	17.0	642	268	268	268	268	268
42.5	15.0	795	331	331	331	331	331
37.5	12.8	784	327	327	327	327	327
32.5	10.7	682	284	284	284	284	284
27.5	8.7	345	144	144	144	144	144
22.5	7.1	229	95	95	95	95	95
17.5	5.4	189	79	79	79	79	79
12.5	4.1	70	29	29	29	29	29
7.5	2.5	22	9	9	9	9	9
2.5	1.3	6	3	3	3	3	3
-2.5							
-7.5							

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

Utility End Use Analysis			
Electricity Use (kWh):		**Notes/Comments:**	
3,164,313	Total	Based on utility analysis	
977,344	Lighting	From Lighting Calculations	31%
492,205	Motors	Estimated	16%
812,628	Cooling	Estimated	26%
434,000	Plug Load	Estimated	14%
28,223	Kitchen	Estimated	1%
155,000	Computers	Estimated	5%
264,914	Other	Remaining	8%
Natural Gas Use (Therms):		**Notes/Comments:**	
31,321	Total	Based on utility analysis	
12,469	Boilers	Based on utility analysis	40%
17,227	RTU	Estimated	55%
1,626	DHW	Based on utility analysis	5%





Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-1: Replace Electric EDPAC with Heat Pumps

EQUIPMENT	AREA SERVED	DX COOLING CAPACITY (MBH)	ELECTRIC HEATING CAPACITY (MBH)	QTY.	TOTAL COOLING MBH	TOTAL HEATING MBH
EDPAC	A-Wing Classrooms	36.0	25.1	13	902.8	326

ECM Description Summary
This ECM recommends the repalcement of existing EDPAC (packaged terminal heating and a/c units) units with equivalent capacity split system heat pumps. Heat pumps consume far less electricity than electric resistance heating coils. The calculation methodolgy compares the existing unit electricity consumption for heating to the proposed equipment at a higher heating efficiency.

ASSUMPTIONS			Comments
Electric Supply Cost	$0.093	/ kWh	
Electric Demant Cost	$6.750	/ kW	
Average run hours per Week	70	Hours	
Space Balance Point	55	F	
Space Temperature Setpoint	70	deg F	Heating Setpoint.
Cooling BTU/Hr Rating of existing DX equipment	36,000	Btu / Hr	
Heating BTU/Hr Rating of existing DX equipment	25,078	Btu / Hr	BTU/hr of electric heating equipment to be replaced.
EER (cooling)	9.0		Average energy efficiency ratio (EER) of existing equipment
Cooling Demand (kW)	4.0	kW	
Heating Coil (kW)	7.4	kW	Heating Coil Rating / Unit
Heating Efficiency	98%		Average Electric Heating Efficiency
Existing Heating Electric Usage	4,401	kWh	
Existing Cooling Electric Usage	2,706	kWh	
Item	Value	Units	Comments
Proposed Average EER	11.5		Estimated EER for new heat pump
Proposed Average COP	3.5		Estimated COP for new heat pump
Cooling Demand (kW)	3.1	kW	
Heating Demand (kW)	2.1	kW	
Proposed Heating Electric Usage	1,232	kWh	
Proposed Cooling Electric Usage	2,118	kWh	Unit will cycle on w/ temp of room. Possible operating time shown below

ANNUAL SAVINGS per Unit		
Annual Electrical Demand Savings	**2.9**	**kW**
Annual Electrical Usage Savings	**3,757**	**kWh**
Annual Cost Savings	**$350**	

TOTAL ANNUAL SAVINGS		
Annual Electrical Demand Savings	**37.8**	**kW**
Annual Electrical Usage Savings	**48,847**	**kWh**
Annual Cost Savings	**$7,606**	

OAT - DB Bin Temp F	Annual Hours	Cooling Hrs at Temp Above Balance Point	Assumed % of Time of Operation	Assumed Cooling Hrs of Operation	Heating Hrs at Temp Below Balance Point	Assumed % of Time of Operation	Assumed Heating Hrs of Operation
102.5	0	0	0%	0	0	0%	0
97.5	17	7	100%	7	0	0%	0
92.5	61	25	100%	25	0	0%	0
87.5	132	55	87%	48	0	0%	0
82.5	344	143	73%	105	0	0%	0
77.5	566	236	60%	142	0	0%	0
72.5	755	315	47%	147	0	0%	0
67.5	780	325	33%	108	0	0%	0
62.5	889	370	20%	74	0	0%	0
57.5	742	309	7%	21	0	0%	0
52.5	710	0	0%	0	296	5%	14
47.5	642	0	0%	0	268	14%	38
42.5	795	0	0%	0	331	24%	79
37.5	784	0	0%	0	327	33%	109
32.5	682	0	0%	0	284	43%	122
27.5	345	0	0%	0	144	52%	75
22.5	229	0	0%	0	95	62%	59
17.5	189	0	0%	0	79	71%	56
12.5	70	0	0%	0	29	81%	24
7.5	22	0	0%	0	9	90%	8
2.5	6	0	0%	0	3	100%	3
-2.5	0	0	0%	0	0	0%	0
-7.5	0	0	0%	0	0	0%	0
Total	8,760	1,786	38%	677	1,864	31%	587

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-1: Replace Electric EDPAC with Heat Pumps - 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.		
						$ -	$ -	$ -	$ -	
EDPAC demolition	13	EA	$ 100	$ 250		$ 1,335	$ 4,050	$ -	$ 5,385	RS Means 2012
Split System Heat Pump	13	EA	$ 3,150	$ 1,000		$ 42,056	$ 16,198	$ -	$ 58,254	RS Means 2012
- Reprogram DDC system	13	EA	$ 75	$ 300		$ 1,001	$ 4,859	$ -	$ 5,861	RS Means 2012
Electrical - misc.	13	LS	$ 1,000	$ 5,000		$ 13,351	$ 80,990	$ -	$ 94,341	RS Means 2012
Gas Piping and Connections	13	LS	$ 8,926	$ 14,225		$ 119,166	$ 230,410	$ -	$ 349,576	RS Means 2012

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

$ 513,416	Subtotal
$ 128,354	25% Contingency
$ 641,800	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-2: Replace Electric Rooftop Equipment w/ Natural Gas Fired Equipment

Description

This ECM evaluates the replacement of electrically heated packaged rooftop units with natural gas fired equipment that has more efficient cooling equipment. In the existing case, the 4-stage heating system is assumed to operate in different stages based on outdoor air temperature with no regard to indoor heat load conditions. In the proposed scenario, the natural gas fired furnace operates with 80% efficiency at all bin temperatures. This calculation is evaluated for three identical air handlers. The calulcation below shows results for only one unit individually.

	Cooling	Heating	CFM	Location	Savings Heating (kWH)	Savings Heating (Therms)	Savings Cooling
AHU	26 Ton	3 Stage - 110 kW	10,400	Auditorium	161,681	(6,896)	20,014
AHU	26 Ton	3 Stage - 110 kW	10,400	Auditorium	161,681	(6,896)	20,014
AHU	26 Ton	3 Stage - 110 kW	10,400	Auditorium	161,681	(6,896)	20,014
			Total		**485,042**	**(20,687)**	**60,041**

Total CFM	10,400
OA CFM	3,120
Estimated OA Frac.	30%

Summer RAT [F]	78
Summer SAT [F]	58

Winter RAT [F]	80
Winter SAT [F]	95

Heating "On"	55

				Heating				Cooling									
Avg. Temp DB (deg F)	Bin Hours	Est. % Cycle Time	Estimated Bin Cycle Hours	Existing Electric Heat [kW]	Existing Heating [kWh]	Proposed NG Efficiency	Proposed NG Heat [Therms]	Cooling Load [tons]	Proposed Cooling Load [Tons]	Baseline EER	Proposed EER	Baseline kW/Ton	Proposed kW/Ton	Baseline kW	Proposed kW	Baseline kWh	Proposed kWh
97.5	17.0	100%	17.0					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	596	477
92.5	61.0	95%	57.7					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	2,024	1,621
87.5	132.0	89%	117.1					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	4,104	3,287
82.5	344.0	83%	284.6					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	9,978	7,992
77.5	566.0	77%	434.6					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	15,236	12,204
72.5	755.0	71%	534.8					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	18,748	15,017
67.5	780.0	65%	506.1					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	17,741	14,210
62.5	889.0	59%	523.9					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	18,365	14,710
57.5	742.0	53%	393.1					26.0	26.0	8.9	11.1	1.35	1.08	35.06	28.08	13,780	11,038
52.5	710.0	53%	374.7	36.7	13,740	80%	(586.0)										
47.5	642.0	58%	374.5	36.7	13,732	80%	(585.7)										
42.5	795.0	64%	507.9	36.7	18,624	80%	(794.3)										
37.5	784.0	69%	544.4	36.7	19,963	80%	(851.4)										
32.5	682.0	75%	511.5	73.3	37,510	80%	(1599.8)										
27.5	345.0	81%	277.9	73.3	20,381	80%	(869.2)										
22.5	229.0	86%	197.2	73.3	14,461	80%	(616.8)										
17.5	189.0	92%	173.3	73.3	12,705	80%	(541.9)										
12.5	70.0	97%	68.1	110.0	7,486	80%	(319.3)										
7.5	22.0	100%	22.0	110.0	2,420	80%	(103.2)										
2.5	6.0	100%	6.0	110.0	660	80%	(28.1)										
				Total	161,681		(6,896)								Total	100,571	80,557
				Savings		**161,681**	**kWh**								**Savings**	**20,014**	**kWh**
						(6,896)	**Therms**										

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-2: Replace Electric Rooftop Equipment w/ Natural Gas Fired Equipment - 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.		
						$ -	$ -	$ -	$ -	
RTU & CU demolition	3	EA	$ 100	$ 250		$ 308	$ 935	$ -	$ 1,243	RS Means 2012
High Efficiency Packaged RTU - 26 Ton	3	EA	$ 32,313	$ 8,387		$ 99,557	$ 31,349	$ -	$ 130,907	RS Means 2012
- Reprogram DDC system	3	EA	$ 75	$ 300		$ 231	$ 1,121	$ -	$ 1,352	RS Means 2012
Electrical - misc.	3	LS	$ 1,000	$ 5,000		$ 3,081	$ 18,690	$ -	$ 21,771	RS Means 2012
Gas Piping and Connections	3	LS	$ 8,926	$ 14,225		$ 27,500	$ 53,172	$ -	$ 80,671	

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

$ 235,944	Subtotal
$ 58,986	25% Contingency
$ 294,900	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-3: Replace Unitary HVAC Equipment With More Efficient Unitary Equipment

Description: This ECM evaluates the energy savings associated with replacing older less efficient heating and cooling equipment with modern high efficiency unitary equipment havings the same capacity. Some equipment listed below have natural gas fired furnaces, however there is no savings associated with replacing an 80% efficient furnace for an equivalently sized 80% efficient furnace. Only savings associated with cooling equipment is includes

Equipment Tag	Equipment Description	General Type	Cooling Capacity (Btu/h)	Heating Capacity (Btu/h)
CU	Split System	HVAC	120,000	
CU	Split System	HVAC	18,000	
CU	Split System	HVAC	24,000	
CU	Split System	HVAC	90,000	
CU	Split System	HVAC	48,000	
CU	Split System	HVAC	18,000	
CU	Split System	HVAC	48,000	
CU	Split System	HVAC	120,000	
RTU-AC-1	Packaged RTU	HVAC	420,000	283,000
RTU-AC-2	Packaged RTU	HVAC	420,000	283,000
RTU-AC-3	Packaged RTU	HVAC	60,000	108,000
RTU-CF-1	Packaged RTU	HVAC	60,000	73,000
RTU-CF-2	Packaged RTU	HVAC	60,000	73,000
RTU-CF-3	Packaged RTU	HVAC	75,000	97,000
RTU-CF-4	Packaged RTU	HVAC	75,000	97,000
RTU-CF-5	Packaged RTU	HVAC	36,000	65,000
RTU-CF-6	Packaged RTU	HVAC	36,000	65,000
RTU-GU-1	Packaged RTU	HVAC	120,000	120,000
RTU-GU-2	Packaged RTU	HVAC	36,000	64,000
RTU-MC-1	Packaged RTU	HVAC	84,000	97,000
RTU-MC-2	Packaged RTU	HVAC	84,000	97,000
RTU-MC-3	Packaged RTU	HVAC	84,000	
RTU-MC-4	Packaged RTU	HVAC	84,000	

Item	Value	Units	Formula/Comments	
Demand Rate	$ 6.75	/ kW		
Electricity Rate	$ 0.09	/kWh		
FORMULA CONSTANTS				
Coincidence Factor	0.67		NJ Protocols	
Conversion	3.412	btu/kW		
COOLING - HVAC				
Cooling Capacity	2,220,000	btu/hr		btuh
Baseline EER	10.3		See Table Below	EERb
Proposed EER	14.0		Based on AAON Equivalent sized units	EERq
Equivalent Full Load Hours	1,131	hrs	NJ Protocols	
Demand Savings	38.16	kW		
Energy Savings	64,425	kWh		
SAVINGS				
Demand Savings	38.16	kW		
Energy Savings	64,425	kWh		
Cost Savings	$ 9,089			

Savings calculation formulas are taken from NJ Protocols document for Electric HVAC Equipment

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-3: Replace Unitary HVAC Equipment With More Efficient Unitary Equipment - 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.		
						$ -	$ -	$ -	$ -	
RTU & CU demolition	23	EA	$ 100	$ 250		$ 2,362	$ 7,165	$ -	$ 9,527	RS Means 2012
High Efficiency Condensing Unit - 10 Ton	2	EA	$ 5,950	$ 1,600		$ 12,221	$ 3,987	$ -	$ 16,209	RS Means 2012
High Efficiency Condensing Unit - 7.5 Ton	1	EA	$ 4,700	$ 1,450		$ 4,827	$ 1,807	$ -	$ 6,634	RS Means 2012
High Efficiency Condensing Unit - 4 Ton	2	EA	$ 2,875	$ 890		$ 5,905	$ 2,218	$ -	$ 8,123	RS Means 2012
High Efficiency Condensing Unit - 2 Ton	1	EA	$ 2,350	$ 380		$ 2,413	$ 473	$ -	$ 2,887	RS Means 2012
High Efficiency Condensing Unit - 1.5 Ton	2	EA	$ 2,125	$ 320		$ 4,365	$ 797	$ -	$ 5,162	RS Means 2012
High Efficiency Packaged RTU - 35 Ton	2	EA	$ 37,833	$ 10,067		$ 77,710	$ 25,087	$ -	$ 102,797	RS Means 2012
High Efficiency Packaged RTU - 10 Ton	1	EA	$ 15,700	$ 6,288		$ 16,124	$ 7,834	$ -	$ 23,958	RS Means 2012
High Efficiency Packaged RTU - 7 Ton	4	EA	$ 11,905	$ 5,950		$ 48,906	$ 29,655	$ -	$ 78,561	RS Means 2012
High Efficiency Packaged RTU - 6.25 Ton	2	EA	$ 11,013	$ 5,875		$ 22,620	$ 14,641	$ -	$ 37,260	RS Means 2012
High Efficiency Packaged RTU - 5 Ton	3	EA	$ 9,525	$ 5,750		$ 29,347	$ 21,494	$ -	$ 50,840	RS Means 2012
High Efficiency Packaged RTU - 3 Ton	3	EA	$ 7,969	$ 5,113		$ 24,552	$ 19,112	$ -	$ 43,665	RS Means 2012
- Reprogram DDC system	23	EA	$ 75	$ 300		$ 1,772	$ 8,597	$ -	$ 10,369	RS Means 2012
Electrical - misc.	23	LS	$ 1,000	$ 5,000		$ 23,621	$ 143,290	$ -	$ 166,911	RS Means 2012

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

$ 562,901	Subtotal
$ 140,725	25% Contingency
$ 703,600	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-4: Upgrade to Premium Efficiency Motors and Install Variable Speed Drives

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

Variable Inputs

Electric Rate	$0.09	**$/kWh**
Demand Rate	$6.75	**$/kW**

MOTOR SCHEDULE										Savings Factor		Existing Motor Energy		Proposed Motor Energy		Energy Savings	
Motor ID	Motor Type	Qty	HP	Total HP	Upgrade Motor	Load Factor	Existing Motor Eff.	New Motor Eff.	Annual Hours	Demand Savings Factor	Energy Savings Factor	Demand Energy (kW)	Electrical Energy (kWh)	Demand Energy (kW)	Electrical Energy (kWh)	Peak Demand Savings (kW)	Annual Energy Savings (kWh)
AHU-PE-1 SF	AF/BI	1	20.0	20.0	Y	0.75	91.0%	93.0%	3,391	0.448	0.475	12.3	41,693	5.4	38,477	6.9	3,216
AHU-PE-1 RF	AF/BI	1	15.0	15.0	Y	0.75	91.0%	93.0%	3,391	0.448	0.475	9.2	31,269	4.0	28,858	5.2	2,412
AHU-PE-2 SF	AF/BI	1	15.0	15.0	Y	0.75	91.0%	93.0%	3,391	0.448	0.475	9.2	31,269	4.0	28,858	5.2	2,412
AHU-PE-2 RF	AF/BI	1	15.0	15.0	Y	0.75	91.0%	93.0%	3,391	0.448	0.475	9.2	31,269	4.0	28,858	5.2	2,412
AHU-PE-3 SF	AF/BI	1	15.0	15.0	Y	0.75	91.0%	93.0%	3,391	0.448	0.475	9.2	31,269	4.0	28,858	5.2	2,412
AHU-PE-3 RF	AF/BI	1	10.0	10.0	Y	0.75	89.5%	91.7%	3,391	0.448	0.475	6.3	21,196	2.7	19,511	3.5	1,684
AHU-PE-4 SF	AF/BI	1	10.0	10.0	Y	0.75	89.5%	91.7%	3,391	0.448	0.475	6.3	21,196	2.7	19,511	3.5	1,684
AHU-PE-4 RF	AF/BI	1	5.0	5.0	Y	0.75	87.5%	89.5%	2,745	0.448	0.475	3.2	8,775	1.4	8,091	1.8	684
															Total:	36.5	16,915
																$ 2,953	$ 1,575
																	$ 4,528

Savings calculation formulas are taken from NJ Protocols document for VFDs

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-4: Upgrade to Premium Efficiency Motors and Install Variable Speed Drives - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.00

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						$ -	$ -	$ -	$ -	
5 HP Motor	1	ea	$ 373	$ 79		$ 383	$ 98	$ -	$ 481	RS Means 2012
VFD for 5 HP Motor	1	ea	$ 1,706	$ 431		$ 1,752	$ 536	$ -	$ 2,289	RS Means 2012
10 HP Motor	2	ea	$ 646	$ 88		$ 1,326	$ 220	$ -	$ 1,546	RS Means 2012
VFD for 10 HP Motor	2	ea	$ 2,021	$ 509		$ 4,152	$ 1,269	$ -	$ 5,421	RS Means 2012
15 HP Motor	4	ea	$ 861	$ 110		$ 3,537	$ 549	$ -	$ 4,086	RS Means 2012
VFD for 15 HP Motor	4	ea	$ 2,336	$ 772		$ 9,597	$ 3,846	$ -	$ 13,444	RS Means 2012
20 HP Motor	1	ea	$ 1,050	$ 135		$ 1,078	$ 169	$ -	$ 1,247	RS Means 2012
VFD for 20 HP Motor	1	ea	$ 3,465	$ 772		$ 3,559	$ 962	$ -	$ 4,520	RS Means 2012
Electrical - misc.	8	ls	$ 15	$ 5		$ 123	$ 50	$ -	$ 173	RS Means 2012
Sheetmetal modification (per box)	8	ea	$ 50	$ 15		$ 411	$ 150	$ -	$ 560	RS Means 2012
						$ -	$ -	$ -	$ -	

$ 33,767	Subtotal
$ 8,442	25% Contingency
$ 42,209	**Total**

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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

Capacity	Quantity	AREA/EQUIPMENT SERVED	COOLING CAPACITY (btu/h)
8,000	2	Window A/C	16,000
12,000	2	Window A/C	24,000
18,000	2	Window A/C	36,000
24,000	4	Window A/C	96,000

Total btu/h of all window A/C Units: *172,000* *btu/h*

ECM-5: Window A/C Controller

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

ASSUMPTIONS			Comments
Electric Cost	$0.124	/ kWh	
Average run hours per Week	70	Hours	
Space Balance Point	55	F	
Space Temperature Setpoint	70	deg F	Cooling Setpoint.
BTU/Hr Rating of existing DX equipment	172,000	Btu / Hr	Total BTU/hr of DX cooling equipment to be replaced.
Average EER	10.7		Estimated average EER of window A/C units
Existing Annual Electric Usage	12,558	kWh	
Proposed Annual Electric Usage	6,022	kWh	Unit will cycle on w/ temp of room. Possible operating time shown below

ANNUAL SAVINGS		
Annual Electrical Usage Savings	6,536	kWh
Annual Cost Savings	$810	
Total Project Cost	$1,900	
Simple Payback	2.3	years

OAT - DB Bin Temp F	Annual Hours	**Existing Hours of Operation**	Proposed % of time of operation	**Proposed hrs of Operation**
102.5	0	0	100%	0
97.5	17	7	89%	6
92.5	61	25	79%	20
87.5	132	55	68%	38
82.5	344	143	58%	83
77.5	566	236	47%	112
72.5	755	315	37%	116
67.5	780	0	0%	0
62.5	889	0	0%	0
57.5	742	0	0%	0
52.5	710	0	0%	0
47.5	642	0	0%	0
42.5	795	0	0%	0
37.5	784	0	0%	0
32.5	682	0	0%	0
27.5	345	0	0%	0
22.5	229	0	0%	0
17.5	189	0	0%	0
12.5	70	0	0%	0
7.5	22	0	0%	0
2.5	6	0	0%	0
-2.5	0	0	0%	0
-7.5	0	0	0%	0
Total	8,760	**781**	48%	**375**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-5: Window A/C Controller - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						0	$ -	$ -	$ -	
Window AC Controller	10	EA	$ 150	$ -	$ -	1541	$ -	$ -	$ 1,541	Estimated
						$ -	$ -	$ -	$ -	

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

$	1,541	Subtotal
$	385	25% Contingency
$	**1,900**	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-6: Extend Energy Management System

Description: This ECM evaluates the energy savings associated extending the existing control system to 5% of the building that is currently not DDC controlled. This will provide for remote automatic control, monitoring and alarming. Specific energy savings sequences would include optium Start/ Stop, night setback, temporary occupied set back, economizer control of UVs and AHU's. This energy savings percentage is based on past performance of similar buildings which have a fully functioning DDC control system.

Note: It is estimated that approximately 5% of the building square footage is not controlled by the current Building Management System

Building Information:

Building SF	310,000	ft^2	$0.12	$/kWh Blended
Extend EM	15,500	ft^2	$1.23	$/Therm
	Y	Cooling		
	Y	Heating		

FULL DDC - ADDITIONAL CONTROLS SAVINGS CALCULATION

EXISTING CONDITIONS		
Existing non-EM Total Electric usage	158,216	kWh
Existing non-EM Total Gas usage	1,566	Therms
Existing non-EM Cooling Electric usage	94,929	kWh[1]
Existing non-EM Heating Natural Gas usage	157	Therms[2]
PROPOSED CONDITIONS		
Proposed Facility Cooling Electric Savings	9,493	kWh
Proposed Facility Natural Gas Savings	16	Therms
SAVINGS		
Electric Savings	9,493	**kWh**
Natural Gas Savings	16	**Therms**

Assumptions

1 60% of Non-EMS Area electricity dedicated to Cooling
2 10% of Non-EMS Area natural gas dedicated to Heating;
3 10% Typical Savings associated with installation of DDC controls

COMBINED SAVINGS		
Natural Gas Savings	16	Therms
Cooling Electricity Savings	9,493	kWh
Total Cost Savings	$ 1,195	
Estimated Total Project Cost	$ 132,388	
Simple Payback	110.8	Yrs

Savings calculation formulas for setback are taken from NJ Protocols document for Occupancy Controlled Thermostats
Savings calculations for additional controls are estimated based on the level of control to be added and prior experience

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

ECM-6: Extend Energy Management System - Cost

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
						$ -	$ -	$ -	$ -	
AHU Controls	4	ea		$ 5,000		$ -	$ 24,920	$ -	$ 24,920	Vendor Quote
Exhaust Fan Control (Group of 4)	10	ea		$ 3,300		$ -	$ 41,118	$ -	$ 41,118	Vendor Quote
Head End Controller & Programming	1	ls		$ 32,000		$ -	$ 39,872	$ -	$ 39,872	Vendor Quote
						$ -	$ -	$ -	$ -	

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

$ 105,910	Subtotal
$ 26,478	25% Contingency
$ 132,388	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-7: Re-Commission Building Controls System

Summary: Presently the building has an Energy Management (EM) system which controls roughly 40% of the total building by square footage. The remainder of the building is controlled by dedicated thermostats. The portion of the building controlled by EM is recommended to be re-commissioned to ensure that the systems are operating at optimal efficiency.

Building Information:

124,000 Sq Footage

$0.12 $/kWh Blended
$1.23 $/Therm

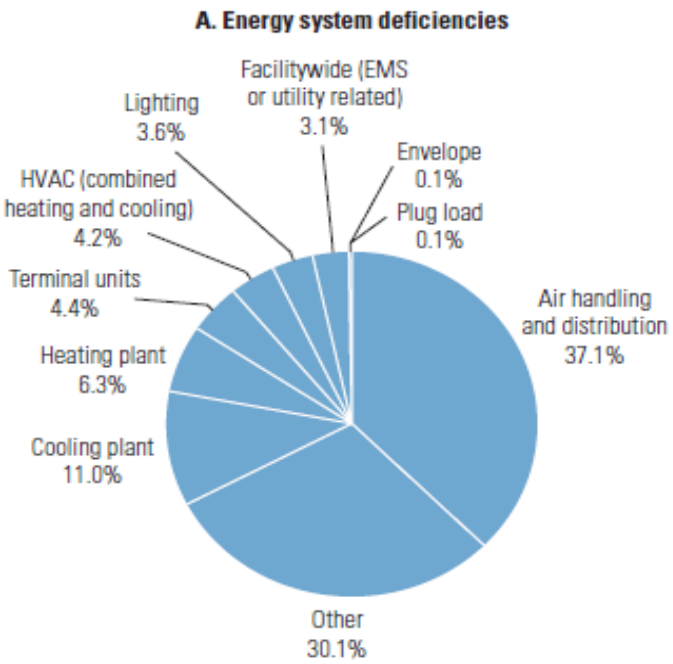
EXISTING CONDITIONS		
Existing Facility Total Electric usage	3,164,313	kWh
Existing Facility Total Gas usage	31,321	Therms
Existing Facility Cooling Electric usage	812,628	kWh[1]
Existing Facility Heating Natural Gas usage	29695	Therms[2]
PROPOSED CONDITIONS		
Proposed Facility Cooling Electric Savings	81,263	kWh
Proposed Facility Natural Gas Savings	2,970	Therms
SAVINGS		
Retro-Commissioning Electric Savings	81,263	**kWh**
Retro-Commissioning Natural Gas Savings	2,970	**Therms**
Total cost savings	$ 13,730	

Assumptions

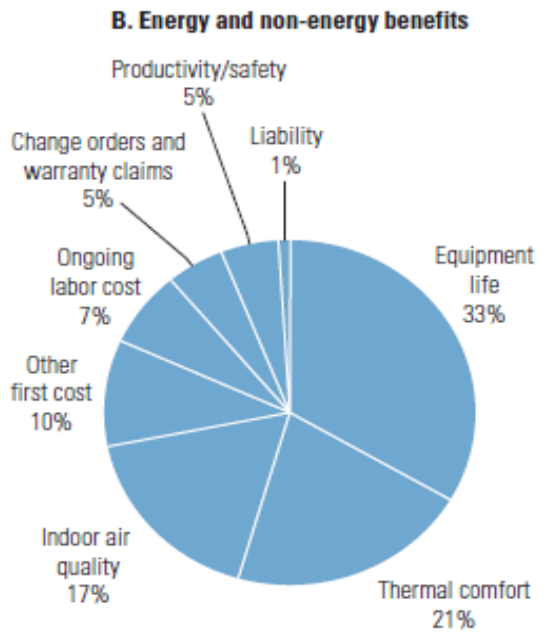
1 26% of facility total electricity dedicated to Cooling based on Building Utility Analysis
2 95% of facility total natural gas dedicated to Heating based on Building Utility Analysis
3 10% Typical Savings associated with Retro-Commissioning of controls based on EPA Energy Star Report (CH 5 - Retrocommissioning)

Figure 5.2: Retrocommissioning results

Building energy system deficiencies: A recent study of retrocommissioning revealed a wide variety of problems—those related to the overall HVAC system were the most common type (A). Energy and non-energy benefits: Retrocommissioning provided both energy and non-energy benefits—the most common of these, noted in one-third of the buildings surveyed, was the extension of equipment life (B).



Note: EMS = energy management system.



Courtesy: E SOURCE; data from Lawrence Berkeley National Laboratory, Portland Energy Conservation Inc., and Energy Systems Laboratory, Texas A&M University

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-7: Re-Commission Building Controls System - 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.		
									$ -	
Controls and Sensors Retro-Commissioning	124,000	SF	$ 0.27	INC	INC	$ 34,384	INC	INC	$ 34,384	EPA Estimate
						$ -	$ -	$ -	$ -	

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

$ 34,384	Subtotal
$ 8,596	25% Contingency
$ 42,980	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-8: Replace Gas-Fired DHW Heater w/ a High Efficiency Gas-Fired DHW Heater

Description: This ECM evaluates the energy savings associated with replacing one gas fired DHW heater with equivalent capacity high effiency water heater and reduced capacity storage tank.

Item	Value	Units	Formula/Comments
Avg. Monthly Utility Demand by Water Heater	**136**	Therms/month	Calculated from utility bill
Total Annual Utility Demand by Water Heater	163,200	MBTU/yr	1therm = 100 MBTU
Existing DHW Heater Efficiency	78%		Per manufacturer nameplate
Total Annual Hot Water Demand (w/ standby losses)	127,296	MBTU/yr	
Existing Tank Size	750	Gallons	Per manufacturer nameplate
Hot Water Piping System Capacity	200	Gallons	Estimated Per existing system (includes HWR piping)
Hot Water Temperature	140	˚F	Per building personnel
Room Temperature	72	˚F	
Standby Losses (% by Volume)	2.5%		(2.5% of stored capacity per hour, per U.S. Department of Energy)
Standby Losses (Heat Loss)	13.5	MBH	
Annual Standby Hot Water Load	117,895	MBTU/yr	
New Tank Size	500	Gallons	
Hot Water Piping System Capacity	200	Gallons	Estimated Per existing system (includes HWR piping)
Hot Water Temperature	140	˚F	
Room Temperature	72	˚F	
Standby Losses (% by Volume)	2.5%		(2.5% of stored capacity per hour, per U.S. Department of Energy)
Standby Losses (Heat Loss)	9.9	MBH	
Annual Standby Hot Water Load	86,870	MBTU/yr	
Total Annual Hot Water Demand	96,271	MBTU/yr	
Proposed Avg. Hot water heater efficiency	96%		Based on AO Smith Cyclone
Proposed Fuel Use	1,003	Therns	Standby Losses and inefficient DHW heater eliminated
Utility Cost	$1.23	$/Therm	
Existing Operating Cost of DHW	$2,014	$/yr	
Proposed Operating Cost of DHW	$1,237	$/yr	

Savings Summary:

Utility	Energy Savings	Cost Savings
Therms/yr	629	$776

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-8: Replace Gas-Fired DHW Heater w/ a High Efficiency Gas-Fired DHW Heater - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
Gas-Fired DHW Heater Removal	1	LS		$ 50		$ -	$ 62	$ -	$ 62	RS Means 2012
High Efficiency Gas-Fired DHW Heater	1	EA	$ 7,500	$ 1,500		$ 7,703	$ 1,869	$ -	$ 9,572	RS Means 2012
Storage tank	1	EA	$ 2,500	$ 1,500		$ 2,568	$ 1,869	$ -	$ 4,437	RS Means 2012
Electrical	1	LS	$ 500	$ 1,500		$ 514	$ 1,869	$ -	$ 2,383	RS Means 2012
Venting Kit	1	EA	$ 450	$ 650		$ 462	$ 810	$ -	$ 1,272	RS Means 2012
Miscellaneous Piping and Valves	1	LS	$ 200			$ 205	$ -	$ -	$ 205	RS Means 2012

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

$ 17,930	Subtotal
$ 4,483	25% Contingency
$ 22,413	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-9: 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 exhasut fan and make-up air fan to provide the proper amount of air flow needed to remove the particulate from the hood. The system uses a default minimum air flow value to ensure that smoke particulate is removed at all times during cooking operations.

Item	Value	Units	Formula/Comments	
Fuel Cost	$ 1.23	/ Therm		
Electricity Cost	$ 0.12	/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	School			
Quantity of Kitchen Hood Fan Motors	1			Q
Kitchen Hood Fan Motor HP	5.0	HP		HP
Motor Load Factor	0.90		NJ Protocols	LF
Efficiency of Fan Motor(s)	89.5%			FEFF
Kitchen Hood Fan Run Hours	2,080			RH
Fan Motor Power Reduction (From VFD)	0.584			PR
Fan Electricity Savings	4,556	kWh		
HEATING SAVINGS				
Kitchen is Heated?	Y			
Square Footage of Kitchen	1,500	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	411	MMbtu		
Heating Savings	4,109	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	4,556	kWh		
Fuel Savings	4,109	Therms		
Cost Savings	$ 5,634			

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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-9: 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	$ 5,000		$ 15,405	$ 6,230	$ -	$ 21,635	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
Electrical - misc.	1	ls	$ 200	$ 500		$ 205	$ 623	$ -	$ 828	RS Means 2012
						$ -	$ -	$ -	$ -	

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

$ 25,244	Subtotal
$ 6,311	25% Contingency
$ 31,555	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-10: 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

$0.12 $/kWh Blended

EXISTING CONDITIONS			
Walk-In Freezer(s)			
Existing Freezer Controls?	N		
Quantity of Walk-In Freezers	1		
Nameplate Amps of Freezer Evaporator Fan	4.5		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)	3,946	kWh	kWhEF
Electricity Savings (Evaporator Fan Reduced Heat)	1,768	kWh	kWhRH
Total Walk-In Freezer(s) Electricity Savings	5,714	kWh	
Walk-In Cooler(s)			
Existing Cooler Controls?	N		
Quantity of Walk-In Coolers	1		
Nameplate Amps of Cooler Evaporator Fan	3.6		
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	
SAVINGS			
Total Electricity Savings	**10,285**	**kWh**	
Total Cost Savings	**$ 1,274**		
Estimated Cost	$ 20,625		
Simple Payback	16.2	**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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-10: Walk-in Cooler & Freezer EC Motor Retrofits - 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.		
									$ -	
Turnkey Walk-In Controller & Equipment	1	EA	$ 10,000	$ 5,000	$ -	$ 10,270	$ 6,230	$ -	$ 16,500	Vendor Estimate
						$ -	$ -	$ -	$ -	

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

$ 16,500	Subtotal
$ 4,125	25% Contingency
$ 20,625	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-11: Dishwasher Booster Heater Conversion

Description: This ECM evaluates the energy savings associated with replacing an electrically powered dishwasher booster heater with and equivalently sized natural gas booster heater

Item	Value	Units	Formula/Comments
Baseline Fuel Cost	$ 1.23	/ Therm	
Electricity Cost	$ 0.09	$/kWh	
Demand Cost	$ 6.75	$/kWh	
FORMULA CONSTANTS			
CF	0.3		Coincidence Factor (NJ Protocols)
EFLH	1,000		Equivalent Full Load Hours (NJ Protocols)
PROPOSED EQUIPMENT			
Input Rating	155,000	btu/hr	
Efficiency	80%		
SAVINGS			
Electricity Savings	36,342	kWh	
Demand Savings	11	kW	
Fuel Usage	(1,550)	Therms	
Fuel Cost Savings	$ 2,354		

Savings calculation formulas are taken from NJ Protocols document for Booster Heater

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-11: Dishwasher Booster Heater Conversion - 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.		
Natural Gas Fired Booster Heater	1	EA	$ 5,000	$ 2,500		$ 5,135	$ 3,115	$ -	$ 8,250	RS Means 2012
Venting	1	LS	$ 500	$ 1,000		$ 514	$ 1,246	$ -	$ 1,760	RS Means 2012
Electrical	1	LS	$ 300	$ 500		$ 308	$ 623	$ -	$ 931	RS Means 2012
Piping	1	LS	$ 300	$ 500		$ 308	$ 623	$ -	$ 931	RS Means 2012

$ 11,872	Subtotal
$ 2,968	25% Contingency
$ 14,800	**Total**

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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-12: Install Vending Machine Controls

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

Unit Cost: $0.124 $/kWh blended

Energy Savings Calculations:

	Existing	
Cold Beverage Vending Machine Electric usage	42,048	kWh[1,4,7]
Snack Vending Machine Electric usage	14,016	kWh[2,5,7]
Dual Vending Machine Electric Usage	-	kWh[3,6,7]
Total Vending Machine Electric Usage	56,064	kWh

	Proposed	
Cold Beverage Vending Machine Electric usage	6,615	kWh[8]
Snack Vending Machine Electric usage	2,520	kWh
Dual Vending Machine Electric Usage	0	kWh
Total Vending Machine Electric Usage	9,135	kWh

Vending Machine Controls Usage Savings	**46,929**	**kWh**
Total cost savings	**$ 5,813**	
Estimated Total Project Cost	**$ 5,602**	[9]
Simple Payback	**1**	**years**

Assumptions

1	12	Number of cold beverage vending machines
2	8	Number of snack vending machines
3	0	Number of dual snack/beverage vending machines
4	400	Average wattage, typical of cold beverage machines based on prior project experience
5	200	Average wattage, typical of snack machines based on prior project experience
6	300	Average wattage, typical of dual snack/beverage machines based on prior project experience
7	8760	Hours per year vending machine plugged in
8	3150	Building Occupied Hours
9	0.50	Vending Machine Traffic Factor (0.75 for High Traffic, 0.5 for Medium, 0.25 for low)

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-12: Install Vending Machine Controls - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									$ -	
Vending Miser	20	EA	$ 200	$ 15	$ -	$ 4,108	$ 374	$ -	$ 4,482	Vendor Estimation
						$ -	$ -	$ -	$ -	

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

$ 4,482	Subtotal
$ 1,120	25% Contingency
$ 5,602	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-13: Replace CRT Monitors with LCD

Description : CRT monitors typically use more electricity than equivalently sized liquid crystal display (LCD) monitors for computers and televisions. This ECM evaluates replacing CRT monitors ith LCDs in order to save energy. The basis of this savings is justified by an EPA Energy Star study which found that a typical LCD monitor can save 100 kWh annually (for an 8 hour work day)

Unit Cost: $0.124 $/kWh blended

Energy Savings Calculations:

	Existing	Proposed		
Quantity of CRT Monitors	100			
Quanitity of be Replaced by LCD		100		
Usage Savings			**10,000**	**kWh**
Total cost savings			**$ 1,239**	
Estimated Total Project Cost			**$ 20,814**	[9]
Simple Payback			**16.8**	**years**

Assumptions

1	100	kWh savings per monitor per year
		Source: http://www.eu-energystar.org/en/en_023.shtml

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-13: Replace CRT Monitors with LCD - 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.		
									$ -	
LCD Computer Monitor	100	EA	$ 150	$ 10	$ -	$ 15,405	$ 1,246	$ -	$ 16,651	Vendor Estimation
						$ -	$ -	$ -	$ -	

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

$ 16,651	Subtotal
$ 4,163	25% Contingency
$ 20,814	**Total**

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-14: Replace urinals and flush valves with low flow

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

EXISTING CONDITIONS		
Cost of Water / 1000 Gallons	$10.21	$ / kGal
Urinals in Building to be replaced	30	
Average Flushes / Urinal (per Day)	30	Based on # of occupants
Average Gallons / Flush	1.5	Gal

PROPOSED CONDITIONS		
Proposed Urinals to be Replaced	30	
Proposed Gallons / Flush	0.125	Gal

SAVINGS		
Current Urinal Water Use	493	kGal / year
Proposed Urinal Water Use	41	kGal / year
Water Savings	452	kGal / year
Cost Savings	$4,614	/ year

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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-14: Replace toilets and flush valves with low flow

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

EXISTING CONDITIONS		
Cost of Water / 1000 Gallons	$10.21	$ / kGal
Toilets in Building	50	
Average Flushes / Toilet (per Day)	45	Based on # of occupants
Average Gallons / Flush	3.5	Gal

PROPOSED CONDITIONS		
Proposed Toilets to be Replaced	50	
Proposed Gallons / Flush	1.28	Gal

SAVINGS		
Current Toilet Water Use	2,874	kGal / year
Proposed Toilet Water Use	1,051	kGal / year
Water Savings	1,823	kGal / year
Cost Savings	18,623	/ year

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

ECM-14: Install Low Flow Plumbing Fixtures - Cost

Multipliers	
Material:	1.03
Labor:	1.25
Equipment:	1.12

Description	QTY	UNIT	UNIT COSTS			SUBTOTAL COSTS			TOTAL COST	REMARKS
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.		
									$ -	
Low-Flow Urinal	30	EA	$ 1,200	$ 1,000	$ -	$ 36,972	$ 37,380	$ -	$ 74,352	Vendor Estimate
Low-Flow Toilet	50	EA	$ 1,400	$ 1,000	$ -	$ 71,890	$ 62,300	$ -	$ 134,190	Vendor Estimate
						$ -	$ -	$ -	$ -	

$ 208,542	Subtotal
$ 52,136	25% Contingency
$ 260,678	**Total**

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

Toms River Regional Schools
CHA Project Number: 28485
Toms River High School North

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)	310,000
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)	$310,000	$391,989
Existing Usage (from utility)	3,164,313	31,321
Proposed Savings	1,414,626	-14,529
Existing Total MMBtus	13,932	
Proposed Savings MMBtus	3,375	
% Energy Reduction	**24.2%**	
Proposed Annual Savings	$179,827	

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

	Incentives $		
	Elec	Gas	Total
Incentive #1	$0	$0	$15,500
Incentive #2	$155,609	-$18,162	$137,447
Incentive #3	$155,609	-$18,162	$137,447
Total All Incentives	**$311,218**	**-$36,323**	**$290,394**

Total Project Cost	$1,580,842

		Allowable Incentive
% Incentives #1 of Utility Cost*	2.2%	$15,500
% Incentives #2 of Project Cost**	8.7%	$137,447
% Incentives #3 of Project Cost**	8.7%	$137,447
Total Eligible Incentives***	**$290,394**	
Project Cost w/ Incentives	$1,290,447	

Project Payback (years)	
w/o Incentives	w/ Incentives
8.8	7.2

* 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

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	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" 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) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * ($/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
15LED	Boiler Room	10	S 32 C F 2 (ELE)	F42LL	60	0.6	SW	2080	1,248	10	T 38 R LED	RTLED38	38	0.4	SW	2,080	790	458	0.2	$ 60.42	$ 2,362.50	$0	39.1	39.1
115	Main Office	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
6LED	Main Office	15	T 34 R F 4 (MAG)	F44EE	144	2.2	SW	2600	5,616	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	3,666	1.4	$ 455.52	$ 3,543.75	$0	7.8	7.8
18LED	Main Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	SW	2,600	650	806	0.3	$ 100.15	$ 1,181.25	$0	11.8	11.8
18LED	C-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	C-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	562	5	4 ft LED Tube	200732x2	30	0.2	SW	1,560	234	328	0.2	$ 47.51	$ 816.75	$0	17.2	17.2
133	Women's Faculty Lavatory	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	C-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	C-27	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	2600	4,077	14	T 50 R LED	RTLED50	50	0.7	SW	2,600	1,820	2,257	0.9	$ 280.42	$ 3,307.50	$0	11.8	11.8
18LED	C-24	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
133	Men's Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	C-29	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	2,418	0.9	$ 300.45	$ 3,543.75	$0	11.8	11.8
46LED	Boys' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	SW	3,120	562	562	0.2	$ 66.87	$ 980.10	$0	14.7	14.7
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	75	0.0	$ 10.86	$ 5.40	$0	0.5	0.5
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	SW	3,120	562	562	0.2	$ 66.87	$ 980.10	$0	14.7	14.7
18LED	C-26	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	C-28	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	C-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
115	C-31	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
4LED	C-31	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	187	1	2T 25 R LED	2RTLED	25	0.0	SW	2,600	65	122	0.0	$ 15.18	$ 202.50	$0	13.3	13.3
18LED	C-33	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
18LED	C-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	C-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	C-35	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
18LED	C-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
35LED	Walkway	32	T 32 R F 3 (ELE)	F43ILL/2	90	2.9	SW	3640	10,483	32	T 38 R LED	RTLED38	38	1.2	SW	3,640	4,426	6,057	1.7	$ 698.69	$ 7,560.00	$0	10.8	10.8
18LED	Walkway	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	408	1	T 50 R LED	RTLED50	50	0.1	SW	3,640	182	226	0.1	$ 26.03	$ 236.25	$0	9.1	9.1
46LED	Elevator 1	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3640	437	2	4 ft LED Tube	200732x2	30	0.1	SW	3,640	218	218	0.1	$ 25.19	$ 326.70	$0	13.0	13.0
35LED	F Corridor	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	SW	3640	8,518	26	T 38 R LED	RTLED38	38	1.0	SW	3,640	3,596	4,921	1.4	$ 567.68	$ 6,142.50	$0	10.8	10.8
115	F-208	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-208	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
18LED	Teachers Lounge	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	SW	2,600	390	484	0.2	$ 60.09	$ 708.75	$0	11.8	11.8
18LED	F-210	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
115	F-210	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	SW	2,600	343	239	0.1	$ 29.72	$ 432.00	$0	14.5	14.5
18LED	F-206 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-206 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-209 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
115	F-209 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	SW	2,600	343	239	0.1	$ 29.72	$ 432.00	$0	14.5	14.5
18LED	F-207	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-207	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-204	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-204	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-202	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-202	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-205 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-205 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-203 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-203 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-201 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
115	F-201 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	SW	2,600	343	239	0.1	$ 29.72	$ 432.00	$0	14.5	14.5
18LED	Men's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	Women's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	F-212	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	SW	2,600	650	806	0.3	$ 100.15	$ 1,181.25	$0	11.8	11.8
115	F-212	1	W 20 C F 2	F22SS	56	0.1	SW	2600	146	1	W 17 W C 2	F22ILL	33	0.0	SW	2,600	86	60	0.0	$ 7.43	$ 108.00	$0	14.5	14.5
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
35LED	Corridor Outside F-212	11	T 32 R F 3 (ELE)	F43ILL/2	90	1.0	SW	3640	3,604	11	T 38 R LED	RTLED38	38	0.4	SW	3,640	1,522	2,082	0.6	$ 240.17	$ 2,598.75	$0	10.8	10.8
35LED	Corridor to B	3	T 32 R F 3 (ELE)	F43ILL/2	90	0.3	SW	3640	983	3	T 38 R LED	RTLED38	38	0.1	SW	3,640	415	568	0.2	$ 65.50	$ 708.75	$0	10.8	10.8
18LED	Corridor B	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,154	20	T 50 R LED	RTLED50	50	1.0	SW	3,640	3,640	4,514	1.2	$ 520.66	$ 4,725.00	$0	9.1	9.1
18LED	B-19 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-21	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-23 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-25 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
133	Women's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	B-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
4LED	B-27	2	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	374	2	2T 25 R LED	2RTLED	25	0.1	SW	2,600	130	244	0.1	$ 30.37	$ 405.00	$0	13.3	13.3
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	562	5	4 ft LED Tube	200732x2	30	0.2	SW	1,560	234	328	0.2	$ 47.51	$ 816.75	$0	17.2	17.2
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
46LED	Men's Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	SW	3,120	562	562	0.2	$ 66.87	$ 980.10	$0	14.7	14.7
18LED	B-29	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
X5	Custodial Room	1	CF42/1	CF42/1-I	48	0.0	SW	1560	75	1	CF42/1	CF42/1-I	48	0.0	SW	1,560	75	-	0.0	$ -	$ -	$0		#DIV/0!
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	SW	3,120	562	562	0.2	$ 66.87	$ 980.10	$0	14.7	14.7
18LED	B-26	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	B-28	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	B-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
115	B-31	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	SW	2,600	343	239	0.1	$ 29.72	$ 432.00	$0	14.5	14.5
18LED	B-33	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-35	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	A Corridor	23	T 32 R F 4 (ELE)	F44ILL	112	2.6	SW	3640	9,377	23	T 50 R LED	RTLED50	50	1.2	SW	3,640	4,186	5,191	1.4	$ 598.76	$ 5,433.75	$0	9.1	9.1
18LED	A-24	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	A-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	A-26	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912	10	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,300	1,612	0.6	$ 200.30	$ 2,362.50	$0	11.8	11.8
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	SW	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$0	39.1	39.1
18LED	A-27	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
18LED	A-28	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	A-29	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B Stairway	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3640	1,631	4	T 50 R LED	RTLED50	50	0.2	SW	3,640	728	903	0.2	$ 104.13	$ 945.00	$0	9.1	9.1
52LED	B Stairway	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	3640	786	3	4 ft LED Tube	200732x2	30	0.1	SW	3,640	328	459	0.1	$ 52.91	$ 490.05	$0	9.3	9.3
18LED	C Wing Corridor	25	T 32 R F 4 (ELE)	F44ILL	112	2.8	SW	3640	10,192	25	T 50 R LED	RTLED50	50	1.3	SW	3,640	4,550	5,642	1.6	$ 650.82	$ 5,906.25	$0	9.1	9.1
217LED	C Wing Corridor	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222	1	2T 25 R LED	2RTLED	25	0.0	SW	3,640	91	131	0.0	$ 15.12	$ 202.50	$0	13.4	13.4
18LED	Attenance Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	C-01	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
18LED	C-02	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	C-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	C-04	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	C-06	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	2,418	0.9	$ 300.45	$ 3,543.75	$0	11.8	11.8
18LED	C-06 Closet	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	175	1	T 50 R LED	RTLED50	50	0.1	SW	1,560	78	97	0.1	$ 14.03	$ 236.25	$0	16.8	16.8
18LED	C-05	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	Boys' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	Girls' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	C-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	2,418	0.9	$ 300.45	$ 3,543.75	$0	11.8	11.8
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
35LED	D Corridor	28	T 32 R F 3 (ELE)	F43ILL/2	90	2.5	SW	3640	9,173	28	T 38 R LED	RTLED38	38	1.1	SW	3,640	3,873	5,300	1.5	$ 611.35	$ 6,615.00	$0	10.8	10.8
35LED	F Wing Corridor	40	T 32 R F 3 (ELE)	F43ILL/2	90	3.6	SW	3640	13,104	40	T 38 R LED	RTLED38	38	1.5	SW	3,640	5,533	7,571	2.1	$ 873.36	$ 9,450.00	$0	10.8	10.8
18LED	F-108	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-108	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	SW	2,600	172	120	0.0	$ 14.86	$ 216.00	$0	14.5	14.5
18LED	F-111	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	F-110	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-110	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-106	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-106	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-109	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-109	1	W 20 C F 2	F22SS	56	0.1	SW	2600	146	1	W 17 W C 2	F22ILL	33	0.0	SW	2,600	86	60	0.0	$ 7.43	$ 108.00	$0	14.5	14.5
18LED	F-107	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-107	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-104	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	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" 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) * (Fixt No.)	Pre-inst. control device	Estimated daily hours for the usage group	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * ($/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
115	F-104	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-102	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-102	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-105	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-105	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-103	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-103	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	SW	3,120	468	580	0.2	$ 69.09	$ 708.75	$0	10.3	10.3
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	SW	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$0	39.1	39.1
133	Janitor (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	F-101	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
115	F-101	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	F-Stairway	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	3640	2,446	6	T 50 R LED	RTLED50	50	0.3	SW	3,640	1,092	1,354	0.4	$ 156.20	$ 1,417.50	$0	9.1	9.1
20LED	F Corridor	50	S 32 C F 1 (ELE)	F41LL	32	1.6	SW	3640	5,824	50	4 ft LED Tube	200732x1	15	0.8	SW	3,640	2,730	3,094	0.9	$ 356.90	$ 4,083.75	$0	11.4	11.4
20LED	F Corridor	26	S 32 C F 1 (ELE)	F41LL	32	0.8	SW	3640	3,028	26	4 ft LED Tube	200732x1	15	0.4	SW	3,640	1,420	1,609	0.4	$ 185.59	$ 2,123.55	$0	11.4	11.4
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
46LED	BB Corridor	18	W 32 C F 2 (ELE)	F42LL	60	1.1	SW	3640	3,931	18	4 ft LED Tube	200732x2	30	0.5	SW	3,640	1,966	1,966	0.5	$ 226.74	$ 2,940.30	$0	13.0	13.0
18LED	BB-8	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-6	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-7	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-5	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-4	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824	20	T 50 R LED	RTLED50	50	1.0	SW	2,600	2,600	3,224	1.2	$ 400.60	$ 4,725.00	$0	11.8	11.8
18LED	BB-3	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-1	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	BB-2	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824	20	T 50 R LED	RTLED50	50	1.0	SW	2,600	2,600	3,224	1.2	$ 400.60	$ 4,725.00	$0	11.8	11.8
46LED	Women's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	749	4	4 ft LED Tube	200732x2	30	0.1	SW	3,120	374	374	0.1	$ 44.58	$ 653.40	$0	14.7	14.7
52LED	Custodial Room	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	112	1	4 ft LED Tube	200732x2	30	0.0	SW	1,560	47	66	0.0	$ 9.50	$ 163.35	$0	17.2	17.2
46LED	Men's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	749	4	4 ft LED Tube	200732x2	30	0.1	SW	3,120	374	374	0.1	$ 44.58	$ 653.40	$0	14.7	14.7
18LED	Storage Room (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	SW	1,560	156	193	0.1	$ 28.05	$ 472.50	$0	16.8	16.8
15LED	Elevator Equipment (locked - no entry	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	SW	1,560	59	34	0.0	$ 4.98	$ 236.25	$0	47.5	47.5
15LED	Storage Room (locked - no entry	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	SW	1,560	119	69	0.0	$ 9.95	$ 472.50	$0	47.5	47.5
18LED	B Corridor 1	21	T 32 R F 4 (ELE)	F44ILL	112	2.4	SW	3640	8,561	21	T 50 R LED	RTLED50	50	1.1	SW	3,640	3,822	4,739	1.3	$ 546.69	$ 4,961.25	$0	9.1	9.1
217LED	B Corridor 1	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222	1	2T 25 R LED	2RTLED	25	0.0	SW	3,640	91	131	0.0	$ 15.12	$ 202.50	$0	13.4	13.4
18LED	B-14	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	B-15	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	B-13	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	B-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-12	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-09	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
115	B-09	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	B-10	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	B-08	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	SW	2,600	650	806	0.3	$ 100.15	$ 1,181.25	$0	11.8	11.8
115	B-08	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
133	Custodial Room (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
4LED	Men's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	225	1	2T 25 R LED	2RTLED	25	0.0	SW	3,120	78	147	0.0	$ 17.46	$ 202.50	$0	11.6	11.6
133	Storage	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
104LED	Girls' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	SW	3,120	47	53	0.0	$ 6.32	$ 81.68	$0	12.9	12.9
4LED	Women's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	225	1	2T 25 R LED	2RTLED	25	0.0	SW	3,120	78	147	0.0	$ 17.46	$ 202.50	$0	11.6	11.6
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
104LED	Boys' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	SW	3,120	47	53	0.0	$ 6.32	$ 81.68	$0	12.9	12.9
18LED	B-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	2,418	0.9	$ 300.45	$ 3,543.75	$0	11.8	11.8
115	B-07	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	SW	2,600	257	179	0.1	$ 22.29	$ 324.00	$0	14.5	14.5
18LED	B-06	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	B-05	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	SW	2,600	1,950	2,418	0.9	$ 300.45	$ 3,543.75	$0	11.8	11.8
18LED	B-04 Teacher's Lounge	13	T 32 R F 4 (ELE)	F44ILL	112	1.5	SW	2600	3,786	13	T 50 R LED	RTLED50	50	0.7	SW	2,600	1,690	2,096	0.8	$ 260.39	$ 3,071.25	$0	11.8	11.8
18LED	B-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	B-01	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912	10	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,300	1,612	0.6	$ 200.30	$ 2,362.50	$0	11.8	11.8
18LED	B-02	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
18LED	Lower A Classroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	SW	2,600	390	484	0.2	$ 60.09	$ 708.75	$0	11.8	11.8
18LED	Lower A Stairs	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3640	815	2	T 50 R LED	RTLED50	50	0.1	SW	3,640	364	451	0.1	$ 52.07	$ 472.50	$0	9.1	9.1
46LED	Lower A Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655	3	4 ft LED Tube	200732x2	30	0.1	SW	3,640	328	328	0.1	$ 37.79	$ 490.05	$0	13.0	13.0
18LED	A Wing Corridor	27	T 32 R F 4 (ELE)	F44ILL	112	3.0	SW	3640	11,007	27	T 50 R LED	RTLED50	50	1.4	SW	3,640	4,914	6,093	1.7	$ 702.89	$ 6,378.75	$0	9.1	9.1
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	A-01	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	SW	2,600	910	1,128	0.4	$ 140.21	$ 1,653.75	$0	11.8	11.8
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	A-02	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	SW	2,600	910	1,128	0.4	$ 140.21	$ 1,653.75	$0	11.8	11.8
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	75	0.0	$ 10.86	$ 5.40	$0	0.5	0.5
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
52LED	A-04 Music Room	50	W 34 C F 2 (MAG)	F42EE	72	3.6	SW	2600	9,360	50	4 ft LED Tube	200732x2	30	1.5	SW	2,600	3,900	5,460	2.1	$ 678.43	$ 8,167.50	$0	12.0	12.0
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
52LED	A-04 Instruments	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
52LED	A-04 Sheet Music Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337	3	4 ft LED Tube	200732x2	30	0.1	SW	1,560	140	197	0.1	$ 28.51	$ 490.05	$0	17.2	17.2
52LED	A-04 Office	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
93	A-04 Instruments	3	I 75	I75/1	75	0.2	SW	1560	351	3	CF 26	CFQ26/1-L	27	0.1	SW	1,560	126	225	0.1	$ 32.58	$ 16.20	$0	0.5	0.5
52LED	A-02 (locked - no entry	40	W 34 C F 2 (MAG)	F42EE	72	2.9	SW	2600	7,488	40	4 ft LED Tube	200732x2	30	1.2	SW	2,600	3,120	4,368	1.7	$ 542.74	$ 6,534.00	$0	12.0	12.0
141LED	Auditorium	12	HPS 250	HPS250/1	295	3.5	SW	3120	11,045	12	FXLED78	FXLED78/1	78	0.9	SW	3,120	2,920	8,124	2.6	$ 967.32	$ 10,130.35	$1,200	10.5	9.2
93	Backstage Right	3	I 75	I75/1	75	0.2	SW	3120	702	3	CF 26	CFQ26/1-L	27	0.1	SW	3,120	253	449	0.1	$ 53.49	$ 16.20	$0	0.3	0.3
93	Stage	2	I 75	I75/1	75	0.2	SW	3120	468	2	CF 26	CFQ26/1-L	27	0.1	SW	3,120	168	300	0.1	$ 35.66	$ 10.80	$0	0.3	0.3
20LED	Backstage Left	1	S 32 C F 1 (ELE)	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	SW	3,120	47	53	0.0	$ 6.32	$ 81.68	$0	12.9	12.9
52LED	Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337	3	4 ft LED Tube	200732x2	30	0.1	SW	1,560	140	197	0.1	$ 28.51	$ 490.05	$0	17.2	17.2
18LED	Auditorium Corridor	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,154	20	T 50 R LED	RTLED50	50	1.0	SW	3,640	3,640	4,514	1.2	$ 520.66	$ 4,725.00	$0	9.1	9.1
18LED	D-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-16	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
18LED	D-14 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-12	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	SW	2,600	374	224	0.1	$ 27.78	$ 256.50	$0	9.2	9.2
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	SW	2,600	374	224	0.1	$ 27.78	$ 256.50	$0	9.2	9.2
18LED	D-21 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	Gold Cafeteria	38	T 32 R F 4 (ELE)	F44ILL	112	4.3	SW	2600	11,066	38	T 50 R LED	RTLED50	50	1.9	SW	2,600	4,940	6,126	2.4	$ 761.13	$ 8,977.50	$0	11.8	11.8
18LED	Classroom in Cafeteria	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
52LED	Kitchen Storage	6	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	674	6	4 ft LED Tube	200732x2	30	0.2	SW	1,560	281	393	0.3	$ 57.01	$ 980.10	$0	17.2	17.2
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
18LED	Serving Line	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	SW	2,600	1,040	1,290	0.5	$ 160.24	$ 1,890.00	$0	11.8	11.8
18LED	Cafeteria	54	T 32 R F 4 (ELE)	F44ILL	112	6.0	SW	2600	15,725	54	T 50 R LED	RTLED50	50	2.7	SW	2,600	7,020	8,705	3.3	$ 1,081.61	$ 12,757.50	$0	11.8	11.8
18LED	D-19 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	D-17 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	D-10 Teacher's Lounge	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
35LED	Child Study Team Office	39	T 32 R F 3 (ELE)	F43ILL/2	90	3.5	SW	2600	9,126	39	T 38 R LED	RTLED38	38	1.5	SW	2,600	3,853	5,273	2.0	$ 655.17	$ 9,213.75	$0	14.1	14.1
35LED	Conference Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	1560	562	4	T 38 R LED	RTLED38	38	0.2	SW	1,560	237	324	0.2	$ 47.06	$ 945.00	$0	20.1	20.1
18LED	Main Office Corridor	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223	3	T 50 R LED	RTLED50	50	0.2	SW	3,640	546	677	0.2	$ 78.10	$ 708.75	$0	9.1	9.1
18LED	Main Office 9th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
133	Main Office Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	Main Office 11th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	Main Office 12th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	Main Office 10th	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	SW	2,600	650	806	0.3	$ 100.15	$ 1,181.25	$0	11.8	11.8
18LED	Guidance Office 1	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 2	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 3	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 5	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 6	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 7	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 8	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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: No. of fixtures before the retrofit	Standard Fixture Code: "Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code: Code from Table of Standard Fixture Wattages	Watts per Fixture: Value from Table of Standard Fixture Wattages	kW/Space: (Watts/Fixt) * (Fixt No.)	Exist Control: Pre-inst. control device	Annual Hours: Estimated daily hours for the usage group	Annual kWh: (kW/space) * (Annual Hours)	Number of Fixtures: No. of fixtures after the retrofit	Standard Fixture Code: "Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Fixture Code: Code from Table of Standard Fixture Wattages	Watts per Fixture: Value from Table of Standard Fixture Wattages	kW/Space: (Watts/Fixt) * (Number of Fixtures)	Retrofit Control: 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
18LED	Guidance Office 10	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
18LED	Guidance Office 11	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
35LED	Break Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	2600	936	4	T 38 R LED	RTLED38	38	0.2	SW	2,600	395	541	0.2	$ 67.20	$ 945.00	$0	14.1	14.1
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	SW	1,560	94	131	0.1	$ 19.00	$ 326.70	$0	17.2	17.2
18LED	D-15 Break Room	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
20LED	Women's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	200	2	4 ft LED Tube	200732x1	15	0.0	SW	3,120	94	106	0.0	$ 12.63	$ 163.35	$0	12.9	12.9
20LED	Men's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	200	2	4 ft LED Tube	200732x1	15	0.0	SW	3,120	94	106	0.0	$ 12.63	$ 163.35	$0	12.9	12.9
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	SW	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$0	39.1	39.1
18LED	D-13(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-08 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-11(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-09 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-06	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
18LED	D-07 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
61	D-05 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	SW	2,600	374	224	0.1	$ 27.78	$ 256.50	$0	9.2	9.2
61	D-03 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	SW	2,600	374	224	0.1	$ 27.78	$ 256.50	$0	9.2	9.2
18LED	D-04	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,430	1,773	0.7	$ 220.33	$ 2,598.75	$0	11.8	11.8
18LED	D-01 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	D-02	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
133	Custodial (C-Wing) (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
133	Men's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	SW	3,120	84	-	0.0	$ -	$ -	$0		#DIV/0!
133	Custodial Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	C-08	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
18LED	C-09	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	SW	2,600	2,080	2,579	1.0	$ 320.48	$ 3,780.00	$0	11.8	11.8
18LED	FDD	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
18LED	C-12	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
18LED	C-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	SW	2,600	1,560	1,934	0.7	$ 240.36	$ 2,835.00	$0	11.8	11.8
18LED	C-13	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	SW	2,600	910	1,128	0.4	$ 140.21	$ 1,653.75	$0	11.8	11.8
18LED	C-14	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	SW	2,600	1,170	1,451	0.6	$ 180.27	$ 2,126.25	$0	11.8	11.8
18LED	Loop Corridor	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	3640	3,669	9	T 50 R LED	RTLED50	50	0.5	SW	3,640	1,638	2,031	0.6	$ 234.30	$ 2,126.25	$0	9.1	9.1
35LED	Loop Corridor	7	T 32 R F 3 (ELE)	F43ILL/2	90	0.6	SW	3640	2,293	7	T 38 R LED	RTLED38	38	0.3	SW	3,640	968	1,325	0.4	$ 152.84	$ 1,653.75	$0	10.8	10.8
18LED	C Corridor Stairs	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223	3	T 50 R LED	RTLED50	50	0.2	SW	3,640	546	677	0.2	$ 78.10	$ 708.75	$0	9.1	9.1
46LED	C Corridor Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655	3	4 ft LED Tube	200732x2	30	0.1	SW	3,640	328	328	0.1	$ 37.79	$ 490.05	$0	13.0	13.0
18LED	Gym Wing Corridor	24	T 32 R F 4 (ELE)	F44ILL	112	2.7	SW	3640	9,784	24	T 50 R LED	RTLED50	50	1.2	SW	3,640	4,368	5,416	1.5	$ 624.79	$ 5,670.00	$0	9.1	9.1
18LED	Athletic Trainer	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	Office next to Trainer (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
146LED	Gymnasium	64	High Bay MH 400	MH400/1	458	29.3	SW	3120	91,453	64	BAYLED78W	BAYLED78W	93	6.0	SW	3,120	18,570	72,883	23.4	$ 8,677.61	$ 54,028.51	$6,400	6.2	5.5
11LED	Auxilary Gymnasium	54	S 34 P F 2 (MAG)	F42EE	72	3.9	SW	3120	12,131	54	T 38 R LED	RTLED38	38	2.1	SW	3,120	6,402	5,728	1.8	$ 682.02	$ 12,757.50	$0	18.7	18.7
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
46LED	Boys' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118	22	4 ft LED Tube	200732x2	30	0.7	SW	3,120	2,059	2,059	0.7	$ 245.17	$ 3,593.70	$0	14.7	14.7
46LED	Boy's Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187	1	4 ft LED Tube	200732x2	30	0.0	SW	3,120	94	94	0.0	$ 11.14	$ 163.35	$0	14.7	14.7
52LED	Boys' Locker Room Exit	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	225	1	4 ft LED Tube	200732x2	30	0.0	SW	3,120	94	131	0.0	$ 15.60	$ 163.35	$0	10.5	10.5
46LED	Boys' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312	2	4 ft LED Tube	200732x2	30	0.1	SW	2,600	156	156	0.1	$ 19.38	$ 326.70	$0	16.9	16.9
46LED	Girls' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118	22	4 ft LED Tube	200732x2	30	0.7	SW	3,120	2,059	2,059	0.7	$ 245.17	$ 3,593.70	$0	14.7	14.7
46LED	Girls' Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187	1	4 ft LED Tube	200732x2	30	0.0	SW	3,120	94	94	0.0	$ 11.14	$ 163.35	$0	14.7	14.7
52LED	Girls' Locker Room Exit	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	225	1	4 ft LED Tube	200732x2	30	0.0	SW	3,120	94	131	0.0	$ 15.60	$ 163.35	$0	10.5	10.5
46LED	Girls' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312	2	4 ft LED Tube	200732x2	30	0.1	SW	2,600	156	156	0.1	$ 19.38	$ 326.70	$0	16.9	16.9
18LED	Custodial	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	175	1	T 50 R LED	RTLED50	50	0.1	SW	1,560	78	97	0.1	$ 14.03	$ 236.25	$0	16.8	16.8
18LED	E Corridor	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	3640	5,708	14	T 50 R LED	RTLED50	50	0.7	SW	3,640	2,548	3,160	0.9	$ 364.46	$ 3,307.50	$0	9.1	9.1
35LED	E-05	38	T 32 R F 3 (ELE)	F43ILL/2	90	3.4	SW	2600	8,892	38	T 38 R LED	RTLED38	38	1.4	SW	2,600	3,754	5,138	2.0	$ 638.37	$ 8,977.50	$0	14.1	14.1
18LED	E-Wing Weight Room Corridor	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	3640	2,038	5	T 50 R LED	RTLED50	50	0.3	SW	3,640	910	1,128	0.3	$ 130.16	$ 1,181.25	$0	9.1	9.1
141LED	Weight Room (locked - no entry	9	HPS 250	HPS250/1	295	2.7	SW	3120	8,284	9	FXLED78	FXLED78/1	78	0.7	SW	3,120	2,190	6,093	2.0	$ 725.49	$ 7,597.76	$900	10.5	9.2
18LED	Community Office Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	Athletic Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	SW	2,600	650	806	0.3	$ 100.15	$ 1,181.25	$0	11.8	11.8
18LED	Athletic Office	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	SW	2,600	390	484	0.2	$ 60.09	$ 708.75	$0	11.8	11.8
18LED	Team Rooms	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	1560	699	4	T 50 R LED	RTLED50	50	0.2	SW	1,560	312	387	0.2	$ 56.11	$ 945.00	$0	16.8	16.8
18LED	Viewing Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	Cross Country/Track Locker Room	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	3120	2,446	7	T 50 R LED	RTLED50	50	0.4	SW	3,120	1,092	1,354	0.4	$ 161.22	$ 1,653.75	$0	10.3	10.3
18LED	Track Coaches Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	SW	2,600	520	645	0.2	$ 80.12	$ 945.00	$0	11.8	11.8
18LED	Locker Room Exit	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	408	1	T 50 R LED	RTLED50	50	0.1	SW	3,640	182	226	0.1	$ 26.03	$ 236.25	$0	9.1	9.1
18LED	Locker Room Restroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3120	1,398	4	T 50 R LED	RTLED50	50	0.2	SW	3,120	624	774	0.2	$ 92.13	$ 945.00	$0	10.3	10.3
18LED	Team Room #2 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	3120	2,796	8	T 50 R LED	RTLED50	50	0.4	SW	3,120	1,248	1,548	0.5	$ 184.25	$ 1,890.00	$0	10.3	10.3
105LED	E-01	16	1T 32 RF 1 - P	F41LL	32	0.5	SW	2600	1,331	16	4 ft LED Tube	200732x1	15	0.2	SW	2,600	624	707	0.3	$ 87.87	$ 1,306.80	$0	14.9	14.9
6LED	Main Electrician	58	T 34 R F 4 (MAG)	F44EE	144	8.4	SW	2080	17,372	58	T 50 R LED	RTLED50	50	2.9	SW	2,080	6,032	11,340	5.5	$ 1,497.39	$ 13,702.50	$0	9.2	9.2
32LED	Media Center	123	1T 32 R F 2 (ELE)	F42LL	60	7.4	SW	3120	23,026	123	4 ft LED Tube	200732x2	30	3.7	SW	3,120	11,513	11,513	3.7	$ 1,370.74	$ 20,092.05	$0	14.7	14.7
181	Media Center	90	D 13 C CF 2	CFQ13/2-L	28	2.5	SW	3120	7,862	90	D 13 C CF 2	CFQ13/2-L	28	2.5	SW	3,120	7,862	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	Media Center Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	SW	3,120	312	387	0.1	$ 46.06	$ 472.50	$0	10.3	10.3
18LED	Media Center Video Storage	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	SW	1,560	156	193	0.1	$ 28.05	$ 472.50	$0	16.8	16.8
18LED	Media Center Break Room	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	SW	2,600	260	322	0.1	$ 40.06	$ 472.50	$0	11.8	11.8
35LED	Corridor - Pine Belt	15	T 32 R F 3 (ELE)	F43ILL/2	90	1.4	SW	3640	4,914	15	T 38 R LED	RTLED38	38	0.6	SW	3,640	2,075	2,839	0.8	$ 327.51	$ 3,543.75	$0	10.8	10.8
181	Corridor - Pine Belt	134	D 13 C CF 2	CFQ13/2-L	28	3.8	SW	3640	13,657	134	D 13 C CF 2	CFQ13/2-L	28	3.8	SW	3,640	13,657	-	0.0	$ -	$ -	$0		#DIV/0!
181	Corridor Display	12	D 13 C CF 2	CFQ13/2-L	28	0.3	SW	2080	699	12	D 13 C CF 2	CFQ13/2-L	28	0.3	SW	2,080	699	-	0.0	$ -	$ -	$0		#DIV/0!
20LED	Corridor	70	S 32 C F 1 (ELE)	F41LL	32	2.2	SW	3640	8,154	70	4 ft LED Tube	200732x1	15	1.1	SW	3,640	3,822	4,332	1.2	$ 499.66	$ 5,717.25	$0	11.4	11.4
175	Display	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	SW	2080	1,265	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	SW	2,080	1,265	-	0.0	$ -	$ -	$0		#DIV/0!
146LED	Pine Belt Gym	44	High Bay MH 400	MH400/1	458	20.2	SW	3120	62,874	44	BAYLED78W	BAYLED78W	93	4.1	SW	3,120	12,767	50,107	16.1	$ 5,965.86	$ 37,144.60	$4,400	6.2	5.5
24LED	Corridor	30	1B 32 P F 2 (ELE)	F42LL	60	1.8	SW	3640	6,552	30	4 ft LED Tube	200732x2	30	0.9	SW	3,640	3,276	3,276	0.9	$ 377.90	$ 4,900.50	$0	13.0	13.0
133	Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	SW	1,560	42	-	0.0	$ -	$ -	$0		#DIV/0!
18LED	Nurse's Office (locked - no entry	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	SW	2,600	780	967	0.4	$ 120.18	$ 1,417.50	$0	11.8	11.8
46LED	Men's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,621	14	4 ft LED Tube	200732x2	30	0.4	SW	3,120	1,310	1,310	0.4	$ 156.02	$ 2,286.90	$0	14.7	14.7
18LED	Men's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349	1	T 50 R LED	RTLED50	50	0.1	SW	3,120	156	193	0.1	$ 23.03	$ 236.25	$0	10.3	10.3
46LED	Women's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,621	14	4 ft LED Tube	200732x2	30	0.4	SW	3,120	1,310	1,310	0.4	$ 156.02	$ 2,286.90	$0	14.7	14.7
18LED	Women's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349	1	T 50 R LED	RTLED50	50	0.1	SW	3,120	156	193	0.1	$ 23.03	$ 236.25	$0	10.3	10.3
33	Concession Stand	6	13 W CF 1	CFQ13/1-L	15	0.1	SW	1040	94	6	13 W CF 1	CFQ13/1-L	15	0.1	SW	1,040	94	-	0.0	$ -	$ -	$0		#DIV/0!
15LED	Grounds Shed	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	374	4	T 38 R LED	RTLED38	38	0.2	SW	1,560	237	137	0.1	$ 19.91	$ 945.00	$0	47.5	47.5
18LED	Grounds Shed	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	SW	1,560	156	193	0.1	$ 28.05	$ 472.50	$0	16.8	16.8
18LED	Grounds Shed - Backroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	SW	1,560	156	193	0.1	$ 28.05	$ 472.50	$0	16.8	16.8
15LED	Small Snack Shack	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1040	125	2	T 38 R LED	RTLED38	38	0.1	SW	1,040	79	46	0.0	$ 7.82	$ 472.50	$0	60.4	60.4
15LED	Field House	20	S 32 C F 2 (ELE)	F42LL	60	1.2	SW	1560	1,872	20	T 38 R LED	RTLED38	38	0.8	SW	1,560	1,186	686	0.4	$ 99.54	$ 4,725.00	$0	47.5	47.5
15LED	Field House - Sink Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	SW	1,560	59	34	0.0	$ 4.98	$ 236.25	$0	47.5	47.5
15LED	Field House - Towel Room	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	SW	1,560	119	69	0.0	$ 9.95	$ 472.50	$0	47.5	47.5
15LED	Field House - Shower Room	6	S 32 C F 2 (ELE)	F42LL	60	0.4	SW	1560	562	6	T 38 R LED	RTLED38	38	0.2	SW	1,560	356	206	0.1	$ 29.86	$ 1,417.50	$0	47.5	47.5
15LED	Field House - Ice Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	SW	1,560	59	34	0.0	$ 4.98	$ 236.25	$0	47.5	47.5
40LED	Field House - Locker Room	18	T 32 R F 2 (ELE)	F42LL	60	1.1	SW	1560	1,685	18	T 38 R LED	RTLED38	38	0.7	SW	1,560	1,067	618	0.4	$ 89.59	$ 4,252.50	$0	47.5	47.5
40LED	Field House - Varsity Locker	9	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	842	9	T 38 R LED	RTLED38	38	0.3	SW	1,560	534	309	0.2	$ 44.80	$ 2,126.25	$0	47.5	47.5
15LED	Field House - Back Hall	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	SW	1,560	119	69	0.0	$ 9.95	$ 472.50	$0	47.5	47.5
15LED	Field House - Women's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	281	3	T 38 R LED	RTLED38	38	0.1	SW	1,560	178	103	0.1	$ 14.93	$ 708.75	$0	47.5	47.5
40LED	Field House - Storage	4	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1560	374	4	T 38 R LED	RTLED38	38	0.2	SW	1,560	237	137	0.1	$ 19.91	$ 945.00	$0	47.5	47.5
15LED	Field House - Men's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	281	3	T 38 R LED	RTLED38	38	0.1	SW	1,560	178	103	0.1	$ 14.93	$ 708.75	$0	47.5	47.5
40LED	Field House - Water Fountain	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	SW	1,560	59	34	0.0	$ 4.98	$ 236.25	$0	47.5	47.5
40LED	Field House - Coaches Room	8	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	749	8	T 38 R LED	RTLED38	38	0.3	SW	1,560	474	275	0.2	$ 39.82	$ 1,890.00	$0	47.5	47.5
15LED	Field House - Coaches Room - Rest Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	SW	1,560	59	34	0.0	$ 4.98	$ 236.25	$0	47.5	47.5
40LED	Security - Front Room	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468	3	T 38 R LED	RTLED38	38	0.1	SW	2,600	296	172	0.1	$ 21.32	$ 708.75	$0	33.2	33.2
40LED	Security - Director (Locked - No Entry	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468	3	T 38 R LED	RTLED38	38	0.1	SW	2,600	296	172	0.1	$ 21.32	$ 708.75	$0	33.2	33.2
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2,600	39	-	0.0	$ -	$ -	$0		#DIV/0!
15LED	Security - Main Room	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624	4	T 38 R LED	RTLED38	38	0.2	SW	2,600	395	229	0.1	$ 28.43	$ 945.00	$0	33.2	33.2
15LED	Security - Storage	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624	4	T 38 R LED	RTLED38	38	0.2	SW	2,600	395	229	0.1	$ 28.43	$ 945.00	$0	33.2	33.2
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2,600	39	-	0.0	$ -	$ -	$0		#DIV/0!
7LED	Security - Breakroom	1	2T 32 R F 2 (u) (ELE) Thin Tube	FU2LL	60	0.1	SW	2600	156	1	2T 25 R LED	2RTLED	25	0.0	SW	2,600	65	91	0.0	$ 11.31	$ 202.50	$0	17.9	17.9
231LED	Exterior Building Lighting	15	WP400MH1	MH400/1	458	6.9	SW	3120	21,434	15	WPLED2T78	WPLED2T78	91	1.4	SW	3,120	4,259	17,176	5.5	$ 2,044.96	$ 15,362.87	$1,500	7.5	6.8
133	Exterior Building Lighting	7	CF 26	CFQ26/1-L	27	0.2	SW	3120	590	7	CF 26	CFQ26/1-L	27	0.2	SW	3,120	590	-	0.0	$ -	$ -	$0		#DIV/0!
227LED	Exterior Building Lighting	10	70 W MH Wall Pack	MH70/1	95	1.0	SW	3120	2,964	10	FXLED18	FXLED18/1	18	0.2	SW	3,120	562	2,402	0.8	$ 286.03	$ 4,232.25	$1,000	14.8	11.3
s	**Total**	**3,329**				**344.1**			**977,344**	**3,329**			**15,178**	**144.6**			**407,350**	**569,994**	**199.5**	**$69,225**	**$741,366**	**$15,400**		
s																	**Demand Savings**			**199.5**	**$16,159**			
s																	**kWh Savings**			**569,994**	**$53,066**			
s																	**Total savings**				**$69,225**		**10.7**	**10.5**

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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**	**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 annual hours for the usage group**	**(kW/space) * (Annual Hours)**	**No. of fixtures after the retrofit**	**"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape**	**Code from Table of Standard Fixture Wattages**	**Value from Table of Standard Fixture Wattages**	**(Watts/Fixt) * (Number of Fixtures)**	**Retrofit control device**	**Estimated annual hours for the usage group**	**(kW/space) * (Annual Hours)**	**(Original Annual kWh) - (Retrofit Annual kWh)**	**(Original Annual kW) - (Retrofit Annual kW)**	**(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**
15LED	Boiler Room	10	S 32 C F 2 (ELE)	F42LL	60	0.6	SW	2080	1,248.0	10	S 32 C F 2 (ELE)	F42LL	60	0.6	NONE	2080	1,248.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
115	Main Office	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
6LED	Main Office	15	T 34 R F 4 (MAG)	F44EE	144	2.2	SW	2600	5,616.0	15	T 34 R F 4 (MAG)	F44EE	144	2.2	C-OCC	1950	4,212.0	1,404.0	0.0	$130.71	$270.00	$35.00	2.1	1.8
18LED	Main Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456.0	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	1950	1,092.0	364.0	0.0	$33.89	$270.00	$35.00	8.0	6.9
18LED	C-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	C-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	561.6	5	W 34 C F 2 (MAG)	F42EE	72	0.4	C-OCC	780	280.8	280.8	0.0	$26.14	$270.00	$35.00	10.3	9.0
133	Women's Faculty Lavatory	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	C-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	C-27	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	2600	4,076.8	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	C-OCC	1950	3,057.6	1,019.2	0.0	$94.89	$270.00	$35.00	2.8	2.5
18LED	C-24	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
133	Men's Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	C-29	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368.0	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	C-OCC	1950	3,276.0	1,092.0	0.0	$101.66	$270.00	$35.00	2.7	2.3
46LED	Boys' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123.2	6	W 32 C F 2 (ELE)	F42LL	60	0.4	C-OCC	1560	561.6	561.6	0.0	$52.28	$270.00	$35.00	5.2	4.5
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117.0	1	I 75	I75/1	75	0.1	NONE	1560	117.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123.2	6	W 32 C F 2 (ELE)	F42LL	60	0.4	C-OCC	1560	561.6	561.6	0.0	$52.28	$270.00	$35.00	5.2	4.5
18LED	C-26	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	C-28	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	C-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
115	C-31	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
4LED	C-31	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	187.2	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	C-OCC	1950	140.4	46.8	0.0	$4.36	$270.00	$35.00	62.0	53.9
18LED	C-33	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
18LED	C-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	C-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	C-35	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
18LED	C-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
35LED	Walkway	32	T 32 R F 3 (ELE)	F43ILL/2	90	2.9	SW	3640	10,483.2	32	T 32 R F 3 (ELE)	F43ILL/2	90	2.9	C-OCC	2912	8,386.6	2,096.6	0.0	$195.20	$270.00	$35.00	1.4	1.2
18LED	Walkway	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	407.7	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	C-OCC	2912	326.1	81.5	0.0	$7.59	$270.00	$35.00	35.6	31.0
46LED	Elevator 1	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3640	436.8	2	W 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	2912	349.4	87.4	0.0	$8.13	$270.00	$35.00	33.2	28.9
35LED	F Corridor	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	SW	3640	8,517.6	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	C-OCC	2912	6,814.1	1,703.5	0.0	$158.60	$270.00	$35.00	1.7	1.5
115	F-208	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-208	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
18LED	Teachers Lounge	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	873.6	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1300	436.8	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
18LED	F-210	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
115	F-210	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582.4	4	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	F-206 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-206 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-209 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
115	F-209 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582.4	4	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	F-207	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-207	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-204	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-204	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-202	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-202	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-205 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-205 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-203 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-203 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-201 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
115	F-201 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582.4	4	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Men's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	Women's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	F-212	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456.0	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	1950	1,092.0	364.0	0.0	$33.89	$270.00	$35.00	8.0	6.9
115	F-212	1	W 20 C F 2	F22SS	56	0.1	SW	2600	145.6	1	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	109.2	36.4	0.0	$3.39	$270.00	$35.00	79.7	69.3
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
35LED	Corridor Outside F-212	11	T 32 R F 3 (ELE)	F43ILL/2	90	1.0	SW	3640	3,603.6	11	T 32 R F 3 (ELE)	F43ILL/2	90	1.0	C-OCC	2912	2,882.9	720.7	0.0	$67.10	$270.00	$35.00	4.0	3.5
35LED	Corridor to B	3	T 32 R F 3 (ELE)	F43ILL/2	90	0.3	SW	3640	982.8	3	T 32 R F 3 (ELE)	F43ILL/2	90	0.3	C-OCC	2912	786.2	196.6	0.0	$18.30	$270.00	$35.00	14.8	12.8
18LED	Corridor B	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,153.6	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	C-OCC	2912	6,522.9	1,630.7	0.0	$151.82	$270.00	$35.00	1.8	1.5
18LED	B-19 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-21	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-23 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-25 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
133	Women's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	B-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
4LED	B-27	2	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	374.4	2	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	C-OCC	1950	280.8	93.6	0.0	$8.71	$270.00	$35.00	31.0	27.0
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	561.6	5	W 34 C F 2 (MAG)	F42EE	72	0.4	C-OCC	780	280.8	280.8	0.0	$26.14	$270.00	$35.00	10.3	9.0
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
46LED	Men's Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123.2	6	W 32 C F 2 (ELE)	F42LL	60	0.4	C-OCC	1560	561.6	561.6	0.0	$52.28	$270.00	$35.00	5.2	4.5
18LED	B-29	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
X5	Custodial Room	1	CF42/1	CF42/1-I	48	0.0	SW	1560	74.9	1	CF42/1	CF42/1-I	48	0.0	NONE	1560	74.9	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123.2	6	W 32 C F 2 (ELE)	F42LL	60	0.4	C-OCC	1560	561.6	561.6	0.0	$52.28	$270.00	$35.00	5.2	4.5
18LED	B-26	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	B-28	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	B-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
115	B-31	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582.4	4	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	B-33	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-35	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	A Corridor	23	T 32 R F 4 (ELE)	F44ILL	112	2.6	SW	3640	9,376.6	23	T 32 R F 4 (ELE)	F44ILL	112	2.6	C-OCC	2912	7,501.3	1,875.3	0.0	$174.59	$270.00	$35.00	1.5	1.3
18LED	A-24	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	A-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	A-26	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912.0	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	C-OCC	1950	2,184.0	728.0	0.0	$67.78	$270.00	$35.00	4.0	3.5
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998.4	8	S 32 C F 2 (ELE)	F42LL	60	0.5	NONE	2080	998.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	A-27	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
18LED	A-28	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	A-29	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B Stairway	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3640	1,630.7	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	2912	1,304.6	326.1	0.0	$30.36	$270.00	$35.00	8.9	7.7
52LED	B Stairway	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	3640	786.2	3	W 34 C F 2 (MAG)	F42EE	72	0.2	C-OCC	2912	629.0	157.2	0.0	$14.64	$270.00	$35.00	18.4	16.1
18LED	C Wing Corridor	25	T 32 R F 4 (ELE)	F44ILL	112	2.8	SW	3640	10,192.0	25	T 32 R F 4 (ELE)	F44ILL	112	2.8	C-OCC	2912	8,153.6	2,038.4	0.0	$189.77	$270.00	$35.00	1.4	1.2
217LED	C Wing Corridor	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222.0	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	C-OCC	2912	177.6	44.4	0.0	$4.13	$270.00	$35.00	65.3	56.8
18LED	Attenance Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	C-01	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
18LED	C-02	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	C-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	C-04	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	C-06	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368.0	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	C-OCC	1950	3,276.0	1,092.0	0.0	$101.66	$270.00	$35.00	2.7	2.3
18LED	C-06 Closet	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	174.7	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	NONE	1560	174.7	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	C-05	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	Boys' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	Girls' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	C-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368.0	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	C-OCC	1950	3,276.0	1,092.0	0.0	$101.66	$270.00	$35.00	2.7	2.3
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
35LED	D Corridor	28	T 32 R F 3 (ELE)	F43ILL/2	90	2.5	SW	3640	9,172.8	28	T 32 R F 3 (ELE)	F43ILL/2	90	2.5	C-OCC	2912	7,338.2	1,834.6	0.0	$170.80	$270.00	$35.00	1.6	1.4
35LED	F Wing Corridor	40	T 32 R F 3 (ELE)	F43ILL/2	90	3.6	SW	3640	13,104.0	40	T 32 R F 3 (ELE)	F43ILL/2	90	3.6	C-OCC	2912	10,483.2	2,620.8	0.0	$243.99	$270.00	$35.00	1.1	1.0
18LED	F-108	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-108	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291.2	2	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	218.4	72.8	0.0	$6.78	$270.00	$35.00	39.8	34.7
18LED	F-111	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	F-110	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-110	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-106	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-106	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-109	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-109	1	W 20 C F 2	F22SS	56	0.1	SW	2600	145.6	1	W 20 C F 2	F22SS	56	0.1	C-OCC	1950	109.2	36.4	0.0	$3.39	$270.00	$35.00	79.7	69.3
18LED	F-107	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-107	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-104	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	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 annual hours for the usage group	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(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
115	F-104	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-102	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-102	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-105	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-105	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-103	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-103	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048.3	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1560	524.2	524.2	0.0	$48.80	$270.00	$35.00	5.5	4.8
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998.4	8	S 32 C F 2 (ELE)	F42LL	60	0.5	NONE	2080	998.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
133	Janitor (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	F-101	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
115	F-101	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	F-Stairway	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	3640	2,446.1	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	2912	1,956.9	489.2	0.0	$45.55	$270.00	$35.00	5.9	5.2
20LED	F Corridor	50	S 32 C F 1 (ELE)	F41LL	32	1.6	SW	3640	5,824.0	50	S 32 C F 1 (ELE)	F41LL	32	1.6	C-OCC	2912	4,659.2	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
20LED	F Corridor	26	S 32 C F 1 (ELE)	F41LL	32	0.8	SW	3640	3,028.5	26	S 32 C F 1 (ELE)	F41LL	32	0.8	C-OCC	2912	2,422.8	605.7	0.0	$56.39	$270.00	$35.00	4.8	4.2
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
46LED	BB Corridor	18	W 32 C F 2 (ELE)	F42LL	60	1.1	SW	3640	3,931.2	18	W 32 C F 2 (ELE)	F42LL	60	1.1	C-OCC	2912	3,145.0	786.2	0.0	$73.20	$270.00	$35.00	3.7	3.2
18LED	BB-8	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-6	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-7	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-5	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-4	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824.0	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	C-OCC	1950	4,368.0	1,456.0	0.0	$135.55	$270.00	$35.00	2.0	1.7
18LED	BB-3	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-1	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	BB-2	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824.0	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	C-OCC	1950	4,368.0	1,456.0	0.0	$135.55	$270.00	$35.00	2.0	1.7
46LED	Women's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	748.8	4	W 32 C F 2 (ELE)	F42LL	60	0.2	C-OCC	1560	374.4	374.4	0.0	$34.86	$270.00	$35.00	7.7	6.7
52LED	Custodial Room	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	112.3	1	W 34 C F 2 (MAG)	F42EE	72	0.1	NONE	1560	112.3	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
46LED	Men's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	748.8	4	W 32 C F 2 (ELE)	F42LL	60	0.2	C-OCC	1560	374.4	374.4	0.0	$34.86	$270.00	$35.00	7.7	6.7
18LED	Storage Room (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	780	174.7	174.7	0.0	$16.27	$270.00	$35.00	16.6	14.4
15LED	Elevator Equipment (locked - no entry	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	93.6	1	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Storage Room (locked - no entry	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187.2	2	S 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	780	93.6	93.6	0.0	$8.71	$270.00	$35.00	31.0	27.0
18LED	B Corridor 1	21	T 32 R F 4 (ELE)	F44ILL	112	2.4	SW	3640	8,561.3	21	T 32 R F 4 (ELE)	F44ILL	112	2.4	C-OCC	2912	6,849.0	1,712.3	0.0	$159.41	$270.00	$35.00	1.7	1.5
217LED	B Corridor 1	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222.0	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	C-OCC	2912	177.6	44.4	0.0	$4.13	$270.00	$35.00	65.3	56.8
18LED	B-14	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	B-15	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	B-13	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	B-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-12	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-09	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
115	B-09	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	B-10	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	B-08	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456.0	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	1950	1,092.0	364.0	0.0	$33.89	$270.00	$35.00	8.0	6.9
115	B-08	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
133	Custodial Room (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
4LED	Men's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	224.6	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	C-OCC	1560	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
133	Storage	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	780	21.1	21.1	0.0	$1.96	$270.00	$35.00	137.7	119.9
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
104LED	Girls' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	99.8	1	S 32 PC F 1	F41LL	32	0.0	C-OCC	1560	49.9	49.9	0.0	$4.65	$270.00	$35.00	58.1	50.6
4LED	Women's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	224.6	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	C-OCC	1560	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
104LED	Boys' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	99.8	1	S 32 PC F 1	F41LL	32	0.0	C-OCC	1560	49.9	49.9	0.0	$4.65	$270.00	$35.00	58.1	50.6
18LED	B-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368.0	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	C-OCC	1950	3,276.0	1,092.0	0.0	$101.66	$270.00	$35.00	2.7	2.3
115	B-07	3	W 20 C F 2	F22SS	56	0.2	SW	2600	436.8	3	W 20 C F 2	F22SS	56	0.2	C-OCC	1950	327.6	109.2	0.0	$10.17	$270.00	$35.00	26.6	23.1
18LED	B-06	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	B-05	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368.0	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	C-OCC	1950	3,276.0	1,092.0	0.0	$101.66	$270.00	$35.00	2.7	2.3
18LED	B-04 Teacher's Lounge	13	T 32 R F 4 (ELE)	F44ILL	112	1.5	SW	2600	3,785.6	13	T 32 R F 4 (ELE)	F44ILL	112	1.5	C-OCC	1300	1,892.8	1,892.8	0.0	$176.22	$270.00	$35.00	1.5	1.3
18LED	B-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	B-01	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912.0	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	C-OCC	1950	2,184.0	728.0	0.0	$67.78	$270.00	$35.00	4.0	3.5
18LED	B-02	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
18LED	Lower A Classroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	873.6	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1950	655.2	218.4	0.0	$20.33	$270.00	$35.00	13.3	11.6
18LED	Lower A Stairs	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3640	815.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	2912	652.3	163.1	0.0	$15.18	$270.00	$35.00	17.8	15.5
46LED	Lower A Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655.2	3	W 32 C F 2 (ELE)	F42LL	60	0.2	C-OCC	2912	524.2	131.0	0.0	$12.20	$270.00	$35.00	22.1	19.3
18LED	A Wing Corridor	27	T 32 R F 4 (ELE)	F44ILL	112	3.0	SW	3640	11,007.4	27	T 32 R F 4 (ELE)	F44ILL	112	3.0	C-OCC	2912	8,805.9	2,201.5	0.0	$204.96	$270.00	$35.00	1.3	1.1
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	A-01	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038.4	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	C-OCC	1950	1,528.8	509.6	0.0	$47.44	$270.00	$35.00	5.7	5.0
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	A-02	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038.4	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	C-OCC	1950	1,528.8	509.6	0.0	$47.44	$270.00	$35.00	5.7	5.0
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117.0	1	I 75	I75/1	75	0.1	NONE	1560	117.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
52LED	A-04 Music Room	50	W 34 C F 2 (MAG)	F42EE	72	3.6	SW	2600	9,360.0	50	W 34 C F 2 (MAG)	F42EE	72	3.6	C-OCC	1950	7,020.0	2,340.0	0.0	$217.85	$270.00	$35.00	1.2	1.1
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
52LED	A-04 Instruments	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
52LED	A-04 Sheet Music Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337.0	3	W 34 C F 2 (MAG)	F42EE	72	0.2	C-OCC	780	168.5	168.5	0.0	$15.69	$270.00	$35.00	17.2	15.0
52LED	A-04 Office	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
93	A-04 Instruments	3	I 75	I75/1	75	0.2	SW	1560	351.0	3	I 75	I75/1	75	0.2	C-OCC	780	175.5	175.5	0.0	$16.34	$270.00	$35.00	16.5	14.4
52LED	A-02 (locked - no entry	40	W 34 C F 2 (MAG)	F42EE	72	2.9	SW	2600	7,488.0	40	W 34 C F 2 (MAG)	F42EE	72	2.9	C-OCC	1950	5,616.0	1,872.0	0.0	$174.28	$270.00	$35.00	1.5	1.3
141LED	Auditorium	12	HPS 250	HPS250/1	295	3.5	SW	3120	11,044.8	12	HPS 250	HPS250/1	295	3.5	NONE	3120	11,044.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
93	Backstage Right	3	I 75	I75/1	75	0.2	SW	3120	702.0	3	I 75	I75/1	75	0.2	NONE	3120	702.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
93	Stage	2	I 75	I75/1	75	0.2	SW	3120	468.0	2	I 75	I75/1	75	0.2	NONE	3120	468.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
20LED	Backstage Left	1	S 32 C F 1 (ELE)	F41LL	32	0.0	SW	3120	99.8	1	S 32 C F 1 (ELE)	F41LL	32	0.0	NONE	3120	99.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
52LED	Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337.0	3	W 34 C F 2 (MAG)	F42EE	72	0.2	C-OCC	780	168.5	168.5	0.0	$15.69	$270.00	$35.00	17.2	15.0
18LED	Auditorium Corridor	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,153.6	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	C-OCC	2912	6,522.9	1,630.7	0.0	$151.82	$270.00	$35.00	1.8	1.5
18LED	D-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-16	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
18LED	D-14 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-12	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598.0	2	T 34 R F 3 (MAG)	F43EE	115	0.2	C-OCC	1950	448.5	149.5	0.0	$13.92	$270.00	$35.00	19.4	16.9
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598.0	2	T 34 R F 3 (MAG)	F43EE	115	0.2	C-OCC	1950	448.5	149.5	0.0	$13.92	$270.00	$35.00	19.4	16.9
18LED	D-21 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	Gold Cafeteria	38	T 32 R F 4 (ELE)	F44ILL	112	4.3	SW	2600	11,065.6	38	T 32 R F 4 (ELE)	F44ILL	112	4.3	C-OCC	1950	8,299.2	2,766.4	0.0	$257.55	$270.00	$35.00	1.0	0.9
18LED	Classroom in Cafeteria	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
52LED	Kitchen Storage	6	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	673.9	6	W 34 C F 2 (MAG)	F42EE	72	0.4	C-OCC	780	337.0	337.0	0.0	$31.37	$270.00	$35.00	8.6	7.5
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
18LED	Serving Line	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,329.6	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	1950	1,747.2	582.4	0.0	$54.22	$270.00	$35.00	5.0	4.3
18LED	Cafeteria	54	T 32 R F 4 (ELE)	F44ILL	112	6.0	SW	2600	15,724.8	54	T 32 R F 4 (ELE)	F44ILL	112	6.0	C-OCC	1950	11,793.6	3,931.2	0.0	$365.99	$270.00	$35.00	0.7	0.6
18LED	D-19 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	D-17 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	D-10 Teacher's Lounge	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1300	873.6	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
35LED	Child Study Team Office	39	T 32 R F 3 (ELE)	F43ILL/2	90	3.5	SW	2600	9,126.0	39	T 32 R F 3 (ELE)	F43ILL/2	90	3.5	C-OCC	1950	6,844.5	2,281.5	0.0	$212.41	$270.00	$35.00	1.3	1.1
35LED	Conference Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	1560	561.6	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	NONE	1560	561.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Main Office Corridor	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223.0	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	2912	978.4	244.6	0.0	$22.77	$270.00	$35.00	11.9	10.3
18LED	Main Office 9th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
133	Main Office Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
18LED	Main Office 11th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	Main Office 12th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	Main Office 10th	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456.0	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	1950	1,092.0	364.0	0.0	$33.89	$270.00	$35.00	8.0	6.9
18LED	Guidance Office 1	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 2	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 3	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 5	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 6	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 7	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 8	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	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 annual hours for the usage group	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	"Lighting Fixture Code" Example 2T 40 R F(U) = 2'x2' Troff 40 w Recess. Floor 2 lamps U shape	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(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
18LED	Guidance Office 10	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
18LED	Guidance Office 11	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1950	436.8	145.6	0.0	$13.56	$270.00	$35.00	19.9	17.3
35LED	Break Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	2600	936.0	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	C-OCC	1300	468.0	468.0	0.0	$43.57	$270.00	$35.00	6.2	5.4
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	224.6	2	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	780	112.3	112.3	0.0	$10.46	$270.00	$35.00	25.8	22.5
18LED	D-15 Break Room	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1300	873.6	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
20LED	Women's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	199.7	2	S 32 C F 1 (ELE)	F41LL	32	0.1	C-OCC	1560	99.8	99.8	0.0	$9.30	$270.00	$35.00	29.0	25.3
20LED	Men's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	199.7	2	S 32 C F 1 (ELE)	F41LL	32	0.1	C-OCC	1560	99.8	99.8	0.0	$9.30	$270.00	$35.00	29.0	25.3
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998.4	8	S 32 C F 2 (ELE)	F42LL	60	0.5	NONE	2080	998.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	D-13(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-08 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-11(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-09 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-06	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
18LED	D-07 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
61	D-05 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598.0	2	T 34 R F 3 (MAG)	F43EE	115	0.2	C-OCC	1950	448.5	149.5	0.0	$13.92	$270.00	$35.00	19.4	16.9
61	D-03 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598.0	2	T 34 R F 3 (MAG)	F43EE	115	0.2	C-OCC	1950	448.5	149.5	0.0	$13.92	$270.00	$35.00	19.4	16.9
18LED	D-04	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203.2	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	C-OCC	1950	2,402.4	800.8	0.0	$74.55	$270.00	$35.00	3.6	3.2
18LED	D-01 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	D-02	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
133	Custodial (C-Wing) (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
133	Men's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84.2	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1560	42.1	42.1	0.0	$3.92	$270.00	$35.00	68.9	59.9
133	Custodial Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	NONE	1560	42.1	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	C-08	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
18LED	C-09	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659.2	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	C-OCC	1950	3,494.4	1,164.8	0.0	$108.44	$270.00	$35.00	2.5	2.2
18LED	FDD	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
18LED	C-12	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
18LED	C-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494.4	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	C-OCC	1950	2,620.8	873.6	0.0	$81.33	$270.00	$35.00	3.3	2.9
18LED	C-13	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038.4	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	C-OCC	1950	1,528.8	509.6	0.0	$47.44	$270.00	$35.00	5.7	5.0
18LED	C-14	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,620.8	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	1950	1,965.6	655.2	0.0	$61.00	$270.00	$35.00	4.4	3.9
18LED	Loop Corridor	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	3640	3,669.1	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	C-OCC	2912	2,935.3	733.8	0.0	$68.32	$270.00	$35.00	4.0	3.4
35LED	Loop Corridor	7	T 32 R F 3 (ELE)	F43ILL/2	90	0.6	SW	3640	2,293.2	7	T 32 R F 3 (ELE)	F43ILL/2	90	0.6	C-OCC	2912	1,834.6	458.6	0.0	$42.70	$270.00	$35.00	6.3	5.5
18LED	C Corridor Stairs	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223.0	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	2912	978.4	244.6	0.0	$22.77	$270.00	$35.00	11.9	10.3
46LED	C Corridor Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655.2	3	W 32 C F 2 (ELE)	F42LL	60	0.2	C-OCC	2912	524.2	131.0	0.0	$12.20	$270.00	$35.00	22.1	19.3
18LED	Gym Wing Corridor	24	T 32 R F 4 (ELE)	F44ILL	112	2.7	SW	3640	9,784.3	24	T 32 R F 4 (ELE)	F44ILL	112	2.7	C-OCC	2912	7,827.5	1,956.9	0.0	$182.18	$270.00	$35.00	1.5	1.3
18LED	Athletic Trainer	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	Office next to Trainer (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
146LED	Gymnasium	64	High Bay MH 400	MH400/1	458	29.3	SW	3120	91,453.4	64	High Bay MH 400	MH400/1	458	29.3	NONE	3120	91,453.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
11LED	Auxilary Gymnasium	54	S 34 P F 2 (MAG)	F42EE	72	3.9	SW	3120	12,130.6	54	S 34 P F 2 (MAG)	F42EE	72	3.9	NONE	3120	12,130.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1560	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
46LED	Boys' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118.4	22	W 32 C F 2 (ELE)	F42LL	60	1.3	C-OCC	2340	3,088.8	1,029.6	0.0	$95.86	$270.00	$35.00	2.8	2.5
46LED	Boy's Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187.2	1	W 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	1560	93.6	93.6	0.0	$8.71	$270.00	$35.00	31.0	27.0
52LED	Boys' Locker Room Exi	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	224.6	1	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	2340	168.5	56.2	0.0	$5.23	$270.00	$35.00	51.6	44.9
46LED	Boys' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312.0	2	W 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	1950	234.0	78.0	0.0	$7.26	$270.00	$35.00	37.2	32.4
46LED	Girls' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118.4	22	W 32 C F 2 (ELE)	F42LL	60	1.3	C-OCC	2340	3,088.8	1,029.6	0.0	$95.86	$270.00	$35.00	2.8	2.5
46LED	Girls' Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187.2	1	W 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	1560	93.6	93.6	0.0	$8.71	$270.00	$35.00	31.0	27.0
52LED	Girls' Locker Room Exi	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	224.6	1	W 34 C F 2 (MAG)	F42EE	72	0.1	C-OCC	2340	168.5	56.2	0.0	$5.23	$270.00	$35.00	51.6	44.9
46LED	Girls' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312.0	2	W 32 C F 2 (ELE)	F42LL	60	0.1	C-OCC	1950	234.0	78.0	0.0	$7.26	$270.00	$35.00	37.2	32.4
18LED	Custodial	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	174.7	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	NONE	1560	174.7	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	E Corridor	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	3640	5,707.5	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	C-OCC	2912	4,566.0	1,141.5	0.0	$106.27	$270.00	$35.00	2.5	2.2
35LED	E-05	38	T 32 R F 3 (ELE)	F43ILL/2	90	3.4	SW	2600	8,892.0	38	T 32 R F 3 (ELE)	F43ILL/2	90	3.4	C-OCC	1950	6,669.0	2,223.0	0.0	$206.96	$270.00	$35.00	1.3	1.1
18LED	E-Wing Weight Room Corridor	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	3640	2,038.4	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	2912	1,630.7	407.7	0.0	$37.95	$270.00	$35.00	7.1	6.2
141LED	Weight Room (locked - no entry	9	HPS 250	HPS250/1	295	2.7	SW	3120	8,283.6	9	HPS 250	HPS250/1	295	2.7	NONE	3120	8,283.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Community Office Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	Athletic Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456.0	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	C-OCC	1950	1,092.0	364.0	0.0	$33.89	$270.00	$35.00	8.0	6.9
18LED	Athletic Office	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	873.6	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	C-OCC	1950	655.2	218.4	0.0	$20.33	$270.00	$35.00	13.3	11.6
18LED	Team Rooms	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	1560	698.9	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	NONE	1560	698.9	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Viewing Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	Cross Country/Track Locker Room	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	3120	2,446.1	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	C-OCC	2340	1,834.6	611.5	0.0	$56.93	$270.00	$35.00	4.7	4.1
18LED	Track Coaches Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,164.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1950	873.6	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
18LED	Locker Room Exi	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	407.7	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	C-OCC	2912	326.1	81.5	0.0	$7.59	$270.00	$35.00	35.6	31.0
18LED	Locker Room Restroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3120	1,397.8	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	C-OCC	1560	698.9	698.9	0.0	$65.07	$270.00	$35.00	4.1	3.6
18LED	Team Room #2 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	3120	2,795.5	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	C-OCC	2340	2,096.6	698.9	0.0	$65.07	$270.00	$35.00	4.1	3.6
105LED	E-01	16	1T 32 RF 1 - P	F41LL	32	0.5	SW	2600	1,331.2	16	1T 32 RF 1 - P	F41LL	32	0.5	C-OCC	1950	998.4	332.8	0.0	$30.98	$270.00	$35.00	8.7	7.6
6LED	Main Electrician	58	T 34 R F 4 (MAG)	F44EE	144	8.4	SW	2080	17,372.2	58	T 34 R F 4 (MAG)	F44EE	144	8.4	NONE	2080	17,372.2	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
32LED	Media Center	123	1T 32 R F 2 (ELE)	F42LL	60	7.4	SW	3120	23,025.6	123	1T 32 R F 2 (ELE)	F42LL	60	7.4	C-OCC	2340	17,269.2	5,756.4	0.0	$535.92	$270.00	$35.00	0.5	0.4
181	Media Center	90	D 13 C CF 2	CFQ13/2-L	28	2.5	SW	3120	7,862.4	90	D 13 C CF 2	CFQ13/2-L	28	2.5	C-OCC	2340	5,896.8	1,965.6	0.0	$183.00	$270.00	$35.00	1.5	1.3
18LED	Media Center Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	698.9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	2340	524.2	174.7	0.0	$16.27	$270.00	$35.00	16.6	14.4
18LED	Media Center Video Storage	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	780	174.7	174.7	0.0	$16.27	$270.00	$35.00	16.6	14.4
18LED	Media Center Break Room	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	C-OCC	1300	291.2	291.2	0.0	$27.11	$270.00	$35.00	10.0	8.7
35LED	Corridor - Pine Belt	15	T 32 R F 3 (ELE)	F43ILL/2	90	1.4	SW	3640	4,914.0	15	T 32 R F 3 (ELE)	F43ILL/2	90	1.4	C-OCC	2912	3,931.2	982.8	0.0	$91.50	$270.00	$35.00	3.0	2.6
181	Corridor - Pine Belt	134	D 13 C CF 2	CFQ13/2-L	28	3.8	SW	3640	13,657.3	134	D 13 C CF 2	CFQ13/2-L	28	3.8	C-OCC	2912	10,925.8	2,731.5	0.0	$254.30	$270.00	$35.00	1.1	0.9
181	Corridor Display	12	D 13 C CF 2	CFQ13/2-L	28	0.3	SW	2080	698.9	12	D 13 C CF 2	CFQ13/2-L	28	0.3	C-OCC	1040	349.4	349.4	0.0	$32.53	$270.00	$35.00	8.3	7.2
20LED	Corridor	70	S 32 C F 1 (ELE)	F41LL	32	2.2	SW	3640	8,153.6	70	S 32 C F 1 (ELE)	F41LL	32	2.2	C-OCC	2912	6,522.9	1,630.7	0.0	$151.82	$270.00	$35.00	1.8	1.5
175	Display	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	SW	2080	1,264.6	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	C-OCC	1040	632.3	632.3	0.0	$58.87	$270.00	$35.00	4.6	4.0
146LED	Pine Belt Gym	44	High Bay MH 400	MH400/1	458	20.2	SW	3120	62,874.2	44	High Bay MH 400	MH400/1	458	20.2	NONE	3120	62,874.2	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
24LED	Corridor	30	1B 32 P F 2 (ELE)	F42LL	60	1.8	SW	3640	6,552.0	30	1B 32 P F 2 (ELE)	F42LL	60	1.8	C-OCC	2912	5,241.6	1,310.4	0.0	$122.00	$270.00	$35.00	2.2	1.9
133	Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42.1	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	780	21.1	21.1	0.0	$1.96	$270.00	$35.00	137.7	119.9
18LED	Nurse's Office (locked - no entry	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747.2	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	C-OCC	1950	1,310.4	436.8	0.0	$40.67	$270.00	$35.00	6.6	5.8
46LED	Men's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,620.8	14	W 32 C F 2 (ELE)	F42LL	60	0.8	C-OCC	1560	1,310.4	1,310.4	0.0	$122.00	$270.00	$35.00	2.2	1.9
18LED	Men's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349.4	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	C-OCC	1560	174.7	174.7	0.0	$16.27	$270.00	$35.00	16.6	14.4
46LED	Women's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,620.8	14	W 32 C F 2 (ELE)	F42LL	60	0.8	C-OCC	1560	1,310.4	1,310.4	0.0	$122.00	$270.00	$35.00	2.2	1.9
18LED	Women's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349.4	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	C-OCC	1560	174.7	174.7	0.0	$16.27	$270.00	$35.00	16.6	14.4
33	Concession Stand	6	13 W CF 1	CFQ13/1-L	15	0.1	SW	1040	93.6	6	13 W CF 1	CFQ13/1-L	15	0.1	NONE	1040	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Grounds Shed	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	374.4	4	S 32 C F 2 (ELE)	F42LL	60	0.2	NONE	1560	374.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Grounds Shed	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	NONE	1560	349.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
18LED	Grounds Shed - Backroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349.4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	NONE	1560	349.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Small Snack Shack	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1040	124.8	2	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1040	124.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House	20	S 32 C F 2 (ELE)	F42LL	60	1.2	SW	1560	1,872.0	20	S 32 C F 2 (ELE)	F42LL	60	1.2	NONE	1560	1,872.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Sink Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	93.6	1	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Towel Room	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187.2	2	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	187.2	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Shower Room	6	S 32 C F 2 (ELE)	F42LL	60	0.4	SW	1560	561.6	6	S 32 C F 2 (ELE)	F42LL	60	0.4	NONE	1560	561.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Ice Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	93.6	1	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Field House - Locker Room	18	T 32 R F 2 (ELE)	F42LL	60	1.1	SW	1560	1,684.8	18	T 32 R F 2 (ELE)	F42LL	60	1.1	NONE	1560	1,684.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Field House - Varsity Locke	9	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	842.4	9	T 32 R F 2 (ELE)	F42LL	60	0.5	NONE	1560	842.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Back Hal	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187.2	2	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	187.2	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Women's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	280.8	3	S 32 C F 2 (ELE)	F42LL	60	0.2	NONE	1560	280.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Field House - Storage	4	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1560	374.4	4	T 32 R F 2 (ELE)	F42LL	60	0.2	NONE	1560	374.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Men's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	280.8	3	S 32 C F 2 (ELE)	F42LL	60	0.2	NONE	1560	280.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Field House - Water Fountain	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1560	93.6	1	T 32 R F 2 (ELE)	F42LL	60	0.1	NONE	1560	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Field House - Coaches Room	8	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	748.8	8	T 32 R F 2 (ELE)	F42LL	60	0.5	NONE	1560	748.8	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Field House - Coaches Room - Rest Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	93.6	1	S 32 C F 2 (ELE)	F42LL	60	0.1	NONE	1560	93.6	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Security - Front Room	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468.0	3	T 32 R F 2 (ELE)	F42LL	60	0.2	NONE	2600	468.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
40LED	Security - Director (Locked - No Entry	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468.0	3	T 32 R F 2 (ELE)	F42LL	60	0.2	NONE	2600	468.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39.0	1	13 W CF 1	CFQ13/1-L	15	0.0	NONE	2600	39.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Security - Main Room	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624.0	4	S 32 C F 2 (ELE)	F42LL	60	0.2	NONE	2600	624.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
15LED	Security - Storage	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624.0	4	S 32 C F 2 (ELE)	F42LL	60	0.2	NONE	2600	624.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39.0	1	13 W CF 1	CFQ13/1-L	15	0.0	NONE	2600	39.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
7LED	Security - Breakroom	1	2T 32 R F 2 (u) (ELE) Thin Tube	FU2LL	60	0.1	SW	2600	156.0	1	2T 32 R F 2 (u) (ELE) Thin Tube	FU2LL	60	0.1	NONE	2600	156.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
231LED	Exterior Building Lighting	15	WP400MH1	MH400/1	458	6.9	SW	3120	21,434.4	15	WP400MH1	MH400/1	458	6.9	NONE	3120	21,434.4	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
133	Exterior Building Lighting	7	CF 26	CFQ26/1-L	27	0.2	SW	3120	589.7	7	CF 26	CFQ26/1-L	27	0.2	NONE	3120	589.7	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
227LED	Exterior Building Lighting	10	70 W MH Wall Pack	MH70/1	95	1.0	SW	3120	2,964.0	10	70 W MH Wall Pack	MH70/1	95	1.0	NONE	3120	2,964.0	0.0	0.0	$0.00	$0.00	$0.00		#DIV/0!
s	**Total**	**3,329**				**344.1**			**977343.6**	**3329.0**				**344.1**			**792214.7**	**185128.9**	**0.0**	**17235.4**	**81000.0**	**10500.0**		
s																	**Demand Savings**			**0.0**	**$0**			
s																	**kWh Savings**			**185,129**	**$17,235**			
s																	**Total Savings**				**$17,235**		**4.7**	**4.1**

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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
15LED	Boiler Room	10	S 32 C F 2 (ELE)	F42LL	60	0.6	SW	2080	1,248	10	T 38 R LED	RTLED38	38	0.4	NONE	2,080	790	458	0.2	$ 60.42	$ 2,362.50	$ -	39.1	39.1
115	Main Office	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
6LED	Main Office	15	T 34 R F 4 (MAG)	F44EE	144	2.2	SW	2600	5,616	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	4,154	1.4	$ 500.90	$ 3,813.75	$ 35	7.6	7.5
18LED	Main Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	488	969	0.3	$ 115.28	$ 1,451.25	$ 35	12.6	12.3
18LED	C-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	C-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	562	5	4 ft LED Tube	200732x2	30	0.2	C-OCC	780	117	445	0.2	$ 58.40	$ 1,086.75	$ 35	18.6	18.0
133	Women's Faculty Lavatory	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	C-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	C-27	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	2600	4,077	14	T 50 R LED	RTLED50	50	0.7	C-OCC	1,950	1,365	2,712	0.9	$ 322.78	$ 3,577.50	$ 35	11.1	11.0
18LED	C-24	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
133	Men's Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	C-29	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	2,906	0.9	$ 345.83	$ 3,813.75	$ 35	11.0	10.9
46LED	Boys' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,560	281	842	0.2	$ 93.01	$ 1,250.10	$ 35	13.4	13.1
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	75	0.0	$ 10.86	$ 5.40	$ -	0.5	0.5
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,560	281	842	0.2	$ 93.01	$ 1,250.10	$ 35	13.4	13.1
18LED	C-26	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	C-28	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	C-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
115	C-31	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
4LED	C-31	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	187	1	2T 25 R LED	2RTLED	25	0.0	C-OCC	1,950	49	138	0.0	$ 16.70	$ 472.50	$ 35	28.3	26.2
18LED	C-33	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
18LED	C-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	C-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	C-35	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
18LED	C-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
35LED	Walkway	32	T 32 R F 3 (ELE)	F43ILL/2	90	2.9	SW	3640	10,483	32	T 38 R LED	RTLED38	38	1.2	C-OCC	2,912	3,541	6,942	1.7	$ 781.10	$ 7,830.00	$ 35	10.0	10.0
18LED	Walkway	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	408	1	T 50 R LED	RTLED50	50	0.1	C-OCC	2,912	146	262	0.1	$ 29.42	$ 506.25	$ 35	17.2	16.0
46LED	Elevator 1	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3640	437	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	2,912	175	262	0.1	$ 29.26	$ 596.70	$ 35	20.4	19.2
35LED	F Corridor	26	T 32 R F 3 (ELE)	F43ILL/2	90	2.3	SW	3640	8,518	26	T 38 R LED	RTLED38	38	1.0	C-OCC	2,912	2,877	5,641	1.4	$ 634.65	$ 6,412.50	$ 35	10.1	10.0
115	F-208	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-208	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
18LED	Teachers Lounge	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,300	195	679	0.2	$ 78.24	$ 978.75	$ 35	12.5	12.1
18LED	F-210	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
115	F-210	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	257	325	0.1	$ 37.71	$ 702.00	$ 35	18.6	17.7
18LED	F-206 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-206 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-209 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
115	F-209 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	257	325	0.1	$ 37.71	$ 702.00	$ 35	18.6	17.7
18LED	F-207	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-207	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-204	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-204	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-202	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-202	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-205 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-205 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-203 (locked - no entry	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-203 (locked - no entry	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-201 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
115	F-201 (locked - no entry	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	257	325	0.1	$ 37.71	$ 702.00	$ 35	18.6	17.7
18LED	Men's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	Women's Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	F-212	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	488	969	0.3	$ 115.28	$ 1,451.25	$ 35	12.6	12.3
115	F-212	1	W 20 C F 2	F22SS	56	0.1	SW	2600	146	1	W 17 W C 2	F22ILL	33	0.0	C-OCC	1,950	64	81	0.0	$ 9.43	$ 378.00	$ 35	40.1	36.4
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
35LED	Corridor Outside F-212	11	T 32 R F 3 (ELE)	F43ILL/2	90	1.0	SW	3640	3,604	11	T 38 R LED	RTLED38	38	0.4	C-OCC	2,912	1,217	2,386	0.6	$ 268.50	$ 2,868.75	$ 35	10.7	10.6
35LED	Corridor to B	3	T 32 R F 3 (ELE)	F43ILL/2	90	0.3	SW	3640	983	3	T 38 R LED	RTLED38	38	0.1	C-OCC	2,912	332	651	0.2	$ 73.23	$ 978.75	$ 35	13.4	12.9
18LED	Corridor B	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,154	20	T 50 R LED	RTLED50	50	1.0	C-OCC	2,912	2,912	5,242	1.2	$ 588.43	$ 4,995.00	$ 35	8.5	8.4
18LED	B-19 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-21	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-23 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-25 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-20	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
133	Women's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	B-22	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
4LED	B-27	2	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	2600	374	2	2T 25 R LED	2RTLED	25	0.1	C-OCC	1,950	98	277	0.1	$ 33.39	$ 675.00	$ 35	20.2	19.2
52LED	Prep Room	5	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	562	5	4 ft LED Tube	200732x2	30	0.2	C-OCC	780	117	445	0.2	$ 58.40	$ 1,086.75	$ 35	18.6	18.0
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
46LED	Men's Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,560	281	842	0.2	$ 93.01	$ 1,250.10	$ 35	13.4	13.1
18LED	B-29	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
X5	Custodial Room	1	CF42/1	CF42/1-I	48	0.0	SW	1560	75	1	CF42/1	CF42/1-I	48	0.0	NONE	1,560	75	-	0.0	$ -	$ -	$ -		
46LED	Girls' Restroom	6	W 32 C F 2 (ELE)	F42LL	60	0.4	SW	3120	1,123	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	1,560	281	842	0.2	$ 93.01	$ 1,250.10	$ 35	13.4	13.1
18LED	B-26	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	B-28	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	B-30	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-31	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
115	B-31	4	W 20 C F 2	F22SS	56	0.2	SW	2600	582	4	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	257	325	0.1	$ 37.71	$ 702.00	$ 35	18.6	17.7
18LED	B-33	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-32	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-35	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-34	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	A Corridor	23	T 32 R F 4 (ELE)	F44ILL	112	2.6	SW	3640	9,377	23	T 50 R LED	RTLED50	50	1.2	C-OCC	2,912	3,349	6,028	1.4	$ 676.70	$ 5,703.75	$ 35	8.4	8.4
18LED	A-24	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	A-25	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	A-26	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912	10	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	975	1,937	0.6	$ 230.56	$ 2,632.50	$ 35	11.4	11.3
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	NONE	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$ -	39.1	39.1
18LED	A-27	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
18LED	A-28	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	A-29	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B Stairway	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3640	1,631	4	T 50 R LED	RTLED50	50	0.2	C-OCC	2,912	582	1,048	0.2	$ 117.69	$ 1,215.00	$ 35	10.3	10.0
52LED	B Stairway	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	3640	786	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	2,912	262	524	0.1	$ 59.01	$ 760.05	$ 35	12.9	12.3
18LED	C Wing Corridor	25	T 32 R F 4 (ELE)	F44ILL	112	2.8	SW	3640	10,192	25	T 50 R LED	RTLED50	50	1.3	C-OCC	2,912	3,640	6,552	1.6	$ 735.54	$ 6,176.25	$ 35	8.4	8.3
217LED	C Wing Corridor	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222	1	2T 25 R LED	2RTLED	25	0.0	C-OCC	2,912	73	149	0.0	$ 16.81	$ 472.50	$ 35	28.1	26.0
18LED	Attenance Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	C-01	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
18LED	C-02	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	C-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	C-04	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	C-06	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	2,906	0.9	$ 345.83	$ 3,813.75	$ 35	11.0	10.9
18LED	C-06 Closet	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	175	1	T 50 R LED	RTLED50	50	0.1	NONE	1,560	78	97	0.1	$ 14.03	$ 236.25	$ -	16.8	16.8
18LED	C-05	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	Boys' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	Girls' Restroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	C-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	2,906	0.9	$ 345.83	$ 3,813.75	$ 35	11.0	10.9
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
35LED	D Corridor	28	T 32 R F 3 (ELE)	F43ILL/2	90	2.5	SW	3640	9,173	28	T 38 R LED	RTLED38	38	1.1	C-OCC	2,912	3,098	6,074	1.5	$ 683.47	$ 6,885.00	$ 35	10.1	10.0
35LED	F Wing Corridor	40	T 32 R F 3 (ELE)	F43ILL/2	90	3.6	SW	3640	13,104	40	T 38 R LED	RTLED38	38	1.5	C-OCC	2,912	4,426	8,678	2.1	$ 976.38	$ 9,720.00	$ 35	10.0	9.9
18LED	F-108	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-108	2	W 20 C F 2	F22SS	56	0.1	SW	2600	291	2	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	129	163	0.0	$ 18.85	$ 486.00	$ 35	25.8	23.9
18LED	F-111	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	F-110	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-110	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-106	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-106	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-109	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-109	1	W 20 C F 2	F22SS	56	0.1	SW	2600	146	1	W 17 W C 2	F22ILL	33	0.0	C-OCC	1,950	64	81	0.0	$ 9.43	$ 378.00	$ 35	40.1	36.4
18LED	F-107	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-107	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-104	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * ($/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
115	F-104	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-102	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-102	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-105	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-105	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-103	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-103	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	Men's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
18LED	Women's Staff Restroom (locked - no entry	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3120	1,048	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	234	814	0.2	$ 90.88	$ 978.75	$ 35	10.8	10.4
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	NONE	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$ -	39.1	39.1
133	Janitor (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
18LED	F-101	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
115	F-101	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	F-Stairway	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	3640	2,446	6	T 50 R LED	RTLED50	50	0.3	C-OCC	2,912	874	1,572	0.4	$ 176.53	$ 1,687.50	$ 35	9.6	9.4
20LED	F Corridor	50	S 32 C F 1 (ELE)	F41LL	32	1.6	SW	3640	5,824	50	4 ft LED Tube	200732x1	15	0.8	C-OCC	2,912	2,184	3,640	0.9	$ 407.73	$ 4,353.75	$ 35	10.7	10.6
20LED	F Corridor	26	S 32 C F 1 (ELE)	F41LL	32	0.8	SW	3640	3,028	26	4 ft LED Tube	200732x1	15	0.4	C-OCC	2,912	1,136	1,893	0.4	$ 212.02	$ 2,393.55	$ 35	11.3	11.1
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
46LED	BB Corridor	18	W 32 C F 2 (ELE)	F42LL	60	1.1	SW	3640	3,931	18	4 ft LED Tube	200732x2	30	0.5	C-OCC	2,912	1,572	2,359	0.5	$ 263.34	$ 3,210.30	$ 35	12.2	12.1
18LED	BB-8	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-6	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-7	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-5	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-4	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824	20	T 50 R LED	RTLED50	50	1.0	C-OCC	1,950	1,950	3,874	1.2	$ 461.11	$ 4,995.00	$ 35	10.8	10.8
18LED	BB-3	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-1	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	BB-2	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	2600	5,824	20	T 50 R LED	RTLED50	50	1.0	C-OCC	1,950	1,950	3,874	1.2	$ 461.11	$ 4,995.00	$ 35	10.8	10.8
46LED	Women's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	749	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,560	187	562	0.1	$ 62.00	$ 923.40	$ 35	14.9	14.3
52LED	Custodial Room	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	112	1	4 ft LED Tube	200732x2	30	0.0	NONE	1,560	47	66	0.0	$ 9.50	$ 163.35	$ -	17.2	17.2
46LED	Men's Staff Restroom	4	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3120	749	4	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,560	187	562	0.1	$ 62.00	$ 923.40	$ 35	14.9	14.3
18LED	Storage Room (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	C-OCC	780	78	271	0.1	$ 35.32	$ 742.50	$ 35	21.0	20.0
15LED	Elevator Equipment (locked - no entry	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	NONE	1,560	59	34	0.0	$ 4.98	$ 236.25	$ -	47.5	47.5
15LED	Storage Room (locked - no entry	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	C-OCC	780	59	128	0.0	$ 15.47	$ 742.50	$ 35	48.0	45.7
18LED	B Corridor 1	21	T 32 R F 4 (ELE)	F44ILL	112	2.4	SW	3640	8,561	21	T 50 R LED	RTLED50	50	1.1	C-OCC	2,912	3,058	5,504	1.3	$ 617.86	$ 5,231.25	$ 35	8.5	8.4
217LED	B Corridor 1	1	2B 17 R F 4 (ELE)	F24ILL	61	0.1	SW	3640	222	1	2T 25 R LED	2RTLED	25	0.0	C-OCC	2,912	73	149	0.0	$ 16.81	$ 472.50	$ 35	28.1	26.0
18LED	B-14	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	B-15	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	B-13	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	B-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-12	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-09	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
115	B-09	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	B-10	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	B-08	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	488	969	0.3	$ 115.28	$ 1,451.25	$ 35	12.6	12.3
115	B-08	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
133	Custodial Room (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
4LED	Men's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	225	1	2T 25 R LED	2RTLED	25	0.0	C-OCC	1,560	39	186	0.0	$ 21.09	$ 472.50	$ 35	22.4	20.7
133	Storage	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	780	21	21	0.0	$ 1.96	$ 270.00	$ 35	137.7	119.9
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
104LED	Girls' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	C-OCC	1,560	23	76	0.0	$ 8.49	$ 351.68	$ 35	41.4	37.3
4LED	Women's Staff Restroom	1	2B 34 R F 2 (u) (MAG)	FU2EE	72	0.1	SW	3120	225	1	2T 25 R LED	2RTLED	25	0.0	C-OCC	1,560	39	186	0.0	$ 21.09	$ 472.50	$ 35	22.4	20.7
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
104LED	Boys' Restroom	1	S 32 PC F 1	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	C-OCC	1,560	23	76	0.0	$ 8.49	$ 351.68	$ 35	41.4	37.3
18LED	B-07	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	2,906	0.9	$ 345.83	$ 3,813.75	$ 35	11.0	10.9
115	B-07	3	W 20 C F 2	F22SS	56	0.2	SW	2600	437	3	W 17 W C 2	F22ILL	33	0.1	C-OCC	1,950	193	244	0.1	$ 28.28	$ 594.00	$ 35	21.0	19.8
18LED	B-06	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	B-05	15	T 32 R F 4 (ELE)	F44ILL	112	1.7	SW	2600	4,368	15	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,463	2,906	0.9	$ 345.83	$ 3,813.75	$ 35	11.0	10.9
18LED	B-04 Teacher's Lounge	13	T 32 R F 4 (ELE)	F44ILL	112	1.5	SW	2600	3,786	13	T 50 R LED	RTLED50	50	0.7	C-OCC	1,300	845	2,941	0.8	$ 339.06	$ 3,341.25	$ 35	9.9	9.8
18LED	B-03	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	B-01	10	T 32 R F 4 (ELE)	F44ILL	112	1.1	SW	2600	2,912	10	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	975	1,937	0.6	$ 230.56	$ 2,632.50	$ 35	11.4	11.3
18LED	B-02	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
18LED	Lower A Classroom	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	293	581	0.2	$ 69.17	$ 978.75	$ 35	14.2	13.6
18LED	Lower A Stairs	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3640	815	2	T 50 R LED	RTLED50	50	0.1	C-OCC	2,912	291	524	0.1	$ 58.84	$ 742.50	$ 35	12.6	12.0
46LED	Lower A Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	2,912	262	393	0.1	$ 43.89	$ 760.05	$ 35	17.3	16.5
18LED	A Wing Corridor	27	T 32 R F 4 (ELE)	F44ILL	112	3.0	SW	3640	11,007	27	T 50 R LED	RTLED50	50	1.4	C-OCC	2,912	3,931	7,076	1.7	$ 794.39	$ 6,648.75	$ 35	8.4	8.3
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
133	Men's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	A-01	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	683	1,356	0.4	$ 161.39	$ 1,923.75	$ 35	11.9	11.7
133	Women's Staff Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	A-02	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	683	1,356	0.4	$ 161.39	$ 1,923.75	$ 35	11.9	11.7
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
93	Custodial	1	I 75	I75/1	75	0.1	SW	1560	117	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	75	0.0	$ 10.86	$ 5.40	$ -	0.5	0.5
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
52LED	A-04 Music Room	50	W 34 C F 2 (MAG)	F42EE	72	3.6	SW	2600	9,360	50	4 ft LED Tube	200732x2	30	1.5	C-OCC	1,950	2,925	6,435	2.1	$ 769.20	$ 8,437.50	$ 35	11.0	10.9
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
52LED	A-04 Instruments	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
52LED	A-04 Storage	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
52LED	A-04 Sheet Music Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	70	267	0.1	$ 35.04	$ 760.05	$ 35	21.7	20.7
52LED	A-04 Office	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
93	A-04 Instruments	3	I 75	I75/1	75	0.2	SW	1560	351	3	CF 26	CFQ26/1-L	27	0.1	C-OCC	780	63	288	0.1	$ 38.46	$ 286.20	$ 35	7.4	6.5
52LED	A-02 (locked - no entry	40	W 34 C F 2 (MAG)	F42EE	72	2.9	SW	2600	7,488	40	4 ft LED Tube	200732x2	30	1.2	C-OCC	1,950	2,340	5,148	1.7	$ 615.36	$ 6,804.00	$ 35	11.1	11.0
141LED	Auditorium	12	HPS 250	HPS250/1	295	3.5	SW	3120	11,045	12	FXLED78	FXLED78/1	78	0.9	NONE	3,120	2,920	8,124	2.6	$ 967.32	$ 10,130.35	$ 1,200	10.5	9.2
93	Backstage Right	3	I 75	I75/1	75	0.2	SW	3120	702	3	CF 26	CFQ26/1-L	27	0.1	NONE	3,120	253	449	0.1	$ 53.49	$ 16.20	$ -	0.3	0.3
93	Stage	2	I 75	I75/1	75	0.2	SW	3120	468	2	CF 26	CFQ26/1-L	27	0.1	NONE	3,120	168	300	0.1	$ 35.66	$ 10.80	$ -	0.3	0.3
20LED	Backstage Left	1	S 32 C F 1 (ELE)	F41LL	32	0.0	SW	3120	100	1	4 ft LED Tube	200732x1	15	0.0	NONE	3,120	47	53	0.0	$ 6.32	$ 81.68	$ -	12.9	12.9
52LED	Storage	3	W 34 C F 2 (MAG)	F42EE	72	0.2	SW	1560	337	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	70	267	0.1	$ 35.04	$ 760.05	$ 35	21.7	20.7
18LED	Auditorium Corridor	20	T 32 R F 4 (ELE)	F44ILL	112	2.2	SW	3640	8,154	20	T 50 R LED	RTLED50	50	1.0	C-OCC	2,912	2,912	5,242	1.2	$ 588.43	$ 4,995.00	$ 35	8.5	8.4
18LED	D-27	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-16	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
18LED	D-14 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-12	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	C-OCC	1,950	281	317	0.1	$ 36.50	$ 526.50	$ 35	14.4	13.5
61	Office	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	C-OCC	1,950	281	317	0.1	$ 36.50	$ 526.50	$ 35	14.4	13.5
18LED	D-21 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	Gold Cafeteria	38	T 32 R F 4 (ELE)	F44ILL	112	4.3	SW	2600	11,066	38	T 50 R LED	RTLED50	50	1.9	C-OCC	1,950	3,705	7,361	2.4	$ 876.11	$ 9,247.50	$ 35	10.6	10.5
18LED	Classroom in Cafeteria	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
52LED	Kitchen Storage	6	W 34 C F 2 (MAG)	F42EE	72	0.4	SW	1560	674	6	4 ft LED Tube	200732x2	30	0.2	C-OCC	780	140	534	0.3	$ 70.08	$ 1,250.10	$ 35	17.8	17.3
133	Custodial	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
52LED	Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
18LED	Serving Line	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	2600	2,330	8	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	780	1,550	0.5	$ 184.44	$ 2,160.00	$ 35	11.7	11.5
18LED	Cafeteria	54	T 32 R F 4 (ELE)	F44ILL	112	6.0	SW	2600	15,725	54	T 50 R LED	RTLED50	50	2.7	C-OCC	1,950	5,265	10,460	3.3	$ 1,245.00	$ 13,027.50	$ 35	10.5	10.4
18LED	D-19 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	D-17 (locked - no entry	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	D-10 Teacher's Lounge	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,300	390	1,357	0.4	$ 156.49	$ 1,687.50	$ 35	10.8	10.6
35LED	Child Study Team Office	39	T 32 R F 3 (ELE)	F43ILL/2	90	3.5	SW	2600	9,126	39	T 38 R LED	RTLED38	38	1.5	C-OCC	1,950	2,890	6,236	2.0	$ 744.85	$ 9,483.75	$ 35	12.7	12.7
35LED	Conference Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	1560	562	4	T 38 R LED	RTLED38	38	0.2	NONE	1,560	237	324	0.2	$ 47.06	$ 945.00	$ -	20.1	20.1
18LED	Main Office Corridor	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223	3	T 50 R LED	RTLED50	50	0.2	C-OCC	2,912	437	786	0.2	$ 88.27	$ 978.75	$ 35	11.1	10.7
18LED	Main Office 9th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
133	Main Office Restroom	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
18LED	Main Office 11th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	Main Office 12th (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	Main Office 10th	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	488	969	0.3	$ 115.28	$ 1,451.25	$ 35	12.6	12.3
18LED	Guidance Office 1	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 2	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 3	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 4	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 5	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 6	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 7	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 8	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 9	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3

Energy Audit of Toms River Regional Schools - High School North
CHA Project No. 28485
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	(kW/space) * (Annual Hours)	No. of fixtures after the retrofit	Lighting Fixture Code	Code from Table of Standard Fixture Wattages	Value from Table of Standard Fixture Wattages	(Watts/Fixt) * (Number of Fixtures)	Retrofit control device	Estimated annual hours for the usage group	(kW/space) * (Annual Hours)	(Original Annual kWh) - (Retrofit Annual kWh)	(Original Annual kW) - (Retrofit Annual kW)	(kWh Saved) * ($/kWh)	Cost for renovations to lighting system	Prescriptive Lighting Measures	Length of time for renovations cost to be recovered	Length of time for renovations cost to be recovered
18LED	Guidance Office 10	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
18LED	Guidance Office 11	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,950	195	387	0.1	$ 46.11	$ 742.50	$ 35	16.1	15.3
35LED	Break Room	4	T 32 R F 3 (ELE)	F43ILL/2	90	0.4	SW	2600	936	4	T 38 R LED	RTLED38	38	0.2	C-OCC	1,300	198	738	0.2	$ 85.59	$ 1,215.00	$ 35	14.2	13.8
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
52LED	Break Room Storage (locked - no entry	2	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	1560	225	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	780	47	178	0.1	$ 23.36	$ 596.70	$ 35	25.5	24.0
18LED	D-15 Break Room	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,300	390	1,357	0.4	$ 156.49	$ 1,687.50	$ 35	10.8	10.6
20LED	Women's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	200	2	4 ft LED Tube	200732x1	15	0.0	C-OCC	1,560	47	153	0.0	$ 16.99	$ 433.35	$ 35	25.5	23.5
20LED	Men's Staff Restroom	2	S 32 C F 1 (ELE)	F41LL	32	0.1	SW	3120	200	2	4 ft LED Tube	200732x1	15	0.0	C-OCC	1,560	47	153	0.0	$ 16.99	$ 433.35	$ 35	25.5	23.5
15LED	Electrical Room (locked - no entry	8	S 32 C F 2 (ELE)	F42LL	60	0.5	SW	2080	998	8	T 38 R LED	RTLED38	38	0.3	NONE	2,080	632	366	0.2	$ 48.34	$ 1,890.00	$ -	39.1	39.1
18LED	D-13(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-08 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-11(locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-09 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-06	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
18LED	D-07 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
61	D-05 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	C-OCC	1,950	281	317	0.1	$ 36.50	$ 526.50	$ 35	14.4	13.5
61	D-03 (locked - no entry	2	T 34 R F 3 (MAG)	F43EE	115	0.2	SW	2600	598	2	T 28 R F 3	F43SSILL	72	0.1	C-OCC	1,950	281	317	0.1	$ 36.50	$ 526.50	$ 35	14.4	13.5
18LED	D-04	11	T 32 R F 4 (ELE)	F44ILL	112	1.2	SW	2600	3,203	11	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,073	2,131	0.7	$ 253.61	$ 2,868.75	$ 35	11.3	11.2
18LED	D-01 (locked - no entry	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	D-02	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
133	Custodial (C-Wing) (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
133	Men's Staff Restroom (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	3120	84	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	1,560	42	42	0.0	$ 3.92	$ 270.00	$ 35	68.9	59.9
133	Custodial Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	NONE	1,560	42	-	0.0	$ -	$ -	$ -		
18LED	C-08	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
18LED	C-09	16	T 32 R F 4 (ELE)	F44ILL	112	1.8	SW	2600	4,659	16	T 50 R LED	RTLED50	50	0.8	C-OCC	1,950	1,560	3,099	1.0	$ 368.89	$ 4,050.00	$ 35	11.0	10.9
18LED	FDD	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
18LED	C-12	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
18LED	C-11	12	T 32 R F 4 (ELE)	F44ILL	112	1.3	SW	2600	3,494	12	T 50 R LED	RTLED50	50	0.6	C-OCC	1,950	1,170	2,324	0.7	$ 276.67	$ 3,105.00	$ 35	11.2	11.1
18LED	C-13	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	2600	2,038	7	T 50 R LED	RTLED50	50	0.4	C-OCC	1,950	683	1,356	0.4	$ 161.39	$ 1,923.75	$ 35	11.9	11.7
18LED	C-14	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	2600	2,621	9	T 50 R LED	RTLED50	50	0.5	C-OCC	1,950	878	1,743	0.6	$ 207.50	$ 2,396.25	$ 35	11.5	11.4
18LED	Loop Corridor	9	T 32 R F 4 (ELE)	F44ILL	112	1.0	SW	3640	3,669	9	T 50 R LED	RTLED50	50	0.5	C-OCC	2,912	1,310	2,359	0.6	$ 264.80	$ 2,396.25	$ 35	9.0	8.9
35LED	Loop Corridor	7	T 32 R F 3 (ELE)	F43ILL/2	90	0.6	SW	3640	2,293	7	T 38 R LED	RTLED38	38	0.3	C-OCC	2,912	775	1,519	0.4	$ 170.87	$ 1,923.75	$ 35	11.3	11.1
18LED	C Corridor Stairs	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	3640	1,223	3	T 50 R LED	RTLED50	50	0.2	C-OCC	2,912	437	786	0.2	$ 88.27	$ 978.75	$ 35	11.1	10.7
46LED	C Corridor Stairs	3	W 32 C F 2 (ELE)	F42LL	60	0.2	SW	3640	655	3	4 ft LED Tube	200732x2	30	0.1	C-OCC	2,912	262	393	0.1	$ 43.89	$ 760.05	$ 35	17.3	16.5
18LED	Gym Wing Corridor	24	T 32 R F 4 (ELE)	F44ILL	112	2.7	SW	3640	9,784	24	T 50 R LED	RTLED50	50	1.2	C-OCC	2,912	3,494	6,290	1.5	$ 706.12	$ 5,940.00	$ 35	8.4	8.4
18LED	Athletic Trainer	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	Office next to Trainer (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
146LED	Gymnasium	64	High Bay MH 400	MH400/1	458	29.3	SW	3120	91,453	64	BAYLED78W	BAYLED78W	93	6.0	NONE	3,120	18,570	72,883	23.4	$ 8,677.61	$ 54,028.51	$ 6,400	6.2	5.5
11LED	Auxilary Gymnasium	54	S 34 P F 2 (MAG)	F42EE	72	3.9	SW	3120	12,131	54	T 38 R LED	RTLED38	38	2.1	NONE	3,120	6,402	5,728	1.8	$ 682.02	$ 12,757.50	$ -	18.7	18.7
18LED	Boys' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
18LED	Girls' Restroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	156	543	0.1	$ 60.59	$ 742.50	$ 35	12.3	11.7
46LED	Boys' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118	22	4 ft LED Tube	200732x2	30	0.7	C-OCC	2,340	1,544	2,574	0.7	$ 293.10	$ 3,863.70	$ 35	13.2	13.1
46LED	Boy's Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,560	47	140	0.0	$ 15.50	$ 433.35	$ 35	28.0	25.7
52LED	Boys' Locker Room Exit	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	225	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	2,340	70	154	0.0	$ 17.78	$ 433.35	$ 35	24.4	22.4
46LED	Boys' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,950	117	195	0.1	$ 23.01	$ 596.70	$ 35	25.9	24.4
46LED	Girls' Locker Room	22	W 32 C F 2 (ELE)	F42LL	60	1.3	SW	3120	4,118	22	4 ft LED Tube	200732x2	30	0.7	C-OCC	2,340	1,544	2,574	0.7	$ 293.10	$ 3,863.70	$ 35	13.2	13.1
46LED	Girls' Locker Room Restroom	1	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	3120	187	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	1,560	47	140	0.0	$ 15.50	$ 433.35	$ 35	28.0	25.7
52LED	Girls' Locker Room Exit	1	W 34 C F 2 (MAG)	F42EE	72	0.1	SW	3120	225	1	4 ft LED Tube	200732x2	30	0.0	C-OCC	2,340	70	154	0.0	$ 17.78	$ 433.35	$ 35	24.4	22.4
46LED	Girls' Locker Room Office (locked - no entry	2	W 32 C F 2 (ELE)	F42LL	60	0.1	SW	2600	312	2	4 ft LED Tube	200732x2	30	0.1	C-OCC	1,950	117	195	0.1	$ 23.01	$ 596.70	$ 35	25.9	24.4
18LED	Custodial	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	1560	175	1	T 50 R LED	RTLED50	50	0.1	NONE	1,560	78	97	0.1	$ 14.03	$ 236.25	$ -	16.8	16.8
18LED	E Corridor	14	T 32 R F 4 (ELE)	F44ILL	112	1.6	SW	3640	5,708	14	T 50 R LED	RTLED50	50	0.7	C-OCC	2,912	2,038	3,669	0.9	$ 411.90	$ 3,577.50	$ 35	8.7	8.6
35LED	E-05	38	T 32 R F 3 (ELE)	F43ILL/2	90	3.4	SW	2600	8,892	38	T 38 R LED	RTLED38	38	1.4	C-OCC	1,950	2,816	6,076	2.0	$ 725.75	$ 9,247.50	$ 35	12.7	12.7
18LED	E-Wing Weight Room Corridor	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	3640	2,038	5	T 50 R LED	RTLED50	50	0.3	C-OCC	2,912	728	1,310	0.3	$ 147.11	$ 1,451.25	$ 35	9.9	9.6
141LED	Weight Room (locked - no entry	9	HPS 250	HPS250/1	295	2.7	SW	3120	8,284	9	FXLED78	FXLED78/1	78	0.7	NONE	3,120	2,190	6,093	2.0	$ 725.49	$ 7,597.76	$ 900	10.5	9.2
18LED	Community Office Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	Athletic Office	5	T 32 R F 4 (ELE)	F44ILL	112	0.6	SW	2600	1,456	5	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	488	969	0.3	$ 115.28	$ 1,451.25	$ 35	12.6	12.3
18LED	Athletic Office	3	T 32 R F 4 (ELE)	F44ILL	112	0.3	SW	2600	874	3	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	293	581	0.2	$ 69.17	$ 978.75	$ 35	14.2	13.6
18LED	Team Rooms	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	1560	699	4	T 50 R LED	RTLED50	50	0.2	NONE	1,560	312	387	0.2	$ 56.11	$ 945.00	$ -	16.8	16.8
18LED	Viewing Room (locked - no entry	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	Cross Country/Track Locker Room	7	T 32 R F 4 (ELE)	F44ILL	112	0.8	SW	3120	2,446	7	T 50 R LED	RTLED50	50	0.4	C-OCC	2,340	819	1,627	0.4	$ 186.64	$ 1,923.75	$ 35	10.3	10.1
18LED	Track Coaches Office	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	2600	1,165	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,950	390	775	0.2	$ 92.22	$ 1,215.00	$ 35	13.2	12.8
18LED	Locker Room Exit	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3640	408	1	T 50 R LED	RTLED50	50	0.1	C-OCC	2,912	146	262	0.1	$ 29.42	$ 506.25	$ 35	17.2	16.0
18LED	Locker Room Restroom	4	T 32 R F 4 (ELE)	F44ILL	112	0.4	SW	3120	1,398	4	T 50 R LED	RTLED50	50	0.2	C-OCC	1,560	312	1,086	0.2	$ 121.17	$ 1,215.00	$ 35	10.0	9.7
18LED	Team Room #2 (locked - no entry	8	T 32 R F 4 (ELE)	F44ILL	112	0.9	SW	3120	2,796	8	T 50 R LED	RTLED50	50	0.4	C-OCC	2,340	936	1,860	0.5	$ 213.30	$ 2,160.00	$ 35	10.1	10.0
105LED	E-01	16	1T 32 RF 1 - P	F41LL	32	0.5	SW	2600	1,331	16	4 ft LED Tube	200732x1	15	0.2	C-OCC	1,950	468	863	0.3	$ 102.40	$ 1,576.80	$ 35	15.4	15.1
6LED	Main Electrician	58	T 34 R F 4 (MAG)	F44EE	144	8.4	SW	2080	17,372	58	T 50 R LED	RTLED50	50	2.9	NONE	2,080	6,032	11,340	5.5	$ 1,497.39	$ 13,702.50	$ -	9.2	9.2
32LED	Media Center	123	1T 32 R F 2 (ELE)	F42LL	60	7.4	SW	3120	23,026	123	4 ft LED Tube	200732x2	30	3.7	C-OCC	2,340	8,635	14,391	3.7	$ 1,638.69	$ 20,362.05	$ 35	12.4	12.4
181	Media Center	90	D 13 C CF 2	CFQ13/2-L	28	2.5	SW	3120	7,862	90	D 13 C CF 2	CFQ13/2-L	28	2.5	C-OCC	2,340	5,897	1,966	0.0	$ 183.00	$ 270.00	$ 35	1.5	1.3
18LED	Media Center Office	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	3120	699	2	T 50 R LED	RTLED50	50	0.1	C-OCC	2,340	234	465	0.1	$ 53.32	$ 742.50	$ 35	13.9	13.3
18LED	Media Center Video Storage	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	C-OCC	780	78	271	0.1	$ 35.32	$ 742.50	$ 35	21.0	20.0
18LED	Media Center Break Room	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	2600	582	2	T 50 R LED	RTLED50	50	0.1	C-OCC	1,300	130	452	0.1	$ 52.16	$ 742.50	$ 35	14.2	13.6
35LED	Corridor - Pine Belt	15	T 32 R F 3 (ELE)	F43ILL/2	90	1.4	SW	3640	4,914	15	T 38 R LED	RTLED38	38	0.6	C-OCC	2,912	1,660	3,254	0.8	$ 366.14	$ 3,813.75	$ 35	10.4	10.3
181	Corridor - Pine Belt	134	D 13 C CF 2	CFQ13/2-L	28	3.8	SW	3640	13,657	134	D 13 C CF 2	CFQ13/2-L	28	3.8	C-OCC	2,912	10,926	2,731	0.0	$ 254.30	$ 270.00	$ 35	1.1	0.9
181	Corridor Display	12	D 13 C CF 2	CFQ13/2-L	28	0.3	SW	2080	699	12	D 13 C CF 2	CFQ13/2-L	28	0.3	C-OCC	1,040	349	349	0.0	$ 32.53	$ 270.00	$ 35	8.3	7.2
20LED	Corridor	70	S 32 C F 1 (ELE)	F41LL	32	2.2	SW	3640	8,154	70	4 ft LED Tube	200732x1	15	1.1	C-OCC	2,912	3,058	5,096	1.2	$ 570.83	$ 5,987.25	$ 35	10.5	10.4
175	Display	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	SW	2080	1,265	16	S 25 C F 1 (MAG) SINK LIGHT	F31EE	38	0.6	C-OCC	1,040	632	632	0.0	$ 58.87	$ 270.00	$ 35	4.6	4.0
146LED	Pine Belt Gym	44	High Bay MH 400	MH400/1	458	20.2	SW	3120	62,874	44	BAYLED78W	BAYLED78W	93	4.1	NONE	3,120	12,767	50,107	16.1	$ 5,965.86	$ 37,144.60	$ 4,400	6.2	5.5
24LED	Corridor	30	1B 32 P F 2 (ELE)	F42LL	60	1.8	SW	3640	6,552	30	4 ft LED Tube	200732x2	30	0.9	C-OCC	2,912	2,621	3,931	0.9	$ 438.89	$ 5,170.50	$ 35	11.8	11.7
133	Storage (locked - no entry	1	CF 26	CFQ26/1-L	27	0.0	SW	1560	42	1	CF 26	CFQ26/1-L	27	0.0	C-OCC	780	21	21	0.0	$ 1.96	$ 270.00	$ 35	137.7	119.9
18LED	Nurse's Office (locked - no entry	6	T 32 R F 4 (ELE)	F44ILL	112	0.7	SW	2600	1,747	6	T 50 R LED	RTLED50	50	0.3	C-OCC	1,950	585	1,162	0.4	$ 138.33	$ 1,687.50	$ 35	12.2	11.9
46LED	Men's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,621	14	4 ft LED Tube	200732x2	30	0.4	C-OCC	1,560	655	1,966	0.4	$ 217.02	$ 2,556.90	$ 35	11.8	11.6
18LED	Men's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349	1	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	78	271	0.1	$ 30.29	$ 506.25	$ 35	16.7	15.6
46LED	Women's Restroom	14	W 32 C F 2 (ELE)	F42LL	60	0.8	SW	3120	2,621	14	4 ft LED Tube	200732x2	30	0.4	C-OCC	1,560	655	1,966	0.4	$ 217.02	$ 2,556.90	$ 35	11.8	11.6
18LED	Women's Restroom	1	T 32 R F 4 (ELE)	F44ILL	112	0.1	SW	3120	349	1	T 50 R LED	RTLED50	50	0.1	C-OCC	1,560	78	271	0.1	$ 30.29	$ 506.25	$ 35	16.7	15.6
33	Concession Stand	6	13 W CF 1	CFQ13/1-L	15	0.1	SW	1040	94	6	13 W CF 1	CFQ13/1-L	15	0.1	NONE	1,040	94	-	0.0	$ -	$ -	$ -		
15LED	Grounds Shed	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	374	4	T 38 R LED	RTLED38	38	0.2	NONE	1,560	237	137	0.1	$ 19.91	$ 945.00	$ -	47.5	47.5
18LED	Grounds Shed	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	NONE	1,560	156	193	0.1	$ 28.05	$ 472.50	$ -	16.8	16.8
18LED	Grounds Shed - Backroom	2	T 32 R F 4 (ELE)	F44ILL	112	0.2	SW	1560	349	2	T 50 R LED	RTLED50	50	0.1	NONE	1,560	156	193	0.1	$ 28.05	$ 472.50	$ -	16.8	16.8
15LED	Small Snack Shack	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1040	125	2	T 38 R LED	RTLED38	38	0.1	NONE	1,040	79	46	0.0	$ 7.82	$ 472.50	$ -	60.4	60.4
15LED	Field House	20	S 32 C F 2 (ELE)	F42LL	60	1.2	SW	1560	1,872	20	T 38 R LED	RTLED38	38	0.8	NONE	1,560	1,186	686	0.4	$ 99.54	$ 4,725.00	$ -	47.5	47.5
15LED	Field House - Sink Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	NONE	1,560	59	34	0.0	$ 4.98	$ 236.25	$ -	47.5	47.5
15LED	Field House - Towel Room	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	NONE	1,560	119	69	0.0	$ 9.95	$ 472.50	$ -	47.5	47.5
15LED	Field House - Shower Room	6	S 32 C F 2 (ELE)	F42LL	60	0.4	SW	1560	562	6	T 38 R LED	RTLED38	38	0.2	NONE	1,560	356	206	0.1	$ 29.86	$ 1,417.50	$ -	47.5	47.5
15LED	Field House - Ice Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	NONE	1,560	59	34	0.0	$ 4.98	$ 236.25	$ -	47.5	47.5
40LED	Field House - Locker Room	18	T 32 R F 2 (ELE)	F42LL	60	1.1	SW	1560	1,685	18	T 38 R LED	RTLED38	38	0.7	NONE	1,560	1,067	618	0.4	$ 89.59	$ 4,252.50	$ -	47.5	47.5
40LED	Field House - Varsity Locker	9	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	842	9	T 38 R LED	RTLED38	38	0.3	NONE	1,560	534	309	0.2	$ 44.80	$ 2,126.25	$ -	47.5	47.5
15LED	Field House - Back Hall	2	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	187	2	T 38 R LED	RTLED38	38	0.1	NONE	1,560	119	69	0.0	$ 9.95	$ 472.50	$ -	47.5	47.5
15LED	Field House - Women's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	281	3	T 38 R LED	RTLED38	38	0.1	NONE	1,560	178	103	0.1	$ 14.93	$ 708.75	$ -	47.5	47.5
40LED	Field House - Storage	4	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	1560	374	4	T 38 R LED	RTLED38	38	0.2	NONE	1,560	237	137	0.1	$ 19.91	$ 945.00	$ -	47.5	47.5
15LED	Field House - Men's Restroom	3	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	1560	281	3	T 38 R LED	RTLED38	38	0.1	NONE	1,560	178	103	0.1	$ 14.93	$ 708.75	$ -	47.5	47.5
40LED	Field House - Water Fountain	1	T 32 R F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	NONE	1,560	59	34	0.0	$ 4.98	$ 236.25	$ -	47.5	47.5
40LED	Field House - Coaches Room	8	T 32 R F 2 (ELE)	F42LL	60	0.5	SW	1560	749	8	T 38 R LED	RTLED38	38	0.3	NONE	1,560	474	275	0.2	$ 39.82	$ 1,890.00	$ -	47.5	47.5
15LED	Field House - Coaches Room - Rest Room	1	S 32 C F 2 (ELE)	F42LL	60	0.1	SW	1560	94	1	T 38 R LED	RTLED38	38	0.0	NONE	1,560	59	34	0.0	$ 4.98	$ 236.25	$ -	47.5	47.5
40LED	Security - Front Room	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468	3	T 38 R LED	RTLED38	38	0.1	NONE	2,600	296	172	0.1	$ 21.32	$ 708.75	$ -	33.2	33.2
40LED	Security - Director (Locked - No Entry	3	T 32 R F 2 (ELE)	F42LL	60	0.2	SW	2600	468	3	T 38 R LED	RTLED38	38	0.1	NONE	2,600	296	172	0.1	$ 21.32	$ 708.75	$ -	33.2	33.2
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39	1	13 W CF 1	CFQ13/1-L	15	0.0	NONE	2,600	39	-	0.0	$ -	$ -	$ -		
15LED	Security - Main Room	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624	4	T 38 R LED	RTLED38	38	0.2	NONE	2,600	395	229	0.1	$ 28.43	$ 945.00	$ -	33.2	33.2
15LED	Security - Storage	4	S 32 C F 2 (ELE)	F42LL	60	0.2	SW	2600	624	4	T 38 R LED	RTLED38	38	0.2	NONE	2,600	395	229	0.1	$ 28.43	$ 945.00	$ -	33.2	33.2
33	Security - Restroom	1	13 W CF 1	CFQ13/1-L	15	0.0	SW	2600	39	1	13 W CF 1	CFQ13/1-L	15	0.0	NONE	2,600	39	-	0.0	$ -	$ -	$ -		
7LED	Security - Breakroom	1	2T 32 R F 2 (u) (ELE) Thin Tube	FU2LL	60	0.1	SW	2600	156	1	2T 25 R LED	2RTLED	25	0.0	NONE	2,600	65	91	0.0	$ 11.31	$ 202.50	$ -	17.9	17.9
231LED	Exterior Building Lighting	15	WP400MH1	MH400/1	458	6.9	SW	3120	21,434	15	WPLED2T78	WPLED2T78	91	1.4	NONE	3,120	4,259	17,176	5.5	$ 2,044.96	$ 15,362.87	$ 1,500	7.5	6.8
133	Exterior Building Lighting	7	CF 26	CFQ26/1-L	27	0.2	SW	3120	590	7	CF 26	CFQ26/1-L	27	0.2	NONE	3,120	590	-	0.0	$ -	$ -	$ -		
227LED	Exterior Building Lighting	10	70 W MH Wall Pack	MH70/1	95	1.0	SW	3120	2,964	10	FXLED18	FXLED18/1	18	0.2	NONE	3,120	562	2,402	0.8	$ 286.03	$ 4,232.25	$ 1,000	14.8	11.3
S	**Total**	**3,329**				**344.1**			**977,344**	**3,329**				**144.6**			**320,626**		**199.5**	**77,299**	**822,366**	**$25,900**		
S																	**Demand Savings**			**199.5**	**$16,159**			
S																	**kWh Savings**			**656,718**	**$61,140**			
S																	**Total Savings**				**$77,299**		**10.6**	**10.3**

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

NJ SmartStart Buildings

Program Overview

With New Jersey SmartStart Buildings ...

... A smart start now means better performance later! Whether you're starting a commer 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.

Home | Residential | Commercial & Industrial | Renewable Energy
About Us | Press Room | Library | FAQs | Calendar | Newsletters | Contact Us | Site

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

HURRICANE SANDY

PROGRAMS

NJ SMARTSTART BUILDINGS

EQUIPMENT INCENTIVES

FOOD SERVICE EQUIPMENT

APPLICATION FORMS

TOOLS AND RESOURCES

PAY FOR PERFORMANCE

COMBINED HEAT & POWER AND FUEL CELLS

LOCAL GOVERNMENT ENERGY AUDIT

LARGE ENERGY USERS PROGRAM

ENERGY SAVINGS IMPROVEMENT PROGRAM

DIRECT INSTALL

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

Home » Commercial & Industrial » Programs » NJ SmartStart Buildings

Equipment Incentives

Special Notice

Enhanced incentives are available for NJ SmartStart Building upgrades in buildings 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

PAST PROGRAMS

TOOLS AND RESOURCES

PROGRAM UPDATES

CONTACT US

Desiccant Systems ($1.00 per cfm - gas or electric)

Electric Unitary HVAC

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

Ground Source Heat Pumps

Closed Loop ($450-750 per ton)

Gas Heating

Gas-fired boilers < 300 MBH ($300 per unit)
Gas-fired boilers ≥ 300 MBH - 1500 MBH ($1.75 per MBH)
Gas-fired boilers ≥ 1500 MBH - ≤ 4000 MBH ($1.00 per MBH)
Gas-fired boilers > 4000 MBH (Calculated through Custom 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 p 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. Appr applications will have the standard timeframe of one year from the pro 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 prograi 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 participa 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, type capacities. Boilers may not exceed 500,000 Btuh and furnaces may not exceed 140,

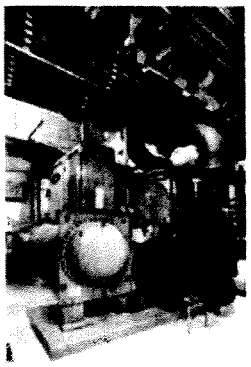
III. PAY FOR PERFORMANCE (P4P)

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

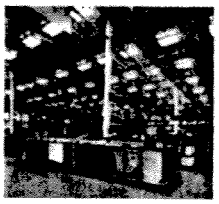
TOOLS AND RESOURCES

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.

Home | Residential | Commercial & Industrial | Renewable Energy
About Us | Press Room | Library | FAQs | Calendar | Newsletters | Contact Us | Site

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

BPU

PAY FOR PERFORMANCE APPLICATION FORM

July 1, 2013 - June 30, 2014

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

Instructions

1. Read the program material to determine project qualification.
2. Read the Participation Agreement and sign where indicated.
3. Fill out all applicable spaces on this form.
4. Provide a copy of the customer's company W-9 form.
5. Provide the most recent consecutive 12 month period of utility bills for the project.
6. Provide brief description of facility.
7. Partner must submit the application package via e-mail, mail or fax DIRECTLY to the Market Manager – see back of this form.

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

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

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

Partner Information

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

Project Information

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

Funding

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

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

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

Additional Project information

Additional Utility Account(s)

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

Additional Comments:

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

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

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

Visit our website: NJCleanEnergy.com/P4P

*Incentives/Requirements subject to change.

Pay For Performance-Existing Buildings

Participation Agreement

Definitions:

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

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

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

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

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

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

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

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

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

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

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

Program Manager – TRC Energy Services.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

IV. ENERGY SAVINGS IMPROVEMENT PLAN (ESIP)

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

ENERGY BENCHMARKING

OIL, PROPANE & MUNICIPAL ELECTRIC CUSTOMERS

EDA PROGRAMS

SBC CREDIT PROGRAM

PAST PROGRAMS

TOOLS AND RESOURCES

PROGRAM UPDATES

CONTACT US

Home » Commercial & Industrial » Programs

Energy Savings Improvement Program

A new State law allows government agencies to make energy related improvements to 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

Photovoltaic Analysis

TOMS RIVER REGIONAL SCHOOL DISTRICT
HIGH SCHOOL NORTH

Cost of Electricity	$0.09	/kWh
Electricity Usage	3,164,313	kWh/yr
System Unit Cost	$4,000	/kW

NO FURTHER PV RECOMMENDED

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 SREC	Payback (with SREC
$	kW	kWh	therms	$	$	$	$	$	Years	Years
$0	**0.0**	**0**	**0**	**$0**	**0**	**$0**	**$0**	**$0**	**#DIV/0!**	**#DIV/0!**

** Estimated Solar Renewable Energy Certificate Program (SREC) SREC for 15 Years= $165 /1000kwh

-Based on price for July 2014

Area Output*

m2
0 ft2

Perimeter Output*

m
0 ft

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

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

8 watt/ft2
0 DC watts
0 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	08753	Enter into PV Watts
DC/AC Derate Factor	0.83	Enter info PV Watts

PV Watts Output

annual kWh calculated in PV Watts program

% Offset Calc

Usage	3,164,313	(from utilities)
PV Generation	0	(generated using PV Watts)
% offset	0%	

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

APPENDIX F

EPA Benchmarking Report

ENERGY STAR® Statement of Energy Performance

94

ENERGY STAR® Score[1]

Toms River High School North

Primary Property Function: K-12 School
Gross Floor Area (ft²): 310,000
Built: 1969

For Year Ending: April 30, 2014
Date Generated: September 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
Toms River High School North 1245 Old Freehold Road Toms River, New Jersey 08753	Toms River Regional Schools Board of Education 331 Newman Springs Road Suite 203 Red Bank, NJ 07701 (____)____-_____	Mark Wagner 125 Walnut St Toms River, NJ 08753 973-267-9029 cbuttitta@chacompanies.com

Property ID: 4075989

Energy Consumption and Energy Use Intensity (EUI)

Site EUI
37 kBtu/ft²

Source EUI
84.1 kBtu/ft²

Annual Energy by Fuel	
Electric - Solar (kBtu)	1,611,570 (14%)
Electric - Grid (kBtu)	6,741,176 (59%)
Natural Gas (kBtu)	3,124,000 (27%)

National Median Comparison	
National Median Site EUI (kBtu/ft²)	68.4
National Median Source EUI (kBtu/ft²)	155.2
% Diff from National Median Source EUI	-46%
Annual Emissions	
Greenhouse Gas Emissions (Metric Tons CO2e/year)	1,068

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)