

Volume II – ECM/Cost Submission

Response to Request for Quotes

For A Guaranteed Energy Savings Project At:

PA Department of Conservation & Natural Resources
(DCNR) – State Parks & Forests Central Region, PA

Project No. GESA 2018-2
Contract No. GESA 2018-2.1

Commonwealth of Pennsylvania
Department of General Services
Harrisburg, PA

January 17, 2019

Submitted by:



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CONSTRUCTION BID BOND
(Please Complete All Blanks)

KNOW ALL MEN BY PRESENTS, that we, McClure Company (hereinafter called the "Principal") as Principal and Arch Insurance Company a corporation duly organized under the laws of the State of Missouri (hereinafter called the "Surety") as Surety, are held and firmly bound unto The Department of General Services, Harrisburg, Pennsylvania (hereinafter called the "Obligee"), in the sum of Ten (10%) Percent of the ECM/Cost Submittal Amount for the payment of which sum, well and truly to be made, we, the said Principal, and the said Surety, bind ourselves, our heirs, our administrators, successors, and assigns, jointly and severally firmly by these presents.

Sealed with our seals and dated this 17th day of January A.D.

Two Thousand and Nineteen.

WHEREAS the Principal has submitted a bid upon Contract No. GESA 2018-2

For Guaranteed Energy Savings Project at: Dept of Conservation & Natural Resources, State Park & Forestry, Central Region, PA

NOW, THEREFORE, the conditions of these obligations are such that if the Principal shall not withdraw its bid prior to the expiration of the award period after the opening of the bids; and shall comply with all requirements set forth in the "Quote" and the "Instructions to Bidders;" and if the said contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the contract in writing, and give bond, with Surety acceptable to the Obligee, covering the faithful performance of the said contract and payment of claims for labor, material, and equipment rental, all of which shall be supplied on the forms as specified by said Obligee; or if the Principal shall fail to do so, pay to the Obligee the lesser of the following amounts: 1) the amount of this bond as herein above set forth, or 2) the difference between the amount specified in the Principal's bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be void; otherwise to remain in full force and effect.

WITNESS (OR ATTEST IF A CORPORATION)

[Signature]
KEVIN BOBB, VP

PRINCIPAL
McClure Company

[Signature]
JERRY WELLS, VP

(CORPORATE SEAL)

[Signature]
Kristen D. Shive, Attorney-in-Fact

SURETY
Arch Insurance Company

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON BLUE BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Anthony S. Phillips, Kristen D. Shive and Robert N. Striewig, Jr. of Mechanicsburg, PA (EACH)

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed.

Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars (\$90,000,000.00).

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect.

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.


In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 25th day of May, 2018.

Attested and Certified

Arch Insurance Company


Patrick K. Nails, Secretary

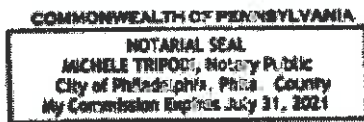




David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Michele Tripodi, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.




Michele Tripodi, Notary Public
My commission expires 07/31/2021

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated May 25, 2018 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 17th day of January, 2019.


Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102



2-6.D.1 Investment Grade Audit (IGA)

D.1-a Investment Grade Audit Scope

Provided below is a clear and thorough description of the scope-of-work that McClure Company proposes to further investigate and develop during the Investment Grade Audit (IGA). The description includes systems covered, personnel involved, methodology for the calculation of the energy baseline and schedule with milestones.

McClure Company’s systematic approach to a guaranteed energy saving project is divided into three major phases:

1. **Scoping Audit Phase / RFQ:** McClure will conduct an initial feasibility study of DCNR sites. The study includes, but is not limited to, a review of the utility bills, site surveys, interview of major stakeholders and personnel, preliminary energy conservation cost / savings estimates, and financial models. From this information, McClure assembles a list of recommended energy conservation measures (ECMs), based on cost effectiveness, the needs of the facility, and the goals of DCNR. This RFQ Response is the result of the scoping audit phase.
2. **Investment Grade Audit (IGA) Phase:** The Investment Grade Audit is a detailed study of the energy conservation measures identified and selected by DCNR. Detailed within the sections below, McClure Company will perform an Investment Grade Audit in accordance with the RFQ and timeline schedule requirements.
3. **Final Scope Selection & Design Phase:** McClure Company will complete the final engineering and design phase for all ECMs requiring engineering design and will properly coordinate with the Commonwealth for the review and approval process.

Outlined below is McClure’s approach towards conducting the IGA for the DCNR GESA project.

D.1-a.1 Systems Covered

In consideration of the Core ECMs defined by the RFQ and the goals of both the Commonwealth and DCNR, McClure Company proposes the following ECMs as the “Base” program for the RFQ evaluation:

System Covered	Investment Grade Audit (IGA) Process Overview
ECM-1: Site-Wide LED Lighting	<ul style="list-style-type: none"> Audit fixture counts, light levels, voltage, wattage and fixture/ballast equipment types Record operation and maintenance items and hours of occupancy per space Select new fixtures based upon facility goals, feedback, and cost effectiveness
ECM-2: Site Fuel/HVAC Conversions - Propane/Natural Gas	<ul style="list-style-type: none"> Evaluate fuel sources and storage available to each park Develop cost analysis model to determine which fuel source is most advantageous Select optimum system to achieve energy savings
ECM-3: Control Upgrades	<ul style="list-style-type: none"> Evaluate existing control of facilities Evaluate system usage Select control system and strategy to fit design
ECM-10: Bald Eagle Wastewater Treatment Plant Operations	<ul style="list-style-type: none"> Evaluate existing plant operations Identify system points of improvement Develop installation strategy for identified locations
ECM-11: Bald Eagle Nature Center Recommissioning	<ul style="list-style-type: none"> Evaluate existing system and obtain current sequence of operation Evaluate condition of existing systems, for adaptive reuse opportunities Select optimization control system strategy
ECM-18: Prince Gallitzin Water Main Replacement	<ul style="list-style-type: none"> Identify problem area/locations in system Evaluate cost impact of replacing asset and savings potential Develop plan for replacement and integration into remaining system
ECM-20: Building Envelope Upgrades	<ul style="list-style-type: none"> Identify key areas of high building infiltration/exfiltration and any physical deficiencies Estimate requirements for weather stripping, caulking, sheathing and sealing

D.1-a.2 Personnel

Our in-house energy auditing and development team consists of seasoned professional engineers (P.E.s) and analysts with decades of PA GESA industry experience. They have audited and developed successful over 200 GESA solutions representing millions of square feet of facility space; many of these projects serving other PA State Agency and municipal type clients. McClure Company’s IGA will be managed and lead by Chris Stultz (Project Development Manager), with

support from selected specialist contractors for lighting, building envelope, solar, and electrical related measures. In addition, Brian Moore (Engineering Manager) and William Smith (Building Automation System Engineer) will provide overview of the mechanical and control related scope. Richard Skinner (M&V) and Andrew McKenna (Commissioning Manager) will begin the commissioning plan in this phase as well. This team will be overseen by Shayne Homan (Vice President of Energy Services) and Jon Zeller (Account Executive).

D.1-a.3 Methodology

McClure Company’s systematic approach towards undertaking the Investment Grade Audit includes, but is not limited to:

- Kickoff meeting with the Commonwealth and DCNR to review McClure’s RFQ Response
- Analysis of utility bills, past Measurement and Verification studies and overall facility benchmarking
- Selecting Energy Conservation Measures (ECMs) that meet the needs and goals of DCNR
- Collection of general information for each building on campus (square footage, floors, hours, etc.)
- Site surveys of all buildings at each DCNR site, with a focus on the major/Core or selected ECMs
- Understanding of the operating characteristics of existing lighting, environment control system, waste-water treatment plants, and HVAC (heating/cooling/distribution)
- Identify any additional cost saving opportunities that may have a cost-effective impact to the program
- Conceptualize and determine the feasibility of the ECMs identified
- Iterative review with DCNR and the Commonwealth to show progress and ensure goals are met
- Perform simple payback and life cycle cost analysis on each ECM and the associated equipment/technology
- Internal design peer reviews, estimating reviews, and 360° risk reviews completed by the project team
- Provide definitive cost and savings estimates for proposed final ECMs
- Complete a final project cash flow with revised cost/savings for each identified and selected ECM
- Final review with the DCNR and Commonwealth

D.1-a.4 Schedule Milestones

Below is a table summarizing the Investment Grade Audit schedule milestones. As specified by the RFQ, McClure will deliver its final IGA report to the Commonwealth within 60 calendar days of the date on the Commonwealth’s Notice of Selection. Please also see our more comprehensive project schedule included with **Volume 1: Technical Proposal**, which incorporates our IGA schedule and key project milestones.

Milestone	Timeline
Kick-off Meeting upon Selection	March 2019
Investment Grade Audit (IGA)	March – June 2019
Interim IGA Review Meeting (s)	March – June 2019
Final IGA Review	June 2019
GESA Contract Execution	August 2019

D.1-a.5 Energy Baseline

The baseline for this project was calculated using the utility data provided by PA DGS. The usage was analyzed on a monthly basis and totaled for the year. The utility baseline varies by site based on the information provided as part of the RFQ and is noted as missing key accounts for proper baseline determination. The baselines for each site have been selected as the most comprehensive and recent information available at the time of this submission and should be revised as part of the IGA. The baselines are as follows:

- Bald Eagle State Park: Electric, Oil, and Propane- January 2017-December 2017
- Black Moshannon State Park: Electric- November 2017-October 2018, Propane November 2016-October 2018
- Codorus State Park: Electric, Propane, Oil, and Water- November 2016-October 2017
- Gifford Pinchot State Park: Electric and Oil- October 2016-September 2017
- Hills Creek State Park: Electric, Propane, and Natural Gas- October 2016-September 2017
- Parker Dam State Park: Electric and Propane- January 2017-December 2017
- Prince Gallitzin State Park: Electric and Oil- November 2016-October 2017
- Shawnee State Park: Electric and Oil- October 2017-September 2017

During the IGA, a full review of the reports for the baseline and acceptance by PA DGS will be required to verify the usage amounts for all DCNR sites as there is known missing utility data which required calculated assumptions for rates as detailed in “*Attachment 1: Energy Baseline*”

As part of the IGA, other circumstances which require the baseline to be adjusted will be evaluated. These circumstances include, but are not limited to, changes in the facilities use, changes in occupancy, adjustments for weather compared to the baseline heating and cooling degree days as provided by NOAA, and modification to the outside air ventilation flow rates as required by code.

The anticipated utility unit cost is the annual cost divided by the annual usage for the baseline period or as provided in the RFQ or subsequent addenda. Please find McClure’s established baseline usages and rates provided in “*Attachment 1: Energy Baseline*” located at the end of this proposal.

D.1-a.6 Investment Grade Audit Fee - \$30,000

Based upon the scope of our proposed DCNR GESA program, and with the understanding that, upon selection by DCNR as its ESCO partner, McClure will be tasked to provide IGA services to all sixty-four (64) DCNR State Parks & Forests within the Central Region, McClure has estimated the total cost to complete a comprehensive IGA Report for all (64) sites to be \$30,000. McClure has established a reasonable cost for preparing an Investment Grade Audit for this scope-of-work in compliance with the methodology discussed within this Cost Submission. We estimate that the IGA will take approximately 45-60 days to complete for the sixty-four (64) State Parks & Forests within the Central Region. We look forward to getting started and working with DCNR to coordinate next steps on this very important program

Energy Conservation Measures (ECMs)

Table 1 below presents a listing of all “Core” and “Alternate” ECMs evaluated by our team during the development of this proposal. This information was utilized to develop the “Base” program (see Table 2) for evaluation while staying within a certain level of Avoided Capital. As demonstrated, some of the Core ECMs, such as replacement of the underground water main at Prince Gallitzin are extremely capital intensive without offering much by way of annual energy savings. It is anticipated there will be recognizable savings in energy and operation in repair/replacement of these measures, however, insufficient data is available at the time of this response to responsibly quantify those values, as such there are currently no savings assigned. *For evaluation purposes, we opted to build a pared down version as the proposed Base program. All upgrades listed within Table 1 can be discussed during the interview process and explored further during the IGA.*



Table 1 – Core and Alternate ECMs Evaluated

DCNR Central GESA ECM Summary							
ECM ID/#	Per Appendix "T" Core ECM	Energy Conservation Measure (ECM) / Scope	Installed Costs	Total Annual Energy Savings	Projected Average Annual O&M Savings	Projected Rebates/Incentives	
1	Yes	Site-Wide LED Lighting	\$ 515,096	\$ 89,485	\$15,388	\$ 10,047	
2	Yes	Site Fuel/HVAC Conversions- Propane/Natural Gas	\$ 1,077,138	\$ 62,016	\$ -	\$ -	
2a	No	Site HVAC Conversions- Heat Pumps	\$ 588,856	\$ 6,907	\$ -	\$ -	
2b	No	Site Fuel Conversions- Wood/Propane Select Sites	\$ 245,912	\$ 10,544	\$ -	\$ -	
3	Yes	Controls Upgrades	\$ 145,540	\$ 3,582	\$ -	\$ -	
4	Yes	Solar PV	\$ 576,158	\$ 14,513	\$ -	\$ 924	
4a	No	Solar Thermal and Storage	TBD	TBD	\$ -	\$ -	
5	Yes	Heat Pumps/Split Systems Replacements	*Included as part of ECM 2 if required				
6	Yes	Sludge Handling	TBD	TBD	\$ -	\$ -	
7	Yes	Lake Geothermal Heating/Cooling Systems	TBD	TBD	\$ -	\$ -	
8	Yes	Codorus- Natural Gas Utilization	TBD	TBD	\$ -	\$ -	
9	Yes	Codorus- Water Conservation	\$ 155,016	\$ 5,607	\$ -	\$ -	
10	Yes	Bald Eagle- Wastewater Treatment Plant Operations	\$ 47,839	TBD	\$ -	\$ -	
11	Yes	Bald Eagle- Nature Center Recommissioning	\$ 23,687	\$ 1,821	\$ -	\$ -	
12	Yes	Hills Creek-HVAC Conversion- Heat Pumps	*Included as part of ECM 2a if required				
13	Yes	Hills Creek- Natural Gas Line Extension	TBD	TBD	\$ -	\$ -	
14	Yes	Hills Creek- Well Pump Retrofits	TBD	TBD	\$ -	\$ -	
15	Yes	Parker Dam- Wastewater Treatment Plant Operations	TBD	TBD	\$ -	\$ -	
16	Yes	Black Moshannon- HVAC Upgrades	*Evaluated as part of ECM 2				
17	Yes	Black Moshannon- Cabin HVAC Conversion Heat Pump	*Included as part of ECM 2a if required				
18	Yes	Prince Gallitzin- Water Main Replacement	\$ 514,135	TBD	\$ -	\$ -	
19	Yes	Prince Gallitzin- Office HVAC Upgrades	*Evaluated as part of ECM 2				
20	No	Building Envelope Upgrades	\$ 271,696	\$ 64,212	\$ -	\$ -	

Table 1a – Base ECMs By Site

ECM ID#	ECM Type	ECM List	"Base" Scope of Work Included by Site							
			Bald Eagle	Black Moshannon	Codorus	Gifford Pinchot	Hills Creek	Parker Dam	Prince Gallitzin	Shawnee
1	Core	Site-Wide LED Lighting	X	X	X	X	X	X	X	X
2	Core	Site Fuel/HVAC Conversions- Propane/Natural Gas			X	X		X	X	X
2a	Alternate	Site HVAC Conversions- Heat Pumps								
2b	Alternate	Site Fuel Conversions- Wood/Propane Select Sites								
3	Core	Controls Upgrades	X	X	X	X	X	X	X	X
4	Core	Solar PV								
4a	Alternate	Solar Thermal and Storage								
5	Core	Heat Pumps/Split Systems Replacements	*Included as part of ECM 2 by Site if system requires replacement							
6	Core	Sludge Handling								
7	Core	Lake Geothermal Heating/Cooling Systems								
8	Core	Codorus- Natural Gas Utilization								
9	Core	Codorus- Water Conservation								
10	Core	Bald Eagle- Wastewater Treatment Plant Operations	X							
11	Core	Bald Eagle- Nature Center Recommissioning	X							
12	Core	Hills Creek-HVAC Conversion- Heat Pumps	*Evaluated as part of ECM 2							
13	Core	Hills Creek- Natural Gas Line Extension								
14	Core	Hills Creek- Well Pump Retrofits								
15	Core	Parker Dam- Wastewater Treatment Plant Operations								
16	Core	Black Moshannon- HVAC Upgrades	*Evaluated as part of ECM 2							
17	Core	Black Moshannon- Cabin HVAC Conversion Heat Pump	*Evaluated as part of ECM 2a							
18	Core	Prince Gallitzin- Water Main Replacement						X		
19	Core	Prince Gallitzin- Office HVAC Upgrades	*Evaluated as part of ECM 2							
20	Alternate	Building Envelope Upgrades	X	X	X	X	X		X	X

D.1-b Energy Conservation Measures (ECMs)

After analysis of the utility data, the inspections conducted of each DCNR site, and consideration of all DGS issued Bulletins, McClure Company has prepared a “Base” GESA program focusing on the defined “Core Energy Conservation Measures” described under Appendix T. Our “Base” GESA program also recommends additional ECMs be included in the overall project-scope that complement the proposed Core ECMs and provide additional savings and value to DCNR.

McClure’s overall approach to GESA project development is to remain conservative with savings levels that are included within the GESA model. However, considering the significant capital improvement and infrastructure replacement needs defined by the “Core ECMs”, and assumptions/interpretations an ESCO can make in regard to the level at which Capital Cost Avoidance and O&M “Material” Savings can be used at this phase of the project, we believe it helpful to provide DCNR and the Commonwealth with this information to better understand and consider all of its options.

Table 2 outlines McClure’s “Base” GESA program. This program utilizes a responsible level of annually applied energy savings, Capital Cost Avoidance savings, and O&M “Material type savings. Act 129 energy rebate dollars and SRECS are also included to help buy-down overall installation costs. Detailed information relating to the Core ECMs addressed under our proposal can be found in D.1-b.1, and the ECMs not included, but recommended for further study, can be found in section D.1-b.2. Information on our proposed “Additional” ECMs not already included in the core project can be found in section D.1.g. All detailed energy savings calculations for our proposed “Base” GESA energy conservation measures can be found in “Attachment 2 – Energy Calculations” .

Table 2

DCNR Central GESA Program Options Summary - Costs and Savings Totals		
ECM ID/#	Energy Conservation Measure (ECM) / Scope	"Base" GESA
ECM-1	Site-Wide LED Lighting	
ECM-2	Site Fuel/HVAC Conversions- Propane/Natural Gas	
ECM-2a	Site HVAC Conversions- Heat Pumps	
ECM-2b	Site Fuel Conversions- Wood/Propane Select Sites	
ECM-3	Controls Upgrades	
ECM-4	Solar PV	
ECM-4a	Solar Thermal and Storage	
ECM-5	Heat Pumps/Split Systems Replacements	
ECM-6	Sludge Handling	
ECM-7	Lake Geothermal Heating/Cooling Systems	
ECM-8	Codorus- Natural Gas Utilization	
ECM-9	Codorus- Water Conservation	
ECM-10	Bald Eagle- Wastewater Treatment Plant Operations	
ECM-11	Bald Eagle- Nature Center Recommissioning	
ECM-12	Hills Creek-HVAC Conversion- Heat Pumps	
ECM-13	Hills Creek- Natural Gas Line Extension	
ECM-14	Hills Creek- Well Pump Retrofits	
ECM-15	Parker Dam- Wastewater Treatment Plant Operations	
ECM-16	Black Moshannon- HVAC Upgrades	
ECM-17	Black Moshannon- Cabin HVAC Conversion Heat Pump	
ECM-18	Prince Gallitzin- Water Main Replacement	
ECM-19	Prince Gallitzin- Office HVAC Upgrades	
ECM-20	Building Envelope Upgrades	
Total Installation Costs with Bond(\$):		\$2,617,749
Consultant Fee (\$):		\$0
Energy Savings (18 Year Total):		\$4,380,509
Act 129 Energy Rebates (Total):		\$10,047
O&M "Material" Savings (10 Year Total):		\$153,879
Capital Cost Avoidance Savings (13 Year Total):		\$347,839
Total Program Savings (18 Year Total):		\$4,892,274

D.1-b.1 Recommended “Core Energy Conservation Measures”

ECM-1: Site-Wide LED Lighting

Existing Conditions

Lighting throughout DCNR was surveyed and identified to be a majority T8 fluorescent technology utilizing 28W-32W linear tubes on the interior of the buildings. In select areas, compact fluorescents or incandescent were used for down lighting. Much of the lighting on the exterior of the buildings utilize Metal Halide, Mercury Vapor and High Intensity Discharge (HID) technology which is becoming obsolete and is very energy intensive.

Proposed Solution

McClure Company is proposing to retrofit the existing exterior fixtures and interior fluorescent/incandescent fixtures with new LED Lamps.

Assumptions

No corrections to existing code violations or deficiencies were found during survey, however, these system deficiencies will be brought to the attention of customer at the conclusion of the Investment Grade Audit. Scope includes cost for EPA approved recycling of fluorescent and HID lamps/ballasts. New LED lamps to be direct wired to existing fixture socket as existing fixtures are in good, serviceable condition.

Preliminary Lighting Burn Hours

Offices/Interior: 4,380 Hours Exterior: 4,380 Hours

Annual Savings / Benefits

Energy savings are calculated using wattage reductions from the manufacturer’s provided specification sheets for the applicable lamp. These reductions are multiplied by the stipulated hours provided to generate the kWh savings. The cost savings are calculated using this kWh savings multiplied by each buildings baseline electric rate.

Savings:

- 675,894 kWh

ECM-2: Site Fuel/HVAC Conversions- Propane/Natural Gas

Existing Conditions

The existing facilities are served by a multitude of fuels ranging from electric to oil to propane to natural gas. However, during surveys of the (8) parks listed in the RFQ, the main fuel source appeared to be electric with some oil as well. While gas and propane did exist, it was in smaller quantities or was part of on-going conversions that the parks are undertaking. The electric was primarily located in cabins, yurts, cottages, and bathhouses/restrooms. Oil was primarily used in parks offices and maintenance buildings.

Proposed Solution

While several system fuel types were analyzed for cost effectiveness, McClure Company is proposing to take a unified approach of converting to propane for all offices, maintenance buildings, cabins, and bathhouses. Due to the limited seasonal heating load, buildings such as cottages, yurts, and cold-water only public restrooms would remain on electric as the preliminary calculations do not produce the required payback for the project. Modern Cabins are based on installation of a new propane fired forced air unit in the attic or crawl space, along with new instantaneous propane domestic water heaters. Bathhouses are based on new instantaneous propane domestic water heaters and maintaining existing electric heat as they are seasonal with low heating hours and set points. Offices and maintenance buildings feature a combination of forced air or hot water solutions based upon their existing configuration along with instantaneous propane domestic water heaters.

Assumptions

McClure determined the basis of design to be propane fired units with similar configurations to the existing and has included all necessary work required to install the new equipment and run associated piping to an external location on each of the facility buildings. Fuel tank location and/or setup has been excluded at this stage and will be evaluated during the IGA. An evaluation can then occur as to the most cost-effective procurement method for the parks. This will give the option of individual tanks per building or tank farms to serve dedicated areas. This will also allow the option to rent or own tanks pending the parks strategy for cost-effective procurement.

Bald Eagle State Park has been excluded from this conversion as that park is currently undergoing renovations to several buildings and the only location for a fuel conversion is (1) modern cabin, which is not a cost effective solution.

Annual Savings / Benefits

Conversion of the fuel source provides substantial savings through the fuel rates. The current buildings are primarily fueled on electric and oil. Propane is considered to be more efficient than oil as well as a cheaper fuel source than electric. Additional savings are had through the conversion including increasing efficiency and removing the large electrical demand on the parks.

Savings

- 959,075 kWh
- 4,157 Gallons of oil

New Usage

- 48,959 Gallons of Propane

ECM-3: Controls Upgrades

Existing Conditions

Visitors Centers, offices, and maintenance buildings are mostly heated and cooled by multiple mechanical units. The type of mechanical equipment varies from park to park. The typical units include: heat pumps, PTAC's, and split systems with forced air heating. The control for all units is consistent, with most of the units controlled by a wall thermostat or in a few cases a programmable wall thermostat. A conventional wall thermostat is very reliable but does not provide the ability to lower the set point when the building is unoccupied.

The cabins within the parks have a combination of simple control. The majority of the cabins have electric baseboard with integral thermostat control. The remaining cabins also have electric resistance heat with wall mounted thermostat.

To maintain a reduced heating setpoint when a cabin is unoccupied the maintenance staff or cleaning personnel must reset the thermostat to a reduced setting.

Proposed Solution

The proposed control solution for all upgraded mechanical equipment, will be a Wi-fi capable programmable thermostat, basis of design Honeywell TH9320. This thermostat provides web access and does not require additional costs associated with a more traditional automation system.

The thermostat will be programmed to agreed upon temperature setpoints and schedules. The setpoints and schedules are fully flexible and can be changed both locally and remotely. This thermostat also offers the additional capability of adding a holiday schedule.

It is assumed the visitor's centers and park offices have Wi-fi capabilities so the added feature of Wi-fi access makes the thermostat selection a good choice to provide low cost web access. While most of the visitor's centers have multiple mechanical pieces of equipment and each will be controlled by a separate thermostat, web access will be per building and all the associated thermostats can be accessed through one sign on.

The mechanical upgrade is to provide forced air propane fired units. The proposed control of the new units will be a Wi-fi capable programmable thermostat, basis of design Honeywell TH9320. This thermostat provides the flexibility to also provide control in visitor's centers most with multiple units, which results in a unified temperature control proposal.

The thermostat can be preprogrammed to always be in a lower temperature setting insuring reduced energy costs when the cabin is not occupied. Once the cabin is occupied the current temperature setting can be overridden to provide the occupant with comfortable temperatures while the cabin is occupied. The maximum override time can be determined when the thermostat is installed and set up. Once the override time has expired the temperature setting will revert to the lower pre-programmed setting.

Currently, it is assumed there is no Wi-Fi network available at any of the cabins so the Wi-Fi capability of the proposed thermostat will not initially be used but is available if Wi-Fi is eventually provided to the cabins. The additional capability is available at little to no additional cost.

Assumptions

All new HVAC systems will be designed for individual control without an integrated frontend. Systems will be individually controlled via the new thermostats and may be access remotely based on Wi-Fi capabilities, although not required.

Annual Savings / Benefits

Energy saving are largely captured in ECM 2 with the conversion to propane and efficiency gains, however, minimal savings are expected from the increase in control to limit fuel usage

Savings:

- 2,510 Gallons of Propane in conjunction with ECM 2

ECM-10: Bald Eagle- Wastewater Treatment Plant Operations

Existing Conditions

During the survey of the park, the main concern that was heard from staff revolved around the sewage plant intake from both Howard Borough and Liberty Township. It was explained that the operation staff at the sewage plant believe they are receiving double the amount of sewage compared to what is stated by an agreement with each. This is causing the park to undertake more cost than necessary to maintain operation of the plant which is also in need of an automation upgrade. The current agreement assigns 21% of the operation cost to each municipality, with the park handling the remaining 58%.

Proposed Solution

Based on site investigation and discussions with facility staff, McClure Company proposes to install sewage meters with digital readouts on the sewage lines coming from both Howard Borough and Liberty Township. This will allow the plant operator to know exactly how much sewage they are taking in from each location and allow the park to bill accordingly for that use. Additional requirements from the site are needed to determine what is required for automation in the plant which can be obtained during the IGA. Because of this, automation to be studied further during the IGA.

Assumptions

It is assumed that the current amount of sewer received from each location is twice of what the current rate is. The current rate is 21% and it is assumed the rate should be closer to 42% for each the borough and the township, resulting in a total outside intake of 84% (42% from each municipality). This would reduce the overall burden for cost to the part from 58% to 16% of the current expenditures (not provided for analysis).

Annual Savings / Benefits

Because there are no meters currently installed, the actual use from the borough and the township cannot be determined at this time. Further study will be needed during the IGA phase to determine the rate of sewer use from outside the park. Additionally, no data was provided for quantity or cost associated with the treatment plant. For those reasons, savings are not shown at this time, showing pure capital cost in the cash flow for this measure.

ECM-11: Bald Eagle- Nature Center Recommissioning

Existing Conditions

Currently the building mechanical system consists of four ground water sourced heat recovery units which serve the building interior space VRF units. This is one of the most efficient building heating and cooling system that can currently be installed in a building for this location.

The concern that has been uncovered is the energy index (BTU/sf) has risen significantly. In 2011 the energy index was reported at 49,251 BTU/sf, but the most recent energy index was reported to be 73,290 BTU/sf.

An obvious explanation for higher energy use would be increased occupancy of the Nature Center, however, onsite discussions with staff indicate this may not be the case. McClure’s extensive experience with geothermal systems typically show an energy index in the 50,000 BTU/sf range, which is right in line with the initial energy index.

Proposed Solution

With the currently installed HVAC system, a system replacement is not recommended. Lowering the energy index can be achieved by gaining a better understanding of how the entire system is operating. Before any proposed changes McClure would install Mitsubishi controllers designed specifically for the Mitsubishi heat recovery units along with the interior VRF units. This additional hardware will allow web access or a localized operator’s station to the system and the operating parameters can be determined and analyzed. Key items to investigate include room setpoints and room schedules. It would also be important to determine the changes in the well water temperature, as the ability of the wells to exchange temperature is extremely important to the efficient operation of the heat recovery units. Additional study would also be required to evaluate the potential of refrigerant leaks, a common cause for this system type to exhibit higher than expected energy usage.

Currently McClure cannot provide an explanation of the increased energy use at the Nature Center, but documenting system operation will provide the information necessary to allow McClure to lower the energy index and will be included as part of the IGA

Assumptions

To evaluate the current savings potential, McClure has assumed the existing HVAC system is in good operable condition allowing for advanced control installation for viewing and maintaining operations.

Annual Savings / Benefits

Energy and conservation savings associated with this measure are results increasing control awareness through web application availability and implementing standard set points and schedules with limiting varying factors. The savings have been assumed to reduce the total EUI increase by 50% for this submission based upon historic data for similar systems and recommissioning efforts.

Savings:

- 22,158 kWh

ECM-18: Prince Gallitzin- Water Main Replacement

Existing Conditions

The existing Prince Gallitzin underground potable water piping system in the campground area of the park is experiencing leaks and failures. The failures are coming from the main piping loop. The existing branch lines to bathhouses and hydrants have either been replaced or do not experience the same failures as the main line. The park treats its water onsite, and the leaks cause increased chemical use as well as pumping power.

Proposed Solution

McClure Company is proposing to replace the existing water main serving the campground, approximately 5,000 linear feet. The existing water main location will be excavated down to the existing pipe, the pipe will be removed and then reinstalled with new taps for existing hydrant and bathhouse lines.

Assumptions

Only the main line serving the campground is experience failure and all branch lines are in good working order. This measure also includes a like-for-like replacement of pipe size.

Annual Savings / Benefits

While savings are not quantified in this RFQ response it can be expected the operational and pumping savings can be achieved by replacing the pipe and stopping the leaks. Reduced water used will lead to reduced chemical consumption and pumping power. No data is available at the time of this submission to determine the savings impact, as such the measure is included with purely capital costs.

Please also see Section D.1.g for our proposed “Additional” ECMs that would supplement these identified Core ECMs.

D.1-b.2 Energy Conservation Measures Not Included in Base Program

The upgrades described in this section were each explored, in detail, during the development of our proposal. Many of them have not been included in the Base Program at this time due to their higher capital-cost-intensive nature (compared to annual energy savings) and the need for further discussions with the Funding Agency to determine the feasibility for the solution at each site. Individual cost and savings information, as available, for each of these measures can be found in Table 1 at the beginning of this section.

ECM-2a: Site HVAC Conversions- Heat Pumps

Measure Summary

As an alternate to the fuel switch and equipment replacement detailed in ECM 2, McClure evaluated utilizing heat pump technology for heating at cabins, office, and maintenance buildings. Initial findings for heat pump domestic water heaters savings in the applied applications did not meet program criteria, so use of propane was maintained consistent with ECM 2.

Reason for exclusion

Given the limited potential operation of heat pumps without the use of electric resistance back up coils, there is limited savings for standard heat pump equipment. Use of low ambient heat pump technology did not meet the criteria necessary for program inclusion and in both cases showed longer paybacks when compared to the propane technology detailed in ECM 2 above. Further investigation during the IGA is recommended to address site specific needs and maintenance concerns with each system type.

ECM-2b: Site Fuel Conversions Wood/Propane Select Sites

Measure Summary

The basis of design for this measure is the current hot water heating set up for the Shawnee Maintenance Facility which utilizes a wood/oil outdoor boiler to generate heating hot water. When the wood fuel is exhausted the system automatically switches to oil to maintain heating. The park utilizes waste and hazard wood, a seemingly endless supply, for its wood fuel. This wood was traditionally removed by park staff to a location for general public collection, however, some of the wood is not diverted to the boiler and the use of seasonal summer labor maintains the supply (cutting, splitting, stacking) on an as needed basis.

Reason for exclusion

Additional investigation is necessary into the feasibility of this solution for park offices and maintenance facilities, especially those located adjacent to each other, with hot water or forced air systems which can be retrofit with hot water coils. The use of locally sourced waste and hazard wood already requiring staff interaction as a fuel source could provide a drastic reduction in the need for purchased fuels for these sites. While utilizing a low-cost local resource, the labor required for fuel storage should be considered and only select locations within each site should be considered.

ECM-4: Solar PV

Measure Summary

Most of the existing parks currently have some form of solar, whether it be a small array on a roof or next to one of the buildings in the park. However, each site was further evaluated at for the development of a larger solar system capable of creating more power to offset electrical use in the park and be more than just an educational tool. Preliminary designs were sized for 14.4 kW, able to match the utility baseline for the smallest parks to create a consistent solution that could be applied to all parks. The location of the PV arrays would be to maximize the impact of net metering to as many high usage meters at each park.

Reason not included in Base Program

While providing an opportunity for renewable energy, the existing PV systems and minimal utility information available made analysis of the proposed systems difficult. Many of the parks are served by electric cooperatives not participating in ACT 129 rebates and, without further investigation, may not be willing to participate in a net metering style arrangement. Without the net metering arrangement, the arrays for each building would not be cost effective due to the size and loading of the electrical system. The proposed 14.4 kWh array did not produce the necessary savings to be considered for the program when deployed across all parks except Black Moshannon which

did not have a suitable location for the array. While some parks exhibit a better savings potential given their higher rates, the estimated paybacks all exceeded 30 years. Further evaluation is necessary during the IGA as to the feasibility and cost effectiveness of this measure.

ECM-4a: Solar Thermal and Storage

Measure Summary

As with the Solar PV in ECM 4, the use of solar thermal to generate hot water for heating or domestic use should be further evaluated during the IGA for use at the park offices, maintenance facilities, and bathhouse where large amounts of domestic hot water is used. Installation of building specific sized arrays may allow for offset of fuel use to produce heating and domestic hot water.

Reason not included in Base Program

This measure is currently not included as it requires additional investigation and site specific analysis for feasibility.

ECM-5: Heat Pumps/Split Systems Replacements

Measure Summary

For the parks included in our study, the HVAC systems varied in type, fuel source and age, making each site unique, and different. Most parks did not have heat pumps at the buildings but instead has split system units. Most units were a combination of a forced air furnace with an outside condensing coil for air conditioning. While these units could be replaced with heat pumps technology, the preliminary energy calculations showed it was more efficient to switch to propane which is covered under ECM-2.

Reason not included in Base Program

Preliminary assessment of system replacement outside of the fuel conversion detailed in ECM 2 did not meet program payback criteria, and any replacements required at offices, maintenance facilities, or cabins have been included with the fuel switch in ECM 2 for compatibility with the new fuel source.

ECM-6: Sludge Handling

Measure Summary

Most of the visited parks have on-site Waste Water Treatment Plants, each unique in size, volume handled, and how they handle sludge specifically. For instance, Shawnee has intake from the local borough that is metered and accounts for nearly 80% of the waste, which the borough pays for, so the actual cost of dealing with waste at the facility may be inflated when not accounting for this income. Additionally, Shawnee has adopted a policy of borrowing another park's truck as needed to pump and dispose of the sludge at a local facility. This seems to be the process for many parks without drying beds as it was mentioned at multiple locations the region had owned a pump truck in the past that is no longer in service. For parks utilizing this method, many did not want the additional labor required to deal with drying beds and disposal. Some parks operated by staff familiar with the drying beds see it as a means to reduce costs when their only option seems to be commercially available disposal services that are more expensive as they provide the disposal trucks as part of the service. Other parks such as Parker Dam, are already in processes to upgrade the waste water treatment plants. As no costs were provided as part of the RFP at this time for disposal, no recommendation can be made as the savings are indeterminate. However, during the IGA each park will be evaluated as to the standard practices currently employed and opportunities for operating cost reductions.

Reason not included in Base Program

Energy and operational savings associated with this measure cannot be determined at this time.

ECM-7: Lake Geothermal Heating/Cooling Systems

Measure Summary

McClure investigated at a high level the option of installing geothermal heating and cooling systems utilizing lake water at the base parks. However, further investigation during the Investment Grade Audit (IGA) is required. There are few parks with limited buildings requiring both heating and cooling within reasonable distance to the lake. This measure is not currently included in our base program due to intensive capital costs and limited buildings available, however, it should be further studied during the IGA.

Reason not included in Base Program

Additional site-specific analysis is needed to determine feasibility of lake geothermal along with review of any local regulatory restrictions.

ECM-8: Codorus- Natural Gas Utilization

Measure Summary

There is an existing natural gas line that runs through the state park. The gas line is located by the pool and campground area. The gas line was originally owned by Columbia Gas but has since been transferred to TransCanada. McClure investigated interconnecting to this transmission line, however, further investigation will be needed during the IGA Phase to determine its feasibility.

Reason for exclusion

The existing gas line is a transmission line and not a standard residential line. The cost involved with connecting to a transmission line is much greater due to the infrastructure that would need to be put in place and then maintained by the park. Further investigation is required to determine if the line can be used to supply fuel to the site.

ECM-9: Codorus- Water Conservation

Measure Summary

Codorus does not have its own water or sewage treatment plant onsite. Instead, they obtain their water and dispose of their sewer to the local utility. A majority of the park is only operational during the standard season of April-October making the yearly water use not as great as a 24/7 operational facility.

Reason not included in the Base Program

Further investigation will be needed during the IGA phase to determine the validity of installing numerous low flow devices on applications that are only operational for a portion of the year.

ECM-12: Hills Creek- HVAC Conversion- Heat Pumps

Measure Summary

This measure evaluates the feasibility of converting building and domestic water heating to heat pump technology. This was evaluated as part of ECM 2a detailed above.

Reason for exclusion

Included as part of ECM 2a analysis above.

ECM-13: Hills Creek- Natural Gas Line Extension

Measure Summary

The main Park Office located at Hills Creek currently has natural gas as its fuel source. McClure evaluated extending this service to the Park Residence and Maintenance Building, which both currently use propane. The capital cost to extend the natural gas line the distance required is not cost effective given the current low cost of propane.

Reason for exclusion

Energy and conservation savings associated with this measure do not warrant the extension of the natural gas line at this time.

ECM-14: Hills Creek- Well Pump Retrofits

Measure Summary

At Hills Creek there are two (2) well houses located on the property which serve the water tower. Within the water tower there is a float which the park uses to monitor the water level. The well pumps are operated manually based on the known water levels within the water tower. Existing wells pumps were in good working condition at the time of survey.

Reason for exclusion

Due to the low use and manual application of the well pumps, energy and conservation savings associated with this measure do not warrant any action at this time.

ECM-15: Parker Dam- Wastewater Treatment Plant Operations

Measure Summary

At Parker Dam the overall Waste Water Treatment Plant (WWTP) is dated and in need of repair in multiple locations. Ventilation throughout the interior building was insufficient and the electrical equipment is outdated and not to current standards. The chlorine system is also outdated and should be considered for replacement. During the site visit it was noted that the facility was looking into alternative options for a complete renovation of the WWTP - McClure assumes this is a DCNR effort at this time.

Reason for exclusion

Further investigation and conversations with DCNR will be needed to determine the next steps of the process. Further study during the IGA phase will be required.

ECM-16: Black Moshannon- HVAC Upgrades

Measure Summary

This scope of work for the office and maintenance facility was evaluated as part of ECM 2. Limited opportunity and current fuel systems (propane) limit savings opportunity

Reason for exclusion

The limited scope for this site along with the capital intensive nature of the work required do not produce the savings required to meet program requirements. While not currently included with the base scope in ECM 2, further investigation during the IGA is required along with the potential use of capital cost avoidance funds to support the more intensive system replacement, which is considerably different from other parks requirements for the fuel switch.

ECM-17: Black Moshannon- Cabin HVAC Conversion Heat Pump

Measure Summary

This scope of work is included as part of ECM 2a detailed above.

ECM-19: Prince Gallitzin- Office HVAC Upgrades

Measure Summary

This scope of work is included as part of ECMs 2 and 2a detailed above.

D.1-c Preliminary Assessment of Energy Conservation Measures (ECMs)

McClure Company has evaluated and provided a preliminary assessment for each energy conservation measure (ECM) opportunity, which includes estimated implementation costs, energy cost savings, and detailed savings calculations that support implementation of each ECM under this GESA program. Detailed calculations for the energy cost savings can be found under **Attachment 2**. Our preliminary assessment of the identified Core ECM opportunities is based upon the information and data provided under this RFQ and the two (2) allotted site visits per park, not exceeding 3-hour durations per visit, that our team conducted.

Table 3 provided below summarizes total implementation costs and annual savings generated by all Energy Conservation Measures (*Core ECMs + McClure’s Additional ECMs*) proposed by McClure Company.

Table 3- Proposed Energy Conservation Measures – “Base” GESA Program: Total Installation Costs and Annual Savings

ECM ID	ECM Description	Total Costs (\$)	Electric (kWh/Yr)	Electric (\$/yr)	Oil (Gal/Yr)	Oil (\$/Yr)	Propane (Gal/Yr)	Propane (\$/Yr)	Natural Gas (Therms/Yr)	Natural Gas (\$/Yr)	Water (kgal/yr)	Water (\$/yr)	Rebates / Incentives (\$)	Total Cost Savings (\$) *
ECM-1	Site-Wide LED Lighting	\$ 515,096	675,894	\$ 89,485										\$ 89,485
ECM-2	Site Fuel/HVAC Conversions-Propane/Natural Gas	\$ 1,077,138	959,075	\$ 124,426	4,157	\$ 9,978	-51,169	\$ (72,388)						\$ 62,016
ECM-3	Controls Upgrades	\$ 145,540					2,510	\$ 3,582						\$ 3,582
ECM-10	Bald Eagle- Wastewater Treatment Plant Operations	\$ 47,839												\$ -
ECM-11	Bald Eagle- Nature Center Recommissioning	\$ 23,687	22,158	\$ 1,821										\$ 1,821
ECM-18	Prince Gallitzin- Water Main Replacement	\$ 514,135												\$ -
ECM-20	Building Envelope Upgrades	\$ 271,696	478,001	\$ 62,224	83	\$ 179	1,218	\$ 1,552	217	\$ 258				\$ 64,213
Totals:		\$ 2,595,131	2,135,128	\$ 277,956	4,240	\$ 10,157	-47,441	\$ (67,254)	217	\$ 258	0	\$ -	\$ -	\$ 221,117
DGS Energy Consultant Fees:		\$0												Escalated \$ 223,328
Bond Cost		\$22,618												
Total Project Cost		\$ 2,617,749												

McClure Company commits that the total energy savings projected in the final scope of work will be at least 95% of the savings projected in this Quote proposal, the actual ECM costs shall be within 10% of the costs listed within the CEA, and that this project will be self-funded over the financial term of the project (maximum term of 18 years).

D.1-d The Degree to Which the Proposal Demonstrates the Technical Feasibility, Suitability, Reasonableness, Comprehensiveness and Acceptability of the Proposed ECMs

McClure’s evaluation of the proposed energy conservation measures (ECMs) includes the technical feasibility, suitability, reasonableness, comprehensiveness and acceptability as demonstrated below. For transparency purposes, McClure has included the proposed equipment and level of quality of the equipment for the proposed savings.

The **Technical Feasibility** of the ECMs proposed was taken from McClure’s vast energy project experience on past projects implemented across the Commonwealth. Many of the ECMs proposed were designed specifically for the required building application. The lighting scope was also customized for office and public-space facilities, interior and exterior applications, to ensure light levels met code requirements. While the systems proposed were created with DCNR specifically in mind, these system types have been instituted across other McClure facility projects implemented throughout the Commonwealth. With our knowledge of design, implementation, and post construction monitoring and servicing of these systems, McClure’s Design/Build expertise and comfort in servicing these systems will ensure a successful final product for the DCNR GESA project.

The **Suitability** of the ECMs proposed will be reviewed with DCNR during the Investment Grade Audit phase of the project. A kick-off meeting, interim meeting(s) and final meeting will ensure the proposed ECMs are suitable and align with both DCNR’s and Commonwealth’s staff goals, needs, and future facility requirements.

The **Reasonableness** of the ECMs proposed will be identified, quantified and communicated to the project team through a variety of metrics. These metrics will ensure optimization of an ECM at each level, from each unit component to the full system application. This protocol is essential to ensuring that the ECMs proposed not only meet the goals of DCNR and the Commonwealth for the long-term but are also reasonable and make implementation sense from multiple metric aspects.

The *Comprehensiveness* of the ECMs proposed starts with the Investment Grade Audit (IGA). McClure understands that the scope of each ECM shall not be applied without careful monitoring; that significant due diligence analysis and understanding of the client's operation needs to be taken into consideration for all future ECMs. A blanket solution is not always viable or may not make financial or physical sense. McClure's approach to ECM identification and scope determination is comprehensive, time intensive, and extensive. Not only is every ECM system reviewed, but each system component is carefully analyzed, measured, metered and/or evaluated for reasonableness, suitability and technical feasibility, including interaction with other measures. This upfront qualification ensures a fully customized product of our Investment Grade Audit, in addition to multiple ECM options presented to DCNR and the Commonwealth for consideration.

The *Acceptability* of the ECMs proposed is an important step for a successful project. A kick-off meeting, interim meeting(s) and final meeting will ensure the ECMs proposed are suitable for DCNR and Commonwealth staff's goals, needs, and future facility requirements.

D.1-e Training for DCNR Personnel

McClure will provide extensive training to the DCNR staff on all newly installed systems and technology. Below is a summary of the training scope that will be provided to DCNR personnel. If preferred, this training may also be videotaped for future DCNR use. Each training seminar will review the basic operational and maintenance (O&M) practices, introducing new technology and procedures to DCNR staff. The training seminars, along with the documentation, will be coordinated with DCNR staff and will be fully customized to meet the goals and needs of DCNR.

Training scope selection is paramount for a successful energy savings project. To achieve long-term success of ECM system operability and savings potential, the in-house maintenance personnel must have an understanding of the ECM design and be capable of operating the equipment, especially in emergency situations. The initial training we provide to DCNR staff includes a comprehensive review each ECM. This review will include an explanation of the energy savings expected with each ECM, a description of the construction that was included to achieve the savings, and O&M procedures of the new equipment. McClure's Project Development Engineer will provide this training due to their direct knowledge and understanding of the overall scope. Training is the most important component for an energy project to ensure long-term success. During project commissioning and closeout, training will be customized for each ECM system.

DCNR Personnel being provided the training shall be a necessary component for project closeout and throughout the life of the contract. McClure Company will provide a qualified instructor on all new energy conservation measure (ECM) systems. We have the ability to train personnel both on and off-site, based upon preference. Onsite training allows all training session to be attended by all applicable DCNR personnel. To ensure increased training outreach, there is no limitation on the number of personnel allowed to attend any training class. Onsite training is proposed for all ECM's.

A videotape of the training may also be provided for future training use. In addition, McClure Company can also provide an on-going annual training program which can be used to provide training to new employees or provide assistance to the maintenance staff to resolve on-going issues. McClure Company will provide sixty (60) annual hours of consultative services. The intention of these annual hours is to demonstrate expected system operation, system calibration, troubleshooting problems for the purpose of training in house personnel. These hours could also be used to provide training to new employees on systems that training had previously occurred at project close-out. The amount and use of these annual training hours will be determined during the Investment Grade Audit (IGA) phase.

D.1-f The Degree to Which the Proposed Measures Meet the Future and Changing Needs of the Commonwealth

McClure has completed preliminary research to ensure that each proposed Energy Conservation Measure will meet the future needs of the Commonwealth and DCNR over the long-term. For example, ECM's that meet the future needs of the Commonwealth and DCNR are 2 and 18. In summary, these measures, provide for a fuel switch to utilize a traditionally lower cost fuel into the future and replacement of a necessary asset for the park to provide services. Through design and engineering, the system is sized for the facility providing for any future needs or redundancy.

D.1-g Additional Energy Conservation Measures Not Already Included in the Project

ECM-20: Building Envelope

Existing Conditions

The facility was surveyed for areas of infiltration that would result in unnecessary load for the mechanical system. Infiltration can be defined as unregulated outside air entering a building unintentionally. This air must be treated (heated or cooled) by the building's heating or cooling system to maintain acceptable indoor temperatures.

Common areas of infiltration include worn or missing door weather stripping, gaps along the interface of the roof and wall, insulation of attic spaces, air sealing of attic spaces, and air sealing any penetration between interior and exterior areas.

Proposed Solution

McClure Company is proposing to reduce the amount of infiltration air and increase critical insulation areas as detailed above. Please reference Attachment 3 – Supplemental ECM Information and Documentation for details and locations within the facility. Due to the scope of work and payback, Parker Dam State Park has not been included in this section and will require further study to determine scope validity.

This ECM is included with McClure's Base program as it provides a positive impact to the cash flow with a payback less than program requirements.

Assumptions

Calculations are based on ASHRAE Method for estimating air infiltration using a degree day calculation.

Annual Savings / Benefits

This measure will reduce the untreated infiltration of outdoor air and loss of conditioned interior air resulting in a more stable interior environment.

Savings:

- 478,001 kWh
- 83 Gallons of Oil
- 1,218 Gallons of Propane
- 217 Therms of Natural Gas

Along with ECM 20, during the site investigations McClure was made aware of additional operational and energy savings opportunities not already detailed in the RFQ. While these items merit additional investigation during the IGA, they have not been vetted or included at this time. The measures include:

- Small scale hydroelectric generation at all parks except Codorus, which does not own the rights to the upper level of water or the dam
- Gifford Pinchot State Park
 - Main Office Generator Replacement
 - Remaining Sewage Lift Station Upgrades, pumps and generators
 - Visitors Center Window Upgrades
- Black Moshannon State Park
 - Sewage Drying Bed Roof Replacement
 - Wastewater Treatment Blower Replacement
- Hills Creek State Park
 - New Roof System over Drying Beds
 - Modern Cabin Window Replacement
- Parker Dam State Park
 - Interior Renovation of Older Bathhouses
 - Natural Gas Fuel Moisture Mitigation

Costs

D.1-h Annual Financial Projections

Please find McClure Company’s annual financial cash flow projections for an 18-year GESA Contract presented on the following page as *Table 4 - Annual Financial Projections for the GESA Contract*. Our annual financial projection is prepared in accordance to the format and requirements defined by the RFQ, and is based upon McClure implementing the base recommended program. All energy savings shown on this table are guaranteed directly by McClure Company.

Detailed energy and cost calculations can be found in **Attachment 2**. For purposes of developing this proposal and the many assumed variables at this phase of the project, we have de-rated the calculated savings for an added level of conservatism. When the Investment Grade Audit (IGA) is conducted, many variables will be measured and verified and the savings will be adjusted accordingly.



Table 3: Annual Financial Projections for DCNR Central GESA Contract – 4% Rate / 13 Year Term

Project Cost	\$2,617,749	Interest Rate	4%
Rebates/Incentives	\$10,047		
First Year Energy Savings	\$ 223,328	Energy Cost Escalation Rate	1%

	A	B	C	D	E	F	G	H	I	J
Year	Annual Energy Costs <u>without</u> Improvements	Annual Energy Costs <u>with</u> Improvements	Annual Energy Cost Savings (A-B)	O&M Savings (Includes ACT 129)	Total Savings	Avoided Capital Outlay Savings	Payments for Financing Equipment	Payments for Monitoring and Maintenance Services	Net Annual Benefit (E+F-G-H)	Cumulative Cash Flow
const	\$415,274	\$304,716	\$110,558						\$110,558	\$110,558
1	\$419,427	\$196,099	\$223,327	\$27,306	\$250,633	\$26,757	\$260,200	\$9,000	\$8,190	\$118,748
2	\$423,621	\$198,060	\$225,561	\$17,259	\$242,820	\$26,757	\$260,200	\$9,000	\$377	\$119,124
3	\$427,857	\$200,041	\$227,816	\$17,259	\$245,075	\$26,757	\$260,200	\$9,000	\$2,632	\$121,756
4	\$432,136	\$202,041	\$230,094	\$17,259	\$247,354	\$26,757	\$260,200		\$13,910	\$135,667
5	\$436,457	\$204,062	\$232,395	\$17,259	\$249,655	\$26,757	\$260,200		\$16,211	\$151,878
6	\$440,822	\$206,102	\$234,719	\$13,517	\$248,236	\$26,757	\$260,200		\$14,792	\$166,670
7	\$445,230	\$208,163	\$237,066	\$13,517	\$250,583	\$26,757	\$260,200		\$17,140	\$183,810
8	\$449,682	\$210,245	\$239,437	\$13,517	\$252,954	\$26,757	\$260,200		\$19,510	\$203,320
9	\$454,179	\$212,348	\$241,831	\$13,517	\$255,348	\$26,757	\$260,200		\$21,905	\$225,225
10	\$458,721	\$214,471	\$244,250	\$13,517	\$257,766	\$26,757	\$260,200		\$24,323	\$249,548
11	\$463,308	\$216,616	\$246,692		\$246,692	\$26,757	\$260,200		\$13,249	\$262,797
12	\$467,941	\$218,782	\$249,159		\$249,159	\$26,757	\$260,200		\$15,716	\$278,513
13	\$472,621	\$220,970	\$251,651		\$251,651	\$26,757	\$260,200		\$18,207	\$296,720
14	\$477,347	\$223,179	\$254,167		\$254,167				\$254,167	\$550,888
15	\$482,120	\$225,411	\$256,709		\$256,709				\$256,709	\$807,597
16	\$486,941	\$227,665	\$259,276		\$259,276				\$259,276	\$1,066,873
17	\$491,811	\$229,942	\$261,869		\$261,869				\$261,869	\$1,328,742
18	\$496,729	\$232,241	\$264,488		\$264,488				\$264,488	\$1,593,229
TOTAL	\$8,642,224	\$4,151,157	\$4,491,067	\$163,925	\$4,544,434	\$347,839	\$3,382,602	\$27,000	\$1,593,229	

D.1-i Energy Analysis Demonstrates Sound Engineering Principles and the Reasonableness of the Proposed Savings

McClure Company has provided detailed energy analysis and calculations under industry accepted “best practices” and standards, demonstrating sound engineering principles that yield reasonable savings expectations for a project of this scope and magnitude. Our detailed energy analysis can be found in **Attachment 2 – Energy Calculations**, located at the end of Volume II.

Sound engineering principles and industry “best practices” were utilized to analyze provided data and perform associated energy saving calculations relating to the DCNR GESA project. One internal process utilized by McClure is to compare cost reductions of this proposal to other past GESA projects having a similar scope. McClure’s proposed cost savings for DCNR reduces the baseline annual utility expenses by \$223,327, or 53%. This project falls into GESA project costs savings range of 40%-60% for primarily fuel switch and LED conversion based projects.

Monitoring and Maintenance

D.1-j Ongoing Monitoring and Maintenance Services

Provided below is a thorough summary of the ongoing project monitoring and maintenance services that McClure will provide, including a description of the methods, schedule, scope and personnel who will be providing these services to DCNR. Per the RFQ, there is no service contract included at this time.

Methods for providing ongoing project monitoring and maintenance services through McClure Company are extensive. McClure will monitor the energy use of each facility throughout the construction year. This benchmarking provides an early indicator of whether the Year 1 savings will be fully realized, or if adjustments to ECM scope are needed

For ongoing maintenance services, McClure has an in-house 24-hour mechanical emergency service department ready to respond to DCNR needs over the entire contract term. Our service team consists of over ninety (90) full time field service and maintenance technicians.

Scope for ongoing project monitoring is included for all proposed energy conservation measures (ECMs) and associated equipment, including lighting, lighting controls, building management system and components, and all building envelope installations. Utilizing industry approved “best practices” and standards, McClure will measure and verify the associated savings for each ECM. The goal is to successfully measure and cost-effectively verify the energy savings calculated, in accordance with the selected International Performance Measurement and Verification Protocol (IPMVP) Option, one year after the systems being installed.

Personnel for the ongoing project monitoring are critical in quantifying and calculating the total energy savings associated with the project. Richard Skinner, P.E., McClure’s Measurement and Verification (M&V) manager, will be the supervisor responsible for all ongoing project monitoring. Shayne Homan, Vice President - Energy Services, will oversee Richard’s work and manages the entire process.

D.1-k Measurement and Verification

McClure Company’s proposed Measurement and Verification (M&V) plan for the DCNR GESA project, which adheres to all IPMVP standards, is further described below. Our plan demonstrates scalability for measurement and verification of the proposed energy baseline, adjustment factors and energy cost savings.

McClure’s M&V Plan Adheres to all IPMVP Standards. Information presented below includes procedures and guidelines utilized to quantify savings resulting from the installation of ECMs under PA GESA projects, and are designed to comply with the International Performance Measurement & Verification Protocol (IPMVP) being utilized for this DCNR GESA program:

- **Option A – Partially Measured Retrofit Isolation**
- **Option B – Retrofit Isolation**
- **Option C – Utility Bill Comparison** (*where applicable*)

ECM Number	ECM Title	M&V Methodology
ECM-1	Site-Wide LED Lighting	IPMVP Option A
ECM-2	Site Fuel/HVAC Conversions- Propane/Natural Gas	IPMVP Option A/Option C as applicable
ECM-3	Controls Upgrades	IPMVP Option A
ECM-10	Bald Eagle- Wastewater Treatment Plant Operations	IPMVP Option A/Option C as applicable
ECM-11	Bald Eagle- Nature Center Recommissioning	IPMVP Option A
ECM-18	Prince Gallitzin- Water Main Replacement	IPMVP Option A
ECM-20	Building Envelope Upgrades	IPMVP Option A

During the post-installation M&V verification process, McClure Company and DCNR will mutually agree that the proper equipment components or systems were installed as contracted, are operating correctly and as specified, and have the potential to generate the projected savings. Verification methods may include surveys, inspections and/or continuous metering of equipment and systems. A critical step in the process will commence during system/equipment commissioning

of each installed ECM, which McClure will coordinate with DCNR staff, representatives from DGS and installing subcontract partners. McClure Company and DCNR will determine energy savings in accordance with an agreed-upon M&V method using verification techniques defined within this M&V plan.

The Scalability for the Measurement and Verification Plan of the Proposed Energy Baseline, Adjustment Factors and Energy Cost Savings will be quantified and mutually agreed to between DCNR, DGS and McClure Company. McClure’s M&V plan is scalable, from one ECM’s measurement and verification criteria to the entire program and portfolio of ECMs. Scaling allows McClure’s team to separately measure each ECM and calculate the aggregate of savings attributed to the program. Below is a summary of the scalability components of the plan:

- ***Proposed Energy Baseline:*** During the performance period, it may be necessary to adjust the baseline for changes in the facilities use. Some common adjustments are made for items such as:
 - Changes in building occupancy
 - Additions to the building foot print
 - Weather
 - Operational (schedule and /or temperature set point, equipment operation, etc) changes
 - Equipment maintenance changes
- ***Energy Cost Savings:*** To calculate the energy cost savings, McClure will conduct building surveys, monitor the facilities for occupation and usage, and verify energy savings. There are four industry-accepted options to verifying energy savings that were created as part of the International Performance Measurement and Verification Protocol (IPMVP); Option A, B, C & D. These industry standards will be utilized to determine and justify guaranteed energy cost savings associated with the DCNR GESA program.



ATTACHMENT 1 – ENERGY BASELINE

McClure Company has provided an energy baseline for DCNR based on provided utility usage data sheets. The baseline selected is described above in section D.1-a.5. Located in this attachment are the energy baseline rates utilized to calculate the energy savings for each energy conservation measure. For Codorus and Prince Gallitzin State Parks, the electric rate was calculated as the average rate from the other park sites, as incomplete utility information was provided for these parks. Additionally, there is missing utility data for electric at Shawnee State Park. For sites not already equipped with propane, the same assumption was made that the average rate of the other park sites will be used as the baseline rate. It is expected that given the fuel switch at the parks which incurs higher usage, a new rate class resulting in a lower rate would be achieved, however, those rate savings have not been calculated or included at this time. The assumed and calculated values are shown in *bold italics* within the chart.

Site	Base Utility Rates				
	Electric \$/kWh	Oil \$/Gal	Natural Gas \$/Therm	Propane \$/Gal	Water/Sewer \$/kGal
Bald Eagle State Park	\$0.0822	\$3.1835		\$1.1492	
Black Moshannon State Park	\$0.1192			\$1.0223	
Codorus State Park	<i>\$0.1198</i>	\$3.1230		<i>\$1.3879</i>	\$13.7938
Gifford Pinchot State Park	\$0.1243	\$1.8465		<i>\$1.3879</i>	
Hills Creek State Park	\$0.1699		\$1.1903	\$1.9325	
Parker Dam	\$0.1773			\$1.6822	
Prince Gallitzin State Park	<i>\$0.1198</i>	\$2.0211		<i>\$1.3879</i>	
Shawnee State Park	\$0.1490	\$2.0164		<i>\$1.3879</i>	

Energy Consumption:

Site	Base Utility Usage and Cost									
	Electric		Oil		Natural Gas		Propane		Water/Sewer	
	Usage kWh	Cost	Usage Gal	Cost	Usage Therm	Cost	Usage Gal	Cost	Usage kGal	Cost
Bald Eagle State Park	1,111,029	\$91,313	496	\$1,579			2,179	\$2,504		
Black Moshannon State Park	369,688	\$44,069					10,428	\$10,660		
Codorus State Park	<i>17,210</i>	<i>\$3,907</i>	1,772	\$5,534			1,075	\$4,346	2,629	\$36,264
Gifford Pinchot State Park	426,825	\$53,045	2,631	\$4,858						
Hills Creek State Park	276,751	\$47,005			636	\$757	1,749	\$3,380		
Parker Dam	318,360	\$56,432					1,787	\$3,006		
Prince Gallitzin State Park	12,291	\$2,355	6,198	\$12,527						
Shawnee State Park	180,749	\$26,924	2,385	\$4,809						

ATTACHMENT 2 – ENERGY CALCULATIONS

McClure Company has provided a preliminary assessment for each energy conservation measure (ECM) opportunity, including a detailed estimate of implementation costs and energy cost savings. Detailed calculations for the energy cost savings can be found in this Attachment. The preliminary assessment of the energy efficiency opportunities available to DCNR are based upon the information provided in the RFQ, issued bulletins (1-7), and escorted tour of the DCNR site.

Type of building	Consumption per occupant		Peak demand per occupant		Storage per occupant	
	liter/day	gal/day	liter/hr	gal/hr	liter	gal
Factories (no process)	22 - 45	10-May	9	2	5	1
Hospitals, general	160	35	30	7	27	6
Hospitals, mental	110	25	22	5	27	6
Hostels	90	20	45	10	30	7
Hotels	90 - 160	20 - 35	45	10	30	7
Houses and flats	90 - 160	20 - 35	45	10	30	7
Offices	22	5	9	2	5	1
Schools, boarding	115	25	20	4	25	5
Schools, day	15	3	9	2	5	1

https://www.engineeringtoolbox.com/hot-water-consumption-person-d_91.html

Codorus

Existing	5	Electric DWH	5	# of Instantaneous Prop.
	120	Gal Each	95%	Prop. Eff.

191	# of Campsites/Cottages/Yurts
68%	Average Assumed Occupied Rate
2	# of People per Site/Day
203	# of Days/Year

52,731	# of People Per Year
20	Gal of HW/Person/Day
1,054,626	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
8,795,578	Total Lbs of HW
616	Total MMBTU

	Existing	Saved	Units
180,449	Existing kWh	180,449	kWh
7,045	Proposed Propane Use	-7,045	Gallon Propane

Gifford Pinchot

Existing	15	Electric DWH	15	# of Instantaneous Prop.
	120	Gal Each	95%	Prop. Eff.

321	# of Campsites/Cottages/Yurts
68%	Average Assumed Occupied Rate
2	# of People per Site/Day
203	# of Days/Year

88,622	# of People Per Year
20	Gal of HW/Person/Day
1,772,434	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
14,782,096	Total Lbs of HW
1,035	Total MMBTU

	Existing	Saved	Units
303,267	Existing kWh	303,267	kWh
11,839	Proposed Propane Use	-11,839	Gallon Propane

Shawnee

Existing			
3	Bath house Electric	2	Bath house Propane
60%		95%	Prop. Eff.
		40%	
212	# of Campsites/Cottages/Yurts		
68%	Average Assumed Occupied Rate		
2	# of People per Site/Day		
203	# of Days/Year		

58,529	# of People Per Year
20	Gal of HW/Person/Day
1,170,579	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
9,762,631	Total Lbs of HW
683	Total MMBTU

	Existing	Saved	Units
120,173	Existing kWh	120,173	kWh
3,128	Existing Propane Use		
7,819	Proposed Propane Use	-4,691	Gallon Propane

Gallitzin

Existing			
4	Bath house Electric	3	Bath house Propane
57%		95%	Prop. Eff.
		43%	
393	# of Campsites/Cottages/Yurts		
68%	Average Assumed Occupied Rate		
2	# of People per Site/Day		
203	# of Days/Year		

108,499	# of People Per Year
20	Gal of HW/Person/Day
2,169,989	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
18,097,707	Total Lbs of HW
1,267	Total MMBTU

	Existing	Saved	Units
212,165	Existing kWh	212,165	kWh
6,212	Existing Propane Use		
8,283	Proposed Propane Use	-2,071	Gallon Propane

Black Moshannon

Existing	
0%	Bath house Electric
2	Bath house Propane
80%	Prop. Eff. Existing
100%	
82	# of Campsites/Cottages/Yurts
95%	Prop. Eff. Proposed
68%	Average Assumed Occupied Rate
2	# of People per Site/Day
203	# of Days/Year

22,639	# of People Per Year
20	Gal of HW/Person/Day
452,771	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
3,776,112	Total Lbs of HW
264	Total MMBTU

	Existing	Saved	Units
0	Existing kWh	0	kWh
3,591	Existing Propane Use		
3,024	Proposed Propane Use	567	Gallon Propane

Hills Creek

Existing	
0%	Bath house Electric
4	Bath house Propane
80%	Prop. Eff. Existing
100%	
80	# of Campsites/Cottages
95%	Prop. Eff. Proposed
68%	Average Assumed Occupied Rate
2	# of People per Site/Day
203	# of Days/Year

22,086	# of People Per Year
20	Gal of HW/Person/Day
441,728	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
3,684,012	Total Lbs of HW
258	Total MMBTU

	Existing	Saved	Units
0	Existing kWh	0	kWh
3,504	Existing Propane Use		
2,951	Proposed Propane Use	553	Gallon Propane

Parker Dam

Existing			
2	Bath house Electric		Bath house Propane
100%		80%	Prop. Eff. Existing
		0%	
110	# of Campsites/Cottages/Yurts	95%	Prop. Eff. Proposed
68%	Average Assumed Occupied Rate		
2	# of People per Site/Day		
203	# of Days/Year		

30,369	# of People Per Year
20	Gal of HW/Person/Day
607,376	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
5,065,516	Total Lbs of HW
355	Total MMBTU

		Saved	Units
103,923	Existing kWh	103,923	kWh
0	Existing Propane Use		
4,057	Proposed Propane Use	-4,057	Gallon Propane

Bald Eagle

Existing			
0	Bath house Electric	2	Bath house Propane
0%		95%	Prop. Eff. Existing
		100%	
100	# of Campsites/Cottages	95%	Prop. Eff. Proposed
68%	Average Assumed Occupied Rate		
2	# of People per Site/Day		
203	# of Days/Year		

27,608	# of People Per Year
20	Gal of HW/Person/Day
552,160	Total HW Gallons Used Per Year

50	Make-Up Water Temp
120	Storage Water Temp
70	Temp Difference

8.34	Lbs/Gal
4,605,014	Total Lbs of HW
322	Total MMBTU

		Saved	Units
0	Existing kWh	0	kWh
3,688	Existing Propane Use		
3,688	Proposed Propane Use	0	Gallon Propane

Cabin HVAC/DHW for Bald Eagle
Weather: State College

Proposed
90% Propane Eff. 70 HTG Setpoint
0.333333 Fan HP 65 HTG Balance Point

Proposed Heat Pump
2.5 COP
0.333333 Fan HP

1 # of Cabins

Building Envelope Load			R Value
Roof Area	1,000	SF	
Total Wall Area	320	SF	
Glass Area	63	SF	
Masonry Wall Area	257		
Roof Overall U-Value	0.0755	BTU / Hr-Sq Ft-Deg F	13.2478
Wall Overall U-Value	0.0900	BTU / Hr-Sq Ft-Deg F	11.1111
Glass Overall U-Value	0.6500	BTU / Hr-Sq Ft-Deg F	1.53846
Roof Heat Loss	75	BTU / Hr-Deg F	
Wall Heat Loss	23	BTU / Hr-Deg F	
Glass Heat Loss	41	BTU / Hr-Deg F	
Envelope Heat Load	140	BTU / Hr-Deg F	

Electric Baseboard to Propane Furnace							
Existing		Proposed		Saved Propane		Proposed Heat Pump	
Gal. Prop.	kWh	Gal. Prop.	kWh	Gal Prop.	kWh	kWh	kWh
0	7,547	311	1,660	-311	5,887	5,904	0
							1,643

Total Electric to Propane Conversion		
Total Over All	Total kWh Savings	8,783
1 Cabins	Total Propane Use	424

Total Electric to Heat Pump Conversion		
Total Over All	Total kWh Savings	1,643
1 Cabins	Total Propane Use	0

Existing & Proposed

Day of Week #:	Day:	Occu:	Hour Ending	Occu:	Month #:	Month:	Occu:
1	Sunday	Y	1	Y	1	January	Y
2	Monday	Y	2	Y	2	February	Y
3	Tuesday	Y	3	Y	3	March	Y
4	Wednesday	Y	4	Y	4	April	Y
5	Thursday	Y	5	Y	5	May	Y
6	Friday	Y	6	Y	6	June	Y
7	Saturday	Y	7	Y	7	July	Y
			8	Y	8	August	Y
			9	Y	9	September	Y
			10	Y	10	October	Y
			11	Y	11	November	Y
			12	Y	12	December	Y
			13	Y			
			14	Y			
			15	Y			
			16	Y			
			17	Y			
			18	Y			
			19	Y			
			20	Y			
			21	Y			
			22	Y			
			23	Y			
			24	Y			

Month	Day	Day of Week	Hour	Min	-3.1 DB	h	HTG
1	1	7	1		53.6	20.37	1
1	1	7	2		53.6	20.37	1
1	1	7	3		53.6	19.87	1
1	1	7	4		53.6	19.87	1
1	1	7	5		53.6	19.87	1
1	1	7	6		53.6	19.47	1
1	1	7	7		51.8	18.98	1
1	1	7	8		51.8	19.44	1
1	1	7	9		53.6	19.87	1
1	1	7	10		53.6	19.47	1
1	1	7	11		53.6	18.97	1
1	1	7	12		55.4	18.66	1
1	1	7	13		57.2	18.33	1
1	1	7	14		57.2	18.33	1
1	1	7	15		55.4	17.6	1
1	1	7	16		53.6	17.19	1
1	1	7	17		50	16.3	1
1	1	7	18		48.2	15.5	1
1	1	7	19		46.4	14.73	1
1	1	7	20		44.6	14.34	1
1	1	7	21		42.8	13.86	1
1	1	7	22		39.2	13.03	1
1	1	7	23		35.6	12.12	1
1	1	7	24		35.6	11.83	1
1	2	1	1		33.8	11.39	1
1	2	1	2		32	10.99	1
1	2	1	3		32	10.99	1
1	2	1	4		32	10.99	1
1	2	1	5		33.8	11.39	1
1	2	1	6		33.8	11.39	1
1	2	1	7		33.8	11.72	1
1	2	1	8		33.8	11.72	1
1	2	1	9		37.4	12.56	1
1	2	1	10		37.4	12.56	1
1	2	1	11		41	13.42	1
1	2	1	12		41	13.42	1
1	2	1	13		42.8	14.18	1
1	2	1	14		42.8	14.51	1
1	2	1	15		44.6	14.97	1
1	2	1	16		42.8	14.51	1
1	2	1	17		42.8	14.84	1
1	2	1	18		41	14.4	1
1	2	1	19		41	14.4	1
1	2	1	20		41	14.77	1
1	2	1	21		41	14.77	1
1	2	1	22		41	15.14	1
1	2	1	23		41	15.51	1
1	2	1	24		41	15.51	1
1	3	2	1		41	15.51	1
1	3	2	2		39.2	15.09	1
1	3	2	3		41	15.51	1
1	3	2	4		41	15.51	1
1	3	2	5		41	15.94	1
1	3	2	6		41	15.51	1
1	3	2	7		41	15.94	1
1	3	2	8		41	15.94	1

Existing System			
		7,547	
Existing Occupied	HTG Plant Operation	HTG BLDG BTU	HTG BLDG kWh

Proposed System				
		311		
		1,660		
Proposed Occupied	HTG Plant Operation	HTG BLDG	HTG BLDG Gal. Prop.	Fan kWh

Proposed System				
		4,244		
		1,660		
Proposed Occupied	HTG Plant Operation	HTG BLDG BTU	HTG BLDG kWh	Fan kWh

Bald Eagle DWH (1) Cabins

Existing	15	Electric DWH	15	# of Instantaneous
	120	Gal Each	95%	Prop. Eff.
	243	Total Occupied Nights		
	75%	Average Assumed Occupied Rate		
	4	# of People per Site/Day		
	729	# of People Per Year		
	25	Gal of HW/Person/Day		
	18,225	Total HW Gallons Used Per Year		
	55	Make-Up Water Temp		
	120	Storage Water Temp		
	65	Temp Difference		
	8.34	Lbs/Gal		
	151,997	Total Lbs of HW		
	10	Total MMBTU		
	2,896	Existing kWh	\$359.86	Savings
	113	Proposed Pwr	\$141.30	\$218.56

Cabin HVAC/DHW for Black Moshannon

Weather: State College

Proposed
 90% Propane Eff. 70 HTG Setpoint
 0.333333 Fan HP 65 HTG Balance Point

Proposed Heat Pump
 2.5 COP
 0.333333 Fan HP

6 # of Cabins

Building Envelope Load			
Roof Area	1,000	SF	
Total Wall Area	320	SF	
Glass Area	63	SF	
Masonry Wall Area	257		R Value
Roof Overall U-Value	0.0755	BTU / Hr-Sq Ft-Deg F	13.2478
Wall Overall U-Value	0.0900	BTU / Hr-Sq Ft-Deg F	11.1111
Glass Overall U-Value	0.6500	BTU / Hr-Sq Ft-Deg F	1.53846
Roof Heat Loss	75	BTU / Hr-Deg F	
Wall Heat Loss	23	BTU / Hr-Deg F	
Glass Heat Loss	41	BTU / Hr-Deg F	
Envelope Heat Load	140	BTU / Hr-Deg F	

Electric Baseboard to Propane Furnace							
Existing		Proposed		Saved Propane		Proposed Heat Pump	
Gal. Prop.	kWh	Gal. Prop.	kWh	Gal Prop.	kWh	kWh	kWh
0	7,547	311	1,660	-311	5,887	5,904	1,643

Total Electric to Propane Conversion		
Total Over All	Total kWh Savings	55,414
6 Cabins	Total Propane Use	-2,650

Total Electric to Heat Pump Conversion		
Total Over All	Total kWh Savings	9,860
6 Cabins	Total Propane Use	0

Existing & Proposed

Day of Week #:	Day:	Occup:	Hour Ending	Occup:	Month #:	Month:	Occup:
1	Sunday	Y	1	Y	1	January	Y
2	Monday	Y	2	Y	2	February	Y
3	Tuesday	Y	3	Y	3	March	Y
4	Wednesday	Y	4	Y	4	April	Y
5	Thursday	Y	5	Y	5	May	Y
6	Friday	Y	6	Y	6	June	Y
7	Saturday	Y	7	Y	7	July	Y
			8	Y	8	August	Y
			9	Y	9	September	Y
			10	Y	10	October	Y
			11	Y	11	November	Y
			12	Y	12	December	Y
			13	Y			
			14	Y			
			15	Y			
			16	Y			
			17	Y			
			18	Y			
			19	Y			
			20	Y			
			21	Y			
			22	Y			
			23	Y			
			24	Y			

Month	Day	Day of Week	Hour	Min	-3.1 DB	h	HTG
1	1	7	1		53.6	20.37	1
1	1	7	2		53.6	20.37	1
1	1	7	3		53.6	19.87	1
1	1	7	4		53.6	19.87	1
1	1	7	5		53.6	19.87	1
1	1	7	6		53.6	19.47	1
1	1	7	7		51.8	18.98	1
1	1	7	8		51.8	19.44	1
1	1	7	9		53.6	19.87	1
1	1	7	10		53.6	19.47	1
1	1	7	11		53.6	18.97	1
1	1	7	12		55.4	18.66	1
1	1	7	13		57.2	18.33	1
1	1	7	14		57.2	18.33	1
1	1	7	15		55.4	17.6	1
1	1	7	16		53.6	17.19	1
1	1	7	17		50	16.3	1
1	1	7	18		48.2	15.5	1
1	1	7	19		46.4	14.73	1
1	1	7	20		44.6	14.34	1
1	1	7	21		42.8	13.86	1
1	1	7	22		39.2	13.03	1
1	1	7	23		35.6	12.12	1
1	1	7	24		35.6	11.83	1
1	2	1	1		33.8	11.39	1
1	2	1	2		32	10.99	1
1	2	1	3		32	10.99	1
1	2	1	4		32	10.99	1
1	2	1	5		33.8	11.39	1
1	2	1	6		33.8	11.39	1
1	2	1	7		33.8	11.72	1
1	2	1	8		33.8	11.72	1
1	2	1	9		37.4	12.56	1
1	2	1	10		37.4	12.56	1
1	2	1	11		41	13.42	1
1	2	1	12		41	13.42	1
1	2	1	13		42.8	14.18	1
1	2	1	14		42.8	14.51	1
1	2	1	15		44.6	14.97	1
1	2	1	16		42.8	14.51	1
1	2	1	17		42.8	14.84	1
1	2	1	18		41	14.4	1
1	2	1	19		41	14.4	1
1	2	1	20		41	14.77	1
1	2	1	21		41	14.77	1
1	2	1	22		41	15.14	1
1	2	1	23		41	15.51	1
1	2	1	24		41	15.51	1
1	3	2	1		41	15.51	1
1	3	2	2		39.2	15.09	1
1	3	2	3		41	15.51	1
1	3	2	4		41	15.51	1
1	3	2	5		41	15.94	1
1	3	2	6		41	15.51	1
1	3	2	7		41	15.94	1
1	3	2	8		41	15.94	1

Existing System			
Existing Occupied	HTG Plant Operation	HTG BLDG BTU	HTG BLDG kWh
			7,547

Proposed System					
Proposed Occupied	HTG Plant Operation	HTG BLDG	HTG BLDG Gal. Prop.	Fan kWh	
			311	1,660	

Proposed System					
Proposed Occupied	HTG Plant Operation	HTG BLDG BTU	HTG BLDG kWh	Fan kWh	
			4,244	1,660	

Black Moshannon DWH (6) Cabins

Existing	15	Electric DWH	15	# of Instantaneous
	120	Gal Each	95%	Prop. Eff.
	1686	Total Occupied Nights		
	75%	Average Assumed Occupied Rate		
	4	# of People per Site/Day		
	5,058	# of People Per Year		
	25	Gal of HW/Person/Day		
	1,26,450	Total HW Gallons Used Per Year		
	55	Make-Up Water Temp		
	120	Storage Water Temp		
	65	Temp Difference		
	8.34	Lbs/Gal		
	1,054,593	Total Lbs of HW		
	69	Total MMBTU		
	20,090	Existing kWh	\$2,496.84	
	784	Proposed Pwr	\$980.39	\$1,516.45

ATTACHMENT 3 – Supplemental ECM Information and Documentation

ECM-1: Facility-Wide LED Lighting Upgrade

ECM-20: Building Envelope

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
1	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		LOBBY/HALL	2B34	6	T12 2x4 2-Lamp Surface Mount Fixture	78	0.488	EXO	3120	1,460		6	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	4.104	\$ -	3,120	393	1,067
2	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2B34-1X4	2	T12 1x4 2-Lamp Surface Mount Fixture	78	0.156	EXO	3120	487		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1.368	\$ -	3,120	131	356
3	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		ELECTRIC ROOM	204-TUR	2	T12 1x4 2-Lamp Industrial Turret Strip Fixture	72	0.144	S	1000	144		2	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.042	1.224	\$ -	1,000	42	102
4	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	3,120	16	172
5	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	CF23DR	1	23 Watt Compact Fluorescent Drum Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56
6	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		STORAGE	CF23DR	2	23 Watt Compact Fluorescent Drum Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
7	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	4B34	2	T12 2x4 4-Lamp Surface Mount Fixture	144	0.288	EXO	3120	899		2	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	2.448	\$ -	3,120	262	636
8	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2B34-1X4	4	T12 1x4 2-Lamp Surface Mount Fixture	78	0.312	EXO	3120	973		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2.736	\$ -	3,120	282	711
9	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2B34-1X4	4	T12 1x4 2-Lamp Surface Mount Fixture	78	0.312	EXO	3120	973		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2.736	\$ -	3,120	282	711
10	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		VESTIBULE	CF23DR	1	23 Watt Compact Fluorescent Drum Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56
11	HILLS CREEK STATE PARK	PARK OFFICE	INTERIOR	DCNR		ATTIC	204-TUR	1	T12 1x4 2-Lamp Industrial Turret Strip Fixture	72	0.072	EXO	3120	225		1	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.021	0.612	\$ -	3,120	66	159
12	HILLS CREEK STATE PARK	PARK OFFICE	EXTERIOR	DCNR		ENTRANCE	LED-WP	1	Existing LED Wall Pack Fixture	30	0.030	EX	4380	131		1	ZZ DD	No Retrofit	30	0.030	0.000	\$ -	4,380	131	0
13	HILLS CREEK STATE PARK	PARK OFFICE	EXTERIOR	DCNR		ENTRANCE	2-75PAR38-FL	1	75w Incandescent Par38 2-Lamp Flood Fixture	150	0.150	EX	4380	657		1	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.014	1.632	\$ -	4,380	61	596
14	HILLS CREEK STATE PARK	PARK OFFICE	EXTERIOR	DCNR		ENTRANCE	CF23WP	1	23 Watt Compact Fluorescent Wall pack	23	0.023	EX	4380	101		1	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.013	0.120	\$ -	4,380	57	44
15	HILLS CREEK STATE PARK	PARK OFFICE	EXTERIOR	DCNR		SIDE ENTRANCE DOOR	CF23WP	1	23 Watt Compact Fluorescent Wall pack	23	0.023	EX	4380	101		1	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.013	0.120	\$ -	4,380	57	44
16	HILLS CREEK STATE PARK	SEWER TREATMENT	INTERIOR	DCNR		SUMMARY	204-TUR	3	T12 1x4 2-Lamp Industrial Turret Strip Fixture	72	0.216	MAST	2601	562		3	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.063	1.836	\$ -	2,601	184	398
17	HILLS CREEK STATE PARK	SEWER TREATMENT	INTERIOR	DCNR		SUMMARY	CF23-KEY	8	23 Watt Compact Fluorescent Fixture	23	0.184	MAST	2601	479		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	1.728	\$ -	2,601	104	375
18	HILLS CREEK STATE PARK	SEWER TREATMENT	EXTERIOR	DCNR		DOORS	CF23JJ	2	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.046	EX	4380	201		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	4,380	44	158
19	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TRUCK BAY	204-TUR	7	T12 1x4 2-Lamp Industrial Turret Strip Fixture	72	0.504	MAST	2601	1,311		7	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.147	4.284	\$ -	2,601	382	929
20	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TOOLS	2W34(L)	2	T12 1x4 2-Lamp Wrap Fixture-Replace Lens	72	0.144	MAST	2601	375		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1.224	\$ -	2,601	109	265
21	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	2W34(L)	1	T12 1x4 2-Lamp Wrap Fixture-Replace Lens	72	0.072	MAST	2601	187		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	2,601	55	133
22	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	2V20	1	T12 2x2 2-Lamp Vanity Fixture	42	0.042	MAST	2601	109		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0.336	\$ -	2,601	36	73
23	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		BACK ENTRANCE	2L34	1	T12 2x4 2-Lamp Troffer Fixture	78	0.078	MAST	2601	203		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.684	\$ -	2,601	55	148
24	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OPEN AREA	2L34-1X4	9	T12 1x4 2-Lamp Fixture	72	0.648	MAST	2601	1,685		9	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.189	5.508	\$ -	2,601	492	1,194
25	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE-OPEN	2L34-1X4	2	T12 1x4 2-Lamp Fixture	72	0.144	EXO	3120	449		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1.224	\$ -	3,120	131	318
26	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE-OPEN	CF23DL	7	23 Watt Compact Fluorescent Downlight Fixture	23	0.161	EXO	3120	502		7	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.035	1.512	\$ -	3,120	109	393
27	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	2L34-1X4	3	T12 1x4 2-Lamp Fixture	72	0.216	EXO	3120	674		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.836	\$ -	3,120	197	477
28	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		BOILER ROOM	204-TUR	2	T12 1x4 2-Lamp Industrial Turret Strip Fixture	72	0.144	S	1000	144		2	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.042	1.224	\$ -	1,000	42	102
29	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STAIRS	2W34	1	T12 1x4 2-Lamp Wrap Fixture	72	0.072	Z	8760	631		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	8,760	184	447
30	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	2B34(L)	1	T12 2x4 2-Lamp Surface Mount Fixture-Replace lens	78	0.078	S	1000	78		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.684	\$ -	1,000	21	57
31	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	2S60	1	T12 1x8 2-Lamp Strip Fixture with (6) Watt Lamps	123	0.123	S	1000	123		1	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.072	0.612	\$ -	1,000	72	51
32	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	75A	3	75 Watt Incandescent A-Lamp Fixture	75	0.225	S	1000	225		3	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.029	2.358	\$ -	1,000	29	197
33	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
34	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	204	3	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.216	S	1000	216		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.836	\$ -	1,000	63	153

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
35	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	202	2	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.124	S	1000	124		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
36	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		ATTIC	60A	4	60 Watt Incandescent A-Lamp Fixture	60	0.240	S	1000	240		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	2.640	\$ -	1,000	20	220
37	HILLS CREEK STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	2CF23FL-MS	6	23 Watt 2-Lamp Flood Fixture with Motion Sensor	46	0.276	EX	4380	1,209		6	LED 2-10P30	Re-Lamp with (2) 10 Watt LED PAR30	21	0.126	1.800	\$ -	4,380	552	657
38	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	CF23	60	23 Watt Compact Fluorescent Fixture	23	1.380	SHLTR	3704	5,112		60	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.300	12.960	\$ -	3,704	1,111	4,000
39	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	1V20	10	T12 2x4 1-Lamp Vanity Fixture	32	0.320	SHLTR	3704	1,185		10	R 1L-7LED2'	Retrofit with (1) 7 Watt LED T8 2' Lamp; Direct Wire to Socket	7	0.070	3.000	\$ -	3,704	259	926
40	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	75A	10	75 Watt Incandescent A-Lamp Fixture	75	0.750	SHLTR	3704	2,778		10	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.095	7.860	\$ -	3,704	352	2,426
41	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	2-60DR	30	60 Watt Incandescent 2-Lamp Drum Fixture	120	3.600	SHLTR	3704	13,334		30	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.300	36.600	\$ -	3,704	1,111	12,223
42	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	60A	10	60 Watt Incandescent A-Lamp Fixture	60	0.600	SHLTR	3704	2,222		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	6.600	\$ -	3,704	185	2,037
43	HILLS CREEK STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		SUMMARY	CF13	10	13 Watt Compact Fluorescent Fixture	13	0.130	SHLTR	3704	482		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	0.960	\$ -	3,704	185	296
44	HILLS CREEK STATE PARK	PUMP HOUSE (X2)	INTERIOR	DCNR		INTERIOR	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	MAST	2601	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	2,601	26	94
45	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		LAUNDRY	PL26DL-4PV	2	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.104	BT	4581	476		2	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.040	0.768	\$ -	4,581	183	293
46	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		LAUNDRY	2V732	1	T8 1x4 2-Lamp Vaporight Fixture	62	0.062	BT	4581	284		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	4,581	96	188
47	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-MENS	PL26DL-4PV	4	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.208	BT	4581	953		4	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.080	1.536	\$ -	4,581	366	586
48	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-MENS	2V32	2	T8 1x4 2-Lamp Vanity Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	192	376
49	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-PRIVATE	PL26DL-4PV	1	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.052	RRP	522	27		1	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.020	0.384	\$ -	522	10	17
50	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-PRIVATE	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	RRP	522	32		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	522	11	21
51	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-WOMENS	PL26DL-4PV	4	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.208	BT	4581	953		4	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.080	1.536	\$ -	4,581	366	586
52	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	2	T8 1x4 2-Lamp Vanity Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	192	376
53	HILLS CREEK STATE PARK	BATHOUSE W/ LAUNDRY	EXTERIOR	DCNR		EXTERIOR	MH100WP	3	100 Watt Metal Halide Wall Pack Fixture	125	0.375	EX	4380	1,643		3	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.075	3.600	\$ -	4,380	329	1,314
54	HILLS CREEK STATE PARK	CAMPING COTTAGE (3 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	SHLTR	3704	511		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1.296	\$ -	3,704	111	400
55	HILLS CREEK STATE PARK	CAMPING COTTAGE (3 TOTAL)	EXTERIOR	DCNR		EXTERIOR	60J	3	60 Watt Incandescent A-Lamp Jelly Jar Fixture	60	0.180	EX	4380	788		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	1.980	\$ -	4,380	66	723
56	HILLS CREEK STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	12	23 Watt Compact Fluorescent Fixture	23	0.276	SHLTR	3704	1,022		12	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.060	2.592	\$ -	3,704	222	800
57	HILLS CREEK STATE PARK	NATURE CENTER	INTERIOR	DCNR		INTERIOR	CF23	7	23 Watt Compact Fluorescent Fixture	23	0.161	EXO	3120	502		7	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.035	1.512	\$ -	3,120	109	393
58	HILLS CREEK STATE PARK	NATURE CENTER	INTERIOR	DCNR		INTERIOR	X	1	25 Watt Incandescent 2-Lamp Exit Sign	50	0.050	Z	8760	438		1	N XLED	New 3 watt LED Exit Sign	3	0.003	0.564	\$ -	8,760	26	412
59	HILLS CREEK STATE PARK	NATURE CENTER	INTERIOR	DCNR		TRACK	50PAR20	8	50 Watt Incandescent par 20 fixture	50	0.400	EXO	3120	1,248		8	LED 7P20	Re-Lamp with (1) 7 Watt LED PAR20	6.5	0.052	4.176	\$ -	3,120	162	1,086
60	HILLS CREEK STATE PARK	NATURE CENTER	EXTERIOR	DCNR		EXTERIOR	2-90PAR38FL	4	90 Watt Par 38 2-Lamp Flood Fixture	180	0.720	EX	4380	3,154		4	LED 2-14P38	Re-Lamp with (2) 14 Watt LED PAR38	28	0.112	7.296	\$ -	4,380	491	2,663
61	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	INTERIOR	DCNR		RESTROOM-MENS	2B34	24	T12 2x4 2-Lamp Surface Mount Fixture	78	1.872	BT	4581	8,576		24	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.504	16.416	\$ -	4,581	2,309	6,267
62	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	INTERIOR	DCNR		RESTROOM-MENS	1S34	8	T12 1x4 1-Lamp Strip Fixture	43	0.344	BT	4581	1,576		8	R 1L-10-SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.084	3.120	\$ -	4,581	385	1,191
63	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	INTERIOR	DCNR		RESTROOM-WOMENS	2B34	24	T12 2x4 2-Lamp Surface Mount Fixture	78	1.872	BT	4581	8,576		24	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.504	16.416	\$ -	4,581	2,309	6,267
64	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	INTERIOR	DCNR		RESTROOM-WOMENS	1S34	8	T12 1x4 1-Lamp Strip Fixture	43	0.344	BT	4581	1,576		8	R 1L-10-SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.084	3.120	\$ -	4,581	385	1,191
65	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	INTERIOR	DCNR		MECH ROOM	CF23	8	23 Watt Compact Fluorescent Fixture	23	0.184	S	1000	184		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	1.728	\$ -	1,000	40	144
66	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	EXTERIOR	DCNR		EXTERIOR	MH100CPV-RECESS	8	100 Watt Metal Halide Canopy Fixture	125	1.000	EX	4380	4,380		8	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp, Hardware Ballast	27	0.216	9.408	\$ -	4,380	946	3,434
67	HILLS CREEK STATE PARK	BATH HOUSE-OLD STYLE (4 Total)	EXTERIOR	DCNR		EXTERIOR	60J	8	60 Watt Incandescent A-Lamp Jelly Jar Fixture	60	0.480	EX	4380	2,102		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	5.280	\$ -	4,380	175	1,927
68	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		OFFICE-OPEN	2L32	24	T8 2x4 2-Lamp Troffer Fixture	62	1.488	EXO	3120	4,643		24	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.504	11.808	\$ -	3,120	1,572	3,070

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	KW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
69	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		MECH ROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
70	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		HALLWAY	4W32(L)	1	T8 1x4 4-Lamp Wrap Fixture	106	0.106	EXO	3120	331		1	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	3,120	131	200
71	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	3,120	16	172
72	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		JANITOR CLOSET	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
73	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		HALLWAY	4B32	1	T8 2x4 4-Lamp Surface Mount Fixture	106	0.106	EXO	3120	331		1	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	3,120	131	200
74	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		RESTROOM	2-600R	1	60 Watt Incandescent 2-Lamp Drum Fixture	120	0.120	EXO	3120	374		1	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.010	1.320	\$ -	3,120	31	343
75	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		LOCKED ROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
76	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		GARAGE	260	4	T12 1x8 2-Lamp Industrial Strip Fixture with 60 Watt Lamps	123	0.492	EXO	3120	1,535		4	RF 4LR-18LED-1XB	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit; Direct Wire to Socket	72	0.288	2.448	\$ -	3,120	899	636
77	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		GARAGE OFFICE	2L32	1	T8 2x4 2-Lamp Troffer Fixture	62	0.062	EXO	3120	193		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
78	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		BACK DOOR	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
79	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	INTERIOR	DCNR		OFFICE - RANGER	4B32	2	T8 2x4 4-Lamp Surface Mount Fixture	106	0.212	EXO	3120	661		2	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1.536	\$ -	3,120	262	399
80	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	EXTERIOR	DCNR		EXTERIOR	MH1500TD	3	150 Watt Metal Halide Dusk to Dawn Fixture	180	0.540	EX	4380	2,365		3	N RLED268Y	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.084	5.472	\$ -	4,380	368	1,997
81	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	EXTERIOR	DCNR		DOORS	60WP	2	60 Watt Incandescent A-Lamp Wall Pack Fixture	60	0.120	EX	4380	526		2	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.026	1.128	\$ -	4,380	114	412
82	BALD EAGLE STATE PARK	PARK OFFICE - TEMPORARY	EXTERIOR	DCNR		SIDE	LED-DTD	1	Existing LED Dusk to dawn Fixture	26	0.026	EX	4380	114		1	ZZ DD	No Retrofit	26	0.026	0.000	\$ -	4,380	114	0
83	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OPEN AREA	4L32	10	T8 2x4 4-Lamp Troffer Fixture	106	1.060	MAST	2601	2,757		10	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.420	7.680	\$ -	2,601	1,092	1,665
84	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		HALLWAY	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	MAST	2601	161		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,601	55	107
85	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	EXO	3120	580		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384
86	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	2W32(L)	1	T8 1x4 2-Lamp Wrap Fixture-damaged lens	62	0.062	EXO	3120	193		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
87	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	MAST	2601	161		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,601	55	107
88	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE	4HB54	8	2x4 4-Lamp High Bay Fixture with (4) 54 Watt TSHO Lamps	240	1.920	MAST	2601	4,994		8	N RLED95HB	New 95 Watt LED High Bay Fixture	93	0.744	14.112	\$ -	2,601	1,935	3,059
89	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE 2	4HB54	2	2x4 4-Lamp High Bay Fixture with (4) 54 Watt TSHO Lamps	240	0.480	MAST	2601	1,248		2	N RLED95HB	New 95 Watt LED High Bay Fixture	93	0.186	3.528	\$ -	2,601	484	765
90	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE 2	2134-TUR	1	T12 1x4 2-Lamp Industrial Turnoff Strip Fixture	72	0.072	MAST	2601	187		1	N 2i-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.021	0.612	\$ -	2,601	55	133
91	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE 2	2W32	11	T8 1x4 2-Lamp Wrap Fixture	62	0.682	MAST	2601	1,774		11	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.231	5.412	\$ -	2,601	601	1,173
92	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		BOILER ROOM	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	S	1000	62		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
93	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	1S32	2	T8 1x4 1-Lamp Strip Fixture	30	0.060	S	1000	60		2	R 1L-10.5LED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.021	0.468	\$ -	1,000	21	39
94	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STORAGE	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	S	1000	62		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
95	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	CF16PAR30CYL	6	16 Watt Par 30 Cylinder Fixture	16	0.096	EX	4380	420		6	LED 10P30	Re-Lamp with (1) 10 Watt LED PAR30	10.5	0.063	0.396	\$ -	4,380	276	145
96	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		PARKING LOT	MH250FL-SF	2	250 Watt Metal Halide Flood Fixture-SF	295	0.590	EX	4380	2,584		2	N RLED79FL	New 78 Watt LED Flood Fixture	76	0.152	5.256	\$ -	4,380	666	1,918
97	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	2W32	7	T8 1x4 2-Lamp Wrap Fixture	62	0.434	MAST	2601	1,129		7	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.147	3.444	\$ -	2,601	382	746
98	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	4HB54	4	2x4 4-Lamp High Bay Fixture with (4) 54 Watt TSHO Lamps	240	0.960	MAST	2601	2,497		4	N RLED95HB	New 95 Watt LED High Bay Fixture	93	0.372	7.056	\$ -	2,601	968	1,529
99	BALD EAGLE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	4HB54-(N)	1	2x4 4-Lamp High Bay Fixture with (4) 54 Watt TSHO Lamps-Damaged, needs replaced	240	0.240	MAST	2601	624		1	N RLED95HB	New 95 Watt LED High Bay Fixture	93	0.093	1.764	\$ -	2,601	242	382
100	BALD EAGLE STATE PARK	NATURE CENTERHOTEL	INTERIOR	DCNR	1	MAIN LOBBY	4-CF23PEND	4	23 Watt 4-lamp Fixture	92	0.368	EXO	3120	1,148		4	LED 4-5A	Re-Lamp with (4) 5 Watt LED A19	20	0.080	3.456	\$ -	3,120	250	899
101	BALD EAGLE STATE PARK	NATURE CENTERHOTEL	INTERIOR	DCNR	1	MAIN LOBBY	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
102	BALD EAGLE STATE PARK	NATURE CENTERHOTEL	INTERIOR	DCNR	1	KITCHEN	2L32-1X4	3	T8 1x4 2-Lamp Troffer Fixture	62	0.186	EXO	3120	580		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384

							EXISTING FIXTURES										PROPOSED FIXTURE UPGRADE									
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	KW	Annual KW Saved	KW Cost Savings	Post Burn Hours	KWh	kWh Saved	
103	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	KITCHEN	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0		
104	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	BIG CONFERENCE ROOM	4CF23PEND	8	23 Watt 4-lamp Fixture	92	0.736	EXO	3120	2,296	8	LED 4-5A	Re-Lamp with (4) 5 Watt LED A19	20	0.160	6.912	\$ -	3,120	499	1,797		
105	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	VESTIBULE	PL23PEND-4PV	2	26 Watt Plug-In CFL 2-Lamp Fixture	52	0.104	EXO	3120	324	2	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.040	0.768	\$ -	3,120	125	200		
106	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	VESTIBULE	2PL13WS-2PV	2	13 Watt Plug-In CFL 2-Lamp Wall Sconce Fixture	26	0.052	EXO	3120	162	2	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.020	0.384	\$ -	3,120	62	100		
107	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	VESTIBULE	XLED/COMBO	1	Existing LED Exit Light/ Combo Emergency Lights	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0		
108	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY	2PL13WS-2PV	2	13 Watt Plug-In CFL 2-Lamp Wall Sconce Fixture	26	0.052	EXO	3120	162	2	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.020	0.384	\$ -	3,120	62	100		
109	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY	2CF23DR	1	23 Watt 2-lamp Compact Fluorescent Drum Fixture	46	0.046	EXO	3120	144	1	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.010	0.432	\$ -	3,120	31	112		
110	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY-1ST FLOOR	2PL13WS-2PV	13	13 Watt Plug-In CFL 2-Lamp Wall Sconce Fixture	26	0.338	EXO	3120	1,055	13	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.130	2.406	\$ -	3,120	406	649		
111	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY-1ST FLOOR	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0		
112	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY-1ST FLOOR	XLED/COMBO	2	Existing LED Exit Light/ Combo Emergency Lights	3	0.006	Z	8760	53	2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0		
113	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	HALLWAY-1ST FLOOR	32CIRC-DR	1	32 Watt Circuline Drum Fixture	32	0.032	EXO	3120	100	1	R LED15.5CIRC	Retrofit with 15.5w LED Circular Kit	15	0.015	0.204	\$ -	3,120	47	53		
114	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	IT ROOM	232-TUR	1	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.062	S	1000	62	1	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp, Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41		
115	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	RESTROOM	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EXO	3120	72	1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56		
116	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	RESTROOM	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EXO	3120	72	1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56		
117	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	TYPICAL ROOMS (16 TOTAL)	CF23	192	23 Watt Compact Fluorescent Fixture	23	4.416	EXO	3120	13,778	192	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.960	41.472	\$ -	3,120	2,995	10,783		
118	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	TYPICAL ROOMS (16 TOTAL)	2PL26DL-H4P	32	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	1.664	EXO	3120	5,192	32	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.640	12.288	\$ -	3,120	1,997	3,195		
119	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	STAIRS 1&2	20ID32	8	T8 1x4 2-Lamp Direct Indirect Fixture	62	0.496	Z	8760	4,345	8	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.168	3.936	\$ -	8,760	1,472	2,873		
120	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	STAIRS 1&2	XLED	4	3 Watt LED 2-Lamp Exit Sign	3	0.012	Z	8760	105	4	ZZ DD	No Retrofit	3	0.012	0.000	\$ -	8,760	105	0		
121	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	BASEMENT	232-TUR	18	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	1.116	EXO	3120	3,482	18	N 2h-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp, Direct Wire to Socket	21	0.378	8.856	\$ -	3,120	1,179	2,303		
122	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	BASEMENT	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0		
123	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	LAUNDRY	2VOL32	3	T8 2x4 2-Lamp Volumetric Fixture	62	0.186	EXO	3120	560	3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384		
124	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	LIBRARY	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	EXO	3120	287	4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	3,120	62	225		
125	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	LIBRARY	2PL13WS-2PV	4	13 Watt Plug-In CFL 2-Lamp Wall Sconce Fixture	26	0.104	EXO	3120	324	4	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.040	0.768	\$ -	3,120	125	200		
126	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	LIBRARY	32CIRC-DR	1	32 Watt Circuline Drum Fixture	32	0.032	EXO	3120	100	1	R LED15.5CIRC	Retrofit with 15.5w LED Circular Kit	15	0.015	0.204	\$ -	3,120	47	53		
127	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	HALLWAY	32CIRC-DR	2	32 Watt Circuline Drum Fixture	32	0.064	EXO	3120	200	2	R LED15.5CIRC	Retrofit with 15.5w LED Circular Kit	15	0.030	0.408	\$ -	3,120	94	106		
128	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	HALLWAY	2PL13WS-2PV	7	13 Watt Plug-In CFL 2-Lamp Wall Sconce Fixture	26	0.182	EXO	3120	568	7	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.070	1.344	\$ -	3,120	218	349		
129	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	2	HALLWAY	4CF23-PEND	2	23 Watt 4-lamp Fixture	92	0.184	EXO	3120	574	2	LED 4-5A	Re-Lamp with (4) 5 Watt LED A19	20	0.040	1.728	\$ -	3,120	125	449		
130	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	OFFICES	2VOL32	2	T8 2x4 2-Lamp Volumetric Fixture	62	0.124	EXO	3120	387	2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256		
131	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	OFFICES	2VOL17	1	T8 2x2 2-Lamp Volumetric Fixture	34	0.034	EXO	3120	106	1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	14	0.014	0.240	\$ -	3,120	44	62		
132	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	STORAGE	2VOL17	2	T8 2x2 2-Lamp Volumetric Fixture	34	0.068	S	1000	68	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	14	0.028	0.480	\$ -	1,000	28	40		
133	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	INTERIOR	DCNR	1	SHOP	PL26DL-4PV	4	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.208	EXO	3120	649	4	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.080	1.536	\$ -	3,120	250	399		
134	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	EXTERIOR	DCNR		ENTRANCE	PL32WP	8	32 Watt Plug-In CFL Wall Pack Fixture	32	0.256	EX	4380	1,121	8	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.104	1.824	\$ -	4,380	456	666		
135	BALD EAGLE STATE PARK	NATURE CENTER/HOTEL	EXTERIOR	DCNR		BOLLARDS	MH70BOL	16	70 Watt Metal Halide Bollard Fixture	94	1.504	EX	4380	6,588	16	LED 18COB	Re-Lamp with (1) 18 Watt LED Omni-Cob Lamp, Hardware Ballast	18	0.288	14.592	\$ -	4,380	1,261	5,326		
136	BALD EAGLE STATE PARK	COTTAGE (3 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	3	23 Watt Compact Fluorescent Fixture	23	0.069	SHLTR	3704	256	3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.648	\$ -	3,704	56	200		

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
137	BALD EAGLE STATE PARK	COTTAGE (3 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF23	3	23 Watt Compact Fluorescent Fixture	23	0.069	EX	4380	302		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.648	\$ -	4,380	66	237
138	BALD EAGLE STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	40C	12	40 Watt Incandescent Candelabra Fixture	40	0.480	SHLTR	3704	1,778		12	LED 5CAND	Re-Lamp with (1) 5 Watt LED Candelabra	4.7	0.056	5.083	\$ -	3,704	209	1,569
139	BALD EAGLE STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	8	23 Watt Compact Fluorescent Fixture	23	0.184	SHLTR	3704	682		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	1.728	\$ -	3,704	148	533
140	BALD EAGLE STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	2W32	4	T8 1x4 2-Lamp Wrap Fixture	62	0.248	SHLTR	3704	919		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	3,704	311	607
141	BALD EAGLE STATE PARK	BATHHOUSE (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	2VT32	14	T8 1x4 2-Lamp Vaporlight Fixture	62	0.868	BT	4581	3,976		14	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.294	6.888	\$ -	4,581	1,347	2,629
142	BALD EAGLE STATE PARK	BATHHOUSE (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2VT32	14	T8 1x4 2-Lamp Vaporlight Fixture	62	0.868	BT	4581	3,976		14	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.294	6.888	\$ -	4,581	1,347	2,629
143	BALD EAGLE STATE PARK	BATHHOUSE (2 TOTAL)	INTERIOR	DCNR		PIPE ROOM	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	S	1000	92		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	1,000	20	72
144	BALD EAGLE STATE PARK	BATHHOUSE (2 TOTAL)	EXTERIOR	DCNR		EXTERIOR	PL32WP	6	32 Watt Plug-In CFL Wall Pack Fixture	32	0.192	EX	4380	841		6	N RLED13WP	New 13 Watt LED Wall Pack Fixture	15	0.090	1.224	\$ -	4,380	394	447
145	BALD EAGLE STATE PARK	BOAT HOUSE	INTERIOR	DCNR		SHOP	CF23	10	23 Watt Compact Fluorescent Fixture	23	0.230	WTER	2760	635		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2.160	\$ -	2,760	138	497
146	BALD EAGLE STATE PARK	BOAT HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	WTER	2760	513		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	2,760	174	339
147	BALD EAGLE STATE PARK	BOAT HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	WTER	2760	513		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	2,760	174	339
148	BALD EAGLE STATE PARK	BOAT HOUSE	INTERIOR	DCNR		PIPE ROOM	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
149	BALD EAGLE STATE PARK	BOAT HOUSE	INTERIOR	DCNR		GARAGE	LED-WP	2	Existing LED Wall Pack Fixture	30	0.060	WTER	2760	166		2	ZZ DD	No Retrofit	30	0.060	0.000	\$ -	2,760	166	0
150	BALD EAGLE STATE PARK	BOAT HOUSE	EXTERIOR	DCNR		EXTERIOR	LED-WP	1	Existing LED Wall Pack Fixture	30	0.030	EX	4380	131		1	ZZ DD	No Retrofit	30	0.030	0.000	\$ -	4,380	131	0
151	BALD EAGLE STATE PARK	BOAT HOUSE	EXTERIOR	DCNR		DOCKS	2LEDFL	1	Existing 2-Lamp LED Flood Fixture	30	0.030	EX	4380	131		1	ZZ DD	No Retrofit	30	0.030	0.000	\$ -	4,380	131	0
152	BALD EAGLE STATE PARK	BOAT HOUSE	EXTERIOR	DCNR		PARKING LOT	LEDFL	4	Existing LED Flood Fixture	78	0.312	EX	4380	1,367		4	ZZ DD	No Retrofit	78	0.312	0.000	\$ -	4,380	1,367	0
153	BALD EAGLE STATE PARK	RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	BT	4581	421		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,581	92	330
154	BALD EAGLE STATE PARK	RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	BT	4581	105		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	4,581	23	82
155	BALD EAGLE STATE PARK	RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	BT	4581	421		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,581	92	330
156	BALD EAGLE STATE PARK	RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	BT	4581	105		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	4,581	23	82
157	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		OFFICE	2W34	4	T12 1x4 2-Lamp Wrap Fixture	72	0.288	EXO	3120	899		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2.448	\$ -	3,120	282	636
158	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	2,601	13	143
159	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		EQUIPMENT	60G	8	60 Watt Incandescent Globe Fixture	60	0.480	MAST	2601	1,248		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	5.280	\$ -	2,601	104	1,144
160	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		STAIRS	300A	2	300 Watt Incandescent A-Lamp Fixture	300	0.600	Z	8760	5,256		2	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardware Ballast	27	0.054	6.552	\$ -	8,760	473	4,783
161	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		BASEMENT-STORAGE	300A	10	300 Watt Incandescent A-Lamp Fixture	300	3.000	S	1000	3,000		10	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardware Ballast	27	0.270	32.760	\$ -	1,000	270	2,730
162	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		BASEMENT	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	MAST	2601	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	2,601	13	47
163	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	EXTERIOR	DCNR		EXTERIOR	HPS1500TD	1	150 Watt High Pressure Sodium Dusk to Dawn Fixture	188	0.188	EX	4380	823		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	1.920	\$ -	4,380	123	701
164	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	EXTERIOR	DCNR		EXTERIOR	MH400FL-TR	1	400 Watt Metal Halide Flood Fixture-Turnion	455	0.455	EX	4380	1,993		1	N RLED150FL	New 150 Watt LED Flood Fixture	154	0.154	3.612	\$ -	4,380	675	1,318
165	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		PUMPHOUSE	2VT34	4	T12 1x4 2-Lamp Vaporlight Fixture	72	0.288	MAST	2601	749		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2.448	\$ -	2,601	218	531
166	BALD EAGLE STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		PUMPHOUSE	MH250WP	1	250 Watt Metal Halide Wall Pack Fixture	295	0.295	MAST	2601	767		1	N RLED37WP	New 37 Watt LED Wall Pack Fixture	37	0.037	3.096	\$ -	2,601	96	671
167	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OPEN OFFICES	30ID32	16	T8 1x4 3-Lamp Direct Indirect Fixture	93	1.488	EXO	3120	4,643		16	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.504	11.808	\$ -	3,120	1,572	3,070
168	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OPEN OFFICES	XLED/COMBO	2	Existing LED Exit Light/ Combo Emergency Lights	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
169	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OPEN OFFICES	75PAR30FL-TRK	4	75 Watt par 30 Track Flood Fixture	75	0.300	EXO	3120	936		4	LED 10P30	Re-Lamp with (1) 10 Watt LED PAR30	10.5	0.042	3.096	\$ -	3,120	131	805
170	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		VESTIBULE	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	EXO	3120	193		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
171	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		VESTIBULE	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
172	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
173	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		FURNACE ROOM	2L32	4	T8 2x4 2-Lamp Troffer Fixture	62	0.248	EXO	3120	774		4	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	3,120	262	512
174	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		HALLWAY	2W32	6	T8 1x4 2-Lamp Wrap Fixture	62	0.372	EXO	3120	1,161		6	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2.952	\$ -	3,120	393	768
175	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		HALLWAY	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
176	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		KITCHEN	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
177	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	EXO	3120	580		3	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384
178	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	4	T8 1x4 2-Lamp Wrap Fixture	62	0.248	EXO	3120	774		4	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	3,120	262	512
179	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	EXO	3120	580		3	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384
180	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	3L32PAR	2	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.168	EXO	3120	524		2	R 3L-10-SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	3,120	197	328
181	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	3L32PAR	2	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.168	EXO	3120	524		2	R 3L-10-SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	3,120	197	328
182	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		STORAGE	2LU32	1	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.062	S	1000	62		1	RF 2L-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0.576	\$ -	1,000	14	48
183	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM-BY KITCHEN	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	EXO	3120	193		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
184	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM-BY KITCHEN	2V17	1	T8 2x2 2-Lamp Vanity Fixture	36	0.036	EXO	3120	112		1	R 2L-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0.264	\$ -	3,120	44	69
185	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	2W32-DA	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	Z	8760	543		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	8,760	184	359
186	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		BASEMENT	2W32	10	T8 1x4 2-Lamp Wrap Fixture	62	0.620	EXO	3120	1,934		10	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.210	4.920	\$ -	3,120	655	1,279
187	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		BASEMENT	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
188	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		CANOPY	MH100PY-RECESS	3	100 Watt Metal Halide Canopy Fixture	125	0.375	EXO	3120	1,170		3	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardwire Ballast	27	0.081	3.528	\$ -	3,120	253	917
189	BLACK MOSHANNON STATE PARK	PARK OFFICE	INTERIOR	DCNR		FLOOD	2LEDFL	3	Existing 2-Lamp LED Flood Fixture	30	0.090	EXO	3120	281		3	ZZ DD	No Retrofit	30	0.090	0.000	\$ -	3,120	281	0
190	BLACK MOSHANNON STATE PARK	PARK OFFICE	EXTERIOR	DCNR		WALLPACK	MH100WP	1	100 Watt Metal Halide Wall Pack Fixture	125	0.125	EX	4380	548		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	1.200	\$ -	4,380	110	438
191	BLACK MOSHANNON STATE PARK	PARK OFFICE	EXTERIOR	DCNR		BACK PORCH	MH100WP	1	100 Watt Metal Halide Wall Pack Fixture	125	0.125	EX	4380	548		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	1.200	\$ -	4,380	110	438
192	BLACK MOSHANNON STATE PARK	BATHHOUSE(Original)-Camping	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	2	T8 1x4 2-Lamp Vaporight Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	182	376
193	BLACK MOSHANNON STATE PARK	BATHHOUSE(Original)-Camping	INTERIOR	DCNR		RESTROOM-PRIVATE	2V732	1	T8 1x4 2-Lamp Vaporight Fixture	62	0.062	RRP	522	32		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	522	11	21
194	BLACK MOSHANNON STATE PARK	BATHHOUSE(Original)-Camping	INTERIOR	DCNR		WATER HEATER ROOM	232-TUR	1	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.062	S	1000	62		1	N 2i-10-SLED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
195	BLACK MOSHANNON STATE PARK	BATHHOUSE(Original)-Camping	INTERIOR	DCNR		RESTROOM-MENS	2V732	2	T8 1x4 2-Lamp Vaporight Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	182	376
196	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	2V732	1	T8 1x4 2-Lamp Vaporight Fixture	62	0.062	WTER	2760	171		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,760	58	113
197	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	CF23DR	1	23 Watt Compact Fluorescent Drum Fixture	23	0.023	WTER	2760	63		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	2,760	14	50
198	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		STORAGE	232-TUR	2	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.124	S	1000	124		2	N 2i-10-SLED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
199	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		1ST AID	2V732	5	T8 1x4 2-Lamp Vaporight Fixture	62	0.310	WTER	2760	856		5	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.105	2.460	\$ -	2,760	290	566
200	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	2V732	1	T8 1x4 2-Lamp Vaporight Fixture	62	0.062	WTER	2760	171		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,760	58	113
201	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	CF23DR	1	23 Watt Compact Fluorescent Drum Fixture	23	0.023	WTER	2760	63		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	2,760	14	50
202	BLACK MOSHANNON STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		WALKWAY	PL260L6-LENS	3	26 Watt Plug-In CFL 6" Downlight Fixture	26	0.078	EX	4380	342		3	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.030	0.576	\$ -	4,380	131	210
203	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	4	T8 1x4 2-Lamp Vaporight Fixture	62	0.248	WTER	2760	684		4	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	2,760	232	453
204	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2PL26DR	3	26 Watt Plug-In CFL 2-Lamp Drum Fixture	52	0.156	WTER	2760	431		3	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.060	1.152	\$ -	2,760	166	265

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
205	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2V732	4	T8 1x4 2-Lamp Vaporlight Fixture	62	0.248	WTER	2760	684		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	2,760	232	453
206	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2PL26DR	3	26 Watt Plug-In CFL 2-Lamp Drum Fixture	52	0.156	WTER	2760	431		3	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.060	1,152	\$ -	2,760	166	265
207	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		CHANGING	PL26DL8-LENS	1	26 Watt Plug-In CFL 8" Downlight Fixture	26	0.026	WTER	2760	72		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0,192	\$ -	2,760	28	44
208	BLACK MOSHANNON STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		WALL PACK	MH100WP-DS	5	100 Watt Metal Halide Wall Pack Fixture	125	0.625	EX	4380	2,738		5	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.125	6,000	\$ -	4,380	548	2,190
209	BLACK MOSHANNON STATE PARK	BEACH HOUSE	INTERIOR	DCNR		MECH ROOM	2IS32-TUR	2	T8 1x4 2-Lamp Industrial Turret Strip Fixture	62	0.124	S	1000	124		2	N 2H-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.042	0,984	\$ -	1,000	42	82
210	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		OPEN AREA	CF23RLM	7	23 Watt Compact Fluorescent Fixture	23	0.161	MAST	2601	419		7	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.035	1,512	\$ -	2,601	91	328
211	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		RESTROOM	2CF23DR	2	23 Watt 2-Lamp Compact Fluorescent Drum Fixture	46	0.092	MAST	2601	239		2	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.020	0,864	\$ -	2,601	52	187
212	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	2,601	13	143
213	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		OFFICE	CF23RLM	1	23 Watt Compact Fluorescent Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	3,120	16	56
214	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		OFFICE	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	EXO	3120	193		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	3,120	66	128
215	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	EXTERIOR	DCNR		EXTERIOR	MH100WP	1	100 Watt Metal Halide Wall Pack Fixture	125	0.125	EX	4380	548		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	1,200	\$ -	4,380	110	438
216	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	EXTERIOR	DCNR		BACK DOOR	60J	2	60 Watt Incandescent A-Lamp Jelly Jar Fixture	60	0.120	EX	4380	526		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	4,380	44	482
217	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		SHED	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	MAST	2601	323		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	2,601	109	213
218	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	INTERIOR	DCNR		SHED	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0,000	\$ -	8,760	26	0
219	BLACK MOSHANNON STATE PARK	WASTE WATER TREATMENT	EXTERIOR	DCNR		EXTERIOR	2MH70FL-T6	2	70 Watt Metal Halide 2-Lamp Flood Fixture	94	0.188	EX	4380	823		2	N RLED26FL	New 26 Watt LED Flood Fixture	29	0.058	1,560	\$ -	4,380	254	569
220	BLACK MOSHANNON STATE PARK	ENVIRONMENTAL LEARNING CENTER	INTERIOR	DCNR		INTERIOR	2W34	2	T12 1x4 2-Lamp Wrap Fixture	72	0.144	EXO	3120	449		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	3,120	131	318
221	BLACK MOSHANNON STATE PARK	ENVIRONMENTAL LEARNING CENTER	INTERIOR	DCNR		TRACK	CF23PAR38FL-TRK	20	23 Watt par 38 Compact Fluorescent Fixture	23	0.480	EXO	3120	1,435		20	LED 14P38	Re-Lamp with (1) 14 Watt LED PAR38	14	0.280	2,160	\$ -	3,120	874	562
222	BLACK MOSHANNON STATE PARK	ENVIRONMENTAL LEARNING CENTER	EXTERIOR	DCNR		EXTERIOR	2Q150FL	1	150 Watt quartz 2-Lamp Flood Fixture	300	0.300	EX	4380	1,314		1	LED 2-17P38	Re-Lamp with (2) 17 Watt LED PAR38	34	0.034	3,192	\$ -	4,380	149	1,165
223	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		RESTROOM-MENS	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	RTAIL	1440	89		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	1,440	30	59
224	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		RESTROOM-MENS	CF23DL-LENS	3	23 Watt Compact Fluorescent Downlight Fixture with lens	23	0.069	RTAIL	1440	99		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0,648	\$ -	1,440	22	78
225	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	RTAIL	1440	89		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	1,440	30	59
226	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		RESTROOM-WOMENS	CF23DL-LENS	3	23 Watt Compact Fluorescent Downlight Fixture with lens	23	0.069	RTAIL	1440	99		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0,648	\$ -	1,440	22	78
227	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		MECH ROOM	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	S	1000	62		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	1,000	21	41
228	BLACK MOSHANNON STATE PARK	CONCESSION-RESTROOMS	INTERIOR	DCNR		VESTIBULE	CF23DL-LENS	3	23 Watt Compact Fluorescent Downlight Fixture with lens	23	0.069	RTAIL	1440	99		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0,648	\$ -	1,440	22	78
229	BLACK MOSHANNON STATE PARK	CABINS (15-19)	INTERIOR	DCNR		SUMMARY	CF23	70	23 Watt Compact Fluorescent Fixture	23	1.610	SHLTR	3704	5,963		70	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.350	15,120	\$ -	3,704	1,296	4,667
230	BLACK MOSHANNON STATE PARK	CABINS (15-19)	INTERIOR	DCNR		KITCHEN	1V13.T5	5	T5 13 Watt 1 lamp Vanity Fixture	13	0.065	SHLTR	3704	241		5	ZZ DD	No Retrofit	13	0.065	0,000	\$ -	3,704	241	0
231	BLACK MOSHANNON STATE PARK	CABINS (15-19)	EXTERIOR	DCNR		EXTERIOR	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EX	4380	101		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	4,380	22	79
232	BLACK MOSHANNON STATE PARK	COTTAGE (2 TOTAL)	INTERIOR	DCNR		SUMMARY	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	SHLTR	3704	341		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0,864	\$ -	3,704	74	267
233	BLACK MOSHANNON STATE PARK	COTTAGE (2 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	EX	4380	201		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,432	\$ -	4,380	44	158
234	BLACK MOSHANNON STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		RESTROOMS	2V32	10	T8 1x4 2-Lamp Vanity Fixture	62	0.620	BT	4581	2,840		10	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.210	4,920	\$ -	4,581	962	1,878
235	BLACK MOSHANNON STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		RESTROOMS	PL26DL-LENS	28	26 Watt Plug-In CFL Downlight Fixture	26	0.728	BT	4581	3,335		28	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.280	5,376	\$ -	4,581	1,283	2,052
236	BLACK MOSHANNON STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		CAMP LAUNDRY	PL26DL-LENS	2	26 Watt Plug-In CFL Downlight Fixture	26	0.052	BT	4581	238		2	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.020	0,384	\$ -	4,581	92	147
237	BLACK MOSHANNON STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		PIPE CHASE	2V32	4	T8 1x4 2-Lamp Vanity Fixture	62	0.248	S	1000	248		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	1,000	84	164
238	BLACK MOSHANNON STATE PARK	BATHROOMS (TOTAL 2)	EXTERIOR	DCNR		EXTERIOR	PL26DL-LENS	4	26 Watt Plug-In CFL Downlight Fixture	26	0.104	EX	4380	456		4	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.040	0,768	\$ -	4,380	175	280

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
239	BLACK MOSHANNON STATE PARK	LARGE RUSTIC CABINS (7-12)	INTERIOR	DCNR		SUMMARY	CF23	66	23 Watt Compact Fluorescent Fixture	23	1.518	SHLTR	3704	5,623		66	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.330	14,256	\$ -	3,704	1,222	4,400
240	BLACK MOSHANNON STATE PARK	LARGE RUSTIC CABINS (7-12)	EXTERIOR	DCNR		EXTERIOR	PL26DL	12	26 Watt Plug-In CFL Downlight Fixture	26	0.312	EX	4380	1,367		12	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.120	2,304	\$ -	4,380	528	841
241	BLACK MOSHANNON STATE PARK	SMALL RUSTIC CABINS (1-6)	INTERIOR	DCNR		SUMMARY	CF23	24	23 Watt Compact Fluorescent Fixture	23	0.552	SHLTR	3704	2,045		24	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.120	5,184	\$ -	3,704	444	1,600
242	BLACK MOSHANNON STATE PARK	SMALL RUSTIC CABINS (1-6)	EXTERIOR	DCNR		EXTERIOR	PL26DL	6	26 Watt Plug-In CFL Downlight Fixture	26	0.156	EX	4380	683		6	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.060	1,152	\$ -	4,380	263	420
243	BLACK MOSHANNON STATE PARK	CABIN 13	INTERIOR	DCNR		SUMMARY	CF23	23	23 Watt Compact Fluorescent Fixture	23	0.529	SHLTR	3704	1,959		23	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.115	4,968	\$ -	3,704	426	1,533
244	BLACK MOSHANNON STATE PARK	CABIN 13	INTERIOR	DCNR		SUMMARY	PL26DLLENSED	1	26 Watt Plug-In CFL Downlight Fixture	26	0.026	SHLTR	3704	96		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0,192	\$ -	3,704	37	59
245	BLACK MOSHANNON STATE PARK	CABIN 13	INTERIOR	DCNR		SUMMARY	2W34	1	T12 1x4 2-Lamp Wrap Fixture	72	0.072	SHLTR	3704	267		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,612	\$ -	3,704	78	189
246	BLACK MOSHANNON STATE PARK	CABIN 13	EXTERIOR	DCNR		EXTERIOR	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	EX	4380	201		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,432	\$ -	4,380	44	158
247	BLACK MOSHANNON STATE PARK	CABIN 14	INTERIOR	DCNR		SUMMARY	2V17	2	T8 2x2 2-Lamp Vanity Fixture	36	0.072	SHLTR	3704	267		2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0,528	\$ -	3,704	104	163
248	BLACK MOSHANNON STATE PARK	CABIN 14	INTERIOR	DCNR		SUMMARY	1S17	1	T8 2x2 1-Lamp Strip Fixture	22	0.022	SHLTR	3704	81		1	R 1L-7LED2'	Retrofit with (1) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	7	0.007	0,180	\$ -	3,704	26	56
249	BLACK MOSHANNON STATE PARK	CABIN 14	INTERIOR	DCNR		SUMMARY	CF23	12	23 Watt Compact Fluorescent Fixture	23	0.276	SHLTR	3704	1,022		12	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.060	2,592	\$ -	3,704	222	800
250	BLACK MOSHANNON STATE PARK	CABIN 14	EXTERIOR	DCNR		EXTERIOR	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	EX	4380	201		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,432	\$ -	4,380	44	158
251	BLACK MOSHANNON STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		INTERIOR	CF23	10	23 Watt Compact Fluorescent Fixture	23	0.230	MAST	2601	598		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2,160	\$ -	2,601	130	468
252	BLACK MOSHANNON STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR		WALL PACK	PL28WP-4PH	1	26 Watt Plug-In CFL Wall Pack Fixture	26	0.026	EX	4380	114		1	N RLED13WP	New 13 Watt LED Wall Pack Fixture	15	0.015	0,132	\$ -	4,380	66	48
253	BLACK MOSHANNON STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR		FLOOD	MH70FL	1	70 Watt Metal Halide Flood Fixture	94	0.094	EX	4380	412		1	N RLED18FL	New 18 Watt LED Flood Fixture	23	0.023	0,852	\$ -	4,380	101	311
254	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	INTERIOR	DCNR		RESTROOM-MENS	2V32	2	T8 1x4 2-Lamp Vanity Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	4,581	192	376
255	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	INTERIOR	DCNR		RESTROOM-MENS	PL26DL-LENS	6	26 Watt Plug-In CFL Downlight Fixture	26	0.156	BT	4581	715		6	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.060	1,152	\$ -	4,581	275	440
256	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	2	T8 1x4 2-Lamp Vanity Fixture	62	0.124	BT	4581	568		2	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	4,581	192	376
257	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	INTERIOR	DCNR		RESTROOM-WOMENS	PL26DL-LENS	6	26 Watt Plug-In CFL Downlight Fixture	26	0.156	BT	4581	715		6	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.060	1,152	\$ -	4,581	275	440
258	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	INTERIOR	DCNR		MECHANICAL ROOM	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	S	1000	186		3	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,476	\$ -	1,000	63	123
259	BLACK MOSHANNON STATE PARK	BATH HOUSE - BIG	EXTERIOR	DCNR		EXTERIOR	PL26DL-LENS	5	26 Watt Plug-In CFL Downlight Fixture	26	0.130	EX	4380	569		5	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.050	0,960	\$ -	4,380	219	350
260	BLACK MOSHANNON STATE PARK	CAMPGROUND ENTRANCE	EXTERIOR	DCNR		POLE	MH1750TD	1	175 Watt Metal Halide Dusk to Dawn Fixture	213	0.213	EX	4380	933		1	N RLED40BY	New 40 Watt LED Dusk to Dawn Barnyard Fixture	42	0.042	2,052	\$ -	4,380	184	749
261	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT SHOP	2032-TUR	12	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.744	MAST	2601	1,935		12	N 2h-10-SLED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.252	5,904	\$ -	2,601	655	1,280
262	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT SHOP	4W32	4	T8 1x4 4-Lamp Wide Wrap Fixture	108	0.424	MAST	2601	1,103		4	R 4L-10-SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.168	3,072	\$ -	2,601	437	666
263	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOOD SHOP	2032-TUR	12	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.744	MAST	2601	1,935		12	N 2h-10-SLED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.252	5,904	\$ -	2,601	655	1,280
264	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	2032-TUR	2	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.124	S	1000	124		2	N 2h-10-SLED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.042	0,984	\$ -	1,000	42	82
265	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	100A	1	100 Watt Incandescent A-Lamp Fixture	100	0.100	S	1000	100		1	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.010	1,086	\$ -	1,000	10	91
266	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	MH100WP	1	100 Watt Metal Halide Wall Pack Fixture	125	0.125	EX	4380	548		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	1,200	\$ -	4,380	110	438
267	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	MH1750TD	1	175 Watt Metal Halide Dusk to Dawn Fixture	213	0.213	EX	4380	933		1	N RLED40BY	New 40 Watt LED Dusk to Dawn Barnyard Fixture	42	0.042	2,052	\$ -	4,380	184	749
268	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	2S32	28	T8 1x4 2-Lamp Strip Fixture	62	1.736	MAST	2601	4,515		28	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.588	13,776	\$ -	2,601	1,529	2,986
269	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	XLED/COMBO	3	Existing LED Ext Light/ Combo Emergency Lights	3	0.009	Z	8760	79		3	ZZ DD	No Retrofit	3	0.009	0,000	\$ -	8,760	79	0
270	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		IMPLEMENT SHED	CF23JJ	2	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.046	MAST	2601	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,432	\$ -	2,601	26	94
271	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		IMPLEMENT SHED	2S20	1	T12 2x2 2-Lamp Strip Fixture	42	0.042	MAST	2601	109		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0,336	\$ -	2,601	36	73
272	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		IMPLEMENT SHED	2S34	1	T12 1x4 2-Lamp Strip Fixture	72	0.072	MAST	2601	187		1	R 2L-10-SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,612	\$ -	2,601	55	133

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
273	BLACK MOSHANNON STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		FUEL STORAGE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
274	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		LOBBY	2W32	7	T8 1x4 2-Lamp Wrap Fixture	62	0.434	EXO	3120	1,354		7	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.147	3.444	\$ -	3,120	459	895
275	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		LOBBY	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
276	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		LOBBY	4W32	1	T8 1x4 4-Lamp Wrap Fixture	106	0.106	EXO	3120	331		1	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	3,120	131	200
277	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		BASEMENT	2W32	7	T8 1x4 2-Lamp Wrap Fixture	62	0.434	EXO	3120	1,354		7	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.147	3.444	\$ -	3,120	459	895
278	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		BASEMENT	4W32	14	T8 1x4 4-Lamp Wrap Fixture	106	1.484	EXO	3120	4,630		14	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.588	10.752	\$ -	3,120	1,835	2,796
279	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		BASEMENT	XLED	4	3 Watt LED 2-Lamp Exit Sign	3	0.012	Z	8760	105		4	ZZ DD	No Retrofit	3	0.012	0.000	\$ -	8,760	105	0
280	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	4W32	1	T8 1x4 4-Lamp Wrap Fixture	106	0.106	Z	8760	929		1	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	8,760	388	561
281	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	Z	8760	543		1	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	8,760	184	359
282	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
283	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	4-CF23G	1	23w Compact Fluorescent Globe Fixture	92	0.092	EXO	3120	287		1	LED 4-5A	Re-Lamp with (4) 5 Watt LED A19	20	0.020	0.864	\$ -	3,120	62	225
284	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
285	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	EXO	3120	580		3	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384
286	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	2W32	3	T8 1x4 2-Lamp Wrap Fixture	62	0.186	EXO	3120	580		3	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	3,120	197	384
287	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		COPY	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	EXO	3120	193		1	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
288	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	4W32	4	T8 1x4 4-Lamp Wrap Fixture	106	0.424	EXO	3120	1,323		4	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.168	3.072	\$ -	3,120	524	799
289	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		KITCHEN	3W32	4	T8 1x4 3-Lamp Wrap Fixture	84	0.336	EXO	3120	1,048		4	R 3L-10 SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.126	2.520	\$ -	3,120	393	655
290	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		CLASS ROOM	3DID32	9	T8 1x4 3-Lamp Direct Indirect Fixture	93	0.837	EXO	3120	2,611		9	R 3L-10 SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.284	6.642	\$ -	3,120	885	1,727
291	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		CLASS ROOM	7SPAR30FL-TRK	20	75 Watt per 30 Track Flood Fixture	75	1.500	EXO	3120	4,680		20	LED 10P30	Re-Lamp with (1) 10 Watt LED PAR30	10.5	0.210	15.480	\$ -	3,120	655	4,025
292	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		CLASS ROOM	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
293	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		OFFICE	4W32	6	T8 1x4 4-Lamp Wrap Fixture	106	0.636	EXO	3120	1,984		6	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.252	4.608	\$ -	3,120	786	1,198
294	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		STORAGE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	S	1000	84		1	R 3L-10 SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	1,000	32	53
295	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		STORAGE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	S	1000	84		1	R 3L-10 SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	1,000	32	53
296	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		SIDE ENTRANCE DOOR	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56
297	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	1V32	1	T8 1x4 1-Lamp Vanity Fixture	30	0.030	EXO	3120	94		1	R 1L-10 SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.011	0.234	\$ -	3,120	33	61
298	PARKER DAM STATE PARK	PARK OFFICE	INTERIOR	DCNR		RESTROOM	1V32	1	T8 1x4 1-Lamp Vanity Fixture	30	0.030	EXO	3120	94		1	R 1L-10 SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.011	0.234	\$ -	3,120	33	61
299	PARKER DAM STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	PL26CPY-RECESS SX7	3	26 Watt Plug-In CFL 2-Lamp Recess Canopy Fixture	26	0.078	EX	4380	342		3	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.060	0.216	\$ -	4,380	263	79
300	PARKER DAM STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	MH50WP	1	50 Watt Metal Halide Wall Pack Fixture	72	0.072	EX	4380	315		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	0.564	\$ -	4,380	110	206
301	PARKER DAM STATE PARK	PARK OFFICE	EXTERIOR	DCNR		POLES	PL42FL-SF	2	42 Watt Plug-In CFL Slip Sitter Flood Fixture	42	0.084	EX	4380	368		2	LED 15PL	Re-Lamp with 15 Watt LED PL lamps	15	0.030	0.648	\$ -	4,380	131	237
302	PARKER DAM STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	PL26DL-LENS	1	26 Watt Plug-In CFL Downlight Fixture	26	0.026	EX	4380	114		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0.192	\$ -	4,380	44	70
303	PARKER DAM STATE PARK	WATER PUMP BUILDING	INTERIOR	DCNR		INTERIOR	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	MAST	2601	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	2,601	13	47
304	PARKER DAM STATE PARK	WATER PUMP BUILDING	INTERIOR	DCNR		INTERIOR	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	2,601	13	143
305	PARKER DAM STATE PARK	WATER PUMP BUILDING	INTERIOR	DCNR		INTERIOR	HPS50RLM	1	50 Watt High Pressure Sodium Fixture	70	0.070	MAST	2601	182		1	LED 12COB	Re-Lamp with (1) 12 Watt LED Omni-Cob Lamp; Hardware Ballast	12	0.012	0.696	\$ -	2,601	31	151
306	PARKER DAM STATE PARK	WATER PUMP BUILDING	EXTERIOR	DCNR		EXTERIOR	HPS1750TD	1	175 Watt High Pressure Sodium Dusk to Dawn Fixture	210	0.210	EX	4380	920		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Battery-Backed Fixture	28	0.028	2.184	\$ -	4,380	123	797

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Prc Burn Hours	KWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
307	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM-MENS	PL26DL-4PV	4	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.208	BT	4581	953		4	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.080	1.536	\$ -	4,581	366	586
308	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM-MENS	2V32	3	T8 1x4 2-Lamp Vanity Fixture	62	0.186	BT	4581	852		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	4,581	289	563
309	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM-WOMENS	PL26DL-4PV	4	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.208	BT	4581	953		4	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.080	1.536	\$ -	4,581	366	586
310	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	3	T8 1x4 2-Lamp Vanity Fixture	62	0.186	BT	4581	852		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	4,581	289	563
311	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	BT	4581	284		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	4,581	96	188
312	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		RESTROOM	PL26DL-4PV	1	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.052	BT	4581	238		1	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.020	0.384	\$ -	4,581	92	147
313	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		LAUNDRY	2PL26CPY	1	26 Watt Plug-In CFL 2-Lamp Canopy Fixture	52	0.052	BT	4581	238		1	LED 2-10PL	Re-Lamp with (2)10 Watt LED PL lamps	20	0.020	0.384	\$ -	4,581	92	147
314	PARKER DAM STATE PARK	BATH HOUSE 1	INTERIOR	DCNR		PIPE ROOM	2V732	1	T8 1x4 2-Lamp Vaporlight Fixture	62	0.062	S	1000	62		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
315	PARKER DAM STATE PARK	BATH HOUSE 1	EXTERIOR	DCNR		EXTERIOR	MH100WP	1	100 Watt Metal Halide Wall Pack Fixture	125	0.125	EX	4380	548		1	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.025	1.200	\$ -	4,380	110	438
316	PARKER DAM STATE PARK	BATH HOUSE 1	EXTERIOR	DCNR		EXTERIOR	LED-WP	2	Existing LED Wall Pack Fixture	30	0.060	EX	4380	263		2	ZZ DD	No Retrofit	30	0.060	0.000	\$ -	4,380	263	0
317	PARKER DAM STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		PIPE ROOM	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	S	1000	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1.320	\$ -	1,000	10	110
318	PARKER DAM STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		RESTROOM-WOMENS	CF23CPY	10	23 Watt Compact Fluorescent Canopy Fixture	23	0.230	BT	4581	1,054		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2.160	\$ -	4,581	229	825
319	PARKER DAM STATE PARK	BATHROOMS (TOTAL 2)	INTERIOR	DCNR		RESTROOM-MENS	CF23CPY	10	23 Watt Compact Fluorescent Canopy Fixture	23	0.230	BT	4581	1,054		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2.160	\$ -	4,581	229	825
320	PARKER DAM STATE PARK	BATHROOMS (TOTAL 2)	EXTERIOR	DCNR		EXTERIOR	CF23CPY	4	23 Watt Compact Fluorescent Canopy Fixture	23	0.092	EX	4380	403		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,380	88	315
321	PARKER DAM STATE PARK	BATHROOMS (TOTAL 2)	EXTERIOR	DCNR		EXTERIOR	HPS1750TD	2	175 Watt High Pressure Sodium Dusk to Dawn Fixture	210	0.420	EX	4380	1,840		2	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.056	4.368	\$ -	4,380	245	1,594
322	PARKER DAM STATE PARK	BATH HOUSE 2	INTERIOR	DCNR		RESTROOM-WOMENS	100A-CPY	8	100 Watt Incandescent A-Lamp canopy Fixture	100	0.800	BT	4581	3,665		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	9.120	\$ -	4,581	183	3,482
323	PARKER DAM STATE PARK	BATH HOUSE 2	INTERIOR	DCNR		RESTROOM-MENS	100A-CPY	8	100 Watt Incandescent A-Lamp canopy Fixture	100	0.800	BT	4581	3,665		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	9.120	\$ -	4,581	183	3,482
324	PARKER DAM STATE PARK	BATH HOUSE 2	INTERIOR	DCNR		PIPE ROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
325	PARKER DAM STATE PARK	BATH HOUSE 2	EXTERIOR	DCNR		EXTERIOR	CF23CYL	4	23 Watt Compact Fluorescent Cylinder Fixture	23	0.092	EX	4380	403		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,380	88	315
326	PARKER DAM STATE PARK	BATH HOUSE 2	EXTERIOR	DCNR		EXTERIOR	CF650TD	1	65 Watt Compact Fluorescent Dusk to Dawn Fixture	65	0.065	EX	4380	285		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	0.444	\$ -	4,380	123	162
327	PARKER DAM STATE PARK	BATH HOUSE 2	EXTERIOR	DCNR		EXTERIOR	HPS1750TD	1	175 Watt High Pressure Sodium Dusk to Dawn Fixture	210	0.210	EX	4380	920		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	2.184	\$ -	4,380	123	797
328	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	BT	4581	284		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	4,581	96	188
329	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	BT	4581	385		1	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	4,581	144	241
330	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		PIPE ROOM	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
331	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		PIPE ROOM	2V732	1	T8 1x4 2-Lamp Vaporlight Fixture	62	0.062	S	1000	62		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
332	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2W32	4	T8 1x4 2-Lamp Wrap Fixture	62	0.248	BT	4581	1,136		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	4,581	385	751
333	PARKER DAM STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2W32	4	T8 1x4 2-Lamp Wrap Fixture	62	0.248	BT	4581	1,136		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	4,581	385	751
334	PARKER DAM STATE PARK	BATH HOUSE	EXTERIOR	DCNR		EXTERIOR	60CYL	2	60 Watt Incandescent A-Lamp Cylinder Fixture	60	0.120	EX	4380	526		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1.320	\$ -	4,380	44	482
335	PARKER DAM STATE PARK	BATH HOUSE	EXTERIOR	DCNR		EXTERIOR	MH100CPY	2	100 Watt Metal Halide Canopy Fixture	125	0.250	EX	4380	1,095		2	N RLED40CPY	New 40 Watt LED Canopy Fixture	38	0.076	2.088	\$ -	4,380	333	762
336	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2V732	5	T8 1x4 2-Lamp Vaporlight Fixture	62	0.310	WTER	2760	856		5	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.105	2.460	\$ -	2,760	290	566
337	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	28		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	28	0
338	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	5	T8 1x4 2-Lamp Vaporlight Fixture	62	0.310	WTER	2760	856		5	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.105	2.460	\$ -	2,760	290	566
339	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	28		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	28	0
340	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	2V32(L)	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	WTER	2760	171		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,760	58	113

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
341	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		OFFICE	4W28TP-T5	8	T5 1x4 4-Lamp Wrap Fixture	112	0.896	EXO	3120	2,796		8	R 2L-13LED-T5	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket-HEIGHT	26	0.208	8,256	\$ -	3,120	649	2,147
342	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	WTER	2760	232		1	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	2,760	87	145
343	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	WTER	2760	171		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,760	58	113
344	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
345	PARKER DAM STATE PARK	BEACH HOUSE	INTERIOR	DCNR		PIPE ROOM	3W32	3	T8 1x4 3-Lamp Wrap Fixture	84	0.252	S	1000	252		3	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	1,000	95	158
346	PARKER DAM STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		POLE	2-MH400FL-TR	2	(2) 400 Watt Metal Halide Flood Fixture	910	1.820	EX	4380	7,972		2	2N RLED150FL	(2) New 150 Watt LED Flood Fixtures	310	0.820	14,400	\$ -	4,380	2,716	5,256
347	PARKER DAM STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		CANOPY	MH100CPY	2	100 Watt Metal Halide Canopy Fixture	125	0.250	EX	4380	1,095		2	N RLED40CPY	New 40 Watt LED Canopy Fixture	38	0.076	2,088	\$ -	4,380	333	762
348	PARKER DAM STATE PARK	LAKE	EXTERIOR	DCNR		POLE	HPS1750TD	1	175 Watt High Pressure Sodium Dusk to Dawn Fixture	210	0.210	EX	4380	920		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	2,104	\$ -	4,380	123	797
349	PARKER DAM STATE PARK	CABIN (17 TOTAL)	INTERIOR	DCNR		SUMMARY	60A	119	60 Watt Incandescent A-Lamp Fixture	60	7.140	SHLTR	3704	26,447		119	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.595	78,540	\$ -	3,704	2,204	24,243
350	PARKER DAM STATE PARK	CABIN SHARED RESTROOM (8 TOTAL)	INTERIOR	DCNR		SUMMARY	60A	48	60 Watt Incandescent A-Lamp Fixture	60	2.880	SHLTR	3704	10,668		48	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.240	31,680	\$ -	3,704	889	9,779
351	PARKER DAM STATE PARK	CABIN SHARED RESTROOM (8 TOTAL)	EXTERIOR	DCNR		EXTERIOR	LED-WP	16	Existing LED Wall Pack Fixture	30	0.480	EX	4380	2,102		16	ZZ DD	No Retrofit	30	0.480	0.000	\$ -	4,380	2,102	0
352	PARKER DAM STATE PARK	WASTE WATER PLANT	INTERIOR	DCNR		INTERIOR	60CPY-REC	15	60 Watt Incandescent A-Lamp Recess canopy Fixture	60	0.900	MAST	2601	2,341		15	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.075	9,900	\$ -	2,601	195	2,146
353	PARKER DAM STATE PARK	WASTE WATER PLANT	EXTERIOR	DCNR		EXTERIOR	LED-WP	1	Existing LED Wall Pack Fixture	30	0.030	EX	4380	131		1	ZZ DD	No Retrofit	30	0.030	0.000	\$ -	4,380	131	0
354	PARKER DAM STATE PARK	WASTE WATER PLANT	EXTERIOR	DCNR		EXTERIOR	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EX	4380	263		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	4,380	22	241
355	PARKER DAM STATE PARK	WASTE WATER PLANT	INTERIOR	DCNR		GARAGE	4L32	1	T8 2x4 4-Lamp Troffer Fixture	106	0.106	MAST	2601	276		1	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	2,601	109	166
356	PARKER DAM STATE PARK	WASTE WATER PLANT	INTERIOR	DCNR		GARAGE	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	MAST	2601	323		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	2,601	109	213
357	PARKER DAM STATE PARK	WASTE WATER PLANT	INTERIOR	DCNR		GARAGE	60A	3	60 Watt Incandescent A-Lamp Fixture	60	0.180	MAST	2601	468		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	1,980	\$ -	2,601	39	429
358	PARKER DAM STATE PARK	WASTE WATER PLANT	EXTERIOR	DCNR		GARAGE	2-75PAR38-FL	1	75w Incandescent Par38 2-Lamp Flood Fixture	150	0.150	EX	4380	657		1	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.014	1,632	\$ -	4,380	61	596
359	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		LOBBY	4L32	4	T8 2x4 4-Lamp Troffer Fixture	106	0.424	MAST	2601	1,103		4	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.168	3,072	\$ -	2,601	437	666
360	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		HALLWAY	4L34	2	T12 2x4 4-Lamp Troffer Fixture	144	0.288	MAST	2601	749		2	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	2,448	\$ -	2,601	218	531
361	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		BOILER ROOM	2W32-DA	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	S	1000	124		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
362	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	MAST	2601	161		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,601	55	107
363	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP	2W32	15	T8 1x4 2-Lamp Wrap Fixture	62	0.930	MAST	2601	2,419		15	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.315	7,380	\$ -	2,601	819	1,600
364	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	2W32	6	T8 1x4 2-Lamp Wrap Fixture	62	0.372	S	1000	372		6	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2,952	\$ -	1,000	126	246
365	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TOOL STORAGE	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	S	1000	62		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
366	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2W32	15	T8 1x4 2-Lamp Wrap Fixture	62	0.930	MAST	2601	2,419		15	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.315	7,380	\$ -	2,601	819	1,600
367	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	4W32	1	T8 1x4 4-Lamp Wrap Fixture	106	0.106	MAST	2601	276		1	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	0.768	\$ -	2,601	109	166
368	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SMALL ENGINE STORAGE	4B32	2	T8 2x4 4-Lamp Surface Mount Fixture	106	0.212	S	1000	212		2	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1,536	\$ -	1,000	84	128
369	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		PAINT STORAGE	4B32	2	T8 2x4 4-Lamp Surface Mount Fixture	106	0.212	S	1000	212		2	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1,536	\$ -	1,000	84	128
370	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		PAINT STORAGE	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	S	1000	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	1,000	10	110
371	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	CF23	3	23 Watt Compact Fluorescent Fixture	23	0.069	EXO	3120	215		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.648	\$ -	3,120	47	168
372	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	CF23CPY	1	23 Watt Compact Fluorescent Canopy Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56
373	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	2CF23PAR38-FL	1	23 Watt Compact Fluorescent 2-Lamp Par38 Flood Fixture	46	0.046	EX	4380	201		1	LED 2-14P38	Re-Lamp with (2) 14 Watt LED PAR38	28	0.028	0.216	\$ -	4,380	123	79
374	PARKER DAM STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		POLE BARN	100A	8	100 Watt Incandescent A-Lamp Fixture	100	0.800	MAST	2601	2,081		8	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.076	8,688	\$ -	2,601	198	1,883

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
375	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		GARAGE	432	2	T8 1x4 4-Lamp Industrial Strip Fixture	106	0.212	S	1000	212		2	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1,536	\$ -	1,000	84	128
376	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		GARAGE	1S20	1	T12 2x2 1-Lamp Strip Fixture	32	0.032	S	1000	32		1	R 1L-7LED2'	Retrofit with (1) 7 Watt LED T8 2' Lamp; Direct Wire to Socket	7	0.007	0.300	\$ -	1,000	7	25
377	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	50PAR20DL	2	50 Watt Incandescent par 20 downlight fixture	50	0.100	SHLTR	3704	370		2	LED 7P20	Re-Lamp with (1) 7 Watt LED PAR20	6.5	0.013	1,044	\$ -	3,704	48	322
378	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	60A-FLAMENT	6	60 Watt Incandescent A-Lamp - filament style lamp	60	0.360	SHLTR	3704	1,333		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	3,960	\$ -	3,704	111	1,222
379	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	2B34	1	T12 2x4 2-Lamp Surface Mount Fixture	78	0.078	SHLTR	3704	269		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,684	\$ -	3,704	78	211
380	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	CF23PAR30	9	16 Watt Par 30 Fixture	16	0.144	SHLTR	3704	533		9	LED 10P30	Re-Lamp with (1) 10 Watt LED PAR30	10.5	0.095	0,594	\$ -	3,704	350	183
381	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	60A	5	60 Watt Incandescent A-Lamp Fixture	60	0.300	SHLTR	3704	1,111		5	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.025	3,300	\$ -	3,704	93	1,019
382	PARKER DAM STATE PARK	RESIDENCE	INTERIOR	DCNR		HOUSE	CF23	12	23 Watt Compact Fluorescent Fixture	23	0.276	SHLTR	3704	1,022		12	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.060	2,592	\$ -	3,704	222	800
383	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OPEN AREA	2LU34	12	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.864	EXO	3120	2,696		12	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.168	8,352	\$ -	3,120	524	2,172
384	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OPEN AREA	XLED/COMBO	2	Existing LED Exit Light/Combo Emergency Lights	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0,000	\$ -	8,760	53	0
385	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU32PAR	2	T8 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6' Lamps	62	0.124	EXO	3120	387		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1,152	\$ -	3,120	87	300
386	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	50PAR20DL-EYE	2	50 Watt Incandescent par 20 downlight eyeball fixture	50	0.100	EXO	3120	312		2	LED 7P20	Re-Lamp with (1) 7 Watt LED PAR20	6.5	0.013	1,044	\$ -	3,120	41	271
387	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	MECH ROOM/STORAGE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	1,000	5	55
388	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	MECH ROOM/STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	1,000	5	18
389	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU32PAR	3	T8 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6' Lamps	62	0.186	EXO	3120	580		3	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.042	1,728	\$ -	3,120	131	449
390	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	3,120	44	181
391	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	3,120	16	172
392	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	3,120	44	181
393	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	3,120	16	172
394	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1,392	\$ -	3,120	87	362
395	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	50PAR20DL-EYE	1	50 Watt Incandescent par 20 downlight eyeball fixture	50	0.050	EXO	3120	156		1	LED 7P20	Re-Lamp with (1) 7 Watt LED PAR20	6.5	0.007	0,522	\$ -	3,120	20	136
396	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1,392	\$ -	3,120	87	362
397	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1,392	\$ -	3,120	87	362
398	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STAIRS	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	Z	8760	631		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	8,760	123	508
399	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	1,000	5	55
400	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	OPEN AREA	2LU32	6	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	62	0.372	EXO	3120	1,161		6	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.084	3,456	\$ -	3,120	262	899
401	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	RESTROOM-WOMENS	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	3,120	44	181
402	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	RESTROOM-WOMENS	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	3,120	16	172
403	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	RESTROOM-MENS	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	3,120	44	181
404	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	RESTROOM-MENS	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	3,120	16	172
405	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	OFFICE	2LU34	4	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.288	EXO	3120	899		4	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.056	2,784	\$ -	3,120	175	724
406	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	OFFICE	100A	1	100 Watt Incandescent A-Lamp Fixture	100	0.100	EXO	3120	312		1	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.010	1,086	\$ -	3,120	30	282
407	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.072	S	1000	72		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	1,000	14	58
408	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	CONFERENCE	2LU34	8	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.576	EXO	3120	1,797		8	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.112	5,568	\$ -	3,120	349	1,448

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
409	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	MECH ROOM	100A	1	100 Watt Incandescent A-Lamp Fixture	100	0.100	S	1000	100		1	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.010	1.086	\$ -	1,000	10	91
410	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	MECH ROOM	100A	2	100 Watt Incandescent A-Lamp Fixture	100	0.200	S	1000	200		2	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.019	2.172	\$ -	1,000	19	181
411	PRINCE GALLITZAN STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	OPEN AREA	XLED/COMBO	2	Existing LED Ext Light/ Combo Emergency Lights	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
412	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		REAR DOORS	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	EX	4380	526		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1.320	\$ -	4,380	44	482
413	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		WALL PACK	MH50WP	3	50 Watt Metal Halide Wall Pack Fixture	72	0.216	EX	4380	946		3	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.075	1.692	\$ -	4,380	329	618
414	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		REAR PARKING	MH250SB	1	250 Watt Metal Halide Shoebox Fixture	295	0.295	EX	4380	1,292		1	N RLED78SB	New 78 Watt LED Shoebox Fixture	78	0.078	2.604	\$ -	4,380	342	950
415	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		FRONT PARKING	MH250SB	2	250 Watt Metal Halide Shoebox Fixture	295	0.590	EX	4380	2,584		2	N RLED78SB	New 78 Watt LED Shoebox Fixture	78	0.156	5.208	\$ -	4,380	683	1,901
416	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		FLAG	CF42FL-SF	1	42 Watt Compact Fluorescent Strip Flood Fixture	42	0.042	EX	4380	184		1	N RLED19FL	New 18 Watt LED Flood Fixture	23	0.023	0.228	\$ -	4,380	101	83
417	PRINCE GALLITZAN STATE PARK	PARK OFFICE	EXTERIOR	DCNR		WALL PACK	CF23WP	1	23 Watt Compact Fluorescent Wall pack	23	0.023	EX	4380	101		1	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.013	0.120	\$ -	4,380	57	44
418	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP STORAGE	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
419	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP STORAGE	295	3	T12HO 1x8 2-Lamp Industrial Strip Fixture with 95 Watt Lamps	207	0.621	S	1000	621		3	RF 4LR-18LED-1X8	Retrofit with (3) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.216	4.860	\$ -	1,000	216	405
420	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP STORAGE	202	2	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.124	S	1000	124		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
421	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		ATTIC	202	1	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.062	MAST	2601	161		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,601	55	107
422	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OPEN SHOP	295	3	T12HO 1x8 2-Lamp Industrial Strip Fixture with 95 Watt Lamps	207	0.621	MAST	2601	1,615		3	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.216	4.860	\$ -	2,601	562	1,053
423	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	2,601	13	143
424	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OPEN SHOP	2S34	1	T12 1x4 2-Lamp Strip Fixture	72	0.072	MAST	2601	187		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	2,601	55	133
425	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR	BASEMENT	FURNACE/GENERATOR	300A-RLM	2	300 Watt Incandescent A-Lamp Fixture	300	0.600	MAST	2601	1,561		2	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardwire Ballast	27	0.054	6.552	\$ -	2,601	140	1,420
426	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		KITCHEN	2LU34	5	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6' Lamps	72	0.360	MAST	2601	936		5	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.070	3.480	\$ -	2,601	182	754
427	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	2W34	2	T12 1x4 2-Lamp Wrap Fixture	72	0.144	EXO	3120	449		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1.224	\$ -	3,120	131	318
428	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2V759	3	T8 1x8 2-Lamp Vaporlight Fixture with 59 Watt Lamps	109	0.327	MAST	2601	851		3	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit; Direct Wire to Socket	72	0.216	1.332	\$ -	2,601	562	289
429	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	202-TUR	4	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.248	MAST	2601	645		4	N 2x-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	2,601	218	427
430	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	295	2	T12HO 1x8 2-Lamp Industrial Strip Fixture with 95 Watt Lamps	207	0.414	S	1000	414		2	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.144	3.240	\$ -	1,000	144	270
431	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	21110	1	T12HO 1x8 2-Lamp Industrial Strip Fixture with 110 Watt Lamps	230	0.230	S	1000	230		1	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.072	1.896	\$ -	1,000	72	158
432	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	100A	1	100 Watt Incandescent A-Lamp Fixture	100	0.100	S	1000	100		1	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.010	1.086	\$ -	1,000	10	91
433	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	2LEDFL	2	Existing 2-Lamp LED Flood Fixture	30	0.060	EX	4380	263		2	ZZ DD	No Retrofit	30	0.060	0.000	\$ -	4,380	263	0
434	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOODSHOP	21110	7	T12HO 1x8 2-Lamp Industrial Strip Fixture with 110 Watt Lamps	230	1.610	MAST	2601	4,188		7	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.504	13.272	\$ -	2,601	1,311	2,877
435	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOODSHOP	295	1	T12HO 1x8 2-Lamp Industrial Strip Fixture with 95 Watt Lamps	207	0.207	MAST	2601	538		1	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.072	1.620	\$ -	2,601	187	351
436	PRINCE GALLITZAN STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOODSHOP	269	3	T8 1x8 2-Lamp Industrial Strip Fixture with 59 Watt Lamps	109	0.327	MAST	2601	851		3	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit; Direct Wire to Socket	72	0.216	1.332	\$ -	2,601	562	289
437	PRINCE GALLITZAN STATE PARK	MARINA PARKING	EXTERIOR	DCNR		PARKING	4MH400SB	2	(4) 400 Watt Metal Halide Shoebox Fixture	1820	3.640	EX	4380	15,943		2	4N RLED150SB	(4) New 150 Watt LED Shoebox Fixture	310	0.620	36.240	\$ -	4,380	2,716	13,228
438	PRINCE GALLITZAN STATE PARK	MARINA PARKING	EXTERIOR	DCNR		PARKING	HPS150DTR	1	150 Watt High Pressure Sodium Dusk to Dawn Fixture	188	0.188	EX	4380	823		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	1.920	\$ -	4,380	123	701
439	PRINCE GALLITZAN STATE PARK	MARINA PARKING	EXTERIOR	DCNR		PARKING	MH250FL-TR-SHIELD	8	250 Watt Metal Halide Flood Fixture-TR-Shield	295	2.360	EX	4380	10,337		8	N RLED78FL	New 78 Watt LED Flood Fixture	78	0.608	21.024	\$ -	4,380	2,663	7,674
440	PRINCE GALLITZAN STATE PARK	MARINA PARKING	EXTERIOR	DCNR		PARKING	MH400SB	1	400 Watt Metal Halide Shoebox Fixture	455	0.455	EX	4380	1,993		1	N RLED150SB	New 150 Watt LED Shoebox Fixture	155	0.155	3.600	\$ -	4,380	679	1,314
441	PRINCE GALLITZAN STATE PARK	BOAT HOUSE	INTERIOR	DCNR		INTERIOR	2V32	12	T8 1x4 2-Lamp Vanity Fixture	62	0.744	WTER	2760	2,053		12	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.252	5.904	\$ -	2,760	696	1,358
442	PRINCE GALLITZAN STATE PARK	BOAT HOUSE	INTERIOR	DCNR		INTERIOR	202-TUR	6	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.372	WTER	2760	1,027		6	N 2x-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2.952	\$ -	2,760	348	679

EXISTING FIXTURES													PROPOSED FIXTURE UPGRADE												
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	KW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
443	PRINCE GALLITZAN STATE PARK	BOAT HOUSE	INTERIOR	DCNR		RESTROOM	202-TUR	1	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.062	WTER	2760	171		1	N 2x10-5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.021	0.492	\$ -	2,760	58	113
444	PRINCE GALLITZAN STATE PARK	BOAT HOUSE	EXTERIOR	DCNR		WALLPACK	MH50WP	4	50 Watt Metal Halide Wall Pack Fixture	72	0.288	EX	4380	1,261		4	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.100	2,256	\$ -	4,380	438	823
445	PRINCE GALLITZAN STATE PARK	BOAT HOUSE	EXTERIOR	DCNR		PARKING	MH400SB	3	400 Watt Metal Halide Shoebox Fixture	455	1.385	EX	4380	5,979		3	N RLED150SB	New 150 Watt LED Shoebox Fixture	155	0.465	10,800	\$ -	4,380	2,037	3,942
446	PRINCE GALLITZAN STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		INTERIOR	2V34	20	T12 1x4 2-Lamp Vanity Fixture	72	1.440	SHLTR	3704	5,334		20	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.420	12,240	\$ -	3,704	1,556	3,778
447	PRINCE GALLITZAN STATE PARK	MODERN CABIN (10 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	120	23 Watt Compact Fluorescent Fixture	23	2.760	SHLTR	3704	10,223		120	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.600	25,920	\$ -	3,704	2,222	8,001
448	PRINCE GALLITZAN STATE PARK	MODERN CABIN (10 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF23CPY	20	23 Watt Compact Fluorescent Canopy Fixture	23	0.460	EX	4380	2,015		20	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.100	4,320	\$ -	4,380	438	1,577
449	PRINCE GALLITZAN STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		INTERIOR	1V795	10	T12HO 1x8 1-Lamp Vaporlight Fixture with 95 Watt Lamps	102	1.020	MAST	2601	2,653		10	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.340	8,160	\$ -	2,601	884	1,769
450	PRINCE GALLITZAN STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		OFFICE	2V795	2	T12HO 1x8 2-Lamp Vaporlight Fixture with 95 Watt Lamps	207	0.414	EXO	3120	1,292		2	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.068	4,152	\$ -	3,120	212	1,080
451	PRINCE GALLITZAN STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR		EXTERIOR	MH175WP	1	175 Watt Metal Halide Wall Pack Fixture	213	0.213	EX	4380	933		1	N RLED37WP	New 37 Watt LED Wall Pack Fixture	37	0.037	2,112	\$ -	4,380	162	771
452	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2V795	14	T12HO 1x8 2-Lamp Vaporlight Fixture with 95 Watt Lamps	207	2.898	BT	4581	13,276		14	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.476	29,064	\$ -	4,581	2,181	11,095
453	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	1V795	14	T12HO 1x8 1-Lamp Vaporlight Fixture with 95 Watt Lamps	102	1.428	BT	4581	6,542		14	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.476	11,424	\$ -	4,581	2,181	4,361
454	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	2V795	14	T12HO 1x8 2-Lamp Vaporlight Fixture with 95 Watt Lamps	207	2.898	BT	4581	13,276		14	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.476	29,064	\$ -	4,581	2,181	11,095
455	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	1V795	14	T12HO 1x8 1-Lamp Vaporlight Fixture with 95 Watt Lamps	102	1.428	BT	4581	6,542		14	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.476	11,424	\$ -	4,581	2,181	4,361
456	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	INTERIOR	DCNR		PIPE ROOM	150A	14	150 Watt Incandescent A-Lamp Fixture	150	2.100	S	1000	2,100		14	LED 16A	Re-Lamp with (1) 16 Watt LED A21	15.5	0.217	22,596	\$ -	1,000	217	1,883
457	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF32WP	7	32 Watt Compact Fluorescent Wall pack Fixture	32	0.224	EX	4380	961		7	N RLED13WP	New 13 Watt LED Wall Pack Fixture	15	0.105	1,428	\$ -	4,380	460	521
458	PRINCE GALLITZAN STATE PARK	BATHHOUSE (7 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF23	14	23 Watt Compact Fluorescent Fixture	23	0.322	EX	4380	1,410		14	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.070	3,024	\$ -	4,380	307	1,104
459	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	INTERIOR	DCNR		OFFICE	3B32	7	T8 2x4 3-Lamp Surface Mount Fixture	84	0.588	EXO	3120	1,835		7	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	31.5	0.221	4,410	\$ -	3,120	688	1,147
460	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	INTERIOR	DCNR		OFFICE	1V795	1	T12HO 1x8 1-Lamp Vaporlight Fixture with 95 Watt Lamps	102	0.102	EXO	3120	318		1	RF 2LR-18LED-1XB	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	34	0.034	0,816	\$ -	3,120	106	212
461	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	INTERIOR	DCNR		OFFICE	60A	17	60 Watt Incandescent A-Lamp Fixture	60	1.020	EXO	3120	3,182		17	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.085	11,220	\$ -	3,120	265	2,917
462	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	INTERIOR	DCNR		OFFICE	4W32	2	T8 1x4 4-Lamp Wrap Fixture	106	0.212	EXO	3120	661		2	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	42	0.084	1,536	\$ -	3,120	262	399
463	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	INTERIOR	DCNR		OFFICE	40G	4	40 Watt Incandescent Globe Fixture	40	0.160	EXO	3120	499		4	LED 6GLOBE	Re-Lamp with (1) 6 Watt LED G25 Globe	6	0.024	1,632	\$ -	3,120	75	424
464	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	EXTERIOR	DCNR		EXTERIOR	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EX	4380	263		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	4,380	22	241
465	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	EXTERIOR	DCNR		EXTERIOR	MH175WP	1	175 Watt Metal Halide Wall Pack Fixture	213	0.213	EX	4380	933		1	N RLED37WP	New 37 Watt LED Wall Pack Fixture	37	0.037	2,112	\$ -	4,380	162	771
466	PRINCE GALLITZAN STATE PARK	CAMPGROUND OFFICE	EXTERIOR	DCNR		EXTERIOR	MH250SB	1	250 Watt Metal Halide Shoebox Fixture	295	0.295	EX	4380	1,202		1	N RLED78SB	New 78 Watt LED Shoebox Fixture	78	0.078	2,604	\$ -	4,380	342	950
467	PRINCE GALLITZAN STATE PARK	MAINTENANCE	INTERIOR	DCNR		INTERIOR	369-TUR	5	T8 1x8 3-Lamp Industrial Turret Strip Fixture with 59 Watt Lamps	164	0.820	MAST	2601	2,133		5	N 4S-10-5LED-#	New 1x8 2-Lamp Strip Fixture with (4) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	42	0.210	7,320	\$ -	2,601	546	1,587
468	PRINCE GALLITZAN STATE PARK	MAINTENANCE	INTERIOR	DCNR		INTERIOR	395	3	T12HO 1x8 3-Lamp Industrial Strip Fixture with 95 Watt Lamps	309	0.927	MAST	2601	2,411		3	RF 4LR-18LED-1XB	Retrofit with (3) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit, Direct Wire to Socket	72	0.216	8,532	\$ -	2,601	562	1,849
469	PRINCE GALLITZAN STATE PARK	MAINTENANCE	INTERIOR	DCNR		BOILER ROOM	260	1	T12 1x8 2-Lamp Industrial Strip Fixture with 60 Watt Lamps	123	0.123	S	1000	123		1	RF 4LR-18LED-1XB	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit, Direct Wire to Socket	72	0.072	0,612	\$ -	1,000	72	51
470	PRINCE GALLITZAN STATE PARK	MAINTENANCE	INTERIOR	DCNR		RESTROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	2,601	13	143
471	PRINCE GALLITZAN STATE PARK	MAINTENANCE	EXTERIOR	DCNR		EXTERIOR	MH100WP	2	100 Watt Metal Halide Wall Pack Fixture	125	0.250	EX	4380	1,095		2	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.050	2,400	\$ -	4,380	219	876
472	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	BT	4581	284		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.021	0,492	\$ -	4,581	96	188
473	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	1W32	7	T8 1x4 1-Lamp Wrap Fixture	30	0.210	BT	4581	962		7	R 1L-10-5LED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	10.5	0.074	1,638	\$ -	4,581	337	825
474	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2V17	1	T8 2x2 2-Lamp Vanity Fixture	36	0.036	BT	4581	165		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	14	0.014	0,264	\$ -	4,581	64	101
475	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	2W32	7	T8 1x4 2-Lamp Wrap Fixture	62	0.434	BT	4581	1,988		7	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.147	3,444	\$ -	4,581	673	1,315
476	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	1W32	2	T8 1x4 1-Lamp Wrap Fixture	30	0.060	BT	4581	275		2	R 1L-10-5LED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	10.5	0.021	0,468	\$ -	4,581	96	179

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
477	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	2V17	1	T8 2x2 2-Lamp Vanity Fixture	36	0.036	BT	4581	165		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0.264	\$ -	4,581	64	101
478	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM	1W32	2	T8 1x4 1-Lamp Wrap Fixture	30	0.060	BT	4581	275		2	R 1L-10 SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.021	0.468	\$ -	4,581	96	179
479	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		RESTROOM	2V17	1	T8 2x2 2-Lamp Vanity Fixture	36	0.036	BT	4581	165		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0.264	\$ -	4,581	64	101
480	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		PIPE ROOM	1V32	2	T8 1x4 1-Lamp Vanity Fixture	30	0.060	S	1000	60		2	R 1L-10 SLED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.021	0.468	\$ -	1,000	21	39
481	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	INTERIOR	DCNR		PIPE ROOM	MH50CPY	3	50 Watt Metal Halide Canopy Fixture	72	0.216	S	1000	216		3	N RLED10CPY	New 10 Watt LED Canopy Fixture	12	0.036	2.160	\$ -	1,000	36	180
482	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	EXTERIOR	DCNR		PARKING LOT	MH400SB	3	400 Watt Metal Halide Shoebox Fixture	455	1.365	EX	4380	5,979		3	N RLED150SB	New 150 Watt LED Shoebox Fixture	155	0.465	10.800	\$ -	4,380	2,037	3,942
483	PRINCE GALLITZAN STATE PARK	MARINA RESTROOMS (2 TOTAL)	EXTERIOR	DCNR		PARKING LOT-DOCKS	MH400SB	4	400 Watt Metal Halide Shoebox Fixture	455	1.820	EX	4380	7,972		4	N RLED150SB	New 150 Watt LED Shoebox Fixture	155	0.620	14.400	\$ -	4,380	2,716	5,256
484	PRINCE GALLITZAN STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	2V132	6	T8 1x4 2-Lamp Vaporlight Fixture	62	0.372	MAST	2601	968		6	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2.952	\$ -	2,601	328	640
485	PRINCE GALLITZAN STATE PARK	WASTE TREATMENT	EXTERIOR	DCNR		EXTERIOR	2PL18WP	3	18 Watt 2-Lamp Plug-In CFL Wall pack Fixture	36	0.108	EX	4380	473		3	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.039	0.828	\$ -	4,380	171	302
486	PRINCE GALLITZAN STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		BASEMENT	2V132	6	T8 1x4 2-Lamp Vaporlight Fixture	62	0.372	MAST	2601	968		6	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2.952	\$ -	2,601	328	640
487	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE	2D032-PEND	12	T8 1x4 2-Lamp Direct Indirect Fixture	62	0.744	EXO	3120	2,321		12	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.252	5.904	\$ -	3,120	786	1,535
488	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE	PL32DL-V4P	12	32 Watt Plug-In CFL Downlight Fixture	32	0.384	EXO	3120	1,198		12	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.120	3.168	\$ -	3,120	374	824
489	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
490	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU32	3	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.186	EXO	3120	580		3	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.042	1.728	\$ -	3,120	131	449
491	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	VESTIBULE	PL32DL-V4P	3	32 Watt Plug-In CFL Downlight Fixture	32	0.096	EXO	3120	300		3	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.030	0.792	\$ -	3,120	94	206
492	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	VESTIBULE	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
493	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	EXO	3120	193		1	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
494	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.392	\$ -	3,120	87	362
495	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.392	\$ -	3,120	87	362
496	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OPEN OFFICE	2LU34	9	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.648	EXO	3120	2,022		9	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.126	6.264	\$ -	3,120	383	1,629
497	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	COPY ROOM	2LU32	2	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.124	EXO	3120	387		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.152	\$ -	3,120	87	300
498	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	VESTIBULE-SIDE	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0.696	\$ -	3,120	44	181
499	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU32	2	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.124	EXO	3120	387		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.152	\$ -	3,120	87	300
500	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.392	\$ -	3,120	87	362
501	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STORAGE	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.144	S	1000	144		2	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1.392	\$ -	1,000	28	116
502	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0.696	\$ -	3,120	44	181
503	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STAIRS	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	Z	8760	526		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	8,760	44	482
504	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STAIRS	2LU32	1	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.062	Z	8760	543		1	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0.576	\$ -	8,760	123	420
505	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE-OPEN AREA	2LU32	24	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	1.488	EXO	3120	4,643		24	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.336	13.824	\$ -	3,120	1,048	3,594
506	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE-OPEN AREA	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
507	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	OFFICE	2LU34	6	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.432	EXO	3120	1,348		6	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.084	4.176	\$ -	3,120	262	1,086
508	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE-OPEN AREA	2LU34	12	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.864	EXO	3120	2,696		12	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.168	8.352	\$ -	3,120	524	2,172
509	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
510	SHAWNEE STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18

EXISTING FIXTURES																	PROPOSED FIXTURE UPGRADE								
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	kW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
511	SHAWNEE STATE PARK	PARK OFFICE	EXTERIOR	DCNR	BASEMENT	ENTRANCE	PL32DLV4P	2	32 Watt Plug-In CFL Downlight Fixture	32	0.064	EX	4380	280		2	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.020	0.528	\$ -	4,380	88	193
512	SHAWNEE STATE PARK	PARK OFFICE	EXTERIOR	DCNR	BASEMENT	ENTRANCE	260CPY	2	60 Watt Incandescent 2-Lamp Canopy Fixture	120	0.240	EX	4380	1,051		2	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.020	2.640	\$ -	4,380	88	964
513	SHAWNEE STATE PARK	PARK OFFICE	EXTERIOR	DCNR	BASEMENT	FRONT PARKING-POLE LIGHTS	LED-SB	1	Existing LED Shoe Box Fixture	150	0.150	EX	4380	657		1	ZZ DD	No Retrofit	150	0.150	0.000	\$ -	4,380	657	0
514	SHAWNEE STATE PARK	PARK OFFICE	EXTERIOR	DCNR	BASEMENT	REAR PARKING - POLE LIGHTS	LED-SB	1	Existing LED Shoe Box Fixture	150	0.150	EX	4380	657		1	ZZ DD	No Retrofit	150	0.150	0.000	\$ -	4,380	657	0
515	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	VESTIBULE	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
516	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	VESTIBULE	PL26DL-LENS	1	26 Watt Plug-In CFL Downlight Fixture	26	0.026	EXO	3120	81		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0.192	\$ -	3,120	31	50
517	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	LOBBY	3W32	3	T8 1x4 3-Lamp Wrap Fixture	84	0.252	EXO	3120	786		3	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	3,120	295	491
518	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	LOBBY	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
519	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	3L17PAR	5	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.290	EXO	3120	905		5	R 3L-7LEDZ	Retrofit with (3) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	21	0.105	2.220	\$ -	3,120	328	577
520	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	XLED	3	3 Watt LED 2-Lamp Exit Sign	3	0.009	Z	8760	79		3	ZZ DD	No Retrofit	3	0.009	0.000	\$ -	8,760	79	0
521	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	EXO	3120	262		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	3,120	98	164
522	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	EXO	3120	262		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	3,120	98	164
523	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	2	T8 1x4 3-Lamp Wrap Fixture	84	0.168	EXO	3120	524		2	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	3,120	197	328
524	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	STORAGE	3W32	2	T8 1x4 3-Lamp Wrap Fixture	84	0.168	S	1000	168		2	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	1,000	63	105
525	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	COPY ROOM	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	EXO	3120	262		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	3,120	98	164
526	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	STORAGE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	S	1000	84		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	1,000	32	53
527	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	EXO	3120	262		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	3,120	98	164
528	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	CONFERENCE	3W32	3	T8 1x4 3-Lamp Wrap Fixture	84	0.252	EXO	3120	786		3	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	3,120	295	491
529	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	2W32	1	T8 1x4 2-Lamp Wrap Fixture	62	0.062	EXO	3120	193		1	R 2L-10.SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	3,120	66	128
530	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	RESTROOM	2-600R	1	60 Watt Incandescent 2-Lamp Drum Fixture	120	0.120	EXO	3120	374		1	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.010	1.320	\$ -	3,120	31	343
531	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10.SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
532	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	EXO	3120	262		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	3,120	98	164
533	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
534	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	3W32	6	T8 1x4 3-Lamp Wrap Fixture	84	0.504	EXO	3120	1,572		6	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.189	3.780	\$ -	3,120	590	983
535	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
536	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	3	T8 1x4 3-Lamp Wrap Fixture	84	0.252	EXO	3120	786		3	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	3,120	295	491
537	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	3	T8 1x4 3-Lamp Wrap Fixture	84	0.252	EXO	3120	786		3	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	3,120	295	491
538	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	2	T8 1x4 3-Lamp Wrap Fixture	84	0.168	EXO	3120	524		2	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	3,120	197	328
539	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	OFFICE	3W32	4	T8 1x4 3-Lamp Wrap Fixture	84	0.336	EXO	3120	1,048		4	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.126	2.520	\$ -	3,120	393	655
540	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	STORAGE	3W32	1	T8 1x4 3-Lamp Wrap Fixture	84	0.084	S	1000	84		1	R 3L-10.SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	1,000	32	53
541	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	2-600R	1	60 Watt Incandescent 2-Lamp Drum Fixture	120	0.120	EXO	3120	374		1	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.010	1.320	\$ -	3,120	31	343
542	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	HALLWAY	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
543	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	STARS TO 2ND	4B17	1	T8 2x2 4-Lamp Surface Mount Fixture	60	0.060	Z	8760	526		1	R 4L-7LEDZ	Retrofit with (4) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	28	0.028	0.384	\$ -	8,760	245	280
544	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	1	STARS TO 2ND	2-60WS	1	60 Watt Incandescent 2-Lamp Wall Sconce Fixture	120	0.120	Z	8760	1,051		1	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.010	1.320	\$ -	8,760	88	964

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
545	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	2	OPEN AREA	2LU34	6	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.432	EXO	3120	1,348		6	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.084	4,176	\$ -	3,120	262	1,086
546	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	2	OPEN AREA	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
547	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	2	OFFICE	2LU32	4	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.248	EXO	3120	774		4	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.056	2,304	\$ -	3,120	175	599
548	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	2	STORAGE	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
549	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	2	CRAWL SPACE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
550	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STAIRS TO BASEMENT	CF13WS	4	13 Watt Compact Fluorescent Wall Sconce Fixture	13	0.052	Z	8760	456		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.384	\$ -	8,760	175	280
551	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	OPEN AREA	3L17PAR	6	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.348	EXO	3120	1,086		6	R 3L-7LEDZ'	Retrofit with (3) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	21	0.126	2,664	\$ -	3,120	393	693
552	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	OPEN AREA	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
553	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	CONFERENCE	3L17PAR	16	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.928	EXO	3120	2,895		16	R 3L-7LEDZ'	Retrofit with (3) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	21	0.336	7,104	\$ -	3,120	1,048	1,847
554	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	CONFERENCE	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
555	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
556	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
557	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	HALLWAY	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
558	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	HALLWAY	XLED/COMBO	2	Existing LED Ext Light/ Combo Emergency Lights	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
559	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	HALLWAY	2LU34	2	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.028	1,392	\$ -	3,120	87	362
560	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	HALLWAY	60J	2	60 Watt Incandescent A-Lamp Jelly Jar Fixture	60	0.120	EXO	3120	374		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	3,120	31	343
561	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	RESTROOM	2LU32	1	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.062	EXO	3120	193		1	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.014	0.576	\$ -	3,120	44	150
562	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	STORAGE	2LU34	1	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	0.072	S	1000	72		1	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.014	0.696	\$ -	1,000	14	58
563	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	KITCHEN	3L17PAR	2	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.116	EXO	3120	362		2	R 3L-7LEDZ'	Retrofit with (3) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	21	0.042	0.888	\$ -	3,120	131	231
564	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	KITCHEN	3W32	2	T8 1x4 3-Lamp Wrap Fixture	84	0.168	EXO	3120	524		2	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	31.5	0.063	1,260	\$ -	3,120	197	328
565	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	KITCHEN	1V32	1	T8 1x4 1-Lamp Vanity Fixture	30	0.030	EXO	3120	94		1	R 1L-10-5LED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	10.5	0.011	0.234	\$ -	3,120	33	61
566	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	KITCHEN STORAGE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	S	1000	23		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	1,000	5	18
567	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	KITCHEN STORAGE	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	S	1000	3		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	1,000	3	0
568	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	OFFICE	3L17PAR	4	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.232	EXO	3120	724		4	R 3L-7LEDZ'	Retrofit with (3) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	21	0.084	1,776	\$ -	3,120	262	462
569	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	VESTIBULE	2LU32	1	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.062	EXO	3120	193		1	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit, Direct Wire to Socket	14	0.014	0.576	\$ -	3,120	44	150
570	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	VESTIBULE	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
571	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR	BASEMENT	OFFICE-PRIVATE	3L17PAR	4	T8 2x2 3-Lamp Parabolic Troffer Fixture	58	0.232	EXO	3120	724		4	R 3L-7LEDZ'	Retrofit with (3) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	21	0.084	1,776	\$ -	3,120	262	462
572	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	4W32	1	T8 1x4 4-Lamp Wrap Fixture	106	0.106	EXO	3120	331		1	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	42	0.042	0.768	\$ -	3,120	131	200
573	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	2V20	1	T12 2x2 2-Lamp Vanity Fixture	42	0.042	EXO	3120	131		1	R 2L-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps, Direct Wire to Socket	14	0.014	0.336	\$ -	3,120	44	87
574	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	CF13WS	1	13 Watt Compact Fluorescent Wall Sconce Fixture	13	0.013	EXO	3120	41		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.096	\$ -	3,120	16	25
575	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	3CF23DR	2	23 Watt 3-lamp Compact Fluorescent Drum Fixture	69	0.138	EXO	3120	431		2	LED 3-5A	Re-Lamp with (3) 5 Watt LED A19	15	0.030	1,296	\$ -	3,120	94	337
576	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	60A	3	60 Watt Incandescent A-Lamp Fixture	60	0.180	EXO	3120	562		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	1,980	\$ -	3,120	47	515
577	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	CF23	14	23 Watt Compact Fluorescent Fixture	23	0.322	EXO	3120	1,005		14	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.070	3,024	\$ -	3,120	218	786
578	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	2CF23DR	3	23 Watt 2-lamp Compact Fluorescent Drum Fixture	46	0.138	EXO	3120	431		3	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.030	1,296	\$ -	3,120	94	337

							EXISTING FIXTURES										PROPOSED FIXTURE UPGRADE									
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved	
579	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		LODGE-RENTAL HOUSE	4B34-TUR	1	T12 2x4 4-Lamp Surface Mount Fixture	144	0.144	EXO	3120	449		1	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.042	1,224	\$ -	3,120	131	318	
580	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	60A	17	60 Watt Incandescent A-Lamp Fixture	60	1.020	EXO	3120	3,182		17	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.085	11,220	\$ -	3,120	265	2,917	
581	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	4W34	13	T12 1x4 4-Lamp Wrap Fixture	144	1.872	EXO	3120	5,841		13	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.546	15,912	\$ -	3,120	1,704	4,137	
582	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	CF23	3	23 Watt Compact Fluorescent Fixture	23	0.089	EXO	3120	215		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.648	\$ -	3,120	47	168	
583	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	295	3	T12HO 1x8 2-Lamp Industrial Strip Fixture with 95 Watt Lamps	207	0.621	EXO	3120	1,938		3	RF 4LR-18LED-1XB	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.216	4,860	\$ -	3,120	674	1,264	
584	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	100A	17	100 Watt Incandescent A-Lamp Fixture	100	1.700	EXO	3120	5,304		17	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.162	18,462	\$ -	3,120	504	4,800	
585	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	4B34-TUR	2	T12 2x4 4-Lamp Surface Mount Fixture	144	0.288	EXO	3120	899		2	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	2,448	\$ -	3,120	262	636	
586	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	MH250HB	2	250 Watt Metal Halide Highway Fixture	295	0.590	EXO	3120	1,841		2	LED 54COB	Re-Lamp with (1) 54 Watt LED Omni-Cob Lamp; Hardware Ballast	54	0.108	5,704	\$ -	3,120	337	1,504	
587	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	INTERIOR	DCNR		STORAGE BUILDING	100PAR38	1	100 Watt Incandescent PAR38 Fixture	100	0.100	EXO	3120	312		1	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.014	1.032	\$ -	3,120	44	268	
588	SHAWNEE STATE PARK	REGION 3 HEADQUARTERS	EXTERIOR	DCNR		PARKING	MH1750TD	1	175 Watt Metal Halide Dusk to Dawn Fixture	213	0.213	EX	4380	933		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	2,220	\$ -	4,380	123	810	
589	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	CF23RLM	2	23 Watt Compact Fluorescent Fixture	23	0.046	MAST	2601	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	2,601	26	94	
590	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	60RLM	2	60 Watt Incandescent A-Lamp RLM Fixture	60	0.120	MAST	2601	312		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	2,601	26	286	
591	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	3B32	2	T8 2x4 3-Lamp Surface Mount Fixture	84	0.168	MAST	2601	437		2	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1,260	\$ -	2,601	164	273	
592	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	MAST	2601	161		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	2,601	55	107	
593	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	40G	3	40 Watt Incandescent Globe Fixture	40	0.120	MAST	2601	312		3	LED 6GLOBE	Re-Lamp with (1) 6 Watt LED G25 Globe	6	0.018	1,224	\$ -	2,601	47	265	
594	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	MAST	2601	156		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	2,601	13	143	
595	SHAWNEE STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	MAST	2601	312		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	2,601	26	286	
596	SHAWNEE STATE PARK	WASTE TREATMENT	EXTERIOR	DCNR		EXTERIOR	Q500FL-KNC	1	500 Watt Quartz Flood Fixture	500	0.500	EX	4380	2,190		1	N RLED52FL	New 52 Watt LED Flood Fixture	54	0.054	5,352	\$ -	4,380	237	1,953	
597	SHAWNEE STATE PARK	RESTROOMS - YEAR ROUND	INTERIOR	DCNR		RESTROOM-MENS	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	BT	4581	568		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	192	376	
598	SHAWNEE STATE PARK	RESTROOMS - YEAR ROUND	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	BT	4581	568		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	4,581	192	376	
599	SHAWNEE STATE PARK	RESTROOMS - YEAR ROUND	EXTERIOR	DCNR			LED-WP	2	Existing LED Wall Pack Fixture	30	0.060	EX	4380	263		2	ZZ DD	No Retrofit	30	0.060	0.000	\$ -	4,380	263	0	
600	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		1ST AID	PL32DL7-LENS	12	32 Watt Plug-In CFL Downlight Fixture	32	0.384	WTER	2760	1,060		12	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.120	3,168	\$ -	2,760	331	729	
601	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		1ST AID	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	WTER	2760	342		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	2,760	116	226	
602	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	PL32DL7-LENS	1	32 Watt Plug-In CFL Downlight Fixture	32	0.032	WTER	2760	88		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0.264	\$ -	2,760	28	61	
603	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM	PL32DL7-LENS	1	32 Watt Plug-In CFL Downlight Fixture	32	0.032	WTER	2760	88		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0.264	\$ -	2,760	28	61	
604	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	PL32DL7-LENS	14	32 Watt Plug-In CFL Downlight Fixture	32	0.448	WTER	2760	1,236		14	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.140	3,696	\$ -	2,760	386	850	
605	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	4	T8 1x4 2-Lamp Vanity Fixture	62	0.248	WTER	2760	684		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	2,760	232	453	
606	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-PRIVATE	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	RRP	522	32		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	522	11	21	
607	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-PRIVATE	PL32DL7-LENS	1	32 Watt Plug-In CFL Downlight Fixture	32	0.032	RRP	522	17		1	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.010	0.264	\$ -	522	5	11	
608	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	PL32DL7-LENS	14	32 Watt Plug-In CFL Downlight Fixture	32	0.448	WTER	2760	1,236		14	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.140	3,696	\$ -	2,760	386	850	
609	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2V32	4	T8 1x4 2-Lamp Vanity Fixture	62	0.248	WTER	2760	684		4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	2,760	232	453	
610	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		PIPE ROOM	2032	3	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.186	S	1000	186		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,476	\$ -	1,000	63	123	
611	SHAWNEE STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		EXTERIOR	60WP	2	60 Watt Incandescent A-Lamp Wall Pack Fixture	60	0.120	EX	4380	526		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	4,380	44	482	
612	SHAWNEE STATE PARK	BEACH HOUSE	EXTERIOR	DCNR		EXTERIOR	PL42DL8-LENS	3	42 Watt Plug-In CFL 8" Downlight Fixture	42	0.126	EX	4380	552		3	LED 15PL	Re-Lamp with 15 Watt LED PL lamps	15	0.045	0.972	\$ -	4,380	197	355	

EXISTING FIXTURES																PROPOSED FIXTURE UPGRADE									
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
613	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		GARAGE	2V732	4	T8 1x4 2-Lamp Vaporlight Fixture	62	0.248	WTER	2760	684		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	2,760	232	453
614	SHAWNEE STATE PARK	BEACH HOUSE	INTERIOR	DCNR		GARAGE	2032	2	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.124	WTER	2760	342		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	2,760	116	226
615	SHAWNEE STATE PARK	BOAT HOUSE RESTROOMS (6 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	2-60CPY	24	60 Watt Incandescent 2-Lamp Canopy Fixture	120	2.880	WTER	2760	7,949		24	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.240	31,680	\$ -	2,760	662	7,286
616	SHAWNEE STATE PARK	BOAT HOUSE RESTROOMS (6 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2-60CPY	24	60 Watt Incandescent 2-Lamp Canopy Fixture	120	2.880	WTER	2760	7,949		24	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.240	31,680	\$ -	2,760	662	7,286
617	SHAWNEE STATE PARK	BOAT HOUSE RESTROOMS (6 TOTAL)	INTERIOR	DCNR		PIPE CHASE	2-60CPY	12	60 Watt Incandescent 2-Lamp Canopy Fixture	120	1.440	S	1000	1,440		12	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.120	15,840	\$ -	1,000	120	1,320
618	SHAWNEE STATE PARK	BOAT HOUSE RESTROOMS (6 TOTAL)	EXTERIOR	DCNR		EXTERIOR	2CF32-CPY	6	32 Watt 2-Lamp Compact Fluorescent Canopy Fixture	64	0.384	EX	4380	1,682		6	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.060	3,888	\$ -	4,380	263	1,419
619	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		INTERIOR	HPS100HB	10	100 Watt High Pressure Sodium Highway Fixture	125	1.250	MAST	2601	3,251		10	LED 27COB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardware Ballast	27	0.270	11,760	\$ -	2,601	702	2,549
620	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		OFFICE	2W32	6	T8 1x4 2-Lamp Wrap Fixture	62	0.372	EXO	3120	1,161		6	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.126	2,952	\$ -	3,120	393	768
621	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		OFFICE	XLED	2	3 Watt LED 2-Lamp Exit Sign	3	0.006	Z	8760	53		2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0
622	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		BAY	HPS250HB	15	250 Watt High Pressure Sodium Highway Fixture	300	4.500	MAST	2601	11,705		15	LED 54COB	Re-Lamp with (1) 54 Watt LED Omni-Cob Lamp; Hardware Ballast	54	0.810	44,280	\$ -	2,601	2,107	9,598
623	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		STORAGE	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	S	1000	124		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	1,000	42	82
624	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR			XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
625	SHAWNEE STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		RESTROOM	2V32	2	T8 1x4 2-Lamp Vanity Fixture	62	0.124	MAST	2601	323		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	2,601	109	213
626	SHAWNEE STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR			MH150WP	9	150 Watt Metal Halide Wall Pack Fixture	180	1.620	EX	4380	7,096		9	N RLED37WP	New 37 Watt LED Wall Pack Fixture	37	0.333	15,444	\$ -	4,380	1,459	5,637
627	SHAWNEE STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR			100PAR38	7	100 Watt Incandescent PAR38 Fixture	100	0.700	EX	4380	3,066		7	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.098	7,224	\$ -	4,380	429	2,637
628	SHAWNEE STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR			CF23	16	23 Watt Compact Fluorescent Fixture	23	0.368	SHLTR	3704	1,363		16	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.080	3,456	\$ -	3,704	296	1,067
629	SHAWNEE STATE PARK	CABIN (3 TOTAL)	INTERIOR	DCNR			60A	3	60 Watt Incandescent A-Lamp Fixture	60	0.180	SHLTR	3704	667		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	1,980	\$ -	3,704	56	611
630	SHAWNEE STATE PARK	CABIN (3 TOTAL)	INTERIOR	DCNR			CF23	3	23 Watt Compact Fluorescent Fixture	23	0.069	SHLTR	3704	256		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0,648	\$ -	3,704	56	200
631	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	PL42DL8-LENS	7	42 Watt Plug-In CFL 8" Downlight Fixture	42	0.294	BT	4581	1,347		7	LED 15PL	Re-Lamp with 15 Watt LED PL lamps	15	0.105	2,268	\$ -	4,581	481	866
632	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-MENS	2V32	3	T8 1x4 2-Lamp Vanity Fixture	62	0.186	BT	4581	852		3	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,476	\$ -	4,581	289	563
633	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	PL42DL8-LENS	7	42 Watt Plug-In CFL 8" Downlight Fixture	42	0.294	BT	4581	1,347		7	LED 15PL	Re-Lamp with 15 Watt LED PL lamps	15	0.105	2,268	\$ -	4,581	481	866
634	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-WOMENS	2V32	3	T8 1x4 2-Lamp Vanity Fixture	62	0.186	BT	4581	852		3	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,476	\$ -	4,581	289	563
635	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-PRIVATE	PL42DL8-LENS	1	42 Watt Plug-In CFL 8" Downlight Fixture	42	0.042	RRP	522	22		1	LED 15PL	Re-Lamp with 15 Watt LED PL lamps	15	0.015	0,324	\$ -	522	8	14
636	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		RESTROOM-PRIVATE	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	RRP	522	32		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	522	11	21
637	SHAWNEE STATE PARK	BATH HOUSE	INTERIOR	DCNR		PIPE CHASE	2032	3	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.186	S	1000	186		3	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,476	\$ -	1,000	63	123
638	SHAWNEE STATE PARK	BATH HOUSE	EXTERIOR	DCNR		EXTERIOR	PL32DL-LENS-H4P	5	32 Watt Plug-In CFL Downlight Fixture	32	0.160	EX	4380	701		5	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.050	1,320	\$ -	4,380	219	482
639	SHAWNEE STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	2LU32	9	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.558	WTER	2760	1,540		9	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.126	5,184	\$ -	2,760	348	1,192
640	SHAWNEE STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	2V32	1	T8 1x4 2-Lamp Vanity Fixture	62	0.062	WTER	2760	171		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	2,760	58	113
641	SHAWNEE STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	2032	1	T8 1x4 2-Lamp Industrial Strip Fixture	62	0.062	WTER	2760	171		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	2,760	58	113
642	SHAWNEE STATE PARK	CONTACT STATION	EXTERIOR	DCNR		EXTERIOR	2PL32DLB-LENS-H4P	3	32 Watt Plug-In CFL 2-Lamp Downlight Fixture	64	0.192	EX	4380	841		3	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.030	1,944	\$ -	4,380	131	710
643	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP	2T5-TUR	6	T12 1x8 2-Lamp Industrial Turret Strip Fixture with 75 Watt Lamps	158	0.948	MAST	2601	2,466		6	N 4i-10-5LED-4'	New 1x8 2-Lamp Industrial Fixture with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.252	8,352	\$ -	2,601	655	1,810
644	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOOD SHOP	2T5-TUR	6	T12 1x8 2-Lamp Industrial Turret Strip Fixture with 75 Watt Lamps	158	0.948	MAST	2601	2,466		6	N 4i-10-5LED-4'	New 1x8 2-Lamp Industrial Fixture with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.252	8,352	\$ -	2,601	655	1,810
645	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOOD SHOP	3032	6	T8 1x4 3-Lamp Industrial Strip Fixture	84	0.504	MAST	2601	1,311		6	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.189	3,780	\$ -	2,601	492	819
646	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		VEHICLE BAY	2T5-TUR	10	T12 1x8 2-Lamp Industrial Turret Strip Fixture with 75 Watt Lamps	158	1.580	MAST	2601	4,110		10	N 4i-10-5LED-4'	New 1x8 2-Lamp Industrial Fixture with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.420	13,920	\$ -	2,601	1,092	3,017

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	KW	Annual KW Saved	KW Cost Savings	Post Burn Hours	KWh	kWh Saved
647	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		BOILER ROOM	3032	3	T8 1x4 3-Lamp Industrial Strip Fixture	84	0.252	S	1000	252		3	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1,890	\$ -	1,000	95	158
648	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		HALLWAY	3L32	3	T8 2x4 3-Lamp Troffer Fixture	84	0.252	MAST	2601	655		3	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1,890	\$ -	2,601	246	410
649	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		LOCKER	3L32	1	T8 2x4 3-Lamp Troffer Fixture	84	0.084	MAST	2601	218		1	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0,630	\$ -	2,601	82	137
650	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	3L32	4	T8 2x4 3-Lamp Troffer Fixture	84	0.336	EXO	3120	1,048		4	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.126	2,520	\$ -	3,120	393	655
651	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	3L32	1	T8 2x4 3-Lamp Troffer Fixture	84	0.084	MAST	2601	218		1	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0,630	\$ -	2,601	82	137
652	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	3L32	2	T8 2x4 3-Lamp Troffer Fixture	84	0.168	EXO	3120	524		2	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1,260	\$ -	3,120	197	328
653	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TRUCK BAY	2075-TUR	10	T12 1x8 2-Lamp Industrial Turret Strip Fixture with 75 Watt Lamps	158	1.580	MAST	2601	4,110		10	N 4i-10-5LED-4'	New 1x8 2-Lamp Industrial Fixture with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.420	13,920	\$ -	2,601	1,092	3,017
654	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TRUCK BAY	3032	1	T8 1x4 3-Lamp Industrial Strip Fixture	84	0.084	MAST	2601	218		1	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0,630	\$ -	2,601	82	137
655	SHAWNEE STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		TRUCK BAY	3032	3	T8 1x4 3-Lamp Industrial Strip Fixture	84	0.252	MAST	2601	655		3	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1,890	\$ -	2,601	246	410
656	GIFFORD PINCHOT STATE PARK	PARK OFFICE	EXTERIOR	DCNR		MAP KIOSK	CF13CPY-REC6X8(L)	2	13 Watt Compact Fluorescent 6x8 recess canopy fixture w/ broken or missing lens	13	0.026	EX	4380	114		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,192	\$ -	4,380	44	70
657	GIFFORD PINCHOT STATE PARK	PARK OFFICE	EXTERIOR	DCNR	1	PARKING	MH250SB	5	250 Watt Metal Halide Shoebox Fixture	295	1.475	EX	4380	6,461		5	N RLED78SB	New 78 Watt LED Shoebox Fixture	78	0.390	13,020	\$ -	4,380	1,708	4,752
658	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	CF23WS	10	23 Watt Compact Fluorescent Wall Sconce Fixture	23	0.230	EXO	3120	718		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2,160	\$ -	3,120	156	562
659	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	MH70FL-TRU-T8G12	2	70 Watt Metal Halide Flood Fixture	94	0.188	EXO	3120	587		2	N RLED18FL	New 18 Watt LED Flood Fixture	23	0.046	1,704	\$ -	3,120	144	443
660	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	X-EDG-REC	1	3 Watt LED Recess Edgelit Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0,000	\$ -	8,760	26	0
661	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	MH50CPY-REC-SQ 8X8	2	50 Watt Metal Halide Canopy Fixture	72	0.144	EXO	3120	449		2	LED 12COB	Re-Lamp with (1) 12 Watt LED Omni-Cob Lamp; Hardwire Ballast	12	0.024	1,440	\$ -	3,120	75	374
662	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE MANAGER	2LU34PAR	4	T12 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6" Lamps	72	0.288	EXO	3120	899		4	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.056	2,784	\$ -	3,120	175	724
663	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE MANAGER	2LU34PAR	1	T12 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6" Lamps	72	0.072	EXO	3120	225		1	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.014	0,696	\$ -	3,120	44	181
664	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE-OPEN	2LU34PAR	4	T12 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6" Lamps	72	0.288	EXO	3120	899		4	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.056	2,784	\$ -	3,120	175	724
665	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE-OPEN	2LU34PAR	8	T12 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6" Lamps	72	0.576	EXO	3120	1,797		8	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.112	5,568	\$ -	3,120	349	1,448
666	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RECEPTIONIST	2LU34PAR	2	T12 2x2 2-Lamp U-Lamp Parabolic Troffer Fixture with 6" Lamps	72	0.144	EXO	3120	449		2	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.028	1,392	\$ -	3,120	87	362
667	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2LU34	4	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 6" Lamps	72	0.288	EXO	3120	899		4	RF 2LR-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.056	2,784	\$ -	3,120	175	724
668	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	2L34	4	T12 2x4 2-Lamp Troffer Fixture	78	0.312	EXO	3120	973		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2,736	\$ -	3,120	262	711
669	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	2L34-1X4	2	T12 1x4 2-Lamp Fixture	72	0.144	EXO	3120	449		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	3,120	131	318
670	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	X	1	25 Watt Incandescent 2-Lamp Exit Sign	50	0.050	Z	8760	438		1	N XLED	New 3 watt LED Exit Sign	3	0.003	0,564	\$ -	8,760	26	412
671	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2L34-1X4	2	T12 1x4 2-Lamp Fixture	72	0.144	EXO	3120	449		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	3,120	131	318
672	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2L20	1	T12 2x2 2-Lamp Troffer Fixture	42	0.042	EXO	3120	131		1	R 2L-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0,336	\$ -	3,120	44	87
673	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L34-1X4	2	T12 1x4 2-Lamp Fixture	72	0.144	EXO	3120	449		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	3,120	131	318
674	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2L32PAR	1	T8 2x4 2-Lamp Parabolic Troffer Fixture	62	0.062	EXO	3120	193		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	3,120	66	128
675	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM	2L20	1	T12 2x2 2-Lamp Troffer Fixture	42	0.042	EXO	3120	131		1	R 2L-7LEDZ'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0,336	\$ -	3,120	44	87
676	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	2L34PAR	2	T12 2x4 2-Lamp Parabolic Troffer Fixture	78	0.156	EXO	3120	487		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,368	\$ -	3,120	131	356
677	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	EXO	3120	374		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	3,120	31	343
678	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	1V13-T5	1	T5 13 Watt 1 lamp Vanity Fixture	13	0.013	EXO	3120	41		1	ZZ DD	No Retrofit	13	0.013	0,000	\$ -	3,120	41	0
679	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOCKER	2L34PAR	2	T12 2x4 2-Lamp Parabolic Troffer Fixture	78	0.156	EXO	3120	487		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,368	\$ -	3,120	131	356
680	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STORAGE	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,660	\$ -	1,000	5	55

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
681	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
682	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EXO	3120	72		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	3,120	16	56
683	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	EXO	3120	187		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	3,120	16	172
684	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	234	1	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.072	EXO	3120	225		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	3,120	66	159
685	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	2-60R	2	60 Watt Incandescent 2-Lamp Drum Fixture	120	0.240	Z	8760	2,102		2	LED 2-5A	Re-Lamp with (2) 5 Watt LED A19	10	0.020	2.640	\$ -	8,760	175	1,927
686	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	X-EDG-REC	1	3 Watt LED Recess Edgell Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
687	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	CONFERENCE ROOM	2LU34	21	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	1.512	EXO	3120	4,717		21	RF 2LR-7LEDZ	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.294	14.616	\$ -	3,120	917	3,800
688	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	CONFERENCE ROOM	X	1	25 Watt Incandescent 2-Lamp Exit Sign	50	0.050	Z	8760	438		1	N XLED	New 3 watt LED Exit Sign	3	0.003	0.564	\$ -	8,760	26	412
689	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	CONFERENCE ROOM	X-EDG-REC	1	3 Watt LED Recess Edgell Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
690	GIFFORD PINCHOT STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	CONFERENCE ROOM	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	EXO	3120	374		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1.320	\$ -	3,120	31	343
691	GIFFORD PINCHOT STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	EX	4380	101		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.216	\$ -	4,380	22	79
692	GIFFORD PINCHOT STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	60CPY	3	60 Watt Incandescent A-Lamp Canopy Fixture	60	0.180	EX	4380	788		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	1.980	\$ -	4,380	66	723
693	GIFFORD PINCHOT STATE PARK	PARK OFFICE	EXTERIOR	DCNR		EXTERIOR	60WP	2	60 Watt Incandescent A-Lamp Wall Pack Fixture	60	0.120	EX	4380	526		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1.320	\$ -	4,380	44	482
694	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		KITCHEN	3L32PAR	4	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.336	MAST	2601	874		4	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.126	2.520	\$ -	2,601	328	546
695	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		KITCHEN	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
696	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2V110	9	T12HO 1x8 2-Lamp Vaporlight Fixture with 110 Watt Lamps	230	2.070	MAST	2601	5,384		9	RF 2LR-18LED-1X8	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	34	0.306	21.168	\$ -	2,601	796	4,588
697	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	X	1	25 Watt Incandescent 2-Lamp Exit Sign	50	0.050	Z	8760	438		1	N XLED	New 3 watt LED Exit Sign	3	0.003	0.564	\$ -	8,760	26	412
698	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE	2EXP32-TUR	1	T8 2x4 2-Lamp Industrial Explosion Proof Fixture-Turrett	62	0.062	S	1000	62		1	N 2V7-10.5LED	New 1x4 2-Lamp Vaporlight Fixture with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	1,000	21	41
699	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2CM34	2	T12 1x4 2-Lamp Corner Mount Wrap Fixture	72	0.144	MAST	2601	375		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1.224	\$ -	2,601	109	265
700	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		RESTROOM	3L32PAR	1	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.084	MAST	2601	218		1	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.032	0.630	\$ -	2,601	82	137
701	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	3L32PAR	2	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.168	EXO	3120	524		2	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	3,120	197	328
702	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		OFFICE	3L32PAR	4	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.336	EXO	3120	1,048		4	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.126	2.520	\$ -	3,120	393	655
703	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		LOCKER	3L32PAR	3	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.252	MAST	2601	655		3	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	2,601	246	410
704	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		HALLWAY	3L32PAR	3	T8 2x4 3-Lamp Parabolic Troffer Fixture	84	0.252	MAST	2601	655		3	R 3L-10.5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.095	1.890	\$ -	2,601	246	410
705	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		HALLWAY	XLED	5	3 Watt LED 2-Lamp Exit Sign	3	0.015	Z	8760	131		5	ZZ DD	No Retrofit	3	0.015	0.000	\$ -	8,760	131	0
706	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOOD SHOP	2V110	10	T12HO 1x8 2-Lamp Vaporlight Fixture with 110 Watt Lamps	230	2.300	MAST	2601	5,982		10	RF 2LR-18LED-1X8	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	34	0.340	23.520	\$ -	2,601	884	5,098
707	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		WOOD SHOP	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
708	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		PAINT STORAGE	2EXP32-TUR	2	T8 2x4 2-Lamp Industrial Explosion Proof Fixture-Turrett	62	0.124	S	1000	124		2	N 2V7-10.5LED	New 1x4 2-Lamp Vaporlight Fixture with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
709	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2V110	11	T12HO 1x8 2-Lamp Vaporlight Fixture with 110 Watt Lamps	230	2.530	MAST	2601	6,581		11	RF 2LR-18LED-1X8	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	34	0.374	25.872	\$ -	2,601	973	5,608
710	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		EQUIPMENT BAY	2CM32	2	T8 1x4 2-Lamp Corner Mount Wrap Fixture	62	0.124	MAST	2601	323		2	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	2,601	109	213
711	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		UPSTAIRS STROAGE	2V110	2	T12HO 1x8 2-Lamp Vaporlight Fixture with 110 Watt Lamps	230	0.460	S	1000	460		2	RF 2LR-18LED-1X8	Retrofit with (2) 18 Watt LED T8 4' Lamps and (1) 1x8 2-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	34	0.068	4.704	\$ -	1,000	68	392
712	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	2-75PAR38-FL	4	75w Incandescent PAR38 2-Lamp Flood Fixture	150	0.600	EX	4380	2,628		4	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.056	6.528	\$ -	4,380	245	2,383
713	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	MH100WP	7	100 Watt Metal Halide Wall Pack Fixture	125	0.875	EX	4380	3,833		7	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.175	8.400	\$ -	4,380	767	3,066
714	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		GARAGE BUILDING	DTD-NO LAMP	1	Existing Quik to Dawn Fixture - No Lamp Installed	0	0.000	EX	4380	0		1	N RLED26BY	New 26 Watt LED Quik to Dawn Barnyard Fixture	28	0.028	-0.336	\$ -	4,380	123	-123

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
715	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		GARAGE BUILDING	100A	2	100 Watt Incandescent A-Lamp Fixture	100	0.200	EX	4380	876		2	LED 9A	Re-Lamp with (1) 9 Watt LED A19	9.5	0.019	2,172	\$ -	4,380	83	793
716	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE BUILDING	4W34	4	T12 1x4 4-Lamp Wrap Fixture	144	0.576	MAST	2601	1,496		4	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.168	4,896	\$ -	2,601	437	1,061
717	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE BUILDING	2W34	2	T12 1x4 2-Lamp Wrap Fixture	72	0.144	MAST	2601	375		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	2,601	109	265
718	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE BUILDING	2I75	2	T12 1x8 2-Lamp Industrial Strip Fixture with 75 Watt Lamps	158	0.316	MAST	2601	822		2	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit; Direct Wire to Socket	72	0.144	2,064	\$ -	2,601	375	447
719	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE BUILDING	2B4	2	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.144	MAST	2601	375		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	1,224	\$ -	2,601	109	265
720	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		GARAGE BUILDING	CF13	5	13 Watt Compact Fluorescent Fixture	13	0.065	MAST	2601	169		5	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.025	0,480	\$ -	2,601	65	104
721	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE BARN	2B4	4	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.288	MAST	2601	749		4	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2,448	\$ -	2,601	218	531
722	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE BARN	2I75	5	T12 1x8 2-Lamp Industrial Strip Fixture with 75 Watt Lamps	158	0.790	MAST	2601	2,055		5	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Industrial Reflector Kit; Direct Wire to Socket	72	0.360	5,100	\$ -	2,601	936	1,118
723	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		STORAGE BARN	CF23	9	23 Watt Compact Fluorescent Fixture	23	0.207	MAST	2601	538		9	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.045	1,944	\$ -	2,601	117	421
724	GIFFORD PINCHOT STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		STORAGE BARN	MH1750TD	1	175 Watt Metal Halide Dusk to Dawn Fixture	213	0.213	EX	4380	933		1	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.028	2,220	\$ -	4,380	123	810
725	GIFFORD PINCHOT STATE PARK	LIFT STATIONS (5 TOTAL)	EXTERIOR	DCNR		EXTERIOR	MH1000TD	2	100 Watt Metal Halide Dusk to Dawn Fixture	125	0.250	EX	4380	1,095		2	N RLED26BY	New 26 Watt LED Dusk to Dawn Barnyard Fixture	28	0.056	2,328	\$ -	4,380	245	850
726	GIFFORD PINCHOT STATE PARK	LIFT STATIONS (5 TOTAL)	EXTERIOR	DCNR		EXTERIOR	Q500FL-KNC	5	500 Watt Quartz Flood Fixture	500	2.500	EX	4380	10,950		5	N RLED52FL	New 52 Watt LED Flood Fixture	54	0.270	26,760	\$ -	4,380	1,183	9,767
727	GIFFORD PINCHOT STATE PARK	CABIN (10 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	230	23 Watt Compact Fluorescent Fixture	23	5.290	SHLTR	3704	19,504		230	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	1.150	49,680	\$ -	3,704	4,280	15,335
728	GIFFORD PINCHOT STATE PARK	CABIN (10 TOTAL)	INTERIOR	DCNR		VANITY	1V15	10	T8 15 Watt 1 lamp 18" Vanity Fixture	15	0.150	SHLTR	3704	556		10	R 1L-7LED18"	Retrofit with (1) 7 Watt LED T8 18" Lamp; Direct Wire to Socket	7	0.070	0,960	\$ -	3,704	259	296
729	GIFFORD PINCHOT STATE PARK	PAVILION (4 TOTAL)	EXTERIOR	DCNR		PAVILION	2V775	8	T12 1x8 2-Lamp Vaporlight Fixture with 75 Watt Lamps	158	1.264	EX	4380	5,536		8	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.576	8,256	\$ -	4,380	2,523	3,013
730	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-MENS	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	WTER	2760	342		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	2,760	116	226
731	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	WTER	2760	342		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	2,760	116	226
732	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-PRIVATE	2V732	1	T8 1x4 2-Lamp Vaporlight Fixture	62	0.062	RRP	522	32		1	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,492	\$ -	522	11	21
733	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	EXTERIOR	DCNR		EXTERIOR	MH50CPY	2	50 Watt Metal Halide Canopy Fixture	72	0.144	EX	4380	631		2	N RLED24WP	New 24 Watt LED Wall Pack Fixture	25	0.050	1,128	\$ -	4,380	219	412
734	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM-MENS	2V732	13	T8 1x4 2-Lamp Vaporlight Fixture	62	0.806	BT	4581	3,692		13	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.273	6,396	\$ -	4,581	1,251	2,442
735	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM-MENS	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0,000	\$ -	8,760	26	0
736	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	13	T8 1x4 2-Lamp Vaporlight Fixture	62	0.806	BT	4581	3,692		13	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.273	6,396	\$ -	4,581	1,251	2,442
737	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM-WOMENS	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0,000	\$ -	8,760	26	0
738	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	EXTERIOR	DCNR		EXTERIOR	MH50CPY	7	50 Watt Metal Halide Canopy Fixture	72	0.504	EX	4380	2,208		7	N RLED10CPY	New 10 Watt LED Canopy Fixture	12	0.084	5,040	\$ -	4,380	368	1,840
739	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	EXTERIOR	DCNR		EXTERIOR	MH100CPY	4	100 Watt Metal Halide Canopy Fixture	125	0.500	EX	4380	2,190		4	N RLED40CPY	New 40 Watt LED Canopy Fixture	38	0.152	4,176	\$ -	4,380	666	1,524
740	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		PIPE CHASSES	4W32	6	T8 1x4 4-Lamp Wrap Fixture	106	0.636	S	1000	636		6	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.252	4,608	\$ -	1,000	252	384
741	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		HWH ROOM	LED-JJ	1	Existing LED Jelly Jar Fixture	7	0.007	BT	4581	32		1	ZZ DD	No Retrofit	7	0.007	0,000	\$ -	4,581	32	0
742	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM-PRIVATE	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	RRP	522	65		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	522	22	43
743	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		1ST AID	4W32	2	T8 1x4 4-Lamp Wrap Fixture	106	0.212	BT	4581	971		2	R 4L-10 SLED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1,536	\$ -	4,581	385	586
744	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		1ST AID	3L32	8	T8 2x4 3-Lamp Troffer Fixture	84	0.672	BT	4581	3,078		8	R 3L-10 SLED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.252	5,040	\$ -	4,581	1,154	1,924
745	GIFFORD PINCHOT STATE PARK	BATHHOUSE AT CONCESSIONS	INTERIOR	DCNR		RESTROOM	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	BT	4581	568		2	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0,984	\$ -	4,581	192	376
746	GIFFORD PINCHOT STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		INTERIOR	2V732	9	T8 1x4 2-Lamp Vaporlight Fixture	62	0.558	MAST	2601	1,451		9	R 2L-10 SLED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.189	4,428	\$ -	2,601	492	960
747	GIFFORD PINCHOT STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		INTERIOR	MH400HB-VDA	6	400 Watt Metal Halide Highbay Fixture	455	2.730	MAST	2601	7,101		6	LED 100COB-VDA	Re-Lamp with (1) 100 Watt LED Omni-Cob Lamp; Hardwire Ballast	100	0.600	25,560	\$ -	2,601	1,561	5,540
748	GIFFORD PINCHOT STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR		EXTERIOR	Q500FL-KNC	8	500 Watt Quartz Flood Fixture	500	4.000	EX	4380	17,520		8	N RLED52FL	New 52 Watt LED Flood Fixture	54	0.432	42,816	\$ -	4,380	1,892	15,628

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
749	GIFFORD PINCHOT STATE PARK	WATER TREATMENT PLANT	EXTERIOR	DCNR		EXTERIOR	100PAR38	1	100 Watt Incandescent PAR38 Fixture	100	0.100	EX	4380	438		1	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.014	1.032	\$ -	4,380	61	377
750	GIFFORD PINCHOT STATE PARK	WATER TREATMENT PLANT	INTERIOR	DCNR		PUMP HOUSE	2V732	2	T8 1x4 2-Lamp Vaporight Fixture	62	0.124	MAST	2601	323		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	2,601	109	213
751	GIFFORD PINCHOT STATE PARK	RESTROOMS-DOCK 1	INTERIOR	DCNR		RESTROOM	4W32	3	T8 1x4 4-Lamp Wrap Fixture	106	0.318	BT	4581	1,457		3	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.126	2.304	\$ -	4,581	577	880
752	GIFFORD PINCHOT STATE PARK	RESTROOMS-DOCK 2	INTERIOR	DCNR		RESTROOM	3V32	2	T8 1x4 3-Lamp Vanity Fixture	84	0.168	BT	4581	770		2	R 3L-10-5LED	Retrofit with (3) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	31.5	0.063	1.260	\$ -	4,581	289	481
753	GIFFORD PINCHOT STATE PARK	RESTROOMS-DOCK 4	EXTERIOR	DCNR		EXTERIOR	MH50CPY	3	50 Watt Metal Halide Canopy Fixture	72	0.216	EX	4380	946		3	N RLED10CPY	New 10 Watt LED Canopy Fixture	12	0.036	2.160	\$ -	4,380	158	788
754	GIFFORD PINCHOT STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	CF23JJ	15	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.345	WTER	2760	952		15	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.075	3.240	\$ -	2,760	207	745
755	GIFFORD PINCHOT STATE PARK	BATHOUSE (7 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	161	23 Watt Compact Fluorescent Fixture	23	3.703	BT	4581	16,963		161	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.805	34.776	\$ -	4,581	3,688	13,276
756	GIFFORD PINCHOT STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	16	23 Watt Compact Fluorescent Fixture	23	0.368	SHLTR	3704	1,363		16	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.080	3.456	\$ -	3,704	296	1,067
757	GIFFORD PINCHOT STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	1V15	2	T8 15 Watt 1 lamp 18" Vanity Fixture	15	0.030	SHLTR	3704	111		2	R 1L-7LED18"	Retrofit with (1) 7 Watt LED T8 18" Lamp; Direct Wire to Socket	7	0.014	0.192	\$ -	3,704	52	59
758	GIFFORD PINCHOT STATE PARK	COFFAGE (3 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	9	23 Watt Compact Fluorescent Fixture	23	0.207	SHLTR	3704	767		9	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.045	1.944	\$ -	3,704	167	600
759	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-MENS	2V732	4	T8 1x4 2-Lamp Vaporight Fixture	62	0.248	WTER	2760	684		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	2,760	232	453
760	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-WOMENS	2V732	4	T8 1x4 2-Lamp Vaporight Fixture	62	0.248	WTER	2760	684		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	2,760	232	453
761	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		RESTROOM-PRIVATE	2V732	1	T8 1x4 2-Lamp Vaporight Fixture	62	0.062	RRP	522	32		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.492	\$ -	522	11	21
762	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	INTERIOR	DCNR		PIPE CHASE	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	S	1000	124		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
763	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	EXTERIOR	DCNR		EXTERIOR	MH50CPY	4	50 Watt Metal Halide Canopy Fixture	72	0.288	EX	4380	1,261		4	N RLED10CPY	New 10 Watt LED Canopy Fixture	12	0.048	2.880	\$ -	4,380	210	1,051
764	GIFFORD PINCHOT STATE PARK	BOAT RENTAL - RESTROOMS	EXTERIOR	DCNR		EXTERIOR	MH250FL-TR	1	250 Watt Metal Halide Flood Fixture	295	0.295	EX	4380	1,292		1	N RLED78FL	New 78 Watt LED Flood Fixture	78	0.078	2.628	\$ -	4,380	333	959
765	GIFFORD PINCHOT STATE PARK	NATURE CENTER	INTERIOR	DCNR		CENTER	CF23CYL	28	23 Watt Compact Fluorescent Cylinder Fixture	23	0.644	EXO	3120	2,009		28	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.140	6.048	\$ -	3,120	437	1,572
766	GIFFORD PINCHOT STATE PARK	NATURE CENTER	INTERIOR	DCNR		CENTER	60A	4	60 Watt Incandescent A-Lamp Fixture	60	0.240	EXO	3120	749		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	2.640	\$ -	3,120	62	686
767	GIFFORD PINCHOT STATE PARK	NATURE CENTER	INTERIOR	DCNR		RESTROOM-MENS	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
768	GIFFORD PINCHOT STATE PARK	NATURE CENTER	INTERIOR	DCNR		RESTROOM-WOMENS	2W32	2	T8 1x4 2-Lamp Wrap Fixture	62	0.124	EXO	3120	387		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	3,120	131	256
769	GIFFORD PINCHOT STATE PARK	NATURE CENTER	INTERIOR	DCNR		CENTER	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
770	GIFFORD PINCHOT STATE PARK	WASTE WATER-MAN LIFT	EXTERIOR	DCNR		EXTERIOR	90PAR38	4	90 Watt Incandescent PAR38 Fixture	90	0.360	EX	4380	1,577		4	LED 14P38	Re-Lamp with (1) 14 Watt LED PAR38	14	0.056	3.648	\$ -	4,380	245	1,332
771	GIFFORD PINCHOT STATE PARK	WASTE WATER-MAN LIFT	INTERIOR	DCNR		INTERIOR	2V734	5	T12 1x4 2-Lamp Vaporight Fixture	72	0.360	MAST	2601	936		5	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.105	3.060	\$ -	2,601	273	663
772	GIFFORD PINCHOT STATE PARK	WASTE TREATMENT	INTERIOR	DCNR		INTERIOR	150RLM	12	150 Watt Incandescent A-Lamp RLM Fixture	150	1.800	MAST	2601	4,682		12	LED 16A	Re-Lamp with (1) 16 Watt LED A21	15.5	0.186	19.368	\$ -	2,601	484	4,198
773	GIFFORD PINCHOT STATE PARK	WASTE TREATMENT	EXTERIOR	DCNR		EXTERIOR	150PAR38	9	150 Watt Incandescent PAR38 Fixture	150	1.350	EX	4380	5,913		9	LED 17P38	Re-Lamp with (1) 17 Watt LED PAR38	17	0.153	14.364	\$ -	4,380	670	5,243
774	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR		LOBBY	PL32DLV4P	8	32 Watt Plug-In CFL Downlight Fixture	32	0.256	EXO	3120	799		8	LED 10PL	Re-Lamp with 10 Watt LED PL lamps	10	0.080	2.112	\$ -	3,120	250	549
775	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	2PL26DL-H4P	7	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	0.384	EXO	3120	1,136		7	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.140	2.688	\$ -	3,120	437	699
776	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOBBY	XLED/COMBO	1	Existing LED Exit Light/ Combo Emergency Lights	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
777	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE ROOM	4L34	11	T12 2x4 4-Lamp Troffer Fixture	144	1.584	EXO	3120	4,942		11	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.462	13.464	\$ -	3,120	1,441	3,501
778	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE ROOM	50PAR20TR	12	50 Watt Incandescent par 20 Track fixture	50	0.600	EXO	3120	1,872		12	LED 7P20	Re-Lamp with (1) 7 Watt LED PAR20	6.5	0.078	6.264	\$ -	3,120	243	1,629
779	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE ROOM	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26		1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0
780	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	CONFERENCE ROOM	X	1	25 Watt Incandescent 2-Lamp Exit Sign	50	0.050	Z	8760	438		1	N XLED	New 3 watt LED Exit Sign	3	0.003	0.564	\$ -	8,760	26	412
781	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	ATTIC	75PAR38	1	90 Watt Incandescent PAR38 Fixture	90	0.090	S	1000	90		1	LED 14P38	Re-Lamp with (1) 14 Watt LED PAR38	14	0.014	0.912	\$ -	1,000	14	76
782	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	2L17	3	T8 2x2 2-Lamp Troffer Fixture	36	0.108	EXO	3120	337		3	R 2L-7LED2"	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.042	0.792	\$ -	3,120	131	206

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
783	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0	
784	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM-WOMENS	2L17	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
785	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOM-MIENS	2L17	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
786	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	KITCHEN	2L17VOL	4	T8 2x2 2-Lamp Troffer Fixture	36	0.144	EXO	3120	449	4	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.056	1.056	\$ -	3,120	175	275	
787	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RECEPTIONIST	2L17VOL	4	T8 2x2 2-Lamp Troffer Fixture	36	0.144	EXO	3120	449	4	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.056	1.056	\$ -	3,120	175	275	
788	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	3	T8 2x2 2-Lamp Troffer Fixture	36	0.108	EXO	3120	337	3	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.042	0.792	\$ -	3,120	131	206	
789	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	STORAGE	2L17VOL	1	T8 2x2 2-Lamp Troffer Fixture	36	0.036	S	1000	36	1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0.264	\$ -	1,000	14	22	
790	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
791	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	HALLWAY	2PL26DL-H4P-EM	6	26 Watt Plug-In CFL 2-Lamp Downlight Fixture-Emergency Backup	52	0.312	EXO	3120	973	6	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.120	2.304	\$ -	3,120	374	599	
792	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	4	T8 2x2 2-Lamp Troffer Fixture	36	0.144	EXO	3120	449	4	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.056	1.056	\$ -	3,120	175	275	
793	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	5	T8 2x2 2-Lamp Troffer Fixture	36	0.180	EXO	3120	562	5	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.070	1.320	\$ -	3,120	218	343	
794	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
795	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	XLED/COMBO	1	Existing LED Ext Light/ Combo Emergency Lights	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0	
796	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0	
797	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	LOCKER	2L17	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
798	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	RESTROOMS	2L17	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
799	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	2W32-OCC	3	T8 1x4 2-Lamp Volumetric Wrap Fixture with built in Motion Sensor	62	0.186	Z	8760	1,629	3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1.476	\$ -	8,760	562	1,077	
800	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR		STAIRS	XLED	1	3 Watt LED 2-Lamp Exit Sign	3	0.003	Z	8760	26	1	ZZ DD	No Retrofit	3	0.003	0.000	\$ -	8,760	26	0	
801	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	XLED/COMBO	2	Existing LED Ext Light/ Combo Emergency Lights	3	0.006	Z	8760	53	2	ZZ DD	No Retrofit	3	0.006	0.000	\$ -	8,760	53	0	
802	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	2V32	12	T8 1x4 2-Lamp Vanity Fixture	62	0.744	EXO	3120	2,321	12	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.252	5.904	\$ -	3,120	786	1,535	
803	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	202-TUR	11	T8 1x4 2-Lamp Industrial Strip Fixture-Turret	62	0.682	EXO	3120	2,128	11	N 2x-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.231	5.412	\$ -	3,120	721	1,407	
804	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT	2LU32	4	T8 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	62	0.248	EXO	3120	774	4	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.056	2.304	\$ -	3,120	175	599	
805	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT 2	4L32	2	T8 2x4 4-Lamp Troffer Fixture	106	0.212	EXO	3120	661	2	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	1.536	\$ -	3,120	262	399	
806	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT 2	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	EXO	3120	431	6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1.296	\$ -	3,120	94	337	
807	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	BASEMENT	BASEMENT 2	2W32	4	T8 1x4 2-Lamp Wrap Fixture	62	0.248	EXO	3120	774	4	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1.968	\$ -	3,120	262	512	
808	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
809	CODORUS STATE PARK	PARK OFFICE	INTERIOR	DCNR	1	OFFICE	2L17VOL	2	T8 2x2 2-Lamp Troffer Fixture	36	0.072	EXO	3120	225	2	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.028	0.528	\$ -	3,120	87	137	
810	CODORUS STATE PARK	PARK OFFICE	EXTERIOR	DCNR		CANOPY	2PL26DL-LENS-V4P	32	26 Watt Plug-In CFL 2-Lamp Downlight Fixture	52	1.664	EX	4380	7,288	32	LED 2-10PL	Re-Lamp with (2) 10 Watt LED PL lamps	20	0.640	12.288	\$ -	4,380	2,803	4,485	
811	CODORUS STATE PARK	PARK OFFICE	EXTERIOR	DCNR		WALL PACK	MH175WP	1	175 Watt Metal Halide Wall Pack Fixture	213	0.213	EX	4380	933	1	N RLED37WP	New 37 Watt LED Wall Pack Fixture	37	0.037	2.112	\$ -	4,380	162	771	
812	CODORUS STATE PARK	PARK OFFICE	EXTERIOR	DCNR		BOLLARD	CF32BOL	7	32 Watt Compact Fluorescent Bollard Fixture	32	0.224	EX	4380	961	7	LED 12COB	Re-Lamp with (1) 12 Watt LED Omni-Cob Lamp; Hardwire Ballast	12	0.084	1.680	\$ -	4,380	368	613	
813	CODORUS STATE PARK	PARK OFFICE	EXTERIOR	DCNR		FLAG	MH150WELL	3	150 Watt Metal Halide Well Light Fixture	180	0.540	EX	4380	2,365	3	ZZ DD	No Retrofit	180	0.540	0.000	\$ -	4,380	2,365	0	
814	CODORUS STATE PARK	PARK OFFICE	EXTERIOR	DCNR		PARKING	2MH400SB	2	(2) 400 Watt Metal Halide Shoebox Fixture	910	1.820	EX	4380	7,972	2	2N RLED150SB	(2) New 150 Watt LED Shoebox Fixture	310	0.620	14.400	\$ -	4,380	2,716	5,256	
815	CODORUS STATE PARK	RESTROOMS (6 TOTAL)	INTERIOR	DCNR		SUMMARY	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	BT	4581	632	6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1.296	\$ -	4,581	137	495	
816	CODORUS STATE PARK	RESTROOMS (6 TOTAL)	INTERIOR	DCNR		SUMMARY	2VT34	18	T12 1x4 2-Lamp Vaporlight Fixture	72	1.296	BT	4581	5,937	18	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.378	11.016	\$ -	4,581	1,732	4,205	

EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE											
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
817	CODORUS STATE PARK	RESTROOMS (6 TOTAL)	INTERIOR	DCNR		SUMMARY	CF23JJ	24	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.552	BT	4581	2,529		24	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.120	5,184	\$ -	4,581	550	1,979
818	CODORUS STATE PARK	RESTROOMS (6 TOTAL)	INTERIOR	DCNR		SUMMARY	CF23DL8	36	23 Watt Compact Fluorescent 8" Downlight Fixture	23	0.828	BT	4581	3,793		36	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.180	7,776	\$ -	4,581	825	2,968
819	CODORUS STATE PARK	PARKING LOT-CANOE	EXTERIOR	DCNR		WOOD POLES	MH100CYL	21	100 Watt Metal Halide Cylinder Fixture	125	2.625	EX	4380	11,498		21	LED 270OB	Re-Lamp with (1) 27 Watt LED Omni-Cob Lamp; Hardwire Ballast	27	0.567	24,696	\$ -	4,380	2,483	9,014
820	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		STORAGE	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
821	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		STORAGE	2B34	1	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.072	S	1000	72		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	1,000	21	51
822	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		SHOWER	MH50CPY	4	50 Watt Metal Halide Canopy Fixture	72	0.288	WTER	2760	795		4	N RLED10CPY	New 10 Watt LED Canopy Fixture	12	0.048	2,880	\$ -	2,760	132	662
823	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		STORAGE	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
824	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		RESTROOM-MENS	2V34	9	T12 1x4 2-Lamp Vanity Fixture	72	0.648	WTER	2760	1,788		9	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.189	5,508	\$ -	2,760	522	1,267
825	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		PIPE CHASE	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
826	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		GUARD SHACK	CF13	3	13 Watt Compact Fluorescent Fixture	13	0.039	WTER	2760	108		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.288	\$ -	2,760	41	66
827	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		GUARD SHACK	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	WTER	2760	381		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1,296	\$ -	2,760	83	298
828	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		GUARD SHACK	2B34	1	T12 1x4 2-Lamp Industrial Strip Fixture	72	0.072	WTER	2760	199		1	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0.612	\$ -	2,760	58	141
829	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		HWH ROOM	2V732	4	T8 1x4 2-Lamp Vaporlight Fixture	62	0.248	WTER	2760	684		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	1,968	\$ -	2,760	232	453
830	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		RESTROOM-WOMENS	2V734	9	T12 1x4 2-Lamp Vaporlight Fixture	72	0.648	WTER	2760	1,788		9	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.189	5,508	\$ -	2,760	522	1,267
831	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		PIPE CHASE	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	S	1000	92		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	1,000	20	72
832	CODORUS STATE PARK	SWIMMING POOL	EXTERIOR	DCNR		CANOPY	CF23DL10	5	23 Watt Compact Fluorescent 10" Downlight Fixture	23	0.115	EX	4380	504		5	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.025	1,080	\$ -	4,380	110	394
833	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		FLTR ROOM	4B34-DA	4	T12 1x4 4-Lamp Industrial Strip Fixture	144	0.576	S	1000	576		4	R 4L-10-5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.168	4,896	\$ -	1,000	168	408
834	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		FLTR ROOM	2V732	2	T8 1x4 2-Lamp Vaporlight Fixture	62	0.124	S	1000	124		2	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.042	0.984	\$ -	1,000	42	82
835	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		CHLORINE ROOM	CF23	4	23 Watt Compact Fluorescent Fixture	23	0.092	S	1000	92		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	1,000	20	72
836	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		CHLORINE ROOM	60A	1	60 Watt Incandescent A-Lamp Fixture	60	0.060	S	1000	60		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0.660	\$ -	1,000	5	55
837	CODORUS STATE PARK	SWIMMING POOL	INTERIOR	DCNR		CHLORINE ROOM	1V732	1	T8 1x4 1-Lamp Vaporlight Fixture	30	0.030	S	1000	30		1	R 1L-10-5LED	Retrofit with (1) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	10.5	0.011	0.234	\$ -	1,000	11	20
838	CODORUS STATE PARK	CONTACT STATION	EXTERIOR	DCNR		EXTERIOR	CF23JJ	3	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.089	EX	4380	302		3	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.015	0.648	\$ -	4,380	66	237
839	CODORUS STATE PARK	CONTACT STATION	EXTERIOR	DCNR		EXTERIOR	2-65PAR30FL(MS)	1	65w Incandescent Par38 2-Lamp Flood Fixture	130	0.130	EX	4380	569		1	LED 2-14P38	Re-Lamp with (2) 14 Watt LED PAR38	28	0.028	1,224	\$ -	4,380	123	447
840	CODORUS STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	CF23	10	23 Watt Compact Fluorescent Fixture	23	0.230	WTER	2760	635		10	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.050	2,160	\$ -	2,760	138	497
841	CODORUS STATE PARK	CONTACT STATION	INTERIOR	DCNR		INTERIOR	2B34-1X4	4	T12 1x4 2-Lamp Surface Mount Fixture	78	0.312	WTER	2760	861		4	R 2L-10-5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.084	2,736	\$ -	2,760	232	629
842	CODORUS STATE PARK	CONTACT STATION	EXTERIOR	DCNR		MAP KIOSK	CF23	8	23 Watt Compact Fluorescent Fixture	23	0.184	EX	4380	806		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	1,728	\$ -	4,380	175	631
843	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	INTERIOR	DCNR		RESTROOM-WOMENS	CF23JJ	4	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.092	BT	4581	421		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,581	92	330
844	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	INTERIOR	DCNR		RESTROOM-WOMENS	2V20	3	T12 2x2 2-Lamp Vanity Fixture	42	0.126	BT	4581	577		3	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.042	1,008	\$ -	4,581	192	385
845	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	INTERIOR	DCNR		PIPE CHASE	CF23JJ	2	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.046	S	1000	46		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	1,000	10	36
846	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	EXTERIOR	DCNR		EXTERIOR	CF23JJ	4	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.092	EX	4380	403		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,380	88	315
847	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	INTERIOR	DCNR		RESTROOM-MENS	CF23JJ	4	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.092	BT	4581	421		4	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.020	0.864	\$ -	4,581	92	330
848	CODORUS STATE PARK	RESTROOMS (OLD STYLE)	INTERIOR	DCNR		RESTROOM-MENS	2V20	3	T12 2x2 2-Lamp Vanity Fixture	42	0.126	BT	4581	577		3	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.042	1,008	\$ -	4,581	192	385
849	CODORUS STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	SHLTR	3704	511		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1,296	\$ -	3,704	111	400
850	CODORUS STATE PARK	YURT (2 TOTAL)	INTERIOR	DCNR		INTERIOR	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	SHLTR	3704	444		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	3,704	37	407

EXISTING FIXTURES															PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	kWh	x	Qty	New Code	Description	Watts	kW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
851	CODORUS STATE PARK	CABINS (3 TOTAL)	INTERIOR	DCNR		INTERIOR	CF23	15	23 Watt Compact Fluorescent Fixture	23	0.345	SHLTR	3704	1,278		15	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.075	3,240	\$ -	3,704	278	1,000
852	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		RESTROOM-MENS	CF23JJ	16	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.368	BT	4581	1,686		16	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.080	3,456	\$ -	4,581	366	1,319
853	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		RESTROOM-MIENS	2V20	12	T12 2x2 2-Lamp Vanity Fixture	42	0.504	BT	4581	2,309		12	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.168	4,032	\$ -	4,581	770	1,539
854	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	CF23JJ	16	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.368	BT	4581	1,686		16	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.080	3,456	\$ -	4,581	366	1,319
855	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		RESTROOM-WOMENS	2V20	12	T12 2x2 2-Lamp Vanity Fixture	42	0.504	BT	4581	2,309		12	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.168	4,032	\$ -	4,581	770	1,539
856	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		RESTROOM-HC	2LU34	16	T12 2x2 2-Lamp U-Lamp Troffer Fixture with 0' Lamps	72	1.152	BT	4581	5,277		16	RF 2LR-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps and (1) 2x2 2-Lamp White Reflector Kit; Direct Wire to Socket	14	0.224	11,136	\$ -	4,581	1,026	4,251
857	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	INTERIOR	DCNR		PIPE CHASE	100PAR38	8	100 Watt Incandescent PAR38 Fixture	100	0.800	S	1000	800		8	LED 14P30	Re-Lamp with (1) 14 Watt LED PAR30	14	0.112	8,256	\$ -	1,000	112	688
858	CODORUS STATE PARK	RESTROOMS-MODERN (4 TOTAL)	EXTERIOR	DCNR		EXTERIOR	CF23	20	23 Watt Compact Fluorescent Fixture	23	0.460	EX	4380	2,015		20	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.100	4,320	\$ -	4,380	438	1,577
859	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		CLASSROOM-OPEN	CF23FL	8	23 Watt Compact Fluorescent Flood Fixture	23	0.184	JEEC	2210	407		8	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.040	1,728	\$ -	2,210	88	318
860	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		CLASSROOM-OPEN	CF23-DOME	24	23 Watt Compact Fluorescent Dome Fixture	23	0.552	JEEC	2210	1,220		24	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.120	5,184	\$ -	2,210	265	955
861	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		HALLWAY	CF23	7	23 Watt Compact Fluorescent Fixture	23	0.161	JEEC	2210	356		7	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.035	1,512	\$ -	2,210	77	278
862	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		FURNACE	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	JEEC	2210	51		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	2,210	11	40
863	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		RESTROOM-WOMENS	2V134	3	T12 1x4 2-Lamp Vaporlight Fixture	72	0.216	JEEC	2210	477		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,836	\$ -	2,210	139	338
864	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		RESTROOM-WOMENS	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	JEEC	2210	51		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	2,210	11	40
865	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		HHW ROOM	CF23	2	23 Watt Compact Fluorescent Fixture	23	0.046	JEEC	2210	102		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0,432	\$ -	2,210	22	80
866	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		STORAGE	60A	2	60 Watt Incandescent A-Lamp Fixture	60	0.120	S	1000	120		2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	1,320	\$ -	1,000	10	110
867	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		RESTROOM-MENS	CF23	1	23 Watt Compact Fluorescent Fixture	23	0.023	JEEC	2210	51		1	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.005	0,216	\$ -	2,210	11	40
868	CODORUS STATE PARK	CLASSROOM BUILDING	INTERIOR	DCNR		RESTROOM-MIENS	2V134	3	T12 1x4 2-Lamp Vaporlight Fixture	72	0.216	JEEC	2210	477		3	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.063	1,836	\$ -	2,210	139	338
869	CODORUS STATE PARK	CLASSROOM BUILDING	EXTERIOR	DCNR		EXTERIOR WALL	CF23CYL-WP	15	23 Watt Compact Fluorescent WP Fixture	23	0.345	EX	4380	1,511		15	N RLED12WP	New 12 Watt LED Wall Pack Fixture	13	0.195	1,800	\$ -	4,380	854	657
870	CODORUS STATE PARK	PARKING LOTS	EXTERIOR	DCNR		PARKING	MH400CH	6	400 Watt Metal Halide Cobra Head Fixture	455	2.730	EX	4380	11,957		6	N RLED150CH	New 150 Watt LED Cobra Head Fixture	155	0.930	21,600	\$ -	4,380	4,073	7,884
871	CODORUS STATE PARK	PARKING LOTS	EXTERIOR	DCNR		PARKING	MH400FL-TR	7	400 Watt Metal Halide Flood Fixture-Turnion	455	3.185	EX	4380	13,950		7	N RLED150FL	New 150 Watt LED Flood Fixture	154	1.078	25,284	\$ -	4,380	4,722	9,229
872	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	4L32	7	T8 2x4 4-Lamp Troffer Fixture	106	0.742	RTAIL	1440	1,068		7	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.294	5,376	\$ -	1,440	423	645
873	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	CF23	6	23 Watt Compact Fluorescent Fixture	23	0.138	RTAIL	1440	199		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1,296	\$ -	1,440	43	156
874	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	2W34	1	T12 1x4 2-Lamp Wrap Fixture	72	0.072	RTAIL	1440	104		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,612	\$ -	1,440	30	73
875	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	60A	6	60 Watt Incandescent A-Lamp Fixture	60	0.360	RTAIL	1440	518		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	3,960	\$ -	1,440	43	475
876	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	4B34	10	T12 2x4 4-Lamp Surface Mount Fixture	144	1.440	RTAIL	1440	2,074		10	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.420	12,240	\$ -	1,440	605	1,469
877	CODORUS STATE PARK	GIFT SHOP	INTERIOR	DCNR		SUMMARY	4W34	2	T12 1x4 4-Lamp Wrap Fixture	144	0.288	RTAIL	1440	415		2	R 4L-10.5LED	Retrofit with (4) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	42	0.084	2,448	\$ -	1,440	121	294
878	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	4B4-TUR	17	T12 1x4 4-Lamp Industrial Turnit Strip Fixture	144	2.448	MAST	2601	6,367		17	N 2x-10.5LED	New 1x4 2-Lamp Industrial Fixture with (2) 10.5 Watt LED T8 4' Lamp; Direct Wire to Socket	21	0.357	25,092	\$ -	2,601	929	5,439
879	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	295	5	T12HO 1x8 2-Lamp Industrial Strip Fixture with 35 Watt Lamps	207	1.035	MAST	2601	2,692		5	RF 4LR-18LED-1X8	Retrofit with (4) 18 Watt LED T8 4' Lamps and (1) 1x8 4-Lamp Commercial Strip Reflector Kit; Direct Wire to Socket	72	0.360	8,100	\$ -	2,601	936	1,756
880	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	CF23	27	23 Watt Compact Fluorescent Fixture	23	0.621	MAST	2601	1,615		27	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.135	5,832	\$ -	2,601	351	1,264
881	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	2S34	1	T12 1x4 2-Lamp Strip Fixture	72	0.072	MAST	2601	187		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,612	\$ -	2,601	55	133
882	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	2V15	1	T8 1x2 2-Lamp Vanity Fixture	30	0.030	MAST	2601	78		1	R 2L-7LED2'	Retrofit with (2) 7 Watt LED T8 2' Lamps; Direct Wire to Socket	14	0.014	0,192	\$ -	2,601	36	42
883	CODORUS STATE PARK	MAINTENANCE BUILDINGS	INTERIOR	DCNR		SHOP BAY	2S34	1	T12 1x4 2-Lamp Strip Fixture	72	0.072	MAST	2601	187		1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps; Direct Wire to Socket	21	0.021	0,612	\$ -	2,601	55	133
884	CODORUS STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	CF23JJ	6	23 Watt Compact Fluorescent Jelly Jar Fixture	23	0.138	EX	4380	604		6	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.030	1,296	\$ -	4,380	131	473

	EXISTING FIXTURES														PROPOSED FIXTURE UPGRADE										
ID #	Facility Name	Location	Phase	Utility Rate Code	Floor	Room Description	ECM Code	Qty	Description	Watts	KW	Burn Hour Code	Pre Burn Hours	KWh	x	Qty	New Code	Description	Watts	KW	Annual KW Saved	KW Cost Savings	Post Burn Hours	kWh	kWh Saved
885	CODORUS STATE PARK	MAINTENANCE BUILDINGS	EXTERIOR	DCNR		EXTERIOR	MH400FL-TR	1	400 Watt Metal Halide Flood Fixture-Turion	455	0.455	EX	4380	1,993	1	N RLED150FL	New 150 Watt LED Flood Fixture	154	0.154	3.612	\$ -	4,380	675	1,318	
886	CODORUS STATE PARK	BATH HOUSE	INTERIOR	DCNR		ENTRANCE	CF23DR	2	23 Watt Compact Fluorescent Drum Fixture	23	0.046	BT	4581	211	2	LED 5A	Re-Lamp with (1) 5 Watt LED A19	5	0.010	0.432	\$ -	4,581	46	165	
887	CODORUS STATE PARK	BATH HOUSE	INTERIOR	DCNR		ENTRANCE	2VT32	1	T8 1x4 2-Lamp Vaporlight Fixture	62	0.062	BT	4581	284	1	R 2L-10.5LED	Retrofit with (2) 10.5 Watt LED T8 4' Lamps, Direct Wire to Socket	21	0.021	0.492	\$ -	4,581	96	188	
TOTALS								4,806			314			1,064,249	4,806					79	2,817	0		269,078	795,171



Global Energy Services
Building Envelope
Proposal
For
PA State Parks



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Global Energy Services

Objective

(GES) is an energy conservation and environmentally conscious company that specializes in the forensic identification of inadequacies, malfunctions, and deterioration through the evaluation and analysis of structures, products, equipment, and how each one operates. By combining knowledge in the fields of inspections, infrared testing, energy conservation, building design, system analysis, and air flow analysis, GES has become a leader in providing the “Air Barrier System”.

The air barrier is the “skin” of the building. It is what keeps the conditioned air inside longer and the longer the conditioned air stays, the less the equipment must run. In many instances, the tighter the structure, the smaller the size of the equipment required to meet the heat gain/loss. In many instances, the Building Envelope air sealing can be a larger portion of the entire savings on structures because:

- New technology and new energy codes already have reduced the menu; so, Air Sealing becomes a greater impact on the total savings because:
- Windows are “Energy Rated”
- Insulation levels are higher
- Lighting conservation measures are in place
- Better Efficiency in Heating & Cooling has already happened

Older structures have varied issues with respect to Building Envelope. Structures with masonry walls, floors and roofs mostly have just the “built-in” holes. Pipe, conduit, and duct chase ways, windows and doors are usually the air barrier issues. However, we must include the large unsealed holes created during renovations. Many of the masonry have thermal issues which need to be addressed. Structures that include wood or steel as part of the construction (floors, roofs, and walls) can have deterioration of the integrity of the buildings “skin”. There are more opportunities for upgrades in these structures but normally the upgrades become a smaller portion of the entire project as many more opportunities exist for all trades.

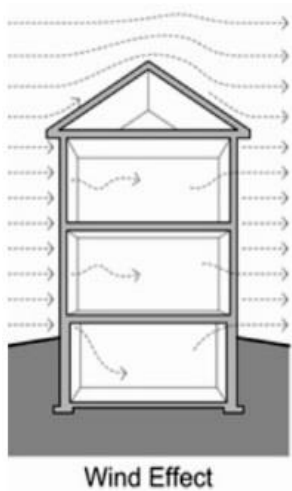
Improved weatherization reduces air leakage in buildings. Air leakage is the uncontrolled migration of air through the building envelope caused by pressure differences due to the wind, chimney (or stack) effect, and mechanical systems. It has been shown to represent the single largest source of heat loss or gain through the building envelope of nearly all types of buildings.

Beyond the potential for energy savings, uncontrolled air leakage can affect the thermal comfort of occupants, air quality through ingress of contaminants, the imbalance of mechanical systems, and the structural integrity of the building envelope through moisture migration. Control of air leakage involves the sealing of gaps, cracks, and holes, using appropriate materials and systems, to create a continuous plane of air-tightness to encompass the building envelope. This includes door weather-stripping, roof wall sealing and added insulation to reduce energy usage and improve comfort.

The 3 Major Building Pressure Effects

All buildings “leak” air. Fresh air is required for all public buildings; it insures a “healthier” condition inside of the building. Air leakage needs to be controlled; if not, then there are barometric pressures that are placed on the building which allows discomfort and higher energy costs. Three of the most crucial effects are the following:

1. **Wind Effect**
2. **Mechanical Effect**
3. **Stack Effect**

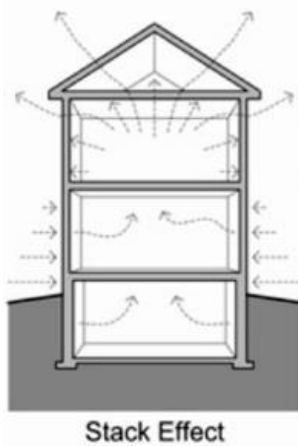
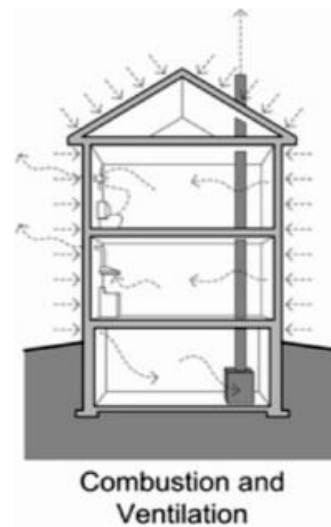


Wind Effect

From everyday experience, it is known that wind creates pressure – the stronger the wind, the greater the pressure. When a wind blows around a building it creates an inward pressure on the up-wind side. A very simplified form of wind effect is shown in the photo to the left. In practice, there is also a complicated wind pressure pattern across the building’s ceiling.

Mechanical Venting

If a building has a mechanical venting system, then the flue effect is important. The venting can create negative pressure causing a vacuum on the building. This phenomenon sucks air out of the rest of the building and reduces its pressure. Cold air is pulled into the building through every crack and opening.

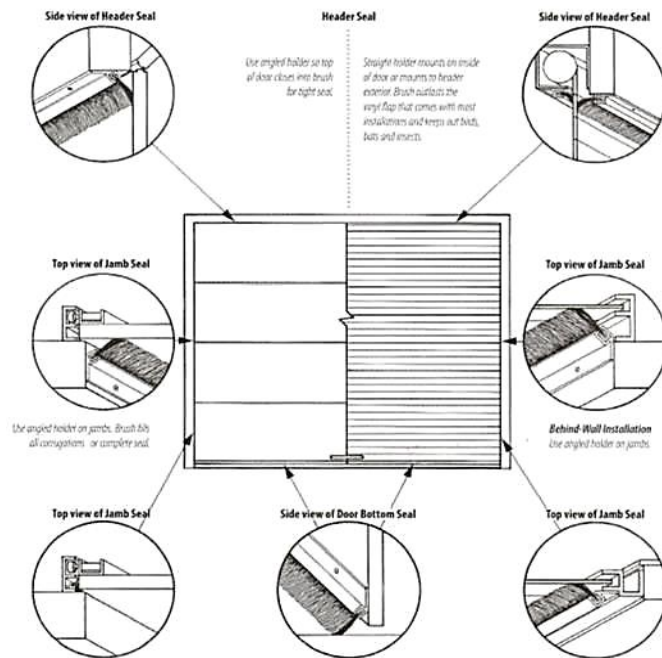


Stack Effect in Two or more Story Buildings

In winter, the air inside the building is warmer than that outside; it therefore has a lower density. This density difference, between the inside and outside air, sets up a pressure difference across the building envelope. The pattern of this pressure difference is shown in the left drawing, where the arrows show the direction and relative size of the pressure effect. This pattern is present in all heated buildings and is known as the stack effect.

Door and window openings are the worst areas to deal with when sealing the building. They must not only seal but allow access. In most instances the sealing is permanent, but in these two areas there is friction from the constant opening and closing. Therefore, it is important to seal these areas with a durable product that is not only flexible but strong enough to withstand the abuse, wear, and tear.

Garage Door Weather stripping can be even more critical as the “gap” around the door can be much larger. Also, if the current door is not insulated there are opportunities to increase the insulation value without having to replace the entire door and mechanism.



Windows

Windows create comfort problems in three ways: Infiltration allows the unconditioned air to enter rooms. Convective currents are formed when air near the colder window surface cools, becomes denser and flows downward, causing a continuous flow pattern. Heat radiates from warm skin to the cold window surface. Single pane, un-shaded windows transmit about 85% of solar heat striking them. This can account for up to 40% of a building’s overheating.

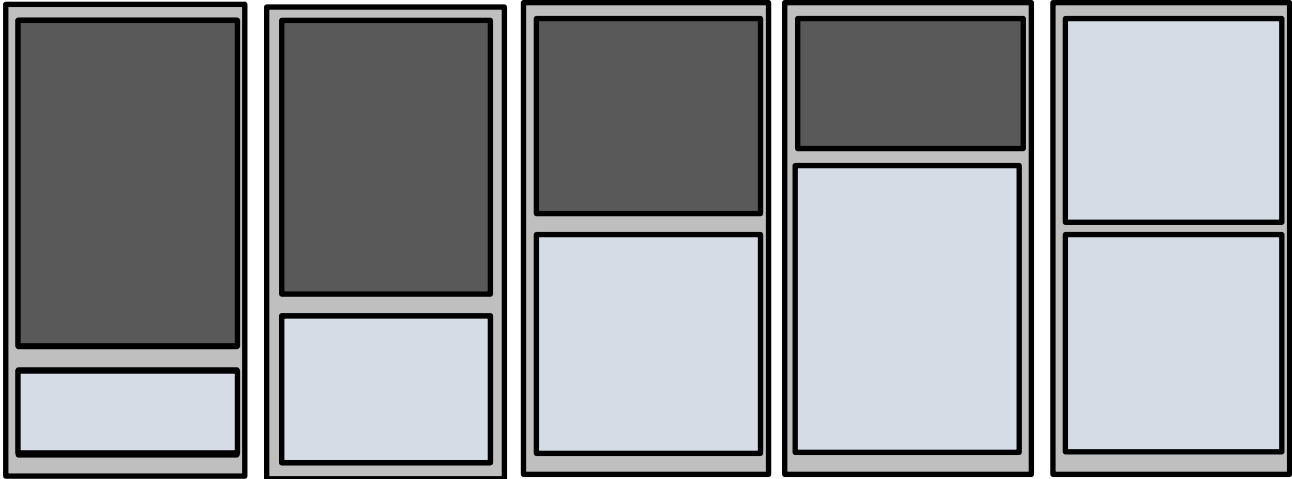


The most feasible option to include in a performance contract, is to add thermal integrity to some of the existing window glass wall areas by adding interior thermal panels and/or replacing the caulk around the exterior/interior of the window.

The current R-value of the glass wall runs between R-.8 and R-3. By adding a thermal panel at an R-value up to R-14 (depending on the available space) the loss of heat through conduction will greatly be reduced and will not interfere with

the “site view” of those inside. This application is fourteen times the R-value on fifty percent (50%) of the least performing building envelope product on the structure. There are several installations that can help reduce the heat loss/gain at windows. A Thermax panel can be installed on the interior ledge of the window, a Polycarbonate panel and/or a solid vinyl panels can also be used on the interior. There is a Thermolite panel which can be used on the interior and/or exterior of a window.

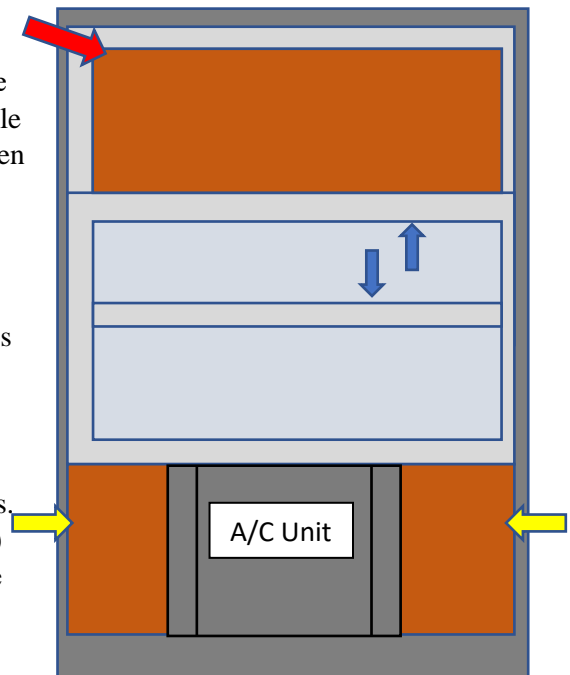
The option of replacing windows comes about when all three comfort problems need solutions. Windows tend to be an expensive option, however, when creating a performance contract replacement windows can be proposed and looped in with utility savings, allowing the windows to pay for themselves combined with all the energy conservation measures.



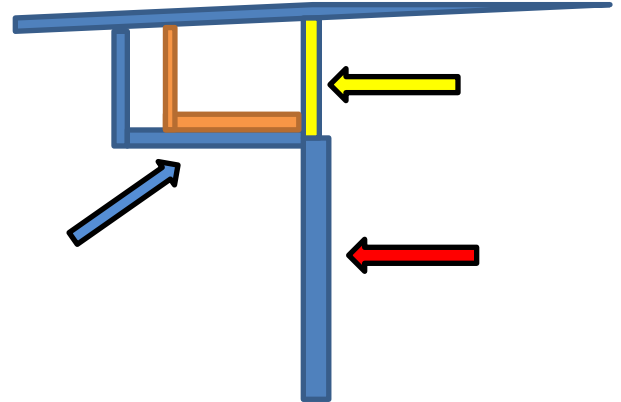
Window Air Conditioners

Windows with “permanent” window air conditioners are some of the leakiest direct penetration points in the buildings. Double hung windows are designed to seal in the closed position. When left open to accommodate a window air conditioner, the “meeting rails” (blue arrows in right picture) which is usually the location of the locking mechanism does not meet and therefore does not seal. In fact, this type installation creates a large void. In addition to the void between the sashes, the seals on the sides of the air conditioner are normally not addressed.

Insulated a/c panels should be used for window a/c installations. They are designed not only to seal properly, but they reduce the danger of equipment falling from the windows. The thermal panel installed above the bottom sash (red arrow) and on each side of the a/c unit (yellow arrows) “locks-in” the sash and the a/c unit. The sash cannot “drift”.

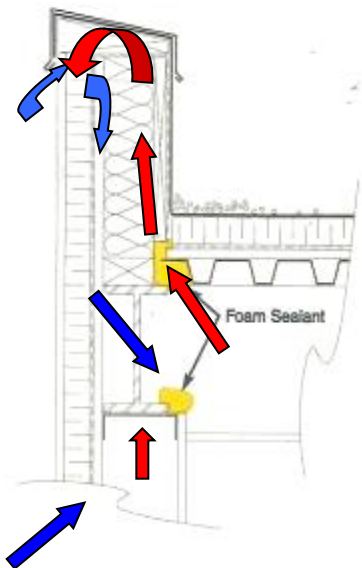


Some overhangs and soffits are open to the exterior. There are seams, cracks and joints in these soffits that allow the free flow of air beyond their exterior “skin”. The holes that were created as well as the deterioration of the caulking are also entrance points for moisture and insect migration and exit points for heat in the winter. Since heat always travels to cold, the conditioned heat is lost in the winter and the hot humid air gains access in the summer. Add to this the “draw” of air for a return plenum from this area increases the run time on equipment for extra dehumidification and heating. What would be proposed is to add a thermal panel (yellow arrow) to “complete the interior wall separating the overhang (blue arrow) from the interior conditioned space (red arrow). If any of the “ceiling” of the soffit area is part of the floor above, then the “thermal boundary” would be placed (orange color) so that the area is inside of the conditioned space. Energy walls are often used as a compartmentalization tactic when sealing up large openings between conditioned and unconditioned spaces.



Sealing Roof to Wall Intersection

12. Roof/Wall at Parapet

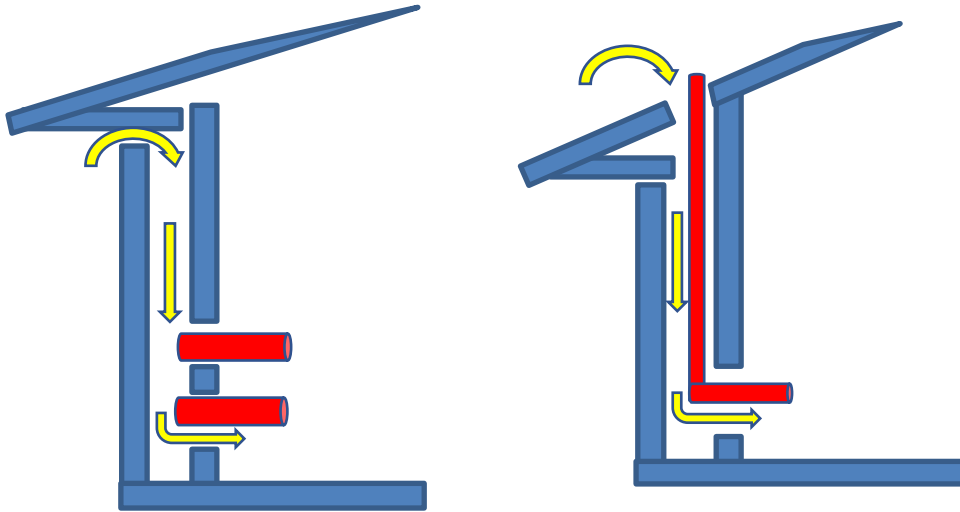


Seams at the roof/wall intersection are one of the largest energy “sinks” in the building envelope. Sealing this location helps reduce the Stack, Wind and Mechanical pressure effects that are placed on the structure.

This illustration is a sample of a roof/wall intersection. Metal panning is installed as part of the roof system on top of a block wall, “I”- beams and/or bar joist. The corrugated metal panning, by design, does not seal. The openings between each rib of the panning, the roof/wall intersection running parallel with the panning and the bar joist penetrations should be sealed.

In many cases some attempt has been made to reduce the air leakage at this area using some form of fiberglass insulation. Fiberglass insulation is not an air seal it is a thermal boundary. These areas require some form of spray foam insulation to be permanently sealed of all air leaks.

Penetration points are areas where, during initial construction and/or retrofits, holes have been opened to accommodate conduits, pipes and ductwork and were never sealed. When open to outside, they are direct points of entry through the building envelope allowing the outside air to enter the building uncontrolled and unconditioned. Holes allow the communication of air between floors, areas above drop ceilings and attics causing increases in the stack effect on buildings and impact negatively on the comfort of the occupants.





Energy Savings Calculation Methods

Air Infiltration:

1. Infiltration Flow Rate (Q) = $A_L \times (C_S \times \Delta T + C_W \times U^2)^{1/2}$

Where, A_L - Effective Air Leakage Area (in²)
 C_S - Stack Coefficient (cfm²/ (in⁴·°F))
 ΔT - Difference between indoor and outdoor temperatures
 C_W - Wind Coefficient (cfm²/ (in⁴·mph²))
 U - Average Wind Speed (mph)

2. Heating Energy saved = $1.08 \times \{ \sum (Q \times \Delta T \times \text{Heating Bin Hours}) \} / (HV \times \eta)$
3. Cooling Energy saved = $4.5 \times \{ \sum (Q \times \Delta h \times \text{Cooling Bin Hours}) \} / 12,000 \times (\text{kW/Ton Value})$

Where, Δh - Difference between indoor and outdoor specific enthalpies

Insulation/Windows:

Existing Conditions

1. $BTU_{season} = A \times U - Value_{exist} \times DD \times 24$

Proposed Conditions

1. $BTU_{season} = A \times (U - Value_{exist} \text{ minus } U - Value_{new}) \times DD \times 24$

where

- A = Square Feet
- U-Value = Transmission Factor = 1/R-Value = inverse of the R-value
- DD = Degree days (Heating and Cooling)

Destratification Fans:

Before Destratification

1. $Q_{bd} = U \times A \times \Delta T_{bd}$ (Btu/h)

where

Q_{bd} = Heat loss through the roof before destratification (Btu/h)
 U = Average heat transfer coefficient for the roof (Btu/h · ft² · °F)
 A = Area of roof (ft²)
 ΔT_{bd} = Temperature difference through roof before destratification

After Destratification

1. $Q_{ad} = U \times A \times \Delta T_{ad}$ (Btu/h)

where

Q_{ad} = Heat loss through the roof before destratification (Btu/h)
 U = Average heat transfer coefficient for the roof (Btu/h · ft² · °F)
 A = Area of roof (ft²)
 ΔT_{ad} = Temperature difference through roof after destratification (°F)



**Global
Energy Services**

Window Film:

$$1. kWh_{savings,o} = \frac{A_{film,o} \times SHG_o \times (SC_{pre,o} - SC_{post,o})}{3413 \times COP}$$

$$2. kWh_{savings} = \sum kWh_{savings,o}$$

where

$kWh_{savings,o}$ = Annual kWh savings per window orientation.

$A_{film,o}$ = Area of window film applied to orientation (ft²).

SHG_o = Solar heat gain factor (Btu/yr.) for orientation.

$SC_{pre,o}$ = Shading coefficient for existing glass.

$SC_{post,o}$ = Shading coefficient for new film.

COP = Cooling equipment COP.

3413 = Conversion factor (Btu/kW)

Mechanical Insulation:

Pipe Insulation

Existing heat loss

$$1. HL_e = Pipe_D \times Pipe_t \times Room_t \times K_b$$

$$2. Q = Pipe_L \times hours\ of\ operation \times HL_e \div 1000000$$

Proposed heat loss

$$1. HL_i = Pipe_D \times Pipe_t \times Room_t \times I_{in} \times K_i$$

$$2. Q = Pipe_L \times hours\ of\ operation \times HL_i \div 1000000$$

Proposed Savings

$$1. S = HL_e - HL_i$$

where

HL_e = Existing heat loss (Btu/hr/ft)

$Pipe_D$ = Diameter of pipe (Inches)

$Pipe_t$ = Fluid/surface temperature of pipe (°F)

K_b = Thermal coefficient of bare pipe (Btu/hr/ft)

Q = Heat Loss (MMBtu/yr/hr)

HL_i = Insulated heat loss (Btu/hr/ft)

I_{in} = Thickness of insulation installed (Inches)

K_i = Thermal coefficient of insulated pipe (Btu/hr/ft)

S = Annual Energy Savings (MMBtu/yr)



Building Information

Buildings	Sqft	Stories	Address
Bald Eagle State Park	NA	NA	149 Main Park Rd. Howard, PA 16841
Black Moshannon State Park	NA	NA	4216 Beaver Rd. Philipsburg, PA 16866
Codorus State Park	NA	NA	2600 Smith Station Rd. Hanover, PA 17331
Gifford Pinchot State Park	NA	NA	2200 Rosstown Rd. Lewisberry, PA 17339
Hill Creek State Park	NA	NA	111 Spillway Rd. Wellsboro, PA 16901
Parker Dam State Park	NA	NA	28 Fairview Rd. Penfield, PA 15849
Prince Gallitzin State Park	NA	NA	966 Marina Rd. Patton, PA 16668
Shawnee State Park	NA	NA	132 State Park Rd. Schellsburg, PA 15559

Project Information

Project Data

Heating Degree Days	Varies on Park
Cooling Degree Days	Varies on Park
Prevailing Wage Rates (Yes/No)	YES
Union Wage Rates (Yes/No)	NO
Tax Exempt (Yes/No)	NO
P&P Bond Included (Yes/No)	YES
Permit Fee's Included (Yes/No)	NO

Project Assumptions

1. The occupied space temperature in the buildings is assumed to be 72°F.
2. The heating lockout temperatures are assumed to be 68°F.
3. A heating system efficiency of 78% was assumed for the buildings.
4.
5.

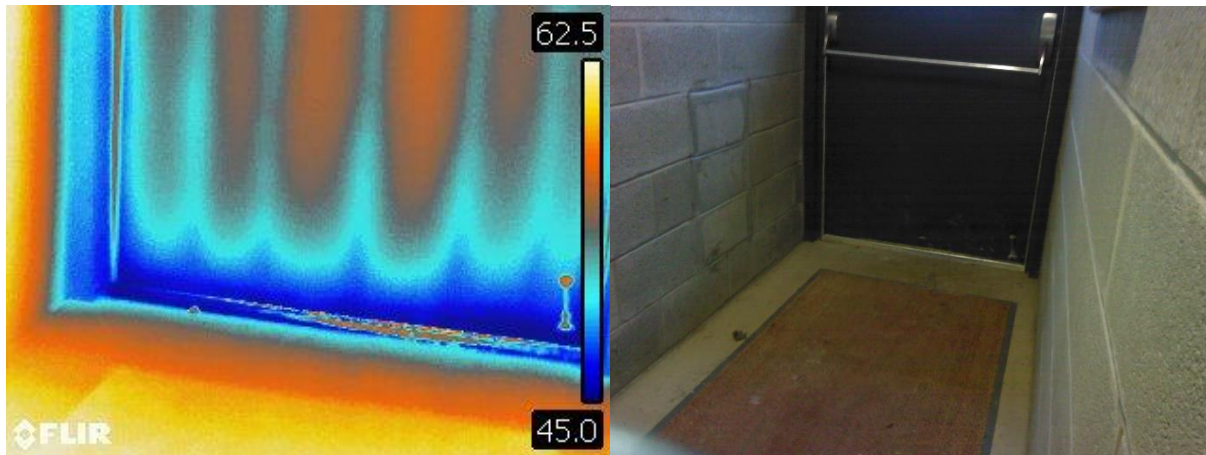
Overall areas of Concern:

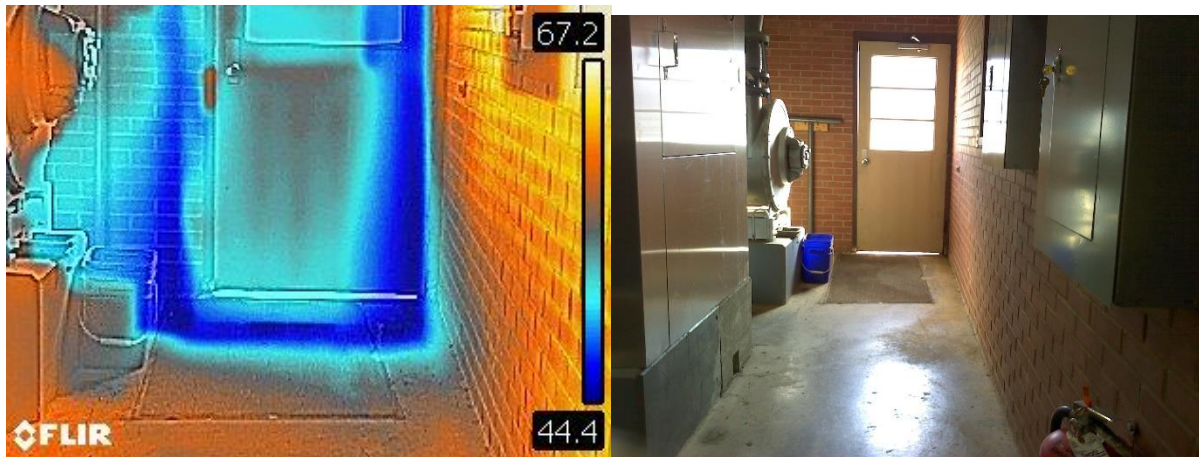
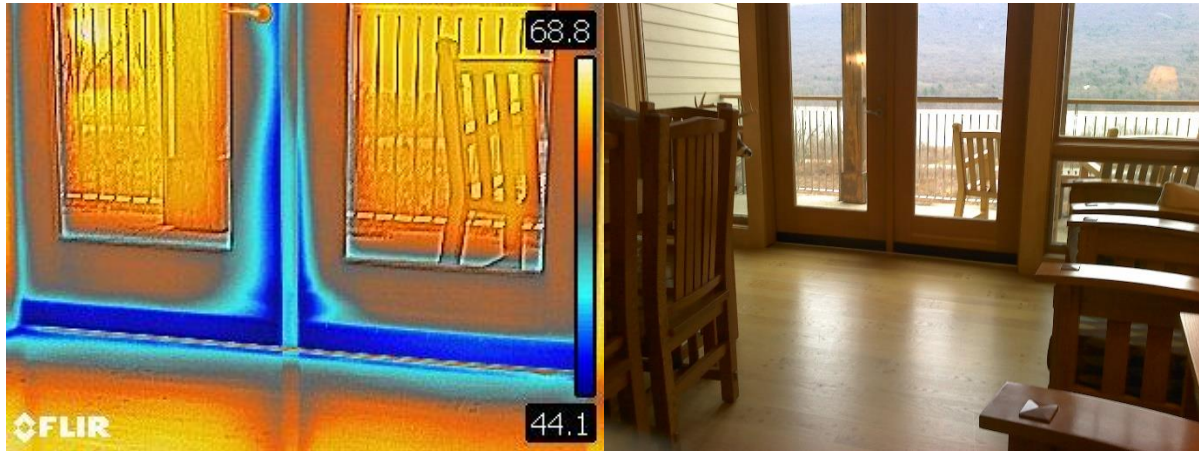
GES performed an on-site forensic evaluation of these facilities. The purpose of the visual evaluation is to identify potential design flaws, construction installation errors, inferior or improper material usage (if any), inspect the systems conditions, how they interact with one another and test for deterioration that affects efficiency. As part of evaluating a structure GES includes interviewing occupants for historical data. How the systems, occupants, and structure react when conditions are constantly changing and what idiosyncrasies exist are key factors in determining where and what to look for when diagnosing the concerns.

It is considered the professional opinion of our personnel that there are areas where building upgrades will increase the efficiency of the existing equipment, create a more comfortable interior condition and impact on the sizing of any new equipment intended to be installed as part of the new building usage plan. In addition, the retrofits will help reduce and can even eliminate some of the existing deterioration that is presently occurring. Following are the facts, faults and conditions, which were identified to be major contributors.

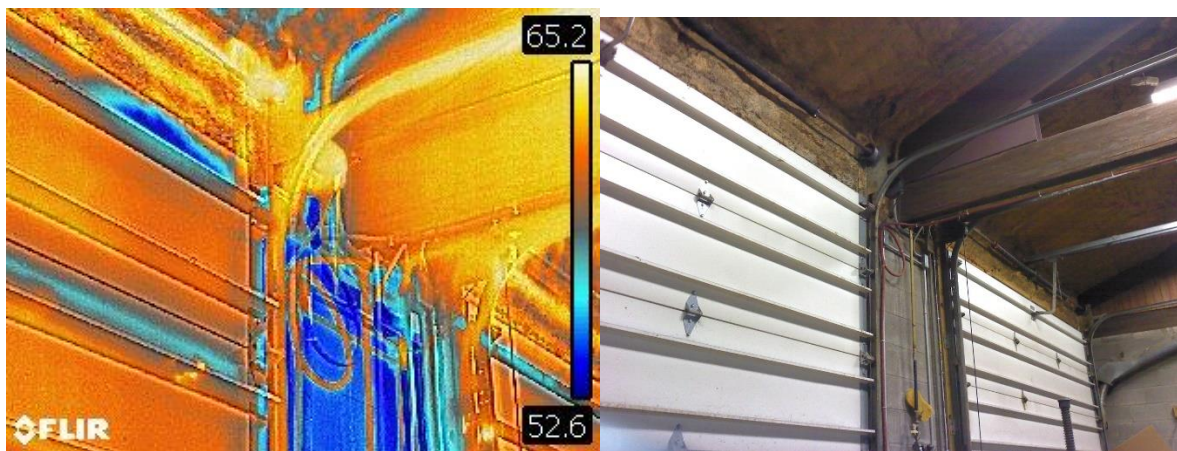
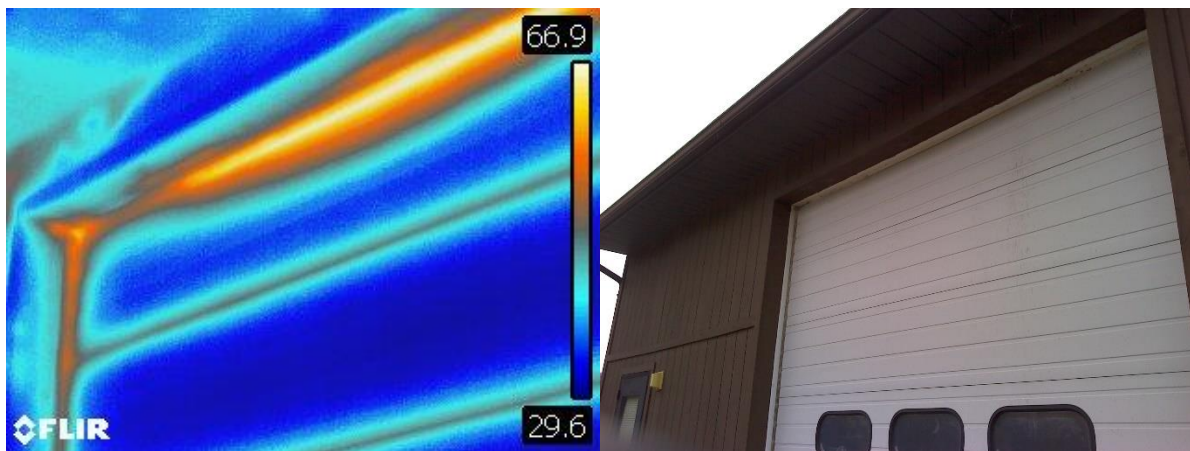
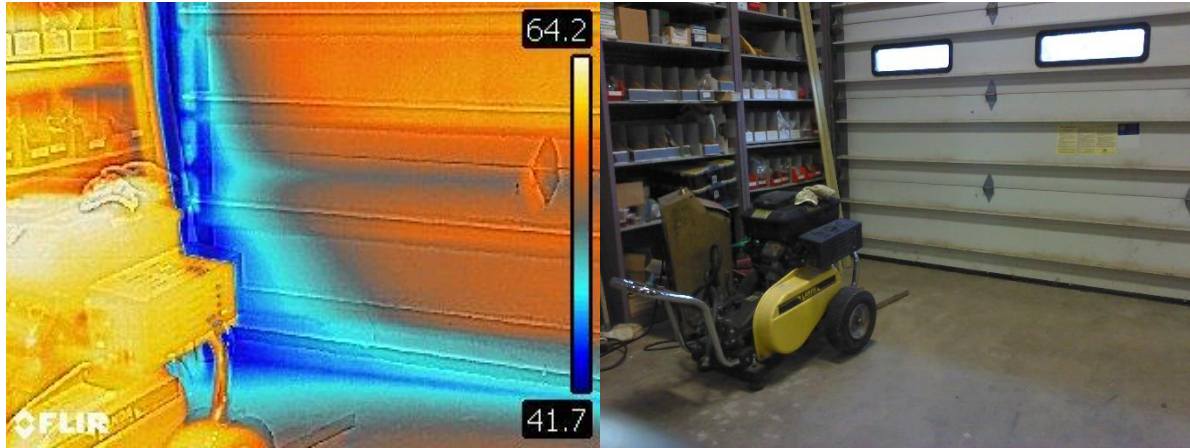
Bald Eagle State Park

Existing weather strip on single and double doors throughout all facilities was found to be missing or in poor condition on many of the exterior doors evaluated. Air penetrations could be visibly seen and felt along the doors. The installation of new polyethylene clad urethane foam weather strip is recommended to seal the edges of exterior doors; including strike side, hinge side and header. Brush seals are also recommended to be installed to seal exterior door bases and double door center astragals.

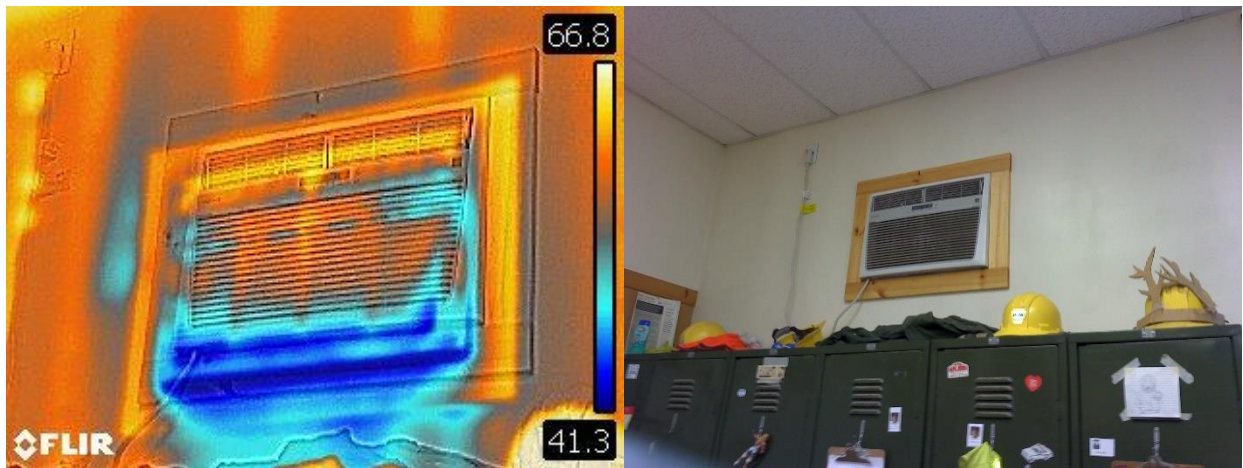
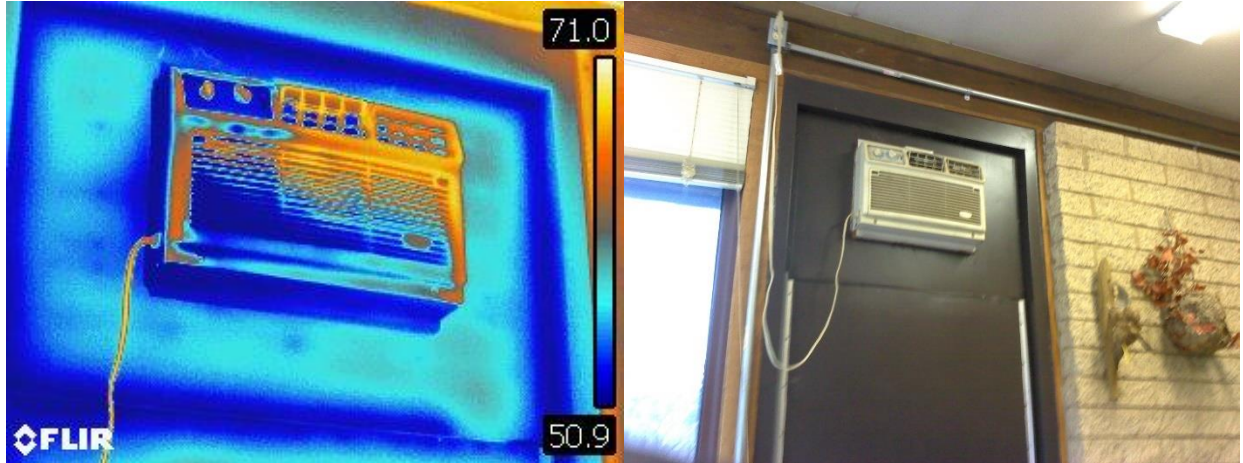




Overhead door seals were found to be in poor condition. Air penetrations were found along the headers, sides and bases. The installation of oversized polypropylene brushes is recommended along overhead door side and head edges and EPDM synthetic rubber bulbs along the bases.

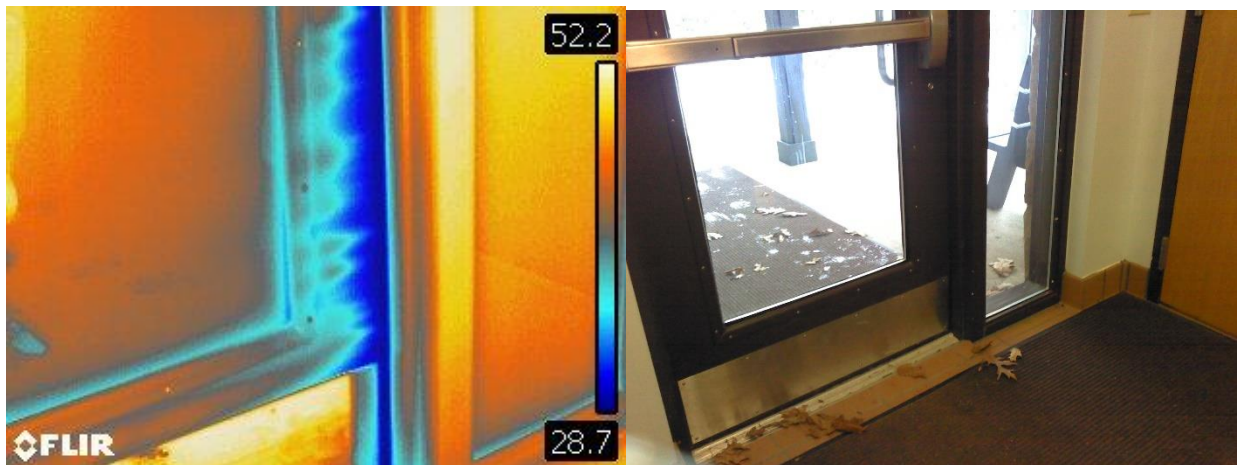
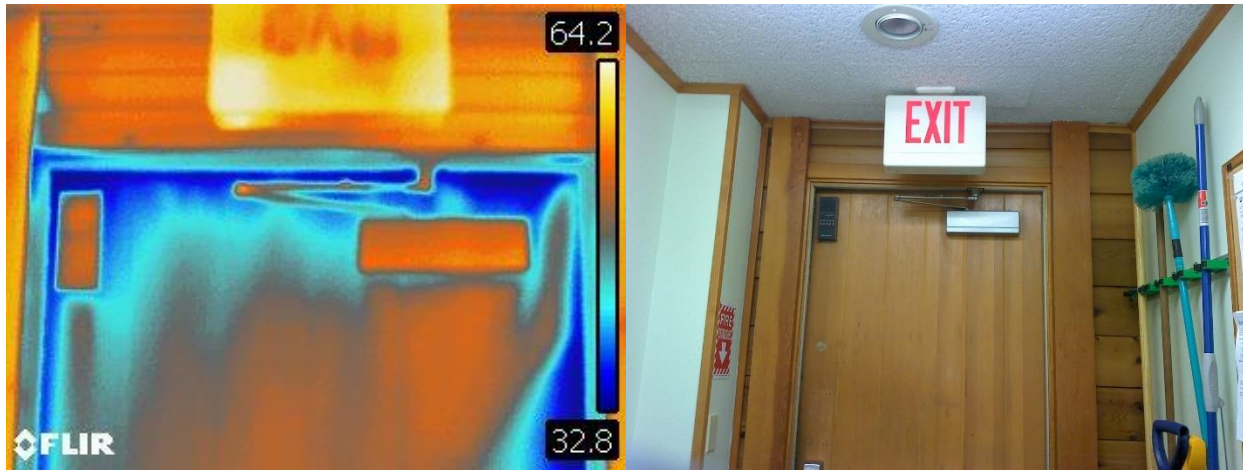


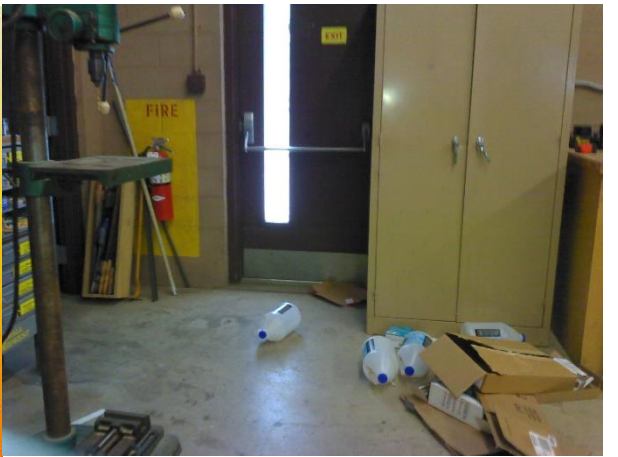
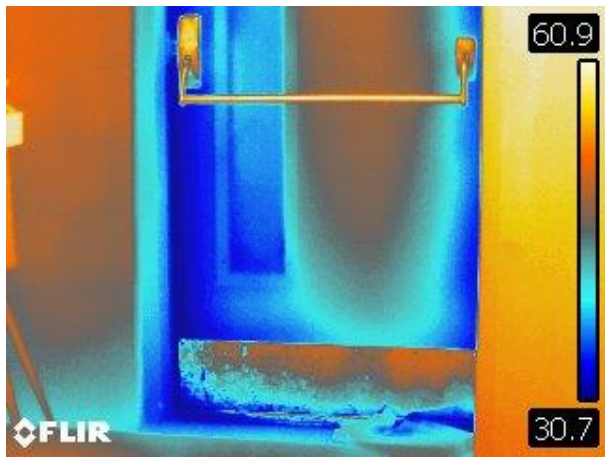
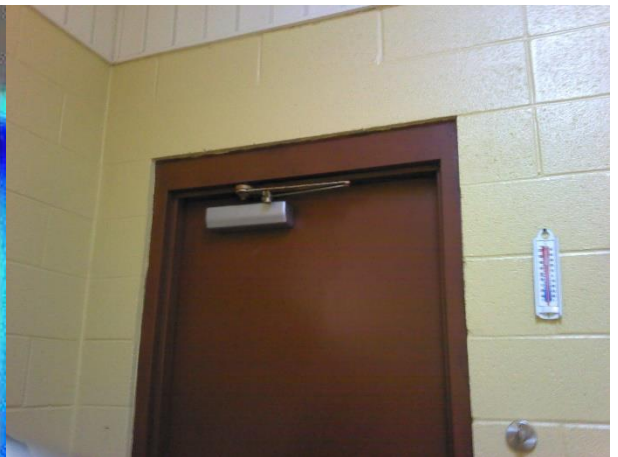
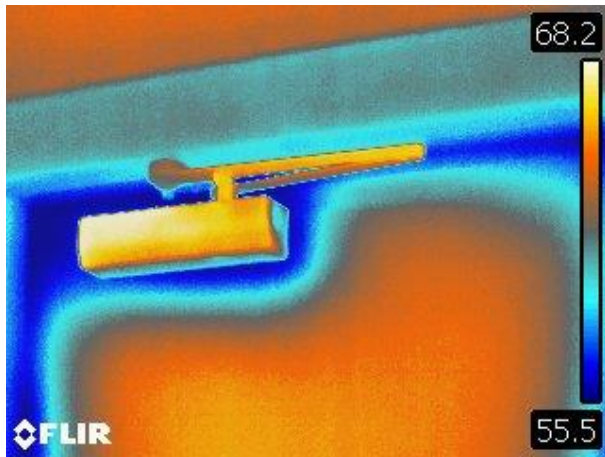
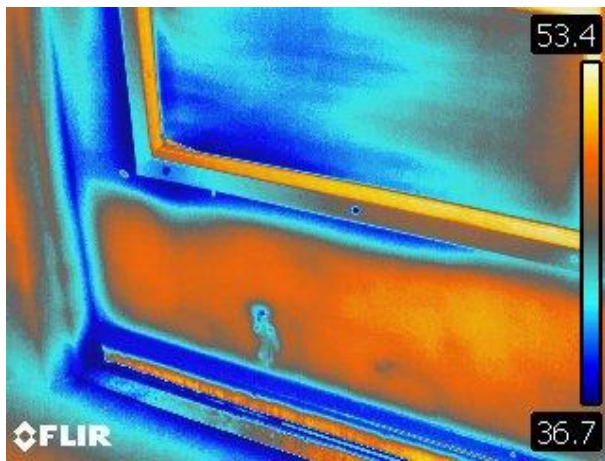
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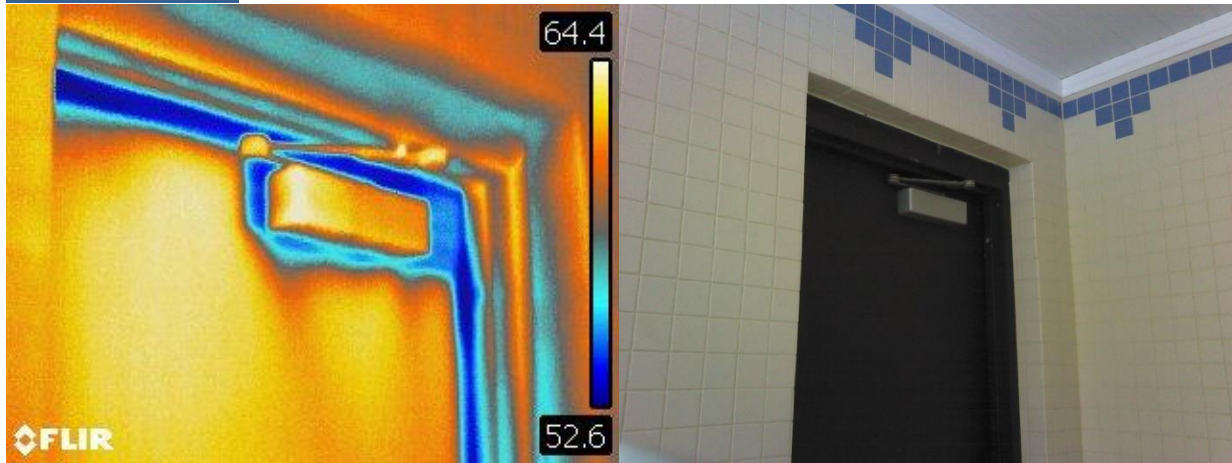


Black Moshannon State Park

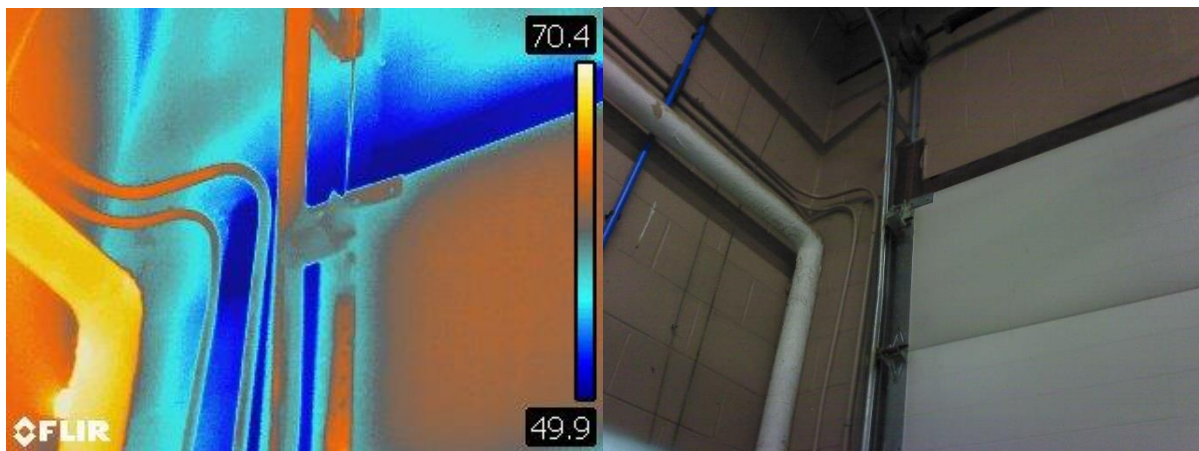
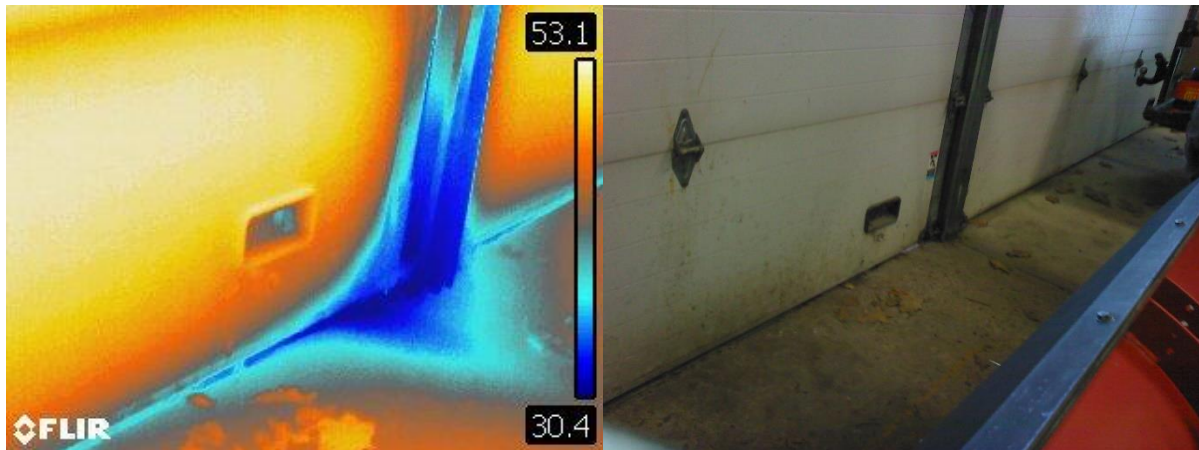
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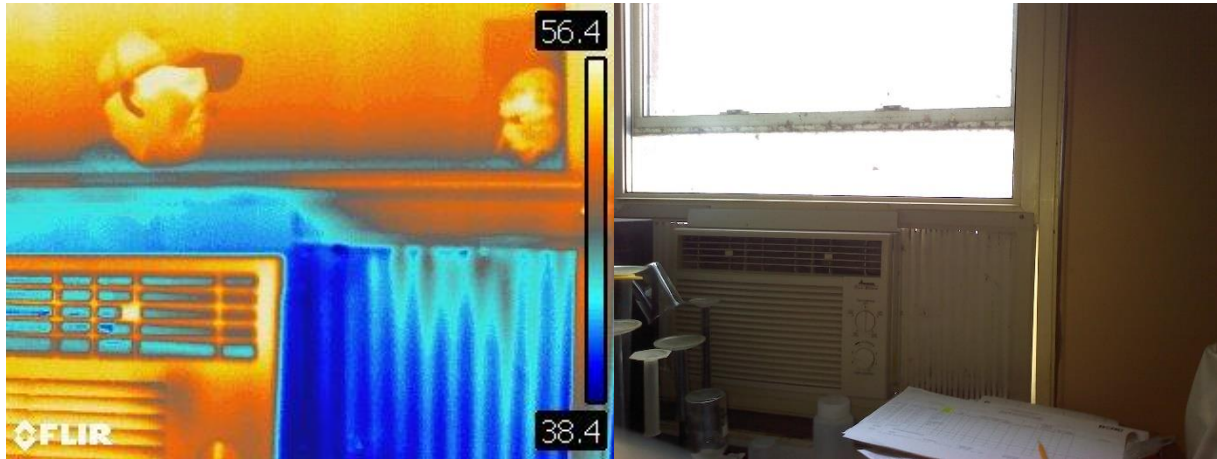
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Insulation was found to be missing in basement of several cabins. It is recommended to seal and insulate these with polyurethane foam sealant. Areas that have a wide joint to fill at this connection may also require the use of extruded closed-cell polyethylene foam backer rod or extruded polystyrene rigid foam insulation to properly seal and insulate.

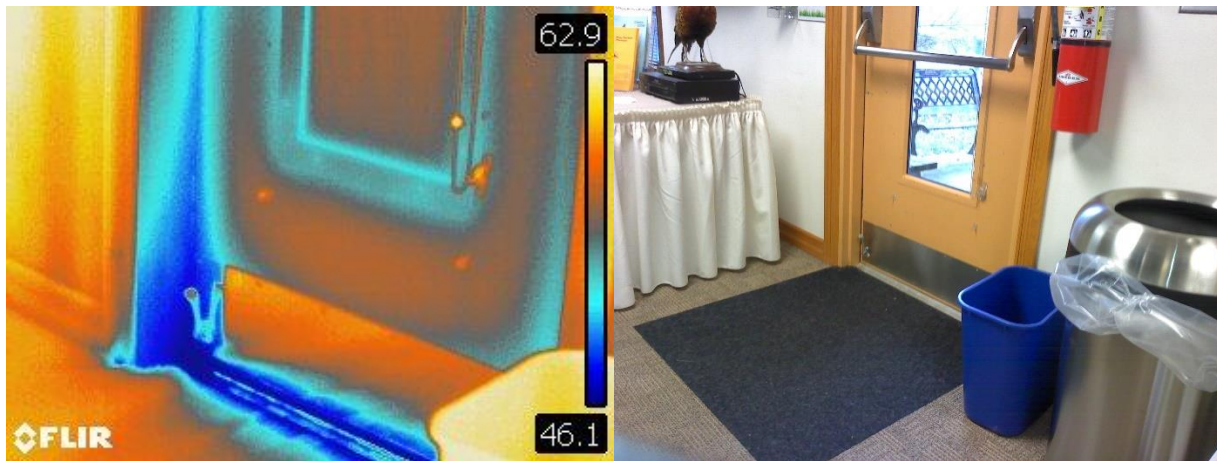


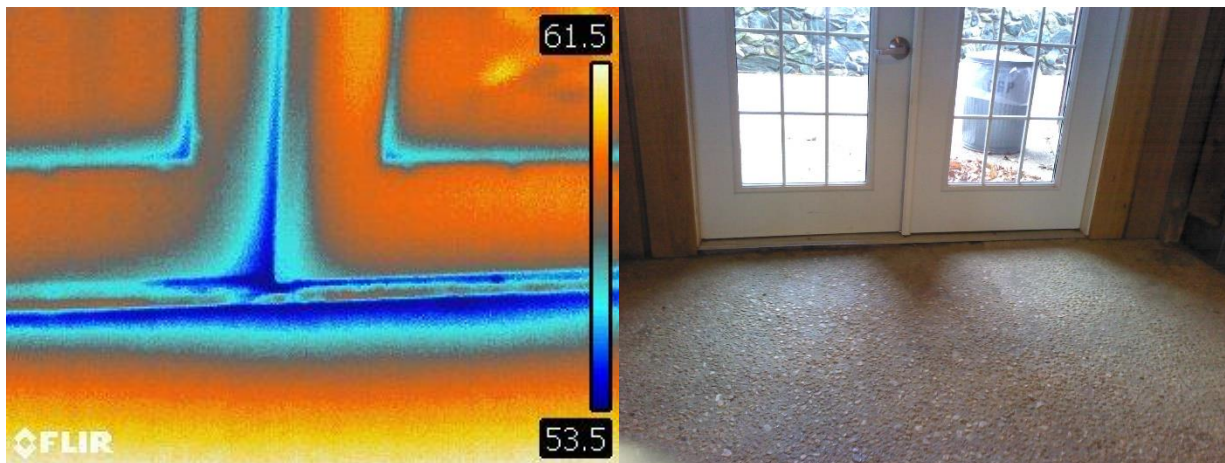
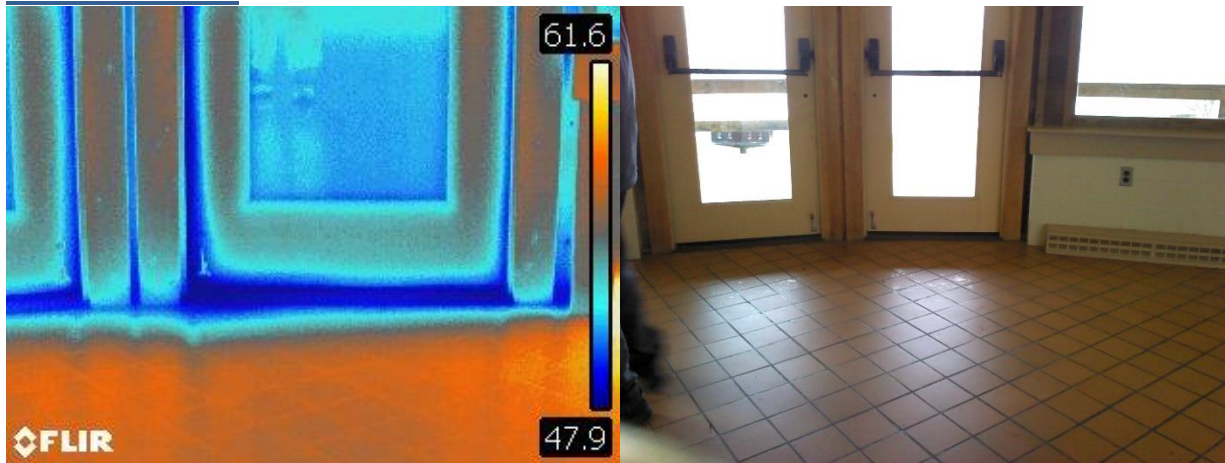
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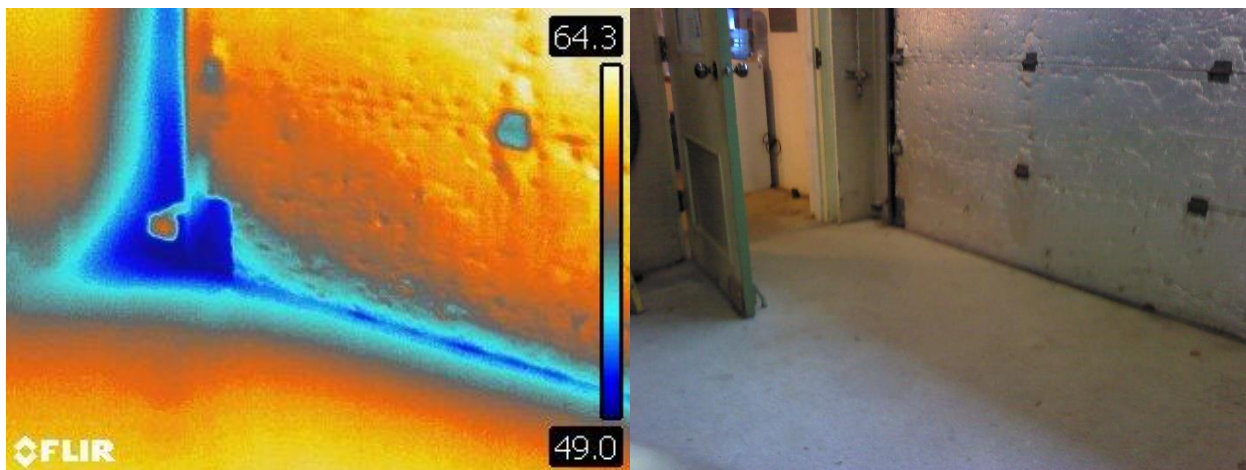
Codorus State Park

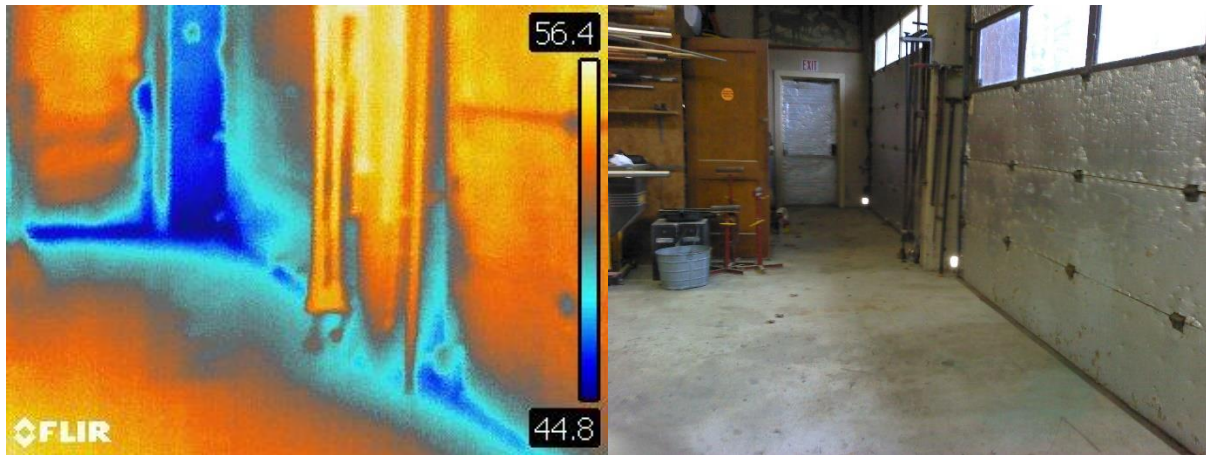
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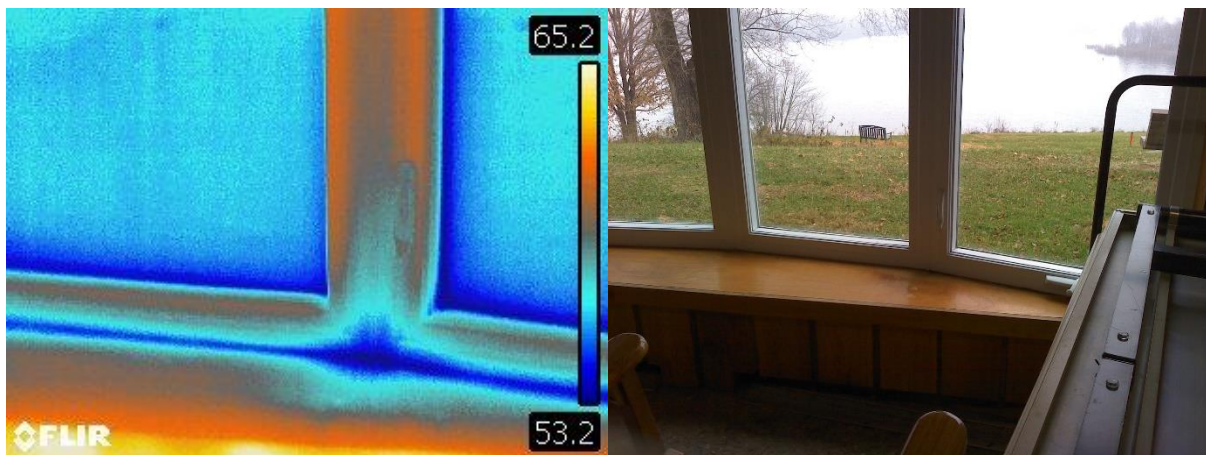
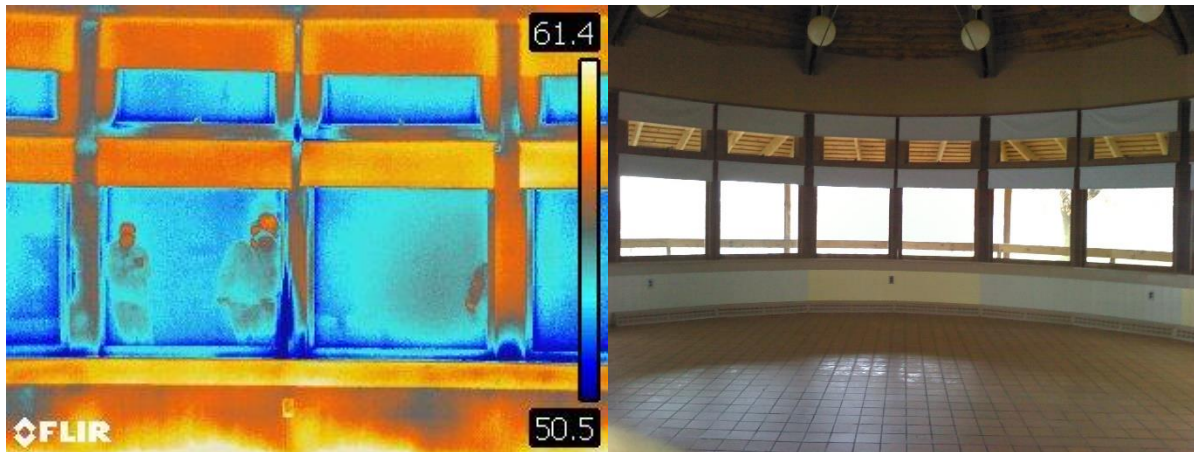


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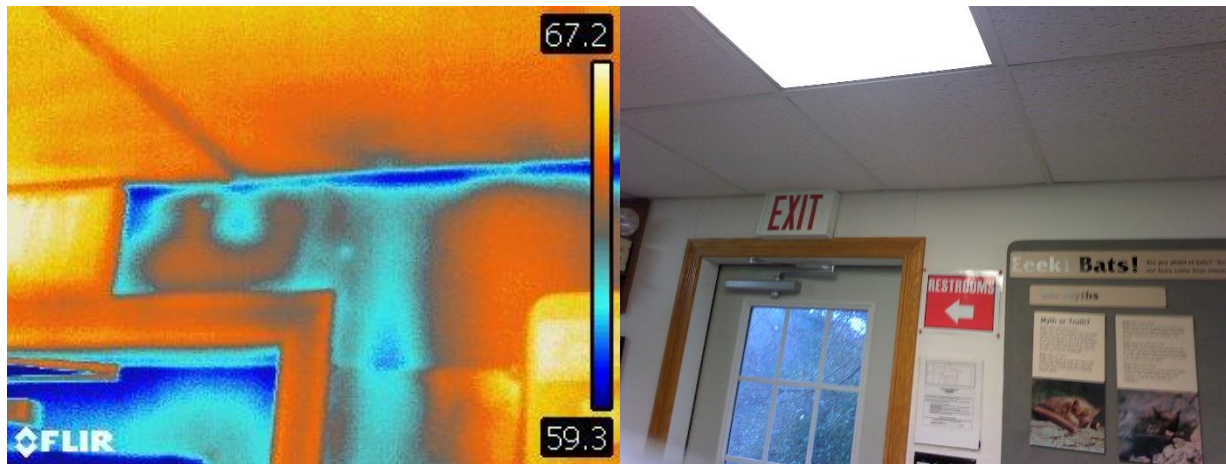




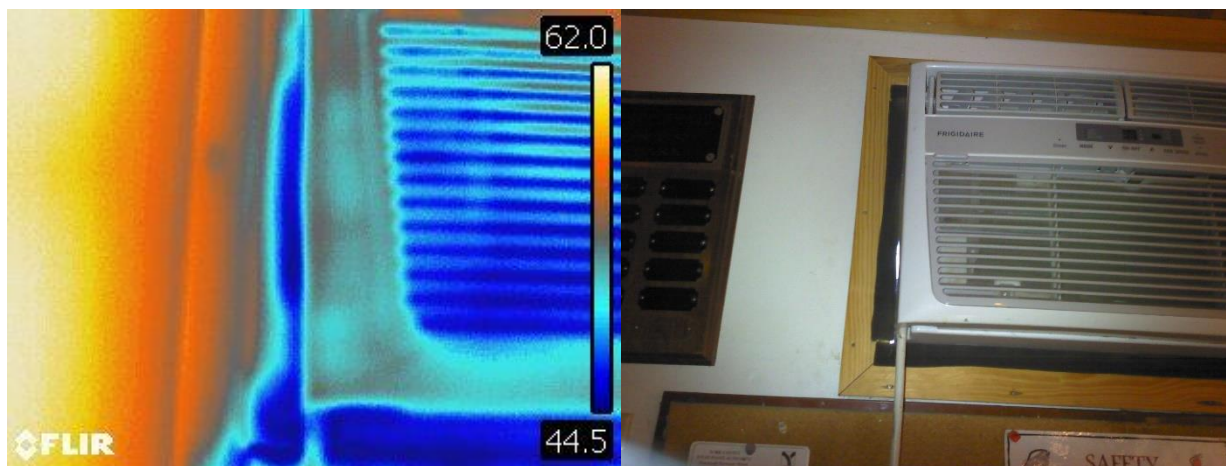
Improvements to windows were also evaluated throughout the buildings included in this facility. Overall, the majority of window caulk and seals in the Nature building were found to be ineffective. It is recommended to seal these gaps with polyurethane caulk sealant.



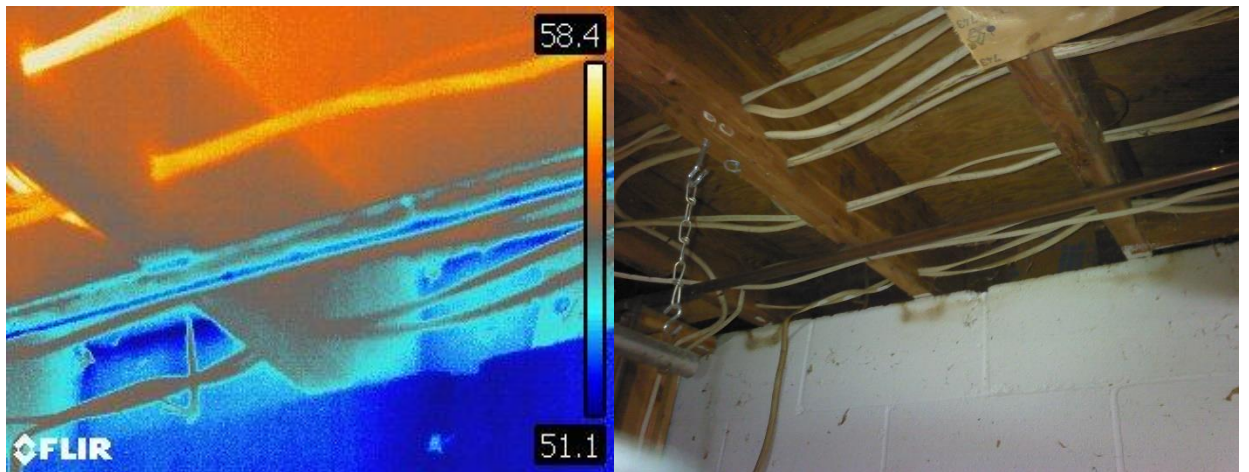
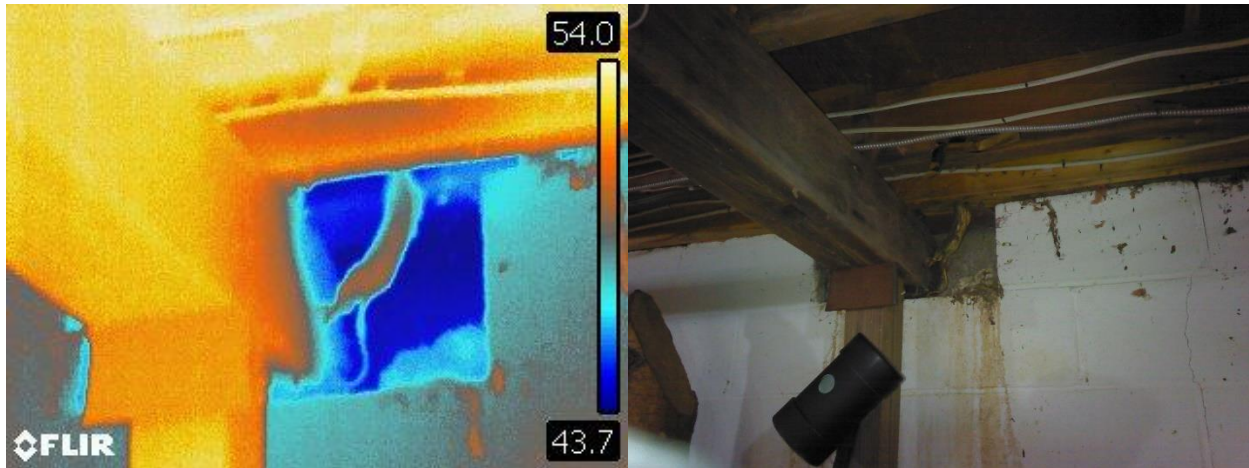
The roof/wall connections were found to be another prevalent source of air penetration. It is recommended to seal these penetrations with polyurethane foam sealant. Areas that have a wide joint to fill at this connection may also require the use of extruded closed-cell polyethylene foam backer rod or extruded polystyrene rigid foam insulation to properly seal the void.



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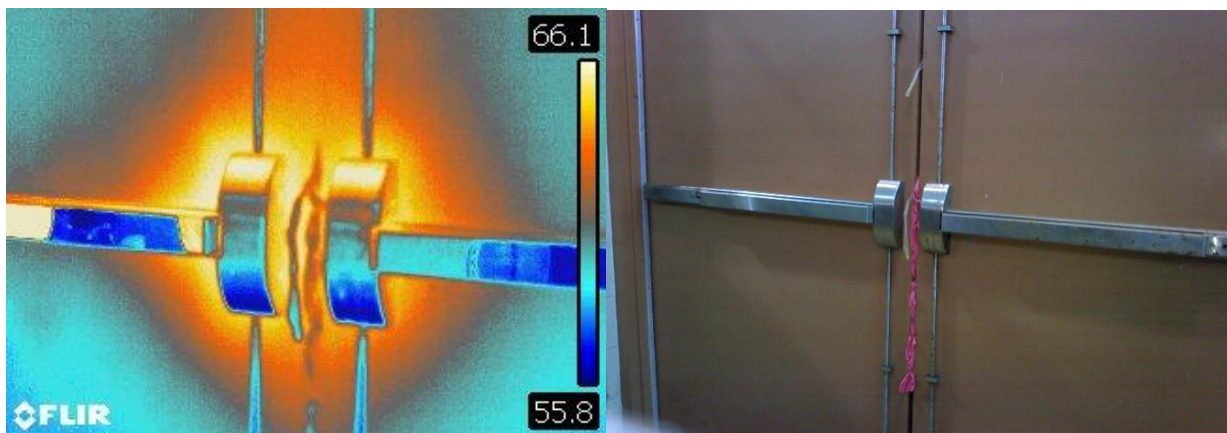
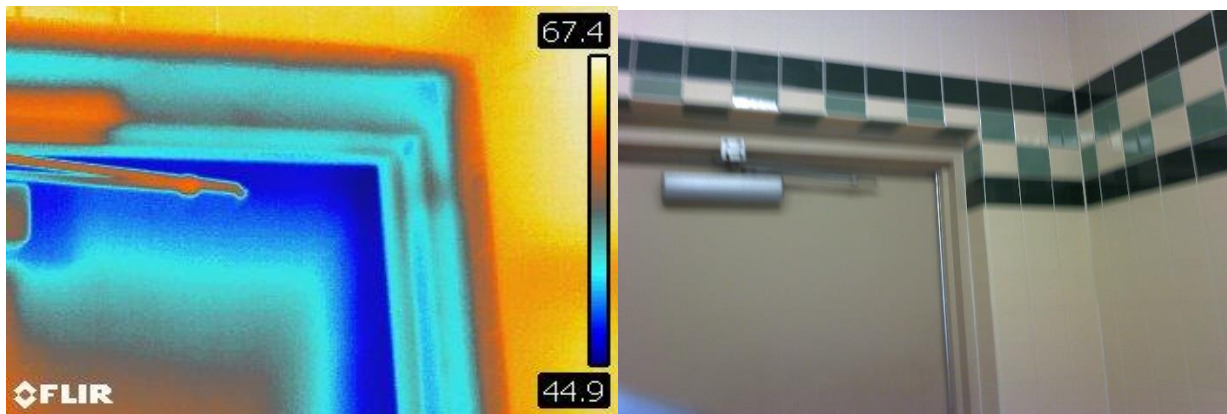
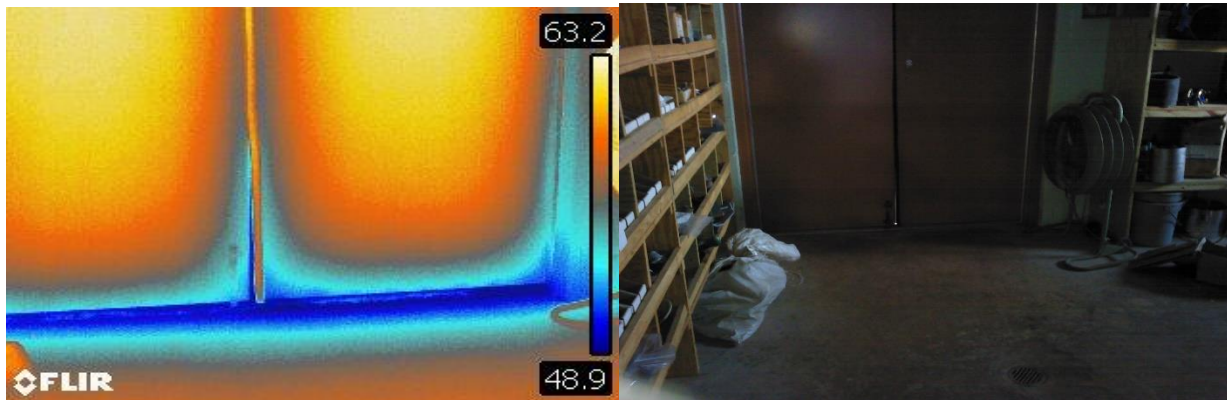


Insulation was found to be missing in basement of several buildings. It is recommended to seal and insulate these with polyurethane foam sealant. Areas that have a wide joint to fill at this connection may also require the use of extruded closed-cell polyethylene foam backer rod or extruded polystyrene rigid foam insulation to properly seal and insulate.

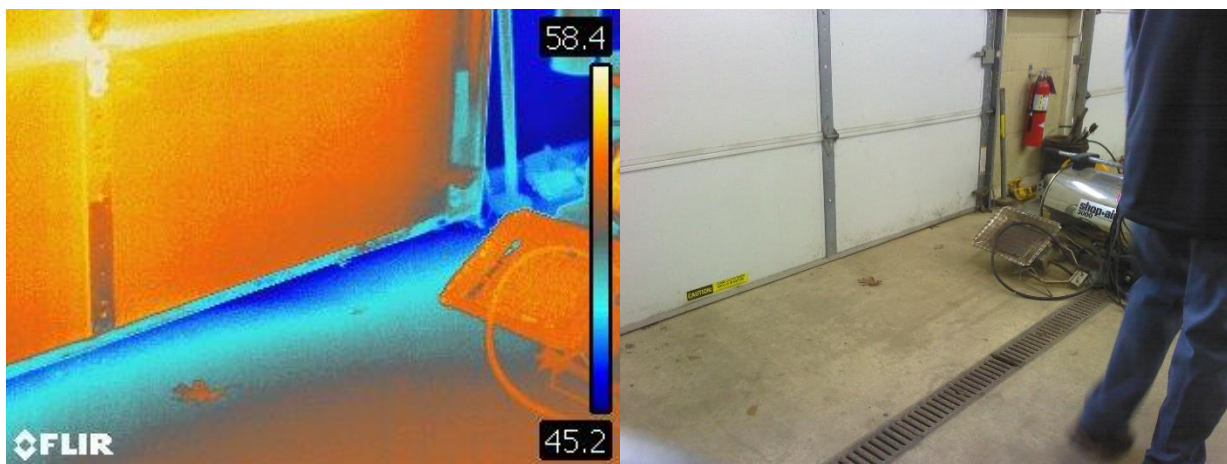
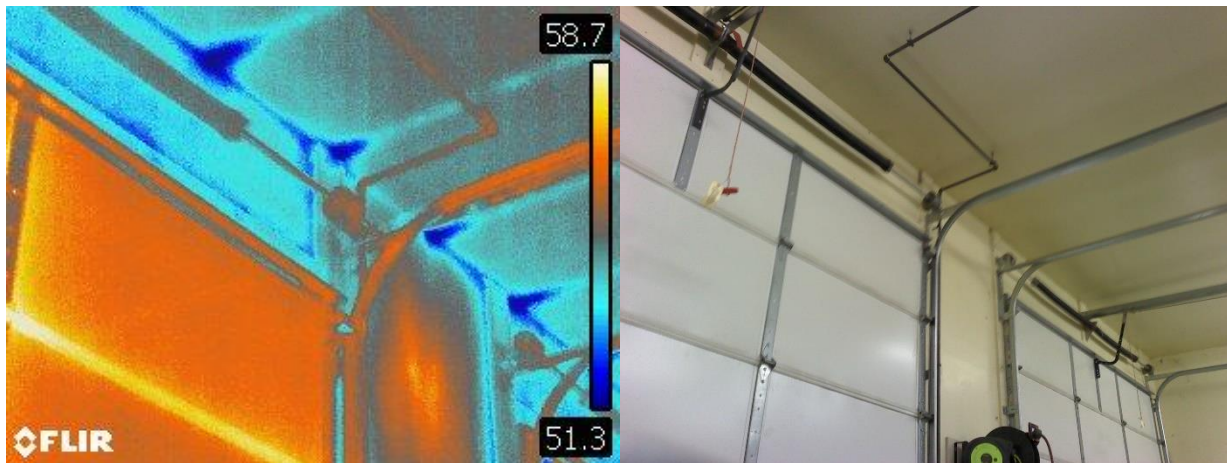
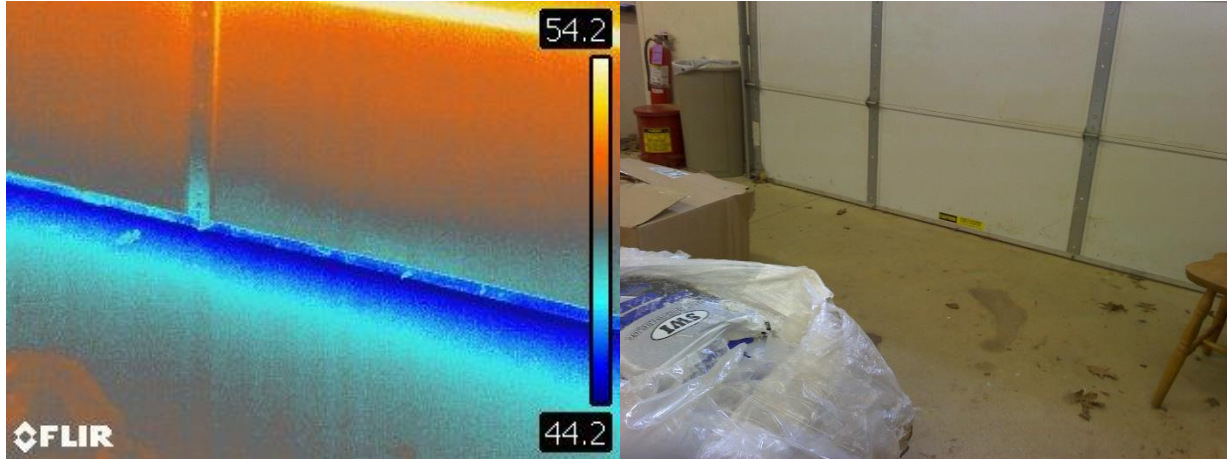


Gifford Pinchot State Park

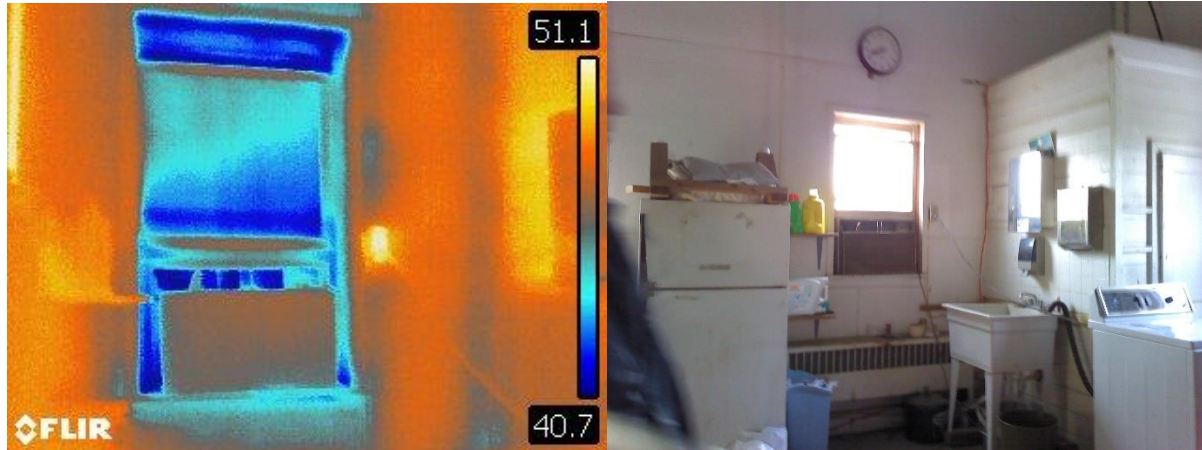
Existing weather strip on single and double doors was found to be missing or in poor condition on many of the exterior doors evaluated. Air penetrations could be visibly seen and felt along the doors. The installation of new polyethylene clad urethane foam weather strip is recommended to seal the edges of exterior doors; including strike side, hinge side and header. Brush seals are also recommended to be installed to seal exterior door bases and double door center astragals.



Overhead door seals were found to be in poor condition. Air penetrations were found along the headers, sides and bases. The installation of oversized polypropylene brushes is recommended along overhead door side and head edges and EPDM synthetic rubber bulbs along the bases.

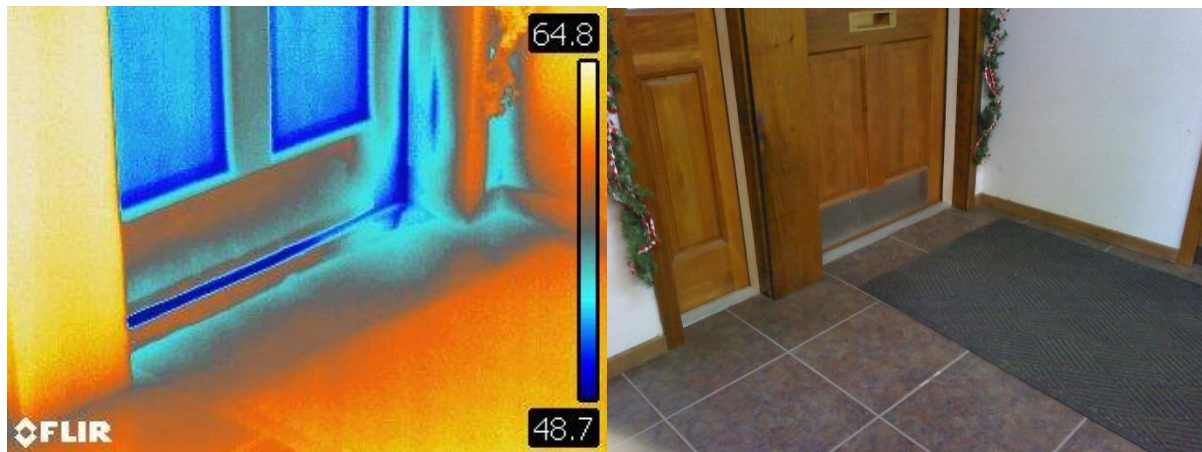


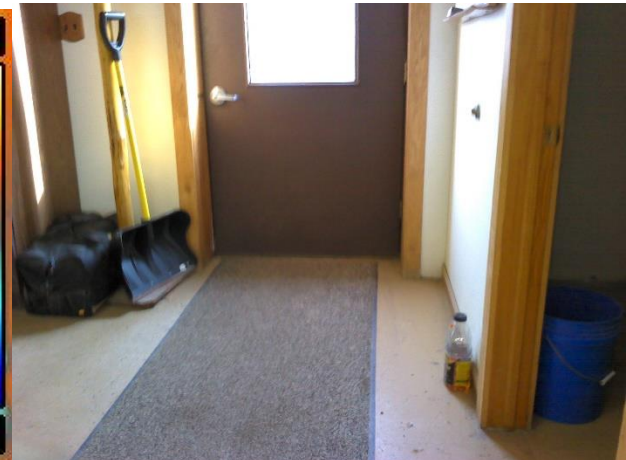
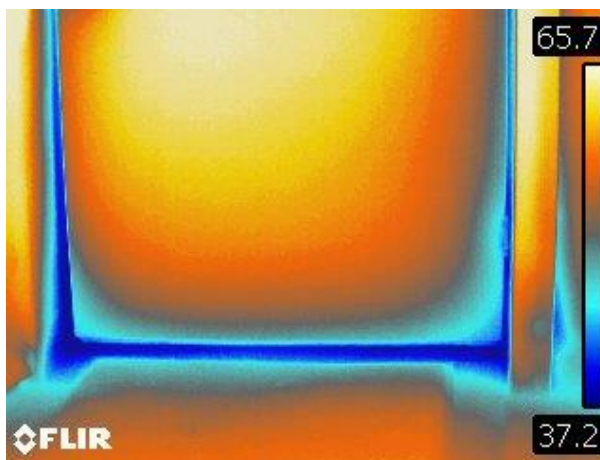
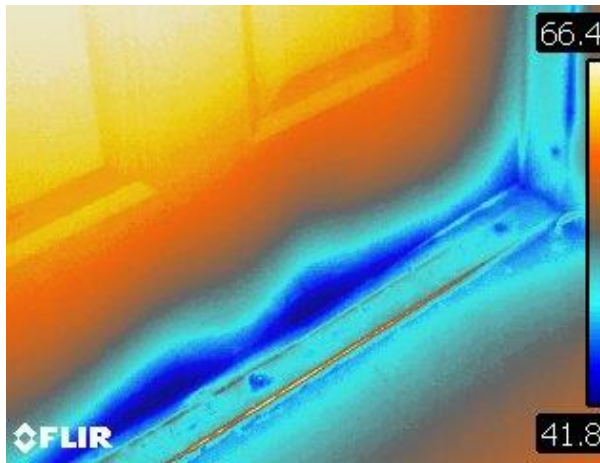
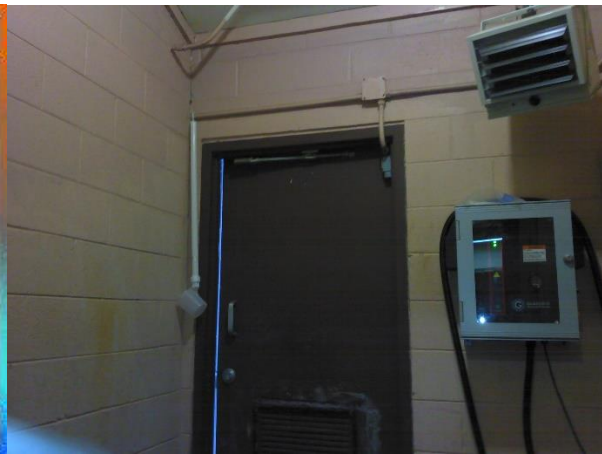
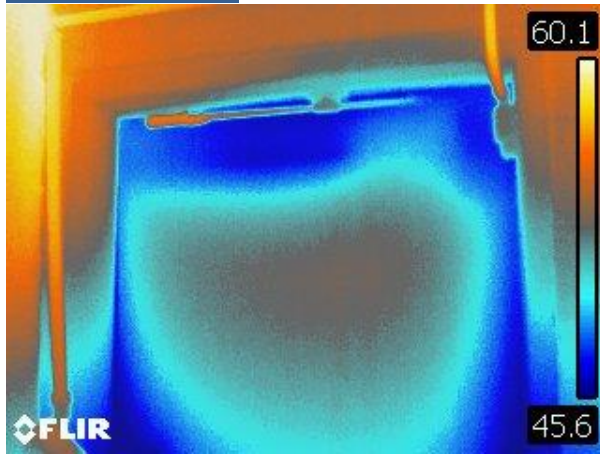
Existing seals around portable air conditioners was found to be in poor condition. Air penetrations could be visibly seen and felt along all sides. The installation of new seals is recommended.

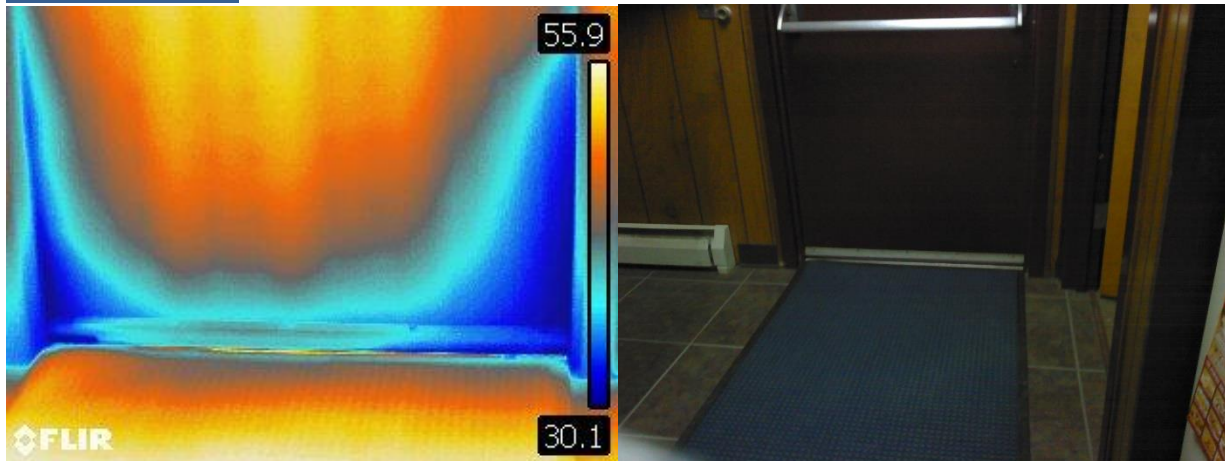


Hill Creek State Park

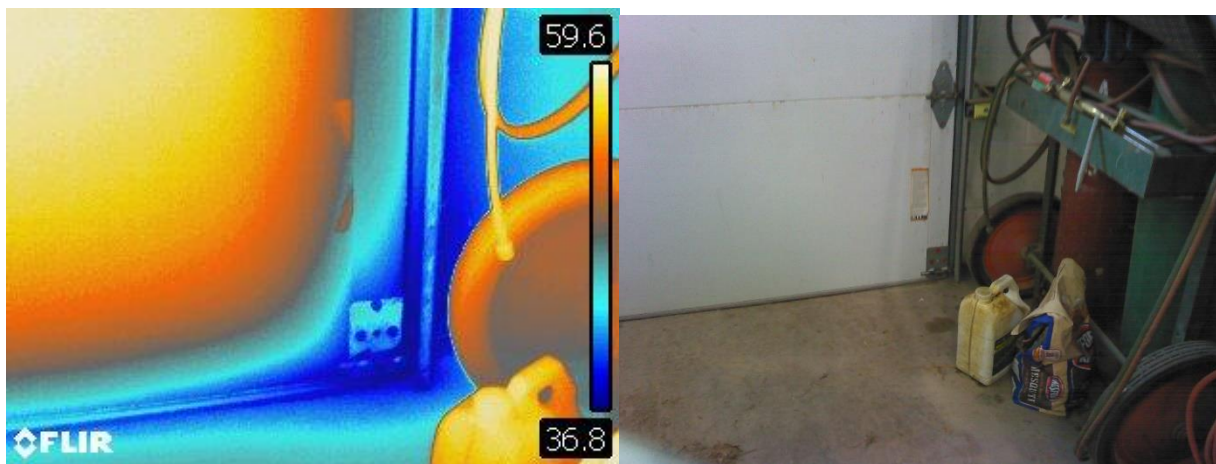
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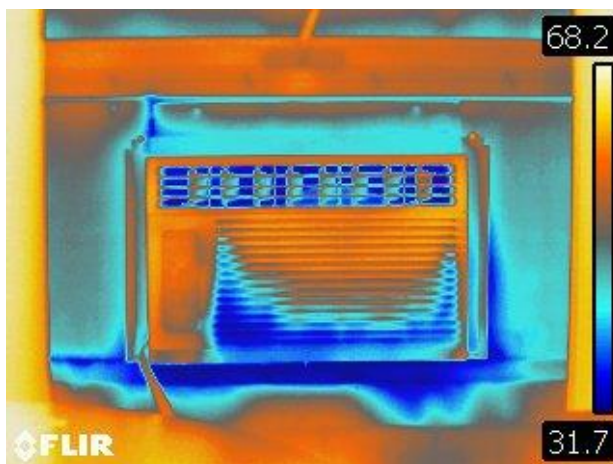
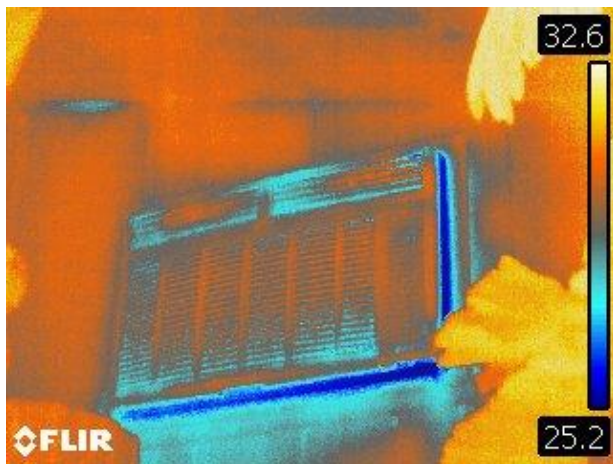
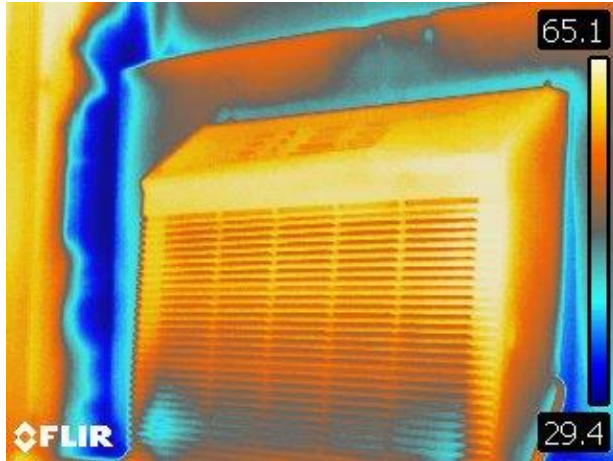




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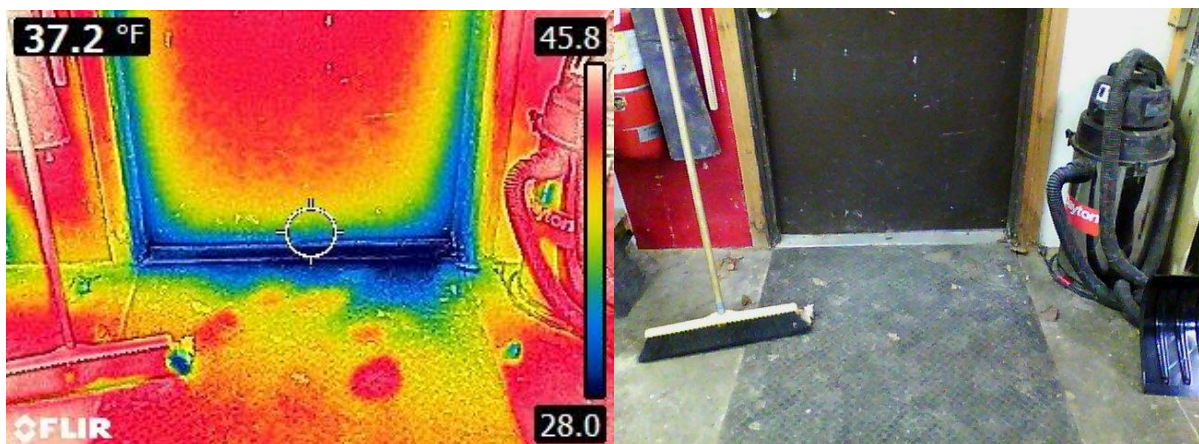
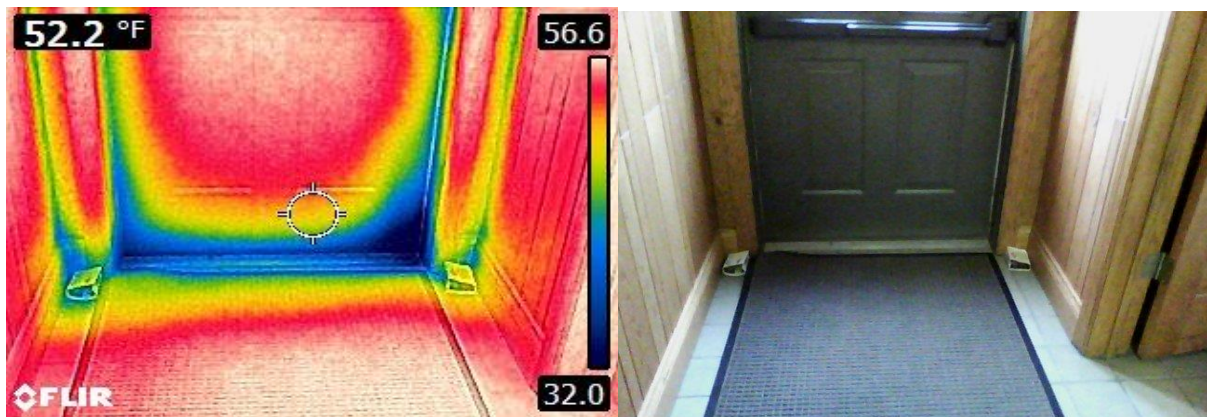
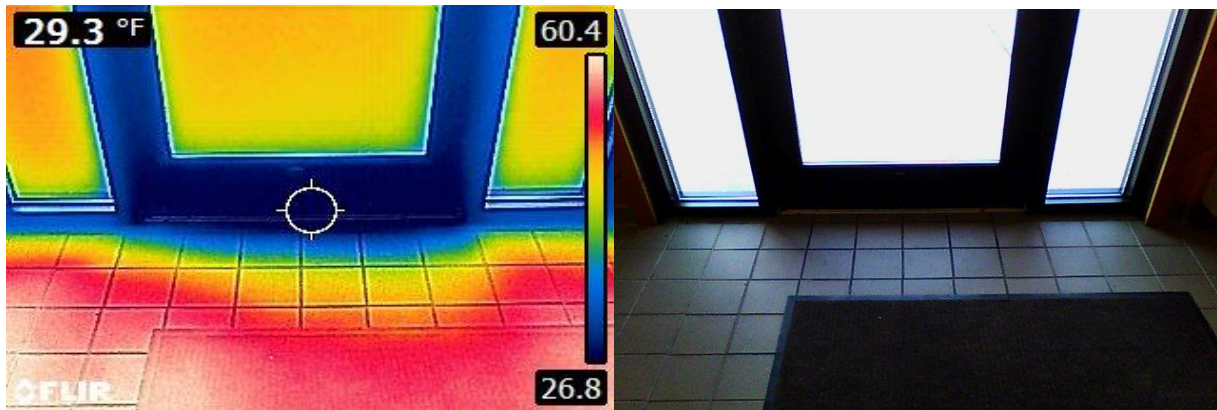


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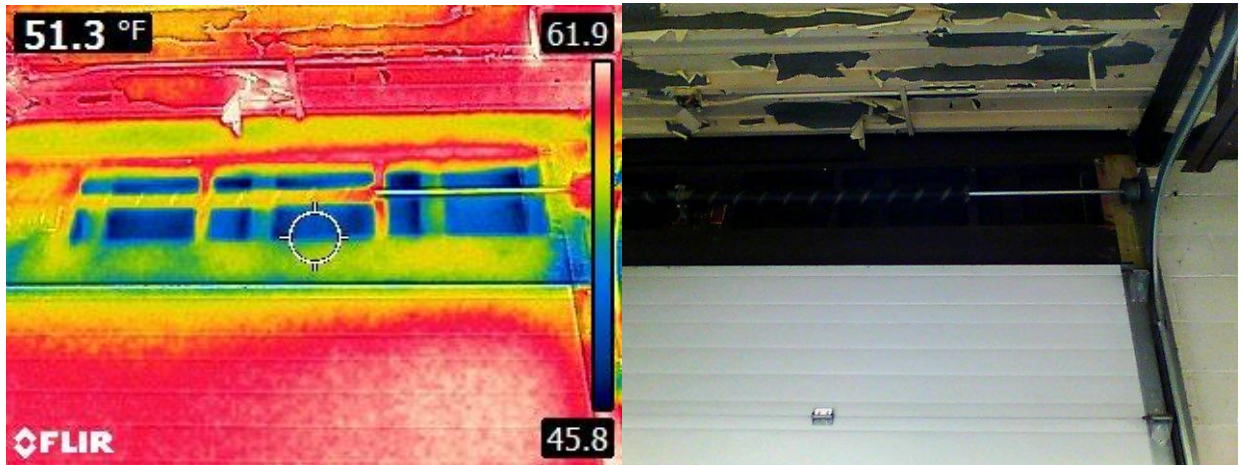
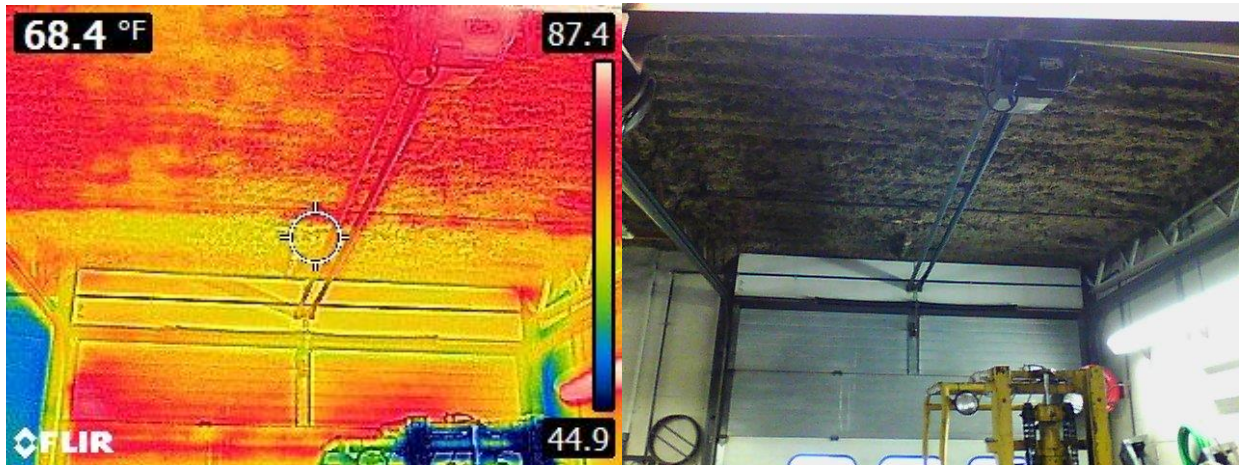
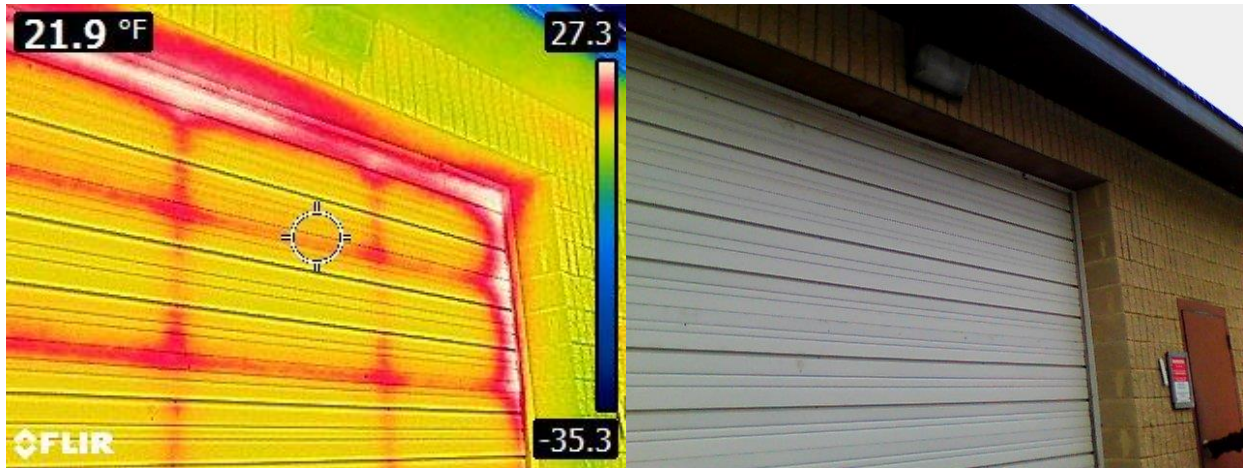


Prince Gallitzin State Park

Existing weather strip on single and double doors was found to be missing or in poor condition on many of the exterior doors evaluated. Air penetrations could be visibly seen and felt along the doors. The installation of new polyethylene clad urethane foam weather strip is recommended to seal the edges of exterior doors; including strike side, hinge side and header. Brush seals are also recommended to be installed to seal exterior door bases and double door center astragals.

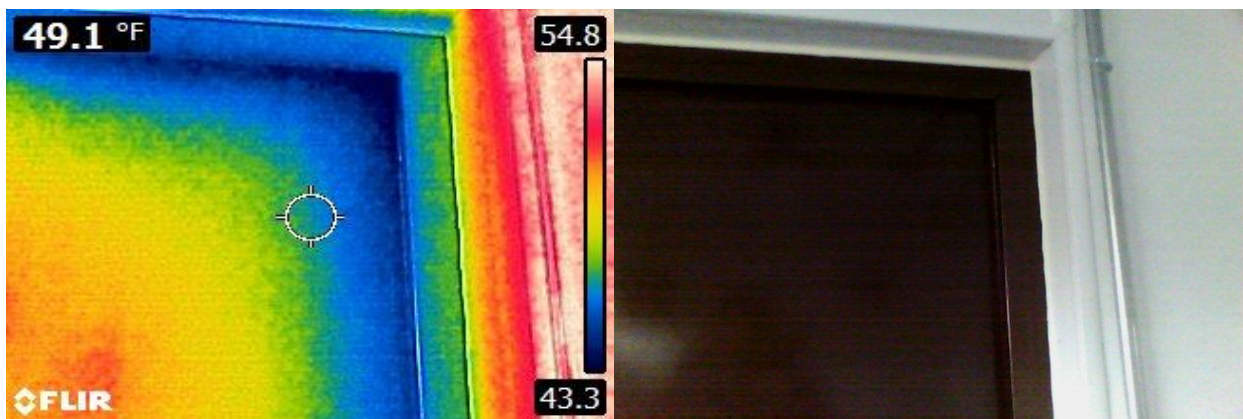
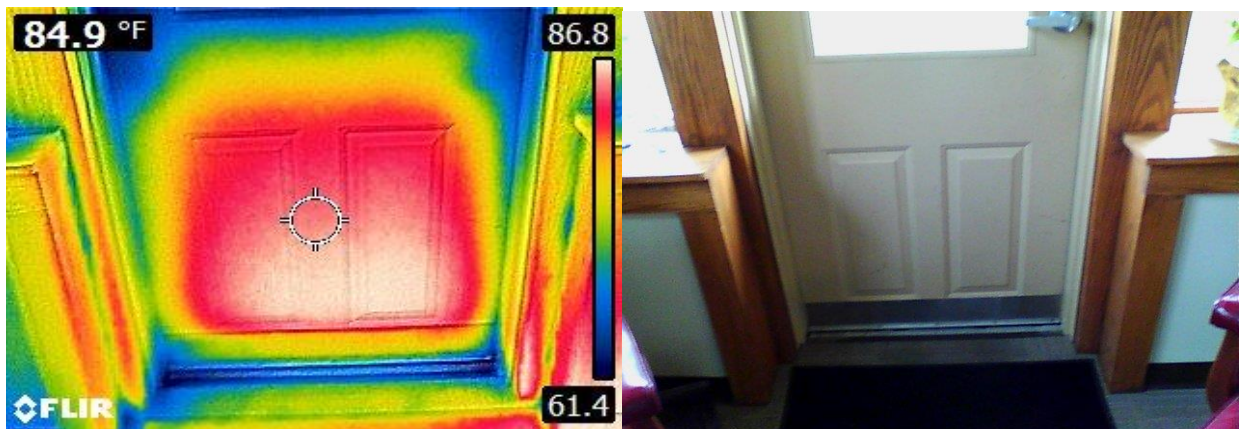
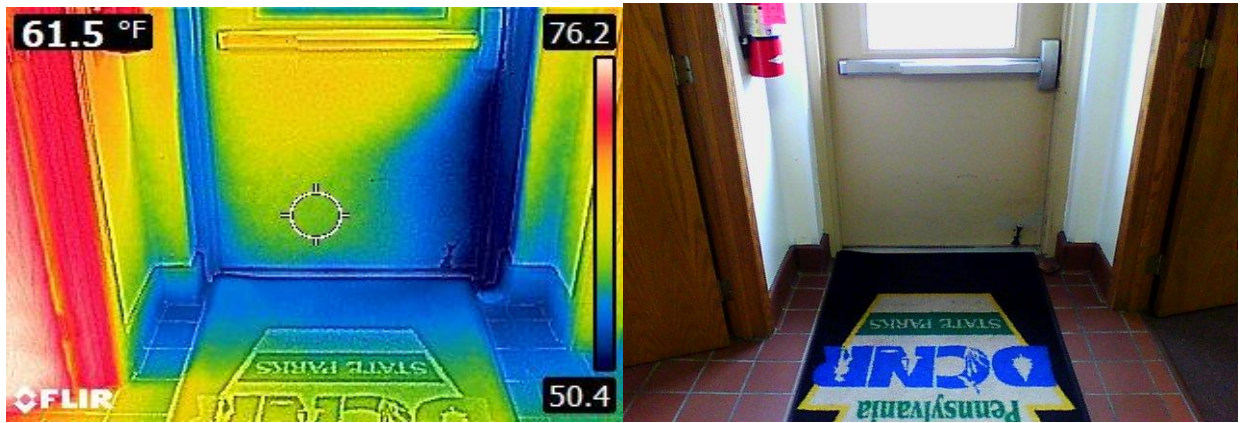


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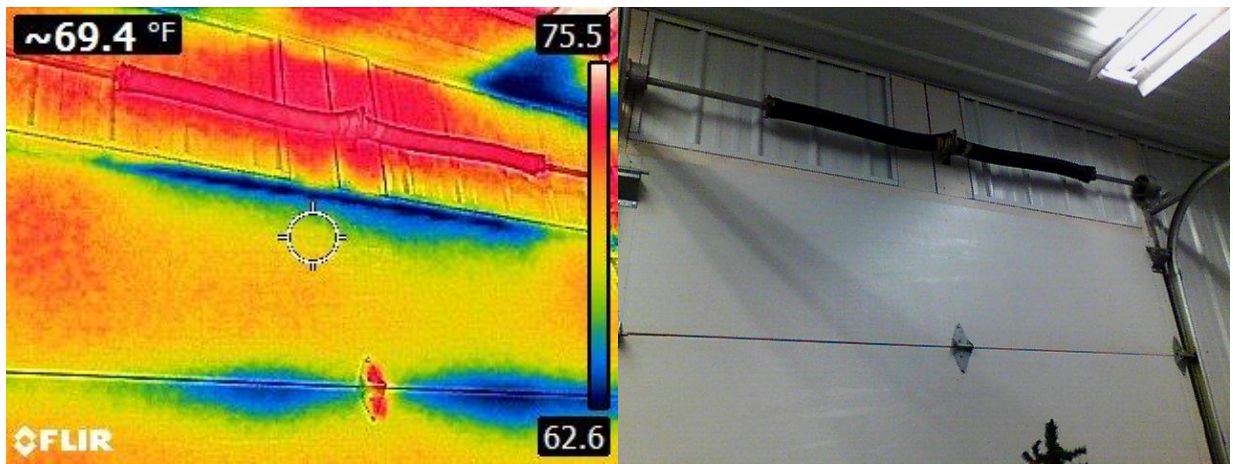
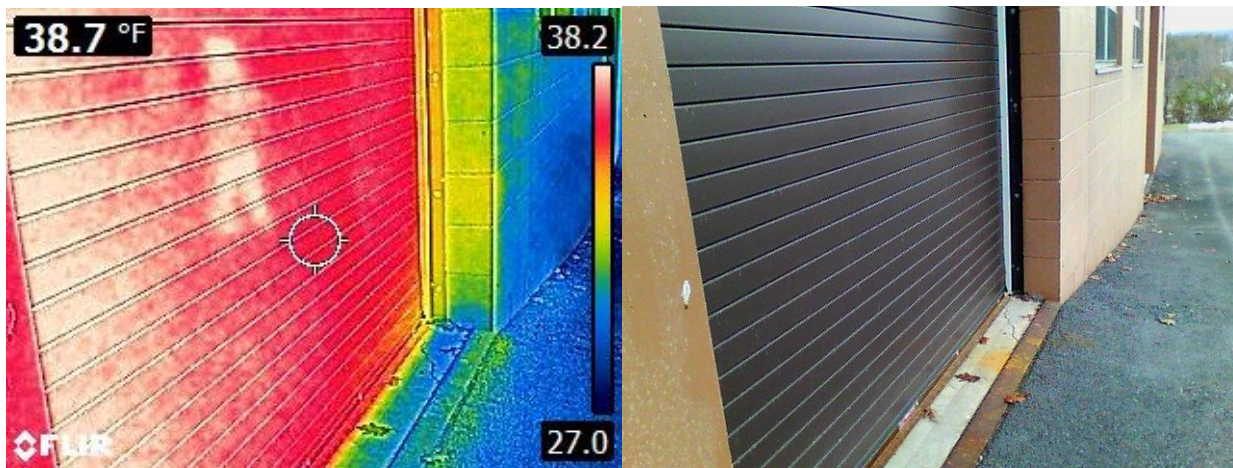
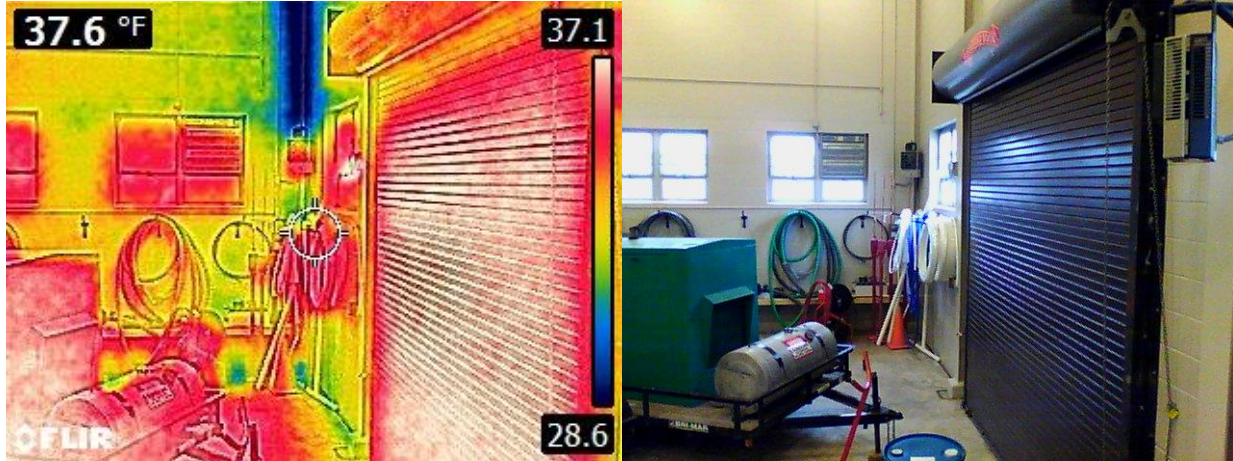


Shawnee State Park

Existing weather strip on single and double doors was found to be missing or in poor condition on many of the exterior doors evaluated. Air penetrations could be visibly seen and felt along the doors. The installation of new polyethylene clad urethane foam weather strip is recommended to seal the edges of exterior doors; including strike side, hinge side and header. Brush seals are also recommended to be installed to seal exterior door bases and double door center astragals.



Overhead door seals were found to be in poor condition. Air penetrations were found along the headers, sides and bases. The installation of oversized polypropylene brushes is recommended along overhead door side and head edges and EPDM synthetic rubber bulbs along the bases.





Bald Eagle State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bath House	4.69	0.02	204.26	20.43
Cottage - 4	9.38	0.03	408.52	40.85
Maintenance	37.43	0.13	77.11	7.71
Marina	21.46	0.07	934.89	93.49
Nature Inn	7.21	0.02	14.86	1.49
Park Office - Temp	12.80	0.04	17.62	1.76
Waste Water	22.54	0.08	982.03	98.20
Total	115.51	0.39	2639.29	263.93
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Waste Water	73.35	0.25	104.67	10.47
Total	73.35	0.25	104.67	10.47
Black Moshannon State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bath House - Cabin	8.01	0.03	485.57	48.56
Beach House	15.53	0.05	41.17	4.12
Cabin # 13	8.01	0.03	485.57	48.56
Cabin # 14	5.34	0.02	323.71	32.37
Cabin 14 Restroom	1.91	0.01	115.61	11.56
Cabins - 6	16.03	0.05	971.14	97.11
Cottage - 2	5.34	0.02	323.71	32.37
Environmental Center	4.01	0.01	10.62	1.06
Maintenance Office/Shop	55.99	0.19	148.42	14.84
Park Office	12.94	0.04	34.31	3.43
Rustic Cabins -12	10.02	0.03	606.96	60.70
Waste Water	22.46	0.08	59.54	5.95
Water Treatment	8.01	0.03	21.24	2.12
Total	173.61	0.59	3627.58	362.76
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bath House - Cabin	0.00	0.00	111.76	11.18
Cabin # 13	0.00	0.00	90.81	9.08
Waste Water	155.63	0.53	396.05	30.89
Total	155.63	0.53	598.62	51.15
Codorus State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bath House	21.08	0.07	330.11	33.01
Classroom Building	112.43	0.38	1760.61	176.06
Gift Shop	23.66	0.08	370.54	37.05
Maintenance	92.68	0.32	1451.37	145.14
New Restroom	21.94	0.07	343.59	34.36
Park Office / Visitor Center	737.95	2.51	505.51	50.55
Pool House Area	34.42	0.12	0.00	0.00
Restroom	9.46	0.03	148.21	14.82
Restroom - Campground	4.73	0.02	74.11	7.41
Total	1058.35	3.60	4984.05	498.41
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Classroom Building	13.07	0.04	6.70	0.67
Gift Shop	15.68	0.05	8.04	0.80
Park Office / Visitor Center	161.73	0.55	106.36	8.30
Total	190.48	0.65	121.10	9.77
Mechanical Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Maintenance Shop/Garage	0.00	0.00	398.42	39.84
Total	0.00	0.00	398.42	39.84



Gifford Pinchot State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bath House - 7	120.50	0.41	1887.05	188.71
Cabin	64.34	0.22	1007.52	100.75
Contact Station	11.76	0.04	0.00	0.00
Cottage - 3	14.20	0.05	222.32	22.23
Maintenance Bld 2	65.73	0.22	1029.30	102.93
Maintenance Shop/Garage	133.54	0.45	91.48	9.15
Multi - Purpose Building	28.39	0.10	444.64	44.46
Park Info Building	27.25	0.09	426.68	42.67
Park Office	33.91	0.12	25.11	2.51
Restroom Dock 1	17.21	0.06	269.58	26.96
Waste Water and Pump Ho	31.13	0.11	487.42	48.74
Waste Water Treatment	46.61	0.16	0.00	0.00
Total	594.56	2.02	5891.11	589.11
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Cabin	11046.22	37.56	5666.12	566.61
Maintenance Bld 2	7.68	0.03	3.94	0.39
Park Office	825.77	2.81	543.05	42.36
Total	11879.68	40.39	6213.11	609.36
Hill Creek State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Cabins - 10	14.88	0.05	901.50	90.15
Cottage - 3	4.46	0.02	270.45	27.05
Maintenance	7.02	0.02	425.26	42.53
Nature Center	2.98	0.01	180.30	18.03
New Bath House	5.64	0.02	341.48	34.15
Old Bath House - 4	11.90	0.04	721.20	72.12
Park Office	5.86	0.02	15.54	1.55
Pump House	1.49	0.01	90.15	9.02
Water Treatment	1.49	0.01	90.15	9.02
Total	55.71	0.19	3036.04	303.60
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Cabins - 10	0.00	0.00	626.39	62.64
Maintenance	378.70	1.29	751.67	75.17
Park Office	141.73	0.48	360.68	28.13
Pump House	0.00	0.00	89.00	8.90
Total	520.43	1.77	1827.74	174.84
Window Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Maintenance	52.57	0.18	104.34	10.43
Total	52.57	0.18	104.34	10.43
Parker Dam State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Residence - Parker Dam	19.31	0.07	55.34	5.53
Total	19.31	0.07	55.34	5.53
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Residence - Parker Dam	51.94	0.18	132.16	10.31
Total	51.94	0.50	132.16	10.31



Prince Gallitzin State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bathrooms - 7	26.24	0.09	1126.21	112.62
Boat House RR	1.25	0.00	53.63	5.36
Cabins - 3	3.75	0.01	160.89	16.09
Carpenter Shop - Park Office	6.11	0.02	262.40	26.24
Contact Station	1.25	0.00	53.63	5.36
Maintenance - Campground	17.97	0.06	770.92	77.09
Maintenance - Park office	17.12	0.06	734.53	73.45
Park Office	7.25	0.02	9.83	0.98
Waste Water	3.75	0.01	160.89	16.09
Water Plant - Filtration	5.71	0.02	245.16	24.52
Total	90.40	0.31	3578.07	357.81
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Residence - Parker Dam	51.94	0.18	132.16	10.31
Total	51.94	0.18	132.16	10.31
Shawnee State Park				
Weatherization Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bathroom	3.30	0.01	82.33	8.23
Bathroom - Seasonal	9.89	0.03	246.98	24.70
Cabin - 3	16.58	0.06	414.05	41.41
Contact Station - RR Only	3.30	0.01	82.33	8.23
Lodge	9.89	0.03	246.98	24.70
Maintenance	57.20	0.19	1428.61	142.86
Park Office	26.37	0.09	658.61	65.86
Region 3 Office	32.96	0.11	26.00	2.60
Sewer Plant	71.35	0.24	1782.13	178.21
Water Treatment	89.48	0.30	2234.92	223.49
Total	320.30	1.09	7202.94	720.29
Insulation Savings				
Building	kWh Saved	Cooling MMBTU Saved	Therms Saved	Heat Savings MMBTU's
Bathroom - Seasonal	0.00	0.00	18.71	1.87
Contact Station - RR Only	0.00	0.00	4.19	0.42
Lodge	16.10	0.05	13.17	1.32
Maintenance	92.59	0.31	75.75	7.57
Region 3 Office	85.79	0.29	89.99	7.02
Sewer Plant	1.83	0.01	1.50	0.15
Total	196.31	0.67	203.31	18.35