



# Energy Audit Report

REPORT DATE: April 1, 2025

**PROPERTY INFORMATION:**

Parks Department Comfort Stations  
3 Newport Drive  
Bar Harbor, Hancock County, Maine 04609

**PROJECT INFORMATION:**

AEI Project No. 498459  
Site Assessment Date: October 2, 2024

**PREPARED FOR:**

Town of Bar Harbor  
93 Cottage Street  
Bar Harbor, Maine 04609

**PREPARED BY:**

AEI Consultants - Corporate Headquarters  
2500 Camino Diablo  
Walnut Creek, California 94597



April 1, 2025

James Smith  
Town of Bar Harbor  
93 Cottage Street  
Bar Harbor, Maine 04609

**Subject: Energy Audit Report**  
Parks Department Comfort Stations  
3 Newport Drive  
Bar Harbor, Maine 04609  
AEI Project No. 498459

Dear James Smith:

AEI Consultants is pleased to provide the *Energy Audit Report* of the above referenced property. This assessment was authorized and performed in accordance with the scope of services engaged.

We appreciate the opportunity to provide services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (201) 332-1844 or [bmorgan@aeiconsultants.com](mailto:bmorgan@aeiconsultants.com).

Sincerely,

A handwritten signature in black ink that reads "Brian Morgan". The signature is written in a cursive style.

Brian Morgan  
Business Development Manager  
AEI Consultants

## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>1.0 CERTIFICATION/DISCLAIMER</b>                         | <b>4</b>  |
| <b>2.0 EXECUTIVE SUMMARY</b>                                | <b>5</b>  |
| 2.1 Purpose and Scope                                       | 5         |
| 2.2 Significant Assumptions                                 | 5         |
| 2.3 Limitations   | 6         |
| 2.4 Reliance  | 6         |
| 2.5 Financial Analysis Definitions                          | 6         |
| 2.6 Summary of Building Performance                         | 7         |
| 2.7 Recommended Energy and Water Efficiency Measures (EWEM) | 9         |
| <b>3.0 BACKGROUND</b>                                       | <b>11</b> |
| 3.1 General Property Descriptions                           | 11        |
| 3.2 Existing Energy and Water Efficiency Measures           | 12        |
| 3.3 Space Type and Usage Schedules                          | 12        |
| <b>4.0 UTILITY ANALYSIS</b>                                 | <b>13</b> |
| 4.1 Utility Providers                                       | 13        |
| 4.2 Energy End Use Analysis                                 | 19        |
| 4.3 Energy & Water Benchmarking                             | 21        |
| <b>5.0 BUILDING SYSTEMS</b>                                 | <b>22</b> |
| 5.1 Envelope  | 22        |
| 5.2 Lighting  | 22        |
| 5.3 Building Mechanical Systems                             | 24        |
| 5.4 Appliances  | 25        |
| 5.5 Laundry Equipment                                       | 25        |
| <b>6.0 RECOMMENDED EWEMS</b>                                | <b>27</b> |
| 6.1 Capital Cost EWEMs                                      | 27        |
| <b>7.0 GHG EMISSIONS ANALYSIS</b>                           | <b>35</b> |
| 7.1 eGRID Subregions  | 35        |
| 7.2 Baseline Scope 1 and Scope 2 GHG Emissions              | 35        |
| 7.3 GHG Emissions Reduction per EWEM                        | 37        |
| <b>8.0 FINANCIAL INCENTIVES</b>                             | <b>39</b> |
| 8.1 State Level Incentives                                  | 39        |
| 8.2 Federal Incentives                                      | 48        |
| 8.3 Loan Programs   | 49        |
| <b>9.0 SIGNATURES OF PARTICIPATING PROFESSIONALS</b>        | <b>51</b> |

## TABLE OF APPENDICES

- APPENDIX A: PROPERTY PHOTOGRAPHS
- APPENDIX B: SUPPORTING DOCUMENTATION
- APPENDIX C: EWEM CALCULATION WORKSHEETS
- APPENDIX D: PROJECT TEAM

## 1.0 CERTIFICATION/DISCLAIMER

---

AEI has completed an Energy Audit for the Property located at 3 Newport Drive, Bar Harbor, Hancock County, Maine (the "Property"). AEI visited the site on October 2, 2024.

The energy conservation opportunities contained in this report have been reviewed for technical accuracy. The reader is reminded that energy savings ultimately depend on variable factors including occupant behavior, weather, and quality of installation. Estimated installation costs are based on a variety of sources, including our own experience at similar facilities, our own pricing research using local contractors and vendors, and cost handbooks such as those produced by RS Means. The cost estimates represent the best judgment of the auditors for the proposed action. The Owner is encouraged to confirm these cost estimates independently since actual installed costs can vary widely for a particular installation. AEI does not guarantee installed cost estimates and shall in no event be liable should actual installed costs vary from the estimated costs herein.

AEI does not guarantee the costs savings estimated in this report. AEI shall in no event be liable should the actual energy savings vary from the savings estimated herein.

AEI certifies that it has no undisclosed interest in the Property and that AEI's employment and compensation are not contingent upon the findings or estimated costs to remedy any deficiencies due to deferred maintenance and any noted component or system replacements.

## 2.0 EXECUTIVE SUMMARY

---

AEI Consultants (AEI) was retained by Town of Bar Harbor to conduct an ASHRAE Level II Energy Audit, in conformance with the scope and limitations of ASHRAE *Procedures for Commercial Building Energy Audits*, Second Edition (2011), ANSI/ASHRAE/ACCA Standard 211-2018, *Standard for Commercial Building Energy Audits* for the properties located at 3 Newport Drive, 1 West Street, 30 Park Street, and 8 Waldron Road in Bar Harbor, Hancock County, Maine (the "Properties").

### 2.1 PURPOSE AND SCOPE

AEI has comprehensively analyzed the properties to identify possible areas where Energy and Water may be conserved. The areas considered include HVAC equipment, lighting, domestic water heating, appliances, fenestration, insulation, roofing, bathroom fixtures, and miscellaneous equipment.

#### Utility Analysis

AEI has performed a comprehensive utility analysis to determine the buildings' Energy and Water consumption. The study utilizes at least 12 months of utility bills. Energy and water consumption baselines were determined by observing peak loads during the year.

#### Energy Audit Process

Where possible, in addition to the Site Survey, AEI has utilized construction drawings, interviews, and maintenance records to determine the energy performance of the building and its associated mechanical, electrical, and HVAC equipment.

#### Accuracy of Analysis

AEI utilized spreadsheet calculations to estimate savings based on the actual conditions of the facility and its energy-consuming equipment. Simple payback is calculated by dividing the new equipment's total labor and material cost by the yearly cost savings. AEI shall not be responsible for equipment that may not reach the end of its useful life or costs more to operate than noted in the Energy Efficiency Measures.

#### Current Energy Code

The energy codes adopted by at the time of this report are the 2015 International Energy Conservation Code (2015 IECC) and ASHRAE 90.1-2013 for Commercial construction.

### 2.2 SIGNIFICANT ASSUMPTIONS

The following assumptions are made by AEI in this report. AEI relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews.

It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

### 2.3 LIMITATIONS

Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the Properties. AEI makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted industry practices applicable at the time and location of the study.

Responses received from local government agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.

### 2.4 RELIANCE

All reports, both verbal and written, are for the benefit of Town of Bar Harbor. This report is for the purpose of evaluating the subject Properties in connection with securing mortgage financing and has no other purpose. This report may not be relied upon by any other person or entity without the written consent of AEI either verbally or in writing. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns.

Reliance is provided in accordance with Town of Bar Harbor and AEI's contract and Terms and Conditions dated August 28, 2024. The limitation of liability defined in the contracted terms is the aggregate limit of AEI's liability to the client and all relying parties.

### 2.5 FINANCIAL ANALYSIS DEFINITIONS

**Simple Payback** = The estimated installation cost divided by the calculated annual cost avoidance.

**EUL** = Estimated Useful Life of components and systems as determined by manufacturers, ASHRAE, HUD, Fannie Mae, Freddie Mac and other authorities.

**SIR** = Savings to Investment Ratio;  $(EUL \times \text{Annual Savings}) \div \text{Initial Cost}$

**ROI** = Return on Investment;  $(EUL \times \text{Annual Savings} - \text{Initial Cost}) \div \text{Initial Cost}$

**IRR** = Internal Rate of Return; the annual yield from a project, usually expressed as a percentage of the total amount invested; the compound rate of interest which, when used to discount cash flows, will result in zero net savings. If the IRR is greater than the investor's stated discount rate, the measure is considered beneficial.

**NPV** = Net Present Value; The value (the gain minus the cost) of an investment in today's dollars over some specified time period. If the investment has a positive NPV, it is generally considered to be beneficial.

## 2.6 SUMMARY OF BUILDING PERFORMANCE

The following table summarizes the current and proposed building performance with the recommended Energy and Water Efficiency Measures (EWEMs) described in the following section.

| <b>EWEM Summary Table</b>                       |                              |
|---|------------------------------|
| Current Building Energy Usage                   | 260,457 kBtu                 |
| Current Building Energy Cost                    | \$7,397                      |
| Proposed Energy Savings                         | 22,169 kBtu                  |
| Proposed Energy Cost Savings                    | \$789                        |
| Energy Savings                                  | 8.5%                         |
| Energy Cost Savings                             | 10.7%                        |
| Investment for EEM's                            | \$6,413                      |
| Payback for Investments (without water savings) | 8.1 Years                    |
| Payback for Investments (with water savings)    | 5.3 Years                    |
| <b>Site Energy Use</b>                          |                              |
| Current Electric Site Energy Consumption        | 37,445 kWh                   |
| Proposed Electric Savings                       | 6,497 kWh                    |
| Proposed Electric Savings                       | 17.4%                        |
| Current Propane Site Energy Consumption         | 1,450 Gallons                |
| Proposed Propane Savings                        | 0 Gallons                    |
| Proposed Propane Savings                        | 0.0%                         |
| <b>Site Energy Use Intensity</b>                |                              |
| Total Building Area                             | 1,945 Sq. Ft.                |
| Current Site Energy Use Intensity               | 133.9 kBtu/Sq. Ft.           |
| Proposed Site Energy Use Intensity              | 123 kBtu/Sq. Ft.             |
| <b>Source Energy Use Intensity</b>              |                              |
| Current Source Energy Use Intensity             | 253 kBtu/Sq. Ft.             |
| Proposed Source Energy Use Intensity            | 221 kBtu/Sq. Ft.             |
| <b>Site Greenhouse Gas Emissions</b>            |                              |
| Current Site GHG Emissions                      | 17.52 MTCO <sub>2</sub> e/Yr |
| Proposed Site GHG Emissions                     | 15.93 MTCO <sub>2</sub> e/Yr |
| <b>Water and Sewer Usage</b>                    |                              |
| Current Usage                                   | 89 kGal                      |
| Current Cost                                    | \$13,898                     |
| Proposed Savings in kGal                        | 36 kGal                      |
| Proposed Cost Savings                           | \$431                        |
| Percent Water Savings                           | 40.3%                        |

## 2.7 RECOMMENDED ENERGY AND WATER EFFICIENCY MEASURES (EWEM)

The following recommended EWEMs have been analyzed using calculations based on occupant usage, localized climate conditions, HVAC and ventilation operating hours, and lighting hours. The HVAC operating hours are approximations and may vary depending on the severity of the weather. Water consumption is based on the number of occupants and assumed running times for water consuming devices. The EWEM table shows the initial investment cost, energy and water consumption and cost savings, estimated equipment expected useful life (EUL), investment simple payback, savings to investment ratio (SIR), and return on investment (ROI) for each EWEM. The utility cost increase over the life of the EWEMs implemented was not considered as a factor in the financial analysis for each measure. Any analyzed EWEMs with a Savings to Investment Ratio less than 1.0 (or a negative Return on Investment) are not included in this table.

**Energy And Water Efficiency Measures (EWEM) Summary**

| Energy And Water Efficiency Measure (EWEM) Description  | Initial Cost (\$\$) | Electricity Savings (kWh) | Propane Savings (Gallons) | Water/ Sewer Savings (kGal) | Annual Utility Savings (\$\$) | Simple Pay Back (Years) | EUL (years) | SIR   | ROI   | % Energy Savings | % Water Savings | Projected GHG Emissions Reduction MTCO <sub>2e</sub> | kBTU Savings |
|---|---------------------|---------------------------|---------------------------|-----------------------------|-------------------------------|-------------------------|-------------|-------|-------|------------------|-----------------|--|--------------|
| Replace 9 Existing Toilets and 3 Existing Urinals with WaterSense Labeled Low Flow 1.28 GPF Single Flush Toilets and 0.125 GPF Urinals. | \$5,450             | 0                         | 0                         | 35.6                        | \$431                         | 12.6                    | 20          | 1.58  | 0.58  | 0.0%             | 40.3%           | 0.00   | 0            |
| Retrofit 13 Interior Fluorescent Lamps with 34 DLC Certified LED tubular Lamps  | \$357               | 5,363                     | 0                         | 0                           | \$652                         | 0.5                     | 10          | 18.26 | 17.26 | 7.0%             | 0.0%            | 1.31   | 18,299       |
| Replace 9 Exterior Area Lighting Fixtures with 12 Bi-Level Linear LED Lighting Fixtures   | \$606               | 1,134                     | 0                         | 0                           | \$137                         | 4.4                     | 25          | 5.65  | 4.65  | 1.5%             | 0.0%            | 0.28   | 3,869        |
| Totals =  | \$6,413             | 6,497                     | 0                         | 35.6                        | \$1,220                       | 5.3                     | n/a         | n/a   | n/a   | 8.5%             | 40.3%           | 1.59   | 22,168.69    |

## 3.0 BACKGROUND

---

### 3.1 GENERAL PROPERTY DESCRIPTIONS

The Properties occupy parcels totaling approximately 19.7 acres and are located at 3 Newport Drive, 1 West Street, 30 Park Street, and 8 Waldron Road in commercial areas of Bar Harbor, Maine. The Properties consist of 4, 1-story buildings. The gross building area of the Property is 1,945 square feet.

The comfort station located at 3 Newport Drive was built in 2011, has a gross building area of 792 square feet. Ft., and is open year-round. The comfort station at 1 West Street on the Pier was built in 2013 and has a gross area of 513 square feet. Ft., and is open year-round. The comfort station at 30 Park Street was built in 2006 and has a gross building area of 640 square feet. Ft., and is open seasonally. The Glen Mary Pool at 8 Waldron Road occupies a 4.9-acre lot and was built in 1970. This property was defunct at the time of the site visit and has not been used for over two years.

The Newport Drive comfort station has an in-ground automatic sprinkler system controlled by a rain sensor that irrigates the 6.95-acre park.



Port Security Building



30 Park Street Comfort Station



Pier Comfort Station



Glen Mary Pool

### 3.2 EXISTING ENERGY AND WATER EFFICIENCY MEASURES

The following existing energy and water efficiency improvements were observed at the Property:

1. Low-Flow (0.5 GPM) bathroom sink faucets
2. Low-Flow (1.28 GPF) toilets at the Newport Drive Comfort Station
3. Low-Flow (0.125 GPF) urinals at the Newport Drive Comfort Station
4. High-Efficiency (95%) tank-less water heater at the Newport Drive Comfort Station
5. LED Lighting

### 3.3 SPACE TYPE AND USAGE SCHEDULES

The following section lists the space types, building areas, and Occupancy.

#### 3.3.1 SPACE TYPE BREAKDOWN

The following table shows the unit types, unit quantities, unit square footage, and the total square footage per unit type.

| Unit Address    | Unit Description     | Building Area (SF) | Occupancy    |
|-----------------|----------------------|--------------------|--------------|
| 1 West Street   | Pier Comfort Station | 513                | Seasonal     |
| 3 Newport Drive | Comfort Station      | 792                | Year-round   |
| 30 Park Street  | Comfort Station      | 640                | Seasonal     |
| 8 Waldron Road  | Glen Mary Pool       | N/A                | Not Occupied |
| <b>Total</b>    |                      | <b>1,945</b>       |              |

## 4.0 UTILITY ANALYSIS

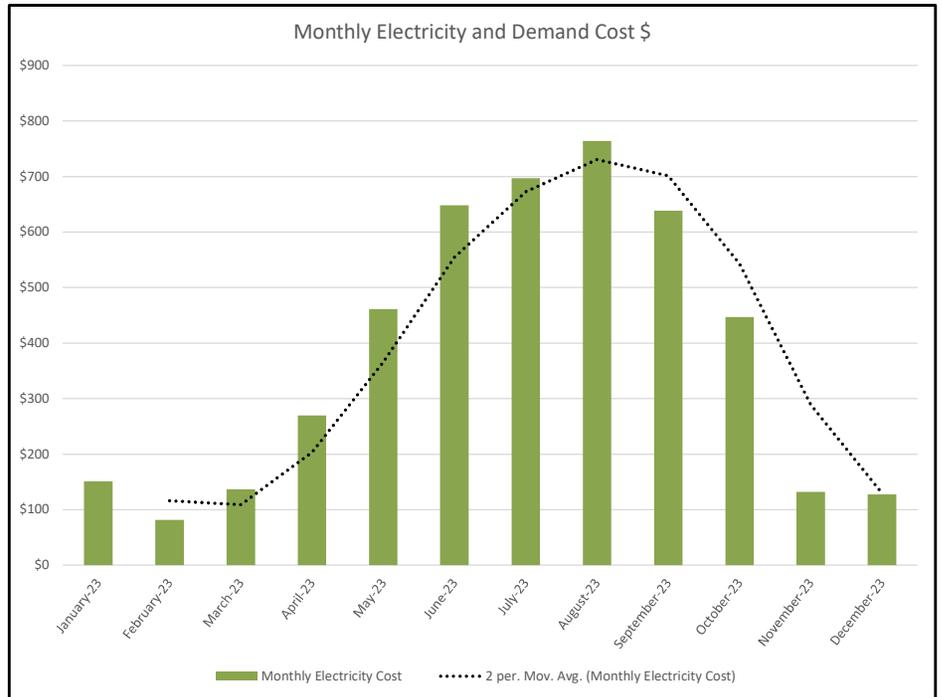
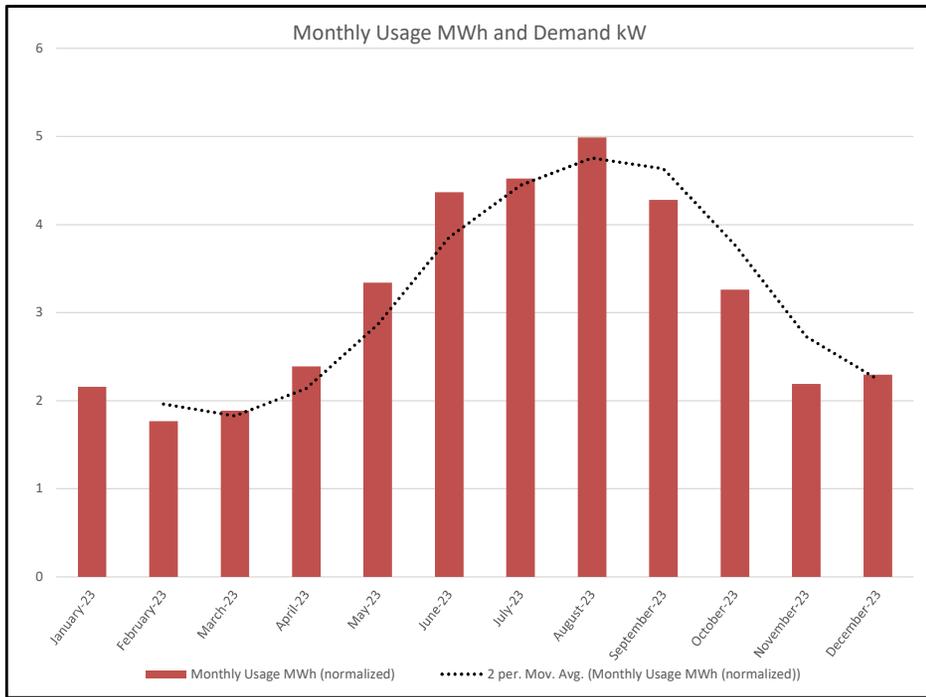
### 4.1 UTILITY PROVIDERS

| Utility Type              | Utility Provider Name   |
|---------------------------|-------------------------|
| Electricity               | Constellation NewEnergy |
| Natural Gas               | No Frills Energy        |
| Water                     | Town of Bar Harbor      |
| Sewage Disposal/Treatment | Town of Bar Harbor      |

#### 4.1.1 ELECTRICITY

The chart below shows the monthly consumption and cost of electricity for the Properties. The cost per kWh is calculated in the fourth column. The bottom row shows the annual electrical energy consumption and cost for the Properties.

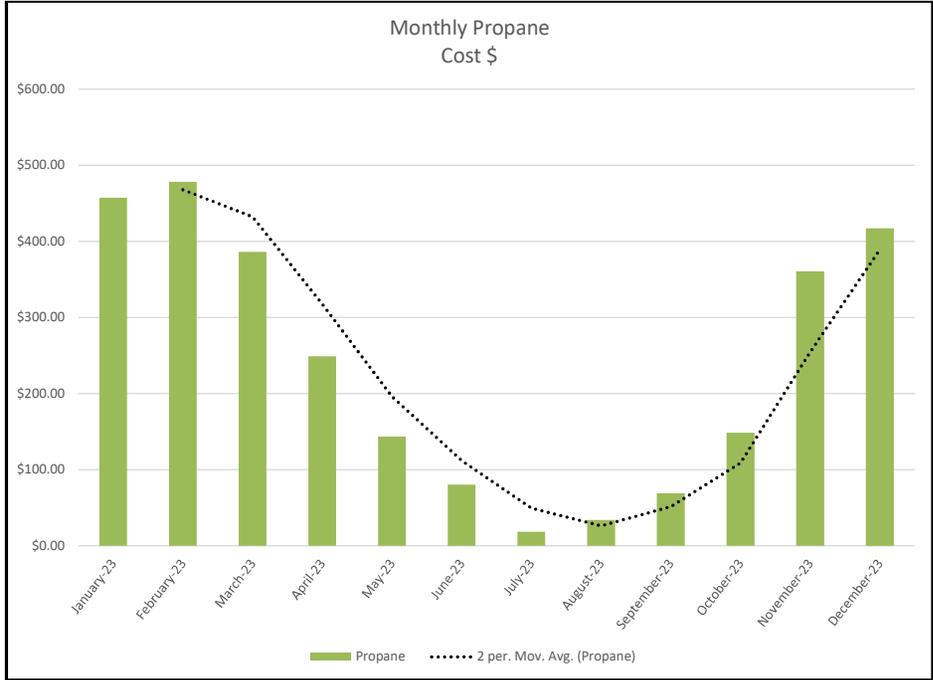
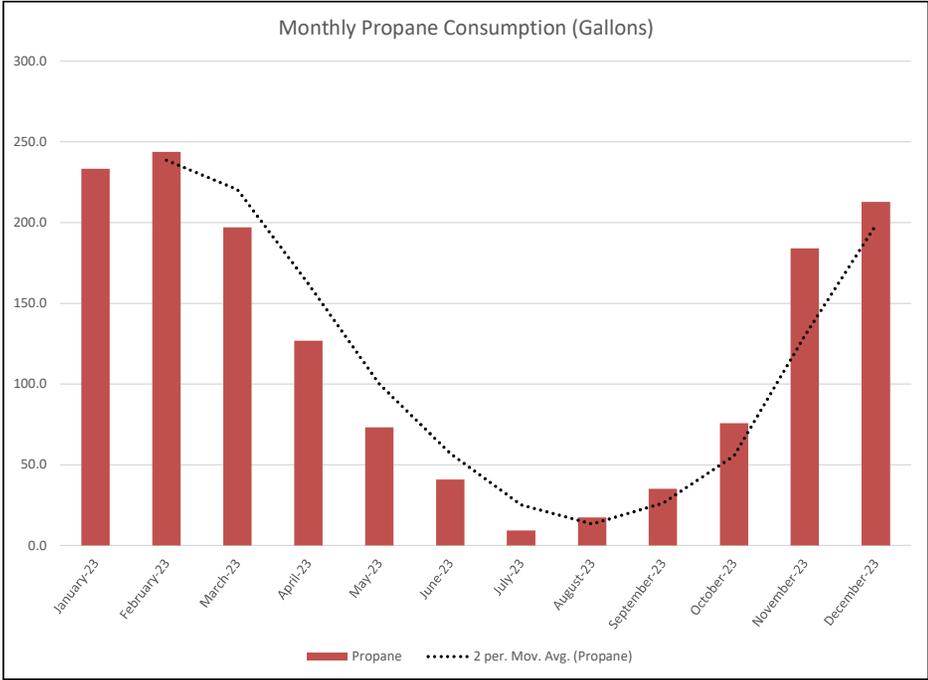
| Billing Month & Year             | Monthly Electricity Usage (kWh) | Monthly Electricity Cost | Cost per kWh | kBTU Usage (kWh x 3.41) |
|----------------------------------|---------------------------------|--------------------------|--------------|-------------------------|
| January-23                       | 2,158                           | \$151                    | \$0.07       | 7,363                   |
| February-23                      | 1,765                           | \$81                     | \$0.05       | 6,024                   |
| March-23                         | 1,887                           | \$137                    | \$0.07       | 6,440                   |
| April-23                         | 2,389                           | \$270                    | \$0.11       | 8,153                   |
| May-23                           | 3,340                           | \$461                    | \$0.14       | 11,396                  |
| June-23                          | 4,368                           | \$648                    | \$0.15       | 14,906                  |
| July-23                          | 4,523                           | \$697                    | \$0.15       | 15,434                  |
| August-23                        | 4,988                           | \$764                    | \$0.15       | 17,021                  |
| September-23                     | 4,279                           | \$639                    | \$0.15       | 14,600                  |
| October-23                       | 3,261                           | \$447                    | \$0.14       | 11,128                  |
| November-23                      | 2,191                           | \$132                    | \$0.06       | 7,477                   |
| December-23                      | 2,294                           | \$128                    | \$0.06       | 7,827                   |
| Annual Electricity Usage & Cost: | 37,445                          | \$4,554                  | \$0.12       | 127,769                 |



#### 4.1.2 LP GAS

The comfort station at 3 Newport Drive utilizes a propane-fired tank-less condensing water heater, representing the only propane consumption across all Properties. Propane delivery records for this facility were not provided, so the propane usage shown in the following table was calculated based on estimated consumption patterns.

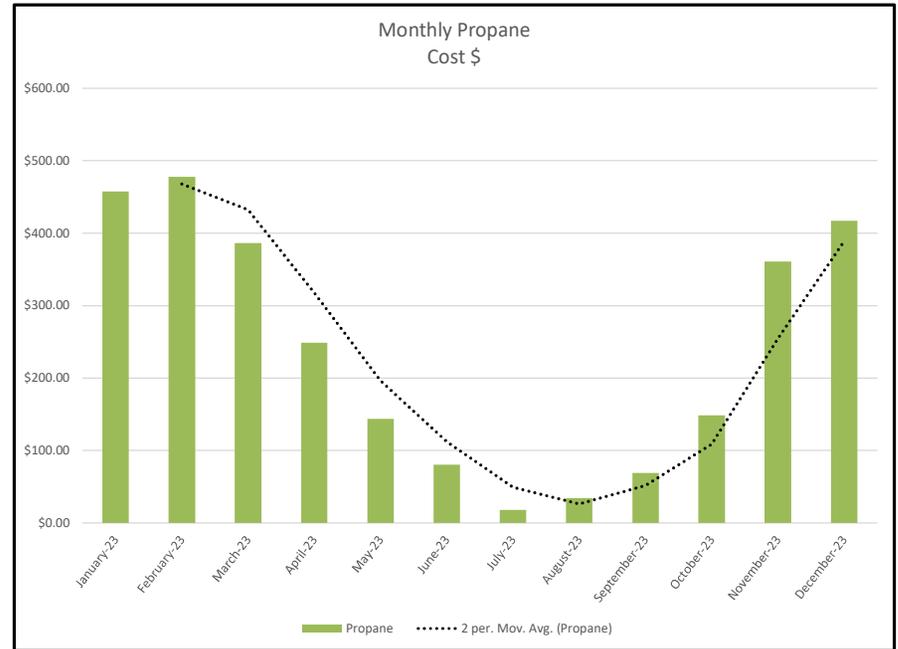
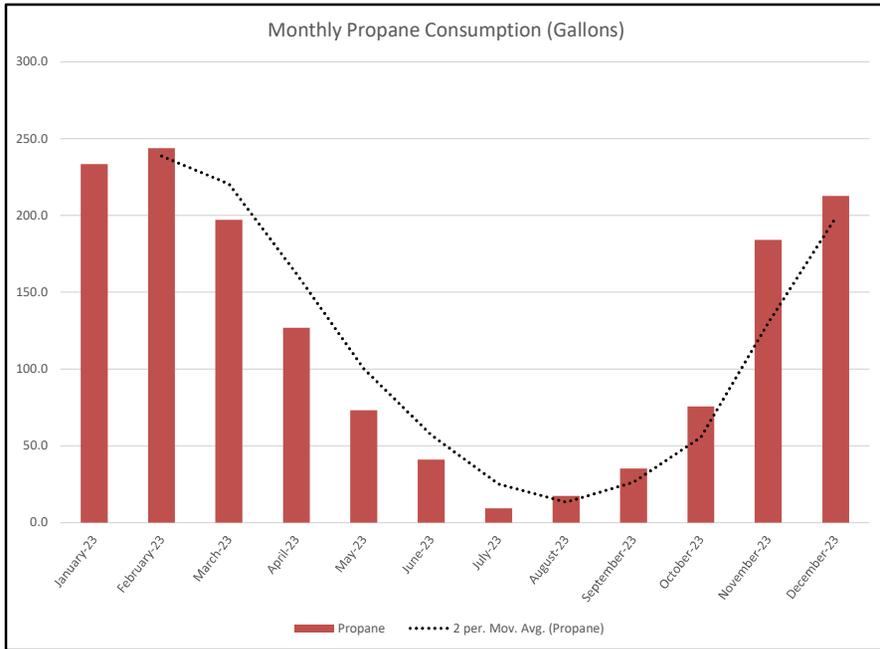
| Billing Month & Year                    | Monthly LP Gas Usage (Gal) | Monthly LP Gas Cost | Cost per Gal | kBTU Usage (Gal x 91,547) |
|---|----------------------------|---------------------|--------------|---------------------------|
| January-23                              | 233.4                      | \$457.45            | \$1.96       | 21,355.3                  |
| February-23                             | 243.9                      | \$477.95            | \$1.96       | 22,312.6                  |
| March-23                                | 197.1                      | \$386.29            | \$1.96       | 18,033.6                  |
| April-23                                | 127.0                      | \$248.86            | \$1.96       | 11,617.9                  |
| May-23                                  | 73.2                       | \$143.52            | \$1.96       | 6,700.0                   |
| June-23                                 | 41.0                       | \$80.40             | \$1.96       | 3,753.3                   |
| July-23                                 | 9.3                        | \$18.21             | \$1.96       | 850.3                     |
| August-23                               | 17.4                       | \$34.12             | \$1.96       | 1,592.9                   |
| September-23                            | 35.2                       | \$69.02             | \$1.96       | 3,221.9                   |
| October-23                              | 75.8                       | \$148.51            | \$1.96       | 6,933.0                   |
| November-23                             | 184.1                      | \$360.80            | \$1.96       | 16,843.3                  |
| December-23                             | 212.8                      | \$417.13            | \$1.96       | 19,473.3                  |
| Annual Propane Delivery (Gal) and Cost: | 1,450.138                  | \$2,842.27          | \$1.96       | 132,688                   |



#### 4.1.3 WATER AND SEWER

Water billing data was provided for the Pier Comfort Station; however, water billing data was not provided for the remaining properties. The water consumption for have been estimated. The chart below shows the estimated monthly consumption and cost of the water and sewer for these properties. The cost per kGal is calculated in the far-right column. The bottom row shows the estimated annual water and sewer consumption and cost for these properties.

| Billing Month & Year                 | Monthly Water and Sewer Usage (kGal) | Monthly Water and Sewer Cost | Cost per kGal |
|--------------------------------------|--------------------------------------|------------------------------|---------------|
| January-23                           | 7.70                                 | \$1,158                      | \$150.49      |
| February-23                          | 7.70                                 | \$1,158                      | \$150.49      |
| March-23                             | 7.70                                 | \$1,158                      | \$150.49      |
| April-23                             | 5.38                                 | \$1,158                      | \$215.21      |
| May-23                               | 5.38                                 | \$1,158                      | \$215.21      |
| June-23                              | 5.38                                 | \$1,158                      | \$215.21      |
| July-23                              | 14.50                                | \$1,158                      | \$79.87       |
| August-23                            | 14.50                                | \$1,158                      | \$79.87       |
| September-23                         | 14.50                                | \$1,158                      | \$79.87       |
| October-23                           | 1.94                                 | \$1,158                      | \$598.50      |
| November-23                          | 1.94                                 | \$1,158                      | \$598.50      |
| December-23                          | 1.94                                 | \$1,158                      | \$598.50      |
| Annual Water and Sewer Usage & Cost: | 88.54                                | \$13,898                     | \$156.96      |

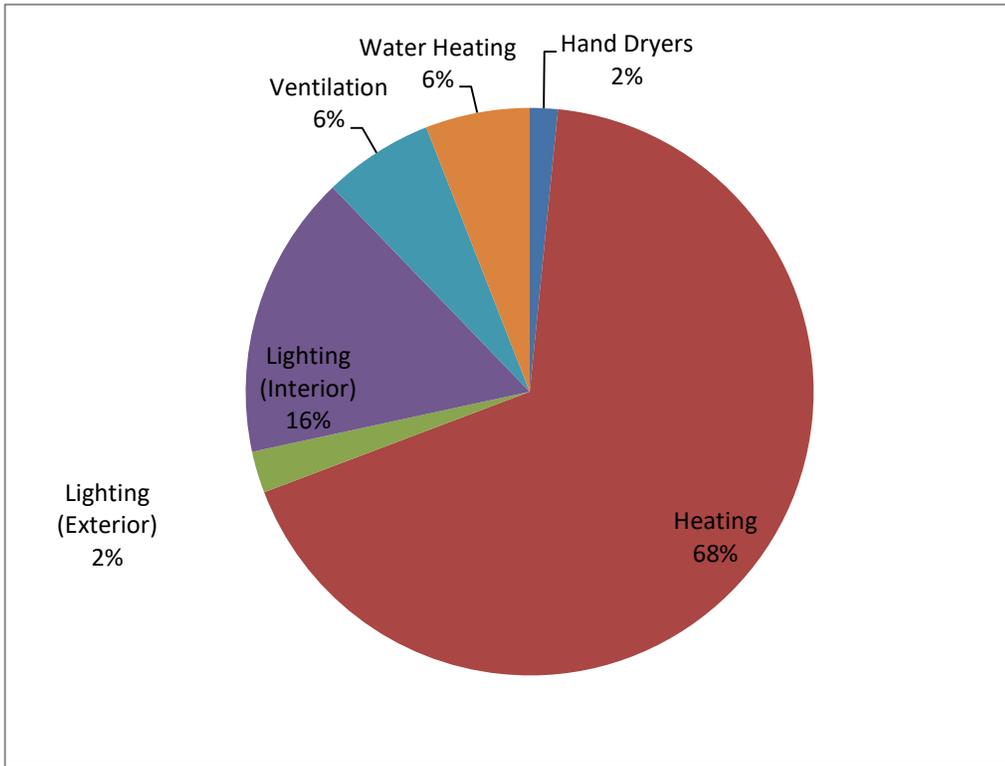


## 4.2 ENERGY END USE ANALYSIS

The following table shows the estimated end use analysis for all energy utilities on the Property.

| End Use                   | Input Energy Units |               | Combined Energy Use |             |
|---------------------------|--------------------|---------------|---------------------|-------------|
|                           | kWh                | Gallons       | kBtu                | %           |
| Hand Dryers               | 1,020              | -             | 3,479               | 1%          |
| Heating                   | 6,711              | 1,364         | 147,697             | 57%         |
| Lighting (Exterior)       | 1,514              | -             | 5,167               | 2%          |
| Lighting (Interior)       | 10,365             | -             | 35,367              | 14%         |
| Ventilation               | 4,018              | -             | 13,709              | 5%          |
| Water Heating             | 1,478              | 86            | 12,933              | 5%          |
| Car Chargers              | 12,334             | -             | 42,086              | 16%         |
| <b>Total Estimated</b>    | <b>37,440</b>      | <b>1,450</b>  | <b>260,438</b>      | <b>100%</b> |
| <b>Historical Billing</b> | <b>37,445</b>      | <b>1,450</b>  | 260,457             |             |
| <b>Percent of Actual</b>  | <b>100.0%</b>      | <b>100.0%</b> | <b>100.0%</b>       |             |
| <b>Total per ft^2</b>     | <b>19.2</b>        | <b>0.7</b>    | <b>133.9</b>        |             |

Combined Fuel End-Use Breakdown



### 4.3 ENERGY & WATER BENCHMARKING

The buildings associated with this report are not eligible for an Energy Star Score; therefore, these properties have not been benchmarked in Energy Star Portfolio Manager.

The existing site EUI of these properties is 133.9 kBtu/ square foot. If all of the EWEMs proposed in this report are implemented, it is estimated that the new site EUI would be 123 kBtu/ square foot.

## 5.0 BUILDING SYSTEMS

---

### 5.1 ENVELOPE

The following table shows the building envelope components that were observed at the Property.

| Building Component | 3 Newport Drive Comfort Station | Pier Comfort Station            | 30 Park Street Comfort Station  |
|--------------------|---------------------------------|---------------------------------|---------------------------------|
| Year Built         | 2011                            | 2013                            | 2006                            |
| Area               | 792                             | 513                             | 640                             |
| Foundation         | Wood Framed                     | Slab-on-grade                   | Slab-on-grade                   |
| Framing            | Wood Framed                     | Wood                            | Wood                            |
| Exterior Cladding  | Painted stucco                  | Clapboard                       | Clapboard                       |
| Roof               | Gable/Hip with Asphalt Shingles | Gable/Hip with Asphalt Shingles | Gable/Hip with Asphalt Shingles |
| Windows            | Single Pane with Wood Frames    | None                            | None                            |
| Exterior Doors     | Metal                           | Metal                           | Metal                           |

### 5.2 LIGHTING

The following tables provide an inventory of observed lighting fixtures, lamp type, and wattage.

## Lighting Audit

| Area of Building                             | Exitsting Fixture   | Total # Fixures | Bulbs Per Fixture | Total # of Bulbs | LED Equivalent Wattage | Current kWh Usage | kWh Usage w/ LED | kWh Saved Per Year | Cost Per kWh | Current Annual Op Cost | Annual Cost Using LEDs | Savings       | Cost to Install Lighting | Pay back    |
|--|---------------------|-----------------|-------------------|------------------|------------------------|-------------------|------------------|--------------------|--------------|------------------------|------------------------|---------------|--------------------------|-------------|
| 30 Park Street Comfort Station Interior      | 2B 32W 4' T8        | 2               | 2                 | 4                | 11                     | 1121              | 385              | 736                | 0.12         | \$136                  | \$47                   | \$89          | \$34                     | 0.4         |
| 30 Park Street Comfort Station Exterior      | 1B 60W Incandescent | 4               | 1                 | 4                | 10                     | 1615              | 269              | 1346               | 0.12         | \$196                  | \$33                   | \$164         | \$38                     | 0.2         |
| 3 Newport Drive Comfort Station Interior     | 2B 15W LED          | 10              | 2                 | 20               | 0                      | 2628              | 0                | 0                  | 0.12         | \$320                  | \$0                    | \$0           | \$0                      | -           |
| 3 Newport Drive Comfort Station Mech. Closet | 3B 32W 4' T8        | 1               | 3                 | 3                | 11                     | 70                | 24               | 46                 | 0.12         | \$9                    | \$3                    | \$6           | \$26                     | 4.6         |
| 3 Newport Drive Comfort Station Exterior     | 2B 15W LED          | 3               | 2                 | 6                | 15                     | 606               | 303              | 303                | 0.12         | \$74                   | \$0                    | \$0           | \$361                    | -           |
| 8 Waldron Rd Exterior                        | 1B 75W Incandescent | 1               | 1                 | 1                | 13                     | 505               | 44               | 461                | 0.12         | \$61                   | \$5                    | \$56          | \$122                    | 2.2         |
| 8 Waldron Rd Exterior                        | 1B 60W Incandescent | 1               | 1                 | 1                | 10                     | 404               | 34               | 370                | 0.12         | \$49                   | \$4                    | \$45          | \$123                    | 2.7         |
| 1 West Street Interior                       | 3B 32W 4' T8        | 10              | 3                 | 30               | 11                     | 4931              | 1695             | 3236               | 0.12         | \$600                  | \$206                  | \$394         | \$259                    | 0.7         |
|  |                     |                 |                   |                  |                        | <b>11,879</b>     | <b>2,754</b>     | <b>6,498</b>       |              | <b>\$ 1,445</b>        | <b>\$ 298</b>          | <b>\$ 753</b> | <b>\$ 963</b>            | <b>1.28</b> |

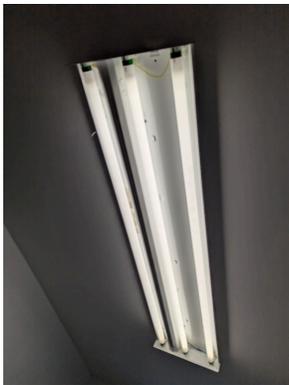
## Lighting Photographs



Exterior Lighting



Exterior LED Lighting



Interior Fluorescent Light Fixture



Interior LED Light Fixtures



Pier Comfort Station Exterior Lighting

### 5.3 BUILDING MECHANICAL SYSTEMS

The Newport Drive Comfort Station has a high-efficiency (95% AFUE) propane-fired tankless water heater that serves dual purposes: providing domestic hot water to the sinks and supplying hot water to the in-floor radiant heating system. This facility also features four electric hand dryers, with two units installed in the men's and women's restrooms.

The comfort stations at 30 Park Street and the Pier utilize electric point-of-use water heaters installed beneath the sinks for domestic hot water needs. Additionally, the Pier Comfort Station is heated by radiant electric heaters installed in both the men's and women's restrooms.

#### Building Mechanical System Photographs



Electric Hand Dryers

#### 5.4 APPLIANCES

There are no appliances associated with these facilities.

#### 5.5 LAUNDRY EQUIPMENT

There are no laundry systems at these properties.

### Domestic Water Heating

| Building        | Location or Unit Address | Residential or Commercial (central)? | Manufacturer | Model #  | Serial # | YEAR of Manufacture | EUL | RUL | Quantity | Fuel    | Input Capacity | Input Units | Storage Capacity (Gal) | Efficiency | Efficiency Units | Setpoint | EnergyStar ? |
|-----------------|--------------------------|--------------------------------------|--------------|----------|----------|---------------------|-----|-----|----------|---------|----------------|-------------|------------------------|------------|------------------|----------|--------------|
| Comfort Station | 3 Newport Drive          | Residential                          | Bosch        | GB142-30 |          | 2019                | 10  | 4   | 1        | Propane | 106000         | BTU/hr      | 30                     | 95%        | AFUE             | 140      | Yes          |

## 6.0 RECOMMENDED EWEMS

---

The Recommended EWEMs table found at the beginning of the report identifies the measures that should be considered for further evaluation or implementation. This section describes each Recommended EWEM in further detail.

### 6.1 CAPITAL COST EWEMS

AEI has identified three (3) capital cost EWEMs for this Property.

#### **EWEM #1: RETROFIT BATHROOMS WITH ULTRA LOW-FLOW TOILETS AND URINALS**

##### **Current Condition:**

Newport Drive Comfort Station:

- Six (6) 1.28 GPF toilets
- Two (2) 0.125 GPF urinals

Park Street and Pier Comfort Stations:

- Three (3) 1.6 GPF toilets each
- One (1) 1.0 GPF urinal each

**Proposed Measure:** Replace existing fixtures with:

- 0.6 GPF high-efficiency toilets (HETs)
- Option A: 0.125 GPF high-efficiency urinals (HEUs)
- Option B: Waterless urinals

##### **RECOMMENDATIONS:**

**Primary Recommendation:** 0.125 GPF urinals and 0.6 GPF toilets. **Rationale:**

- Better suited for seasonal facilities
- Lower maintenance burden
- More reliable operation
- Good balance of water savings and functionality
- Reduced risk of operational issues

**Secondary Recommendation:** If maximum water savings is a priority, consider water-less urinals in one facility as a pilot program before full implementation

##### **Implementation Strategy:**

1. Verify that water pressure meets manufacturer specifications
2. Install fixtures during the off-season

3. Implement a maintenance training program
4. Monitor performance through peak season
5. Track water savings and maintenance requirements
6. Adjust programs based on performance

The success of either option will depend on proper specification, installation, and maintenance program implementation. Given the facility's seasonal nature and coastal location, the 0.125 GPF urinals present the most balanced solution, offering significant water savings while minimizing operational challenges.

This measure recommends replacing the existing plumbing fixtures with high-efficiency models across three comfort stations. At Newport Drive, this includes replacing six 1.28 GPF toilets and two 0.125 GPF urinals. At both the Park Street and Pier comfort stations, this includes replacing three 1.6 GPF toilets and one 1.0 GPF urinal each. All existing toilets would be replaced with 0.6 GPF high-efficiency toilets (HETs), and all urinals would be replaced with 0.125 GPF high-efficiency urinals (HEUs).

The retrofit should prioritize WaterSense-certified fixtures to ensure optimal water efficiency, durability, and performance quality. The selection of fixtures should consider seasonal occupancy patterns, existing plumbing infrastructure, and maintenance requirements while maintaining adequate performance for public restroom applications.

**Benefits:**

- **Significant Water Savings:** Reduced water consumption through lower gallons-per-flush fixtures
- **Reduced Utility Costs:** Lower water and sewer bills
- **Improved Performance:** WaterSense-certified fixtures ensure reliable flushing performance
- **Environmental Impact:** Reduced water consumption and associated energy usage for water treatment
- **Consistent with Modern Standards:** Alignment with current water conservation practices
- **Extended Infrastructure Life:** Reduced load on municipal water and sewer systems

**Total Estimated Cost (including labor and materials):** \$5,450

**Estimated Annual Savings:** \$431

**Estimated Annual Operational & Maintenance (O&M) Savings:** Standard maintenance procedures will remain similar to existing fixtures. Minor cost savings may be realized through reduced water-related maintenance issues.

**Operational Changes for Staff:** Minimal changes to current cleaning and maintenance procedures. Staff should be trained on proper cleaning protocols for high-efficiency fixtures. See the Maintenance Requirements section below for more information.

**Implementation Impact to Occupants:** Installation should be scheduled during off-season or low-usage periods to minimize disruption to public access. Work can be phased by comfort station to maintain service availability.

**Available rebates or incentives for this measure:**

- Efficiency Maine may offer water conservation incentives for commercial properties
- Consider investigating available water conservation grants for municipal facilities

More information about available incentives and funding opportunities can be found in Section 8.1 State Level Incentives .

**Additional Considerations:**

- Verify that water pressure meets manufacturer specifications for all new fixtures
- Consider installing flow meters to track actual water savings
- Implement signage to educate users about water conservation efforts
- Develop maintenance schedules aligned with seasonal usage patterns
- Document water savings for future conservation initiatives

**ANALYSIS:**

**Waterless Urinals: Advantages:**

- Maximum water savings potential
- No flush valve maintenance
- No water supply lines needed
- Lower utility costs
- Ideal for seasonal facilities

**Disadvantages:**

- Higher maintenance requirements
- Requires frequent cartridge replacement (2-4 times annually)
- Unique cleaning protocols are needed
- Risk of crystallization in drain lines
- It may require drain line treatments
- Not recommended for facilities with low-flow drain systems
- Staff training required for maintenance
- Potential odor issues if not properly maintained

**0.125 GPF Urinals: Advantages:**

- Significant water savings vs. 1.0 GPF units
- Familiar maintenance procedures
- Less intensive maintenance than waterless
- Helps prevent drain line buildup
- More consistent performance
- Lower risk of odors

**Disadvantages:**

- Higher water usage than waterless
- Requires functional water supply
- Periodic flush valve maintenance needed

**0.6 GPF Toilets: Advantages:**

- Significant water savings vs. 1.6 and 1.28 GPF units
- MaP testing verified the performance
- Compatible with existing plumbing
- Reduced water/sewer costs

**Disadvantages:**

- Higher initial cost
- It may require more frequent cleaning
- Potential for double-flushing if not correctly specified

**MAINTENANCE REQUIREMENTS:**

**Waterless Urinals:**

- Daily cleaning with manufacturer-approved products
- Regular cartridge replacement
- Periodic drain line treatment
- Deep cleaning every 3-6 months
- Staff training program implementation

**0.125 GPF Urinals:**

- Standard daily cleaning
- Annual flush valve maintenance
- Periodic drain line inspection
- Standard plumbing maintenance

#### 0.6 GPF Toilets:

- Standard daily cleaning
- Annual flush valve maintenance
- Regular bowl inspection for proper operation

#### **SPECIAL CONSIDERATIONS FOR COASTAL LOCATION:**

##### Salt Air Environment:

- Specify corrosion-resistant materials
- Consider the impact on fixture longevity
- May affect maintenance intervals

##### Municipal Infrastructure:

- Verify adequate slope in existing drain lines
- Consider the effect of reduced water flow on the municipal sewer system
- Evaluate existing water pressure requirements

#### **EWEM #2 - RETROFIT EXTERIOR LIGHTING WITH ENERGY STAR CERTIFIED LEDs**

This measure recommends retrofitting 9 existing exterior light fixtures with 12 new Energy Star certified bi-level LED fixtures or lamps. Bi-level, occupancy controlled fixtures will dim the exterior lights to 50% when no motion is detected, and raise the brightness to 100% when occupancy is detected.

The retrofit should prioritize Energy Star certified LED products designed for outdoor applications to ensure optimal energy efficiency, weather resistance, and product quality. The selection of LED fixtures or lamps should be based on the existing fixture types, the desired light output, color temperature, and distribution to maintain or improve the existing lighting quality, while also considering safety and security requirements.

#### **Benefits:**

- **Significant Energy Savings:** Reduced electricity consumption due to higher lumen-per-watt efficiency of LEDs.
- **Reduced Operating Costs:** Lower energy bills and reduced maintenance costs due to longer LED lifespan.
- **Improved Lighting Quality:** Consistent light output, improved color rendering, and reduced light pollution.
- **Extended Lifespan:** LEDs offer a significantly longer lifespan than traditional exterior lighting, minimizing replacement frequency.

- **Enhanced Safety and Security:** Improved light distribution and color rendering can enhance visibility and security.
- **Reduced Environmental Impact:** Lower energy consumption translates into reduced greenhouse gas emissions.

**Total Estimated Cost (including labor and materials): \$357**

**Estimated Annual Savings: \$652**

**Estimated Annual Operational & Maintenance (O&M) Savings:** The extended lifespan of LED lamps will significantly reduce replacement and maintenance costs over time, especially for exterior fixtures that may be difficult to access.

**Operational Changes for Staff:** None required.

**Implementation Impact to Occupants:** The retrofit will occur during normal business hours in exterior areas. Minimal disruption to occupants is expected.

**Available Rebates or Incentives:**

- Efficiency Maine offers the 2025 Discounted Screw-In LEDs Program. This program offers discounted screw-in LEDs at retailers and distributors across the state. While this program focuses on screw-in bulbs, it is worth investigating if any of the exterior fixtures can utilize these discounted bulbs.
- Efficiency Maine offers the 2025 Commercial and Industrial (C&I) Custom Program - Electric Projects. This program is for electrical energy efficiency projects that result in at least 36,000 kWh of annual reductions in grid-supplied energy. If the total project savings meet the minimum requirements, this project may qualify for custom incentives. It is highly recommended that a detailed energy savings calculation be performed to determine eligibility.
- This project may also qualify for the 2025 Commercial and Industrial (C&I) Custom Program - Electric Projects because this program funds electrical energy efficiency projects.
- It is advised to review the Program Opportunity Notice (guidelines and project application) found on the Efficiency Maine website.

More information about available incentives and funding opportunities can be found in Section 8.1 State Level Incentives .

### **EWEM #3 - RETROFIT INTERIOR LIGHTING WITH ENERGY STAR CERTIFIED LEDS**

This measure recommends retrofitting thirteen (13) existing interior light fixtures containing thirty-seven (37) linear fluorescent tube lamps with new Energy Star-certified LED fixtures or lamps. The current fluorescent lighting system exhibits inefficient energy consumption and can be significantly improved by transitioning to modern LED technology.

LED lighting offers a significantly higher lumen-per-watt ratio than traditional fluorescent lighting. LED fixtures consume considerably less energy for the same light output, which results in substantial energy savings. Additionally, LED lamps have a significantly longer lifespan, reducing the frequency of replacements and associated maintenance costs.

The retrofit should prioritize Energy Star-certified LED products to ensure optimal energy efficiency and product quality. The selection of LED fixtures or lamps should be based on the existing fixture types and the desired light output, color temperature, and distribution to maintain or improve the existing lighting quality.

#### **Benefits:**

- **Significant Energy Savings:** Reduced electricity consumption due to the higher lumen-per-watt efficiency of LEDs.
- **Reduced Operating Costs:** Maintenance costs will be reduced due to the longer LED lifespans, leading to less frequent replacement intervals.
- **Improved Lighting Quality:** Consistent light output, improved color rendering, and reduced flicker.
- **Extended Lifespan:** LEDs offer a significantly longer lifespan than fluorescent lamps, minimizing replacement frequency.
- **Reduced Environmental Impact:** Lower energy consumption translates to reduced greenhouse gas emissions.

**Total Estimated Cost (including labor and materials): \$606**

**Estimated Annual Savings: \$137**

**Estimated Annual Operational & Maintenance (O&M) Savings:** The extended lifespan of LED lamps will significantly reduce replacement and maintenance costs over time.

**Operational Changes for Staff:** None required.

**Implementation Impact to Occupants:** The retrofit will occur in common areas and on-site during regular business hours. Minimal disruption to occupants is expected.

#### **Available Rebates or Incentives:**

- Efficiency Maine offers the 2025 Discounted Screw-In LEDs Program. This program provides discounted screw-in LEDs at retailers and distributors across the state. While this program focuses on screw-in bulbs, it is worth investigating whether any common area fixtures can utilize these discounted bulbs.
- Efficiency Maine offers the 2025 Commercial and Industrial (C&I) Custom Program - Electric Projects. This program is for electrical energy efficiency projects that result in at least 36,000 kWh of annual reductions in grid-supplied energy. If the total project savings meet the minimum requirements, this project may qualify for custom incentives. Performing a detailed energy savings calculation to determine eligibility is highly recommended.

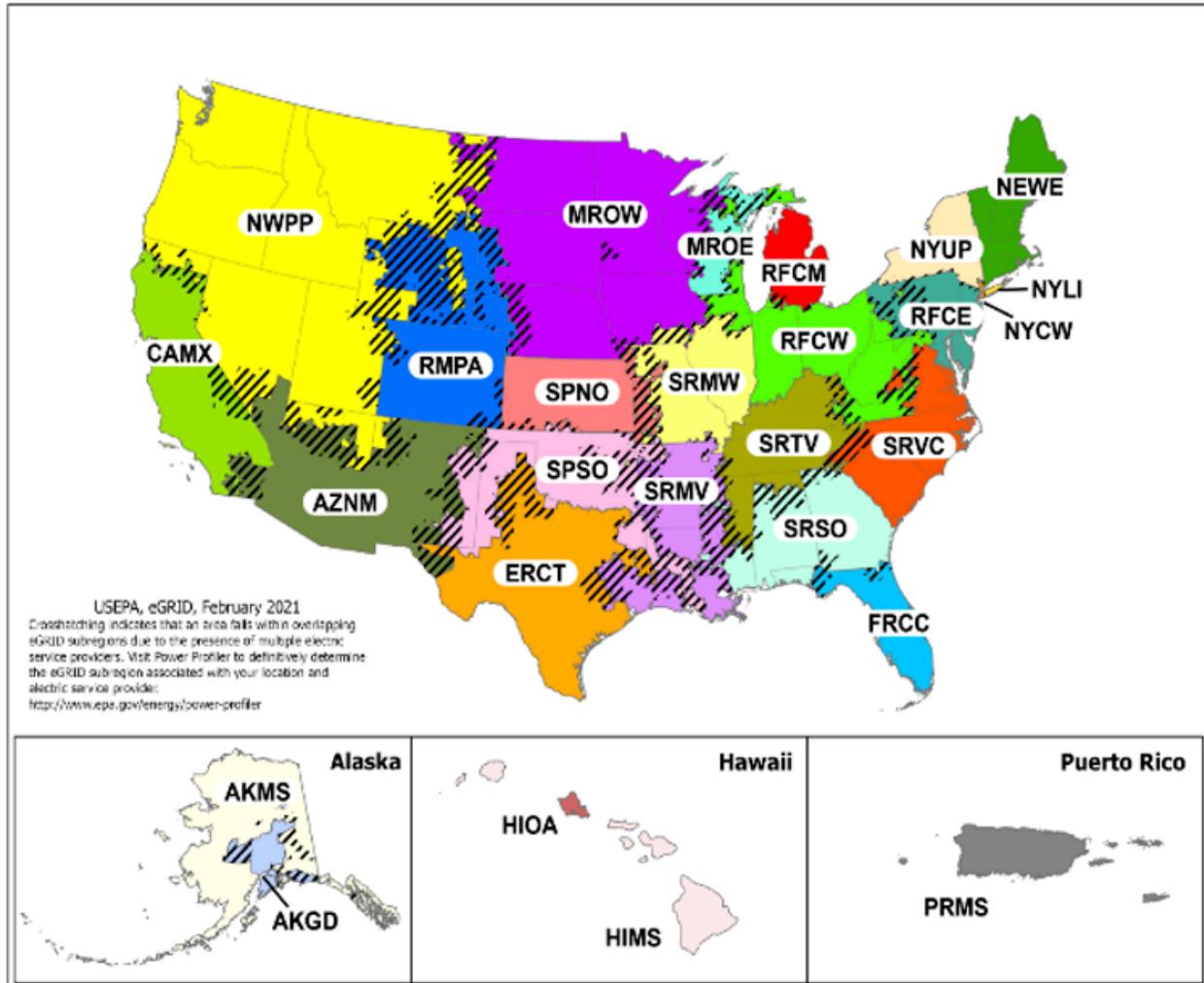
- This project may also qualify for the 2025 Commercial and Industrial (C&I) Custom Program - Electric Projects because this program funds electrical energy efficiency projects.
- It is advised to review the Program Opportunity Notice (guidelines and project application) found on the Efficiency Maine website.

More information about available incentives and funding opportunities can be found in Section 8.1 State Level Incentives .

## 7.0 GHG EMISSIONS ANALYSIS

### 7.1 EGRID SUBREGIONS

A map of the the eGRID subregions and the equivalent CO<sub>2</sub> emissions factor used in the GHG emissions analysis calculations are shown below.

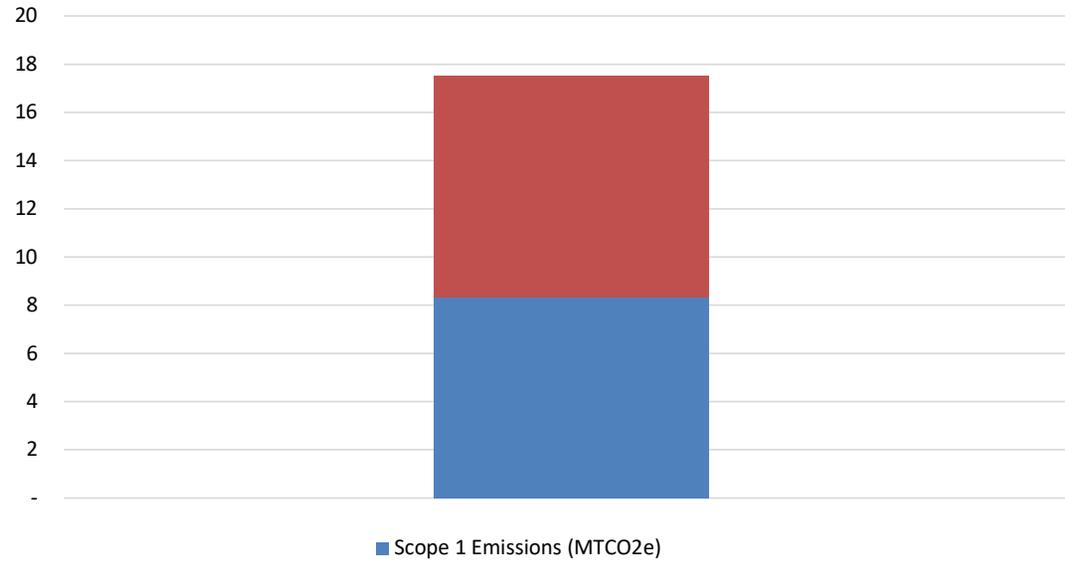


| eGRID Subregion Name | eGRID Acronym | CO <sub>2</sub> e Emissions Factor (lb/MWh) |
|----------------------|---------------|---|
| NPCC New England     | NEWE          | 541.1                                       |
| National Average     | N/A           | 775.2                                       |

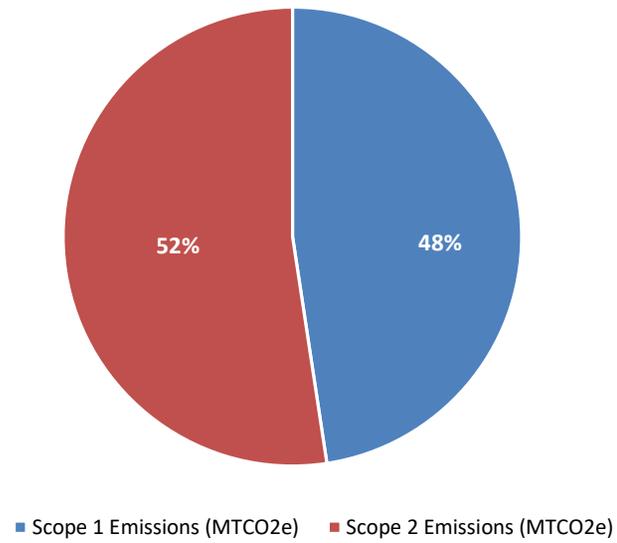
### 7.2 BASELINE SCOPE 1 AND SCOPE 2 GHG EMISSIONS

The following charts show the existing Scope 1 and Scope 2 emissions calculated for the Property using the above equivalent CO<sub>2</sub> emissions factor for the applicable region.

**Baseline Scope 1 and Scope 2 Emissions (MTCO<sub>2</sub>e/yr)**



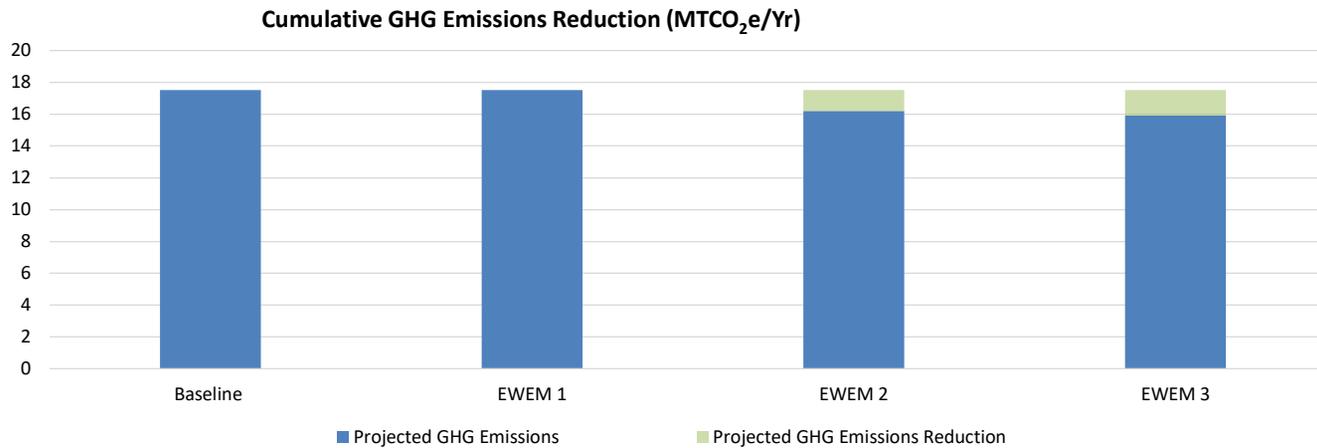
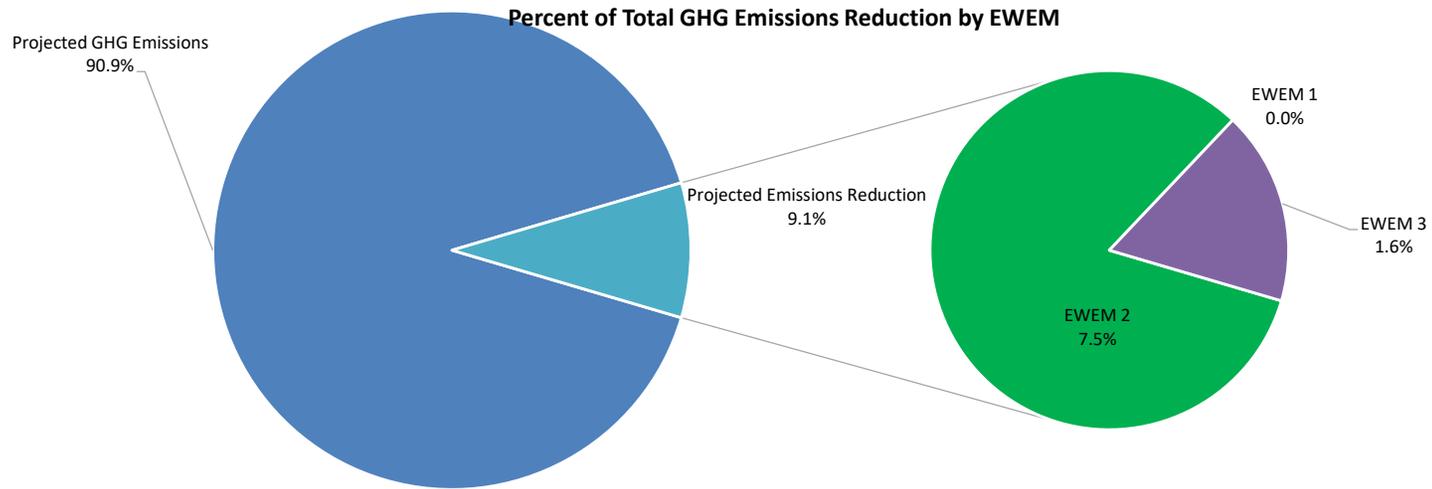
**Baseline Scope 1 and Scope 2 Emissions (%)**



### 7.3 GHG EMISSIONS REDUCTION PER EWEM

The following table and chart show the equivalent CO<sub>2</sub> emissions reduction per EWEM and the cumulative reduction of the combined EWEMs. The cumulative reduction chart assumes each EWEM will be implemented.

| EWEM #       | Energy And Water Efficiency Measures (EWEM) Summary Description   | Projected GHG Emissions (MTCO2e) | Emissions Reduction (MTCO2e) | Emissions Reduction (%) |
|--------------|---|----------------------------------|------------------------------|-------------------------|
| Baseline     | Current GHG emissions   | 17.52                            |                              |                         |
| EWEM 1       | Replace 9 Existing Toilets and 3 Existing Urinals with WaterSense Labeled Low Flow 1.28 GPF Single Flush Toilets and 0.125 GPF Urinals. |                                  | 0.00                         | 0.0%                    |
| EWEM 2       | Retrofit 17 Exterior Site and Common Area Lighting Fixtures with 41 DLC Certified LED Lamps   |                                  | 1.31                         | 7.5%                    |
| EWEM 3       | Replace 5 Common Area Lighting Fixtures with 5 Bi-Level Linear LED Lighting Fixtures  |                                  | 0.28                         | 1.6%                    |
| <b>Total</b> | <b>Projected GHG emissions and reduction from baseline</b>  | <b>15.93</b>                     | <b>1.59</b>                  | <b>9.1%</b>             |



## 8.0 FINANCIAL INCENTIVES

---

The following section will identify available incentives across the country and how they may or may not apply to the property and the recommendations made in this report. AEI will provide a summary of available energy efficiency incentives. The best resource to stay current on active energy efficiency incentives is at: [dsireusa.org](http://dsireusa.org).

### 8.1 STATE LEVEL INCENTIVES

#### 2025 Lighting Solutions

Lighting can be a significant operating expense in existing buildings. Maine businesses can reduce lighting expenses by upgrading to high-efficiency fixtures and installing lighting controls. Lighting control technologies allow building managers to carefully tailor lighting conditions to the requirements of specific spaces. These upgrades can also enhance productivity and improve aesthetics. Efficiency Maine also incentivizes high-efficiency screw-in LEDs at participating distributors across Maine. [Click here](#) to learn more about the Discounted Screw-in LED Program.

#### Eligible Scope

#### Solutions

##### Interior LED Lighting

- LED Retrofit Kits
- New LED Fixtures
- Refrigerated Case Fixtures and Controls
- Lighting Controls

##### Exterior LED Lighting

- LED Retrofit Kits
- New LED Fixture

##### Distributor Pathway Interior Lighting

- High/Low Bay Lamps (Mogul Screw Base)
- Tubular Lamps: T-8 • T8 U-Bend • T-5 • T-5HO replacement

##### Distributor Pathway Exterior Lighting

- Outdoor LED Mogul Screw-Base Replacement Lamp

#### Estimated Funds

#### Min Funds

Varies by Project

## Max Funds

## Incentives

### Interior LED Lighting

- \$0.28 per kWh of first year savings up to 65% of measure cost

### Exterior LED Lighting

- \$0.28 per kWh of first year savings up to 65% of measure cost

### Small Business LED Lighting

- 75% of total measure cost for qualifying interior and exterior lighting
- Small business customers must have an electric account labeled “Small General Service” (SGS), “General Service” (GS), or “Medium General Service” (MGS) with an average monthly electrical demand under 50kW
- [Click here](#) for more information on small businesses

### Distributor Pathway Interior Lighting

- Incentive depends on the specific distributor
- [Click here](#) to find a participating distributor

### Distributor Pathway Exterior Lighting

- Incentive depends on the specific distributor
- [Click here](#) to find a participating distributor

## Next Steps

1. Work with an Efficiency Maine Qualified Partner to install high-efficiency lighting. [Click here](#) to find a Qualified Partner working near you. or If you work with a contractor that is not yet a Qualified Partner, urge your contractor to find out more information [here](#).
2. Efficiency Maine reserves the right to require pre-approval for any Program application proposing an incentive of **\$5,000 or more**.
3. As part of the project approval process, you will accept the C&I Prescriptive Program’s [Terms and Conditions](#).

## **2025 Water Heating Solutions**

Maine businesses can reduce water heating costs by upgrading to high-efficiency water heating systems. Efficiency Maine offers incentives for heat pump water heaters and ECM circulator pumps. These upgrades can reduce water heating costs and provide hot water when needed.

### **Eligible Scope**

#### **Eligible Equipment**

##### **Light-Duty Commercial Heat Pump Water Heaters**

- Light-duty heat pumps can be used for small commercial or residential facilities that need hot water. They typically have a tank with a storage capacity of up to 50 gallons.
- Tens of thousands of Mainers own these heat pump water heaters. They're popular because they produce lots of hot water, can save more than \$5,000 over their 10-year life, and help to dehumidify.

##### **Heavy-Duty Commercial Heat Pump Water Heaters**

- Heavy-duty commercial heat pump water heaters can provide hot water for commercial settings, including hospitals, hotels, motels, multifamily buildings, long-term care facilities, and offices.

##### **ECM Circulator Pumps**

- Businesses can reduce electric costs with the installation of ECM circulator pumps. Forced hot water (“hydronic”) heating systems use circulator pumps to move heated water from boilers to radiators and back. These pumps run whenever a thermostat calls for heat. Traditional circulator pumps run at one fixed speed and use some electricity to magnetize their rotor. Electronically commutated motor (ECM) circulator pumps can modulate their speed and use permanent magnet motors that don't require any electricity to have magnetic properties. ECM circulator pumps cost less to buy and less to operate than traditional circulator pumps.
- [Click here](#) to learn more about this technology, and [click here](#) to find a participating distributor.

### **Estimated Funds**

#### **Min Funds**

Varies by equipment type.

#### **Max Funds**

#### **Incentives**

##### **Light-Duty Commercial Heat Pump Water Heaters**

- [Click here](#) for information on incentives for light-duty heat pump water heaters.

### Heavy-Duty Commercial Heat Pump Water Heaters

- See the table below for information on incentives for both retrofit and new construction projects.
- Incentives are limited to hospitals, hotels, motels, multifamily buildings, long-term care facilities, and offices.

### Heat Pump Water Heater Integrated Storage || Minimum Qualifying Efficiency Criteria || Incentive Amount

- 80 gallons || ENERGY STAR® || \$1,800 per unit
- 120 gallons || ENERGY STAR® || \$3,000 per unit
- Split-system with minimum of 80 gallons || ENERGY STAR® || \$3,000 per unit

### ECM Circulator Pumps

- [Click here](#) for information on incentives for ECM circulator pumps.

### Next Steps

1. [Click here](#) to find a Qualified Partner working near you. If you work with a contractor that is not yet a Qualified Partner, urge your contractor to find out more information [here](#).

### 2025 Commercial Heating, Ventilation, and Air Conditioning (HVAC) Solutions

Businesses can save money, increase equipment reliability, and create more comfortable and productive workplaces by making energy-efficient choices when installing, renovating, or replacing HVAC equipment. By upgrading to an efficient electric HVAC system, a business can move towards beneficial electrification, or the transition of electric systems in a way that reduces overall emissions and energy costs.

Incentives for these HVAC systems are designed to encourage the installation of primary whole building heating and cooling systems. Installing electric heat pump equipment can help a business's operating systems become fossil fuel free.

[Click here](#) for more information on incentives for HVAC solutions.

### Eligible Scope

### Eligible Equipment

## Heat Pump Solutions

- Mini-Split Heat Pumps (Air-to-Air) Heat Pump Rooftop Units (RTUs)
- Packaged Terminal Heat Pumps
- Vertical Packaged Terminal Heat Pumps
- Variable Refrigerant Flow (VRF) Systems
- Water Source Heat Pumps

## Other Electric HVAC Solutions

- Demand Control Ventilation
- Electronically Commutated Motor (ECM) Circulator Pumps
- Energy Recovery Ventilator (ERV) Systems
- Variable-Frequency Drive (VFD) Systems

## Propane and Natural Gas Solutions

- Biomass Boilers and Furnaces
- Commercial Boilers and Furnaces
- Commercial Boiler Controls and Ancillary Equipment (retrofit only)\*\*

## Estimated Funds

### Min Funds

Varies by equipment type.

### Max Funds

## Heat Pump Incentives

### Mini-Split Heat Pumps

- Single-zone - \$1,000
- Single-zone air source heat pumps

### Small Business Mini-Split Heat Pump Retrofits

- Single-zone - \$1,400
- Single-zone air source heat pumps
- [Click here](#) for more information on eligibility.

### Multifamily Mini-Split Heat Pumps

- 1 to 3 Zones: \$6.00/sq. ft.

### Variable Refrigerant Flow (VRF) Systems

- \$8.00/sq. ft. single-phase without heat recovery
- \$10.00/sq. ft. without heat recovery
- \$12.00/sq. ft. with heat recovery

### Heat Pump Rooftop Units (RTUs)

- 60 to <= 120 MBH: \$168 per MBH
- 121 to <= 450 MBH: \$125 per MBH

### Packaged Terminal Heat Pumps

- < 7,000 Btu/h: \$430 per unit
- >= 7,000 Btu/h and =15,000: \$450 per unit
- > 15,000 Btu/h: \$480 per unit

### Vertical Packaged Terminal Heat Pumps

- < 7,000 Btu/h: \$700 per unit
- >= 7,000 Btu/h and =15,000: \$850 per unit
- > 15,000 Btu/h: \$1,000 per unit

### Other Electric HVAC Incentives

#### ECM Circulator Pumps

- ECM Circulator Pump Instant Discount: \$100
- [Click here](#) for more information.

#### Energy Recovery Ventilator (ERV) Systems

- Sensible heat recovery = 55% to< 65% - \$1.50/CFM
- Sensible heat recovery = 65% to< 75% - \$1.75/CFM
- Sensible heat recovery = 75% to< 85% - \$2.00/CFM
- Sensible heat recovery = 85% - \$2.25/CFM

#### Variable-Frequency Drive (VFD) Systems

- \$400 - \$2,300 per unit (incentive varies by system horsepower)

## Biomass Boilers and Furnaces

- [Click here](#) for information on incentives for these systems.

## Next Steps

1. Work with an Efficiency Maine Qualified Partner to install high-efficiency cooling solutions. [Click here](#) to find a Qualified Partner working near you. Or If you work with a contractor that is not yet a Qualified Partner, urge your contractor to find out more information [here](#).
2. Efficiency Maine reserves the right to require pre-approval for any Program application proposing an incentive of **\$5,000 or more**.
3. As part of the project approval process, you will accept the C&I Prescriptive Program's [Terms and Conditions](#).

## 2025 Discounted Screw-In LEDs Program

(Existing Buildings)

Administrator: Efficiency Maine

### Description

Efficiency Maine discounts screw-in LEDs at retailers and distributors across the state. Customers do not need to file paperwork or wait for rebate checks.

### Eligible Scope

#### Eligibility

- All customers are eligible as long as the bulbs are installed in Maine.
- Customers buying more than 20 bulbs at a retail location must request a bulk-purchase waiver.
- Customers buying from a distributor must provide a Maine installation address and other information.
- Bulbs purchased from a distributor may be subject to inspection.
- It is not necessary to work with a registered contractor.
- Discounts are available on LEDs of various bulb shapes, bases, and wattages.
- Eligible products include A-line bulbs, spotlights, floodlights, and candelabra bulbs.

## Resources

- [Find a participating retailer](#)
- [Find participating distributors](#)
- [Learn about business incentives for other types of lighting](#)
- [Learn more about screw-in bulbs](#)
- [Read Retail LED Upgrade Case Studies](#)

## Estimated Funds

### Min Funds

Incentive depends on the specific distributor.

### Max Funds

Incentive depends on the specific distributor.

## Next Steps

1. Discounts are available on LEDs of various bulb shapes, bases, and wattages.
  - > To find a participating retailer, [click here](#).
  - > To find a participating distributor, [click here](#).
  - > To find the best prices on retail bulbs, [click here](#).

## 2025 Commercial and Industrial (C&I) Custom Program - Energy Storage System Projects

(Existing Buildings)

Administrator: Efficiency Maine

### Apply Services

IncentiFind can connect you to our expert who can explain why this incentive may be right for your project.

### Description

Efficiency Maine's Energy Storage System (ESS) Program Opportunity Notice (PON) offers performance based incentives for the deployment of energy storage systems during summer peak demand conditions.

All demand metered customers (commercial, nonprofits, institutions and government) are eligible to participate.

### Eligible Scope

Efficiency Maine's Energy Storage System (ESS) Program Opportunity Notice (PON) offers performance based incentives for the deployment of energy storage systems during summer peak demand conditions.

All demand metered customers (commercial, nonprofits, institutions and government) are eligible to participate.

### **Eligible Projects**

Eligible projects must be interconnected behind the facility utility meter and must be located in Maine with a Maine electric utility account. Awarded incentives will be based on the amount of facility electric load (kW) that the proposed system can reduce during summer peak demand hours. Additionally, awarded systems must:

- Be approved by the Trust prior to installation.
- Be at least 20 kW.
- Maintain a minimum 80% round-trip efficiency.
- Be able to collect and transmit 15-minute interval data.
- Carry a 10-year manufacturer warranty.
- Be UL-listed or certified by another nationally recognized testing lab.

### **Ineligible Projects**

- Systems configured for grid export.
- Participants without the required interval metering and data transmission capability.
- Facilities not located in Maine or served by a Maine electric utility.
- Residential and small business customers.

### **Estimated Funds**

#### **Min Funds**

Varies by project.

#### **Max Funds**

### **Funding Overview**

Incentives awarded through this PON will be paid each fall for 5 years following an annual evaluation of the project's performance. Additionally, incentives will be subject to the following limitations:

- \$200 per kW of validated reduction in grid supplied power.
- Incentives will be on average load reduction achieved for fifteen (15) dispatches during summer peak demand conditions.
- Incentive awards will be at least \$4,000 and not more than \$600,000 per year, per project, for 5 years.
- All projects awarded will require a formal contract with Efficiency Maine.

## Next Steps

1. Check your eligibility.
2. To get started, please review the [Program Opportunity Notice](#) (application guidelines, award criteria, and limitations).

## 8.2 FEDERAL INCENTIVES

### 179D - Energy Efficient Commercial Buildings Deduction

Section 179D of the U.S. Internal Revenue Code provides a tax deduction for investments in energy-efficient improvements made to commercial buildings. The provision is designed to incentivize property owners and tenants to enhance the energy performance of their properties, thereby promoting energy conservation and reducing utility costs. The deduction can be claimed by the owner of the commercial building or, if they are not the taxpayer, the tenant who makes the qualifying improvements. The deduction applies to improvements made to buildings used for commercial purposes, including retail spaces, office buildings, and industrial facilities. The deduction is allowed under Internal Revenue Code (IRC) Section 179D. It was expanded under the Inflation Reduction Act of 2022.

#### 1. Types of Improvements:

- The interior lighting systems, the heating, cooling, ventilation, and hot water systems, or the building envelope
- It must be certified as being installed as part of a plan to reduce the total annual energy and power costs for the above systems by 25% or more in comparison to a reference building meeting the minimum requirements of ASHRAE Reference Standard 90.1.

#### 2. Amount of Deduction

- The cost of the installed property, or;
- The savings per square foot calculated as:
  - \$0.50 per square foot for a building with 25% energy savings
  - **Plus \$0.02** per square foot for each percentage point of energy savings above 25%
  - **Up to** a maximum of \$1.00 per square foot for a building with 50% energy savings
- Expenses deducted in the prior 3 years (4 years for an allocated deduction) reduce the maximum deduction before computing the current-year deduction.

- **Prevailing wage and apprenticeship bonus:** Beginning in 2023, if local prevailing wages are paid and apprenticeship requirements are met, an increased maximum deduction applies. The maximum amount increases to **5 times** the savings per square foot amount.

### 3. Certification Process:

- **Qualified Professional:** A certification must be provided by a qualified professional confirming that the improvements meet the required energy savings.
- **Documentation:** Detailed documentation and calculations are required to substantiate the claim, including energy modeling and performance testing.

### 4. Benefits:

- **Tax Savings:** The deduction can significantly reduce a business's tax liability, offering a financial incentive to invest in energy-efficient upgrades.
- **Operational Savings:** Beyond tax benefits, energy-efficient improvements often lead to reduced utility bills and lower operational costs.

### 5. Legislative Context:

- **Expiration and Extensions:** Now that the IRC 179D provision is permanent, there is an inflation adjustment for the deduction for property placed in service after December 31, 2020.

### 6. What can the property do?

- AEI can connect the property with partners qualified to complete 179D certification if requested.

## 8.3 LOAN PROGRAMS

### C-PACE (Commercial Property Assessed Clean Energy)

C-PACE (Commercial Property Assessed Clean Energy) is a financing program that helps commercial property owners fund energy-efficient and renewable energy improvements to their buildings. Through C-PACE, property owners can access long-term financing for upgrades like solar panels, energy-efficient HVAC systems, lighting, and water conservation measures.

The unique feature of C-PACE is that the financing is repaid through a property tax assessment, which is tied to the property rather than the owner. This allows for longer repayment terms and can often result in positive cash flow for property owners, as the energy savings from the upgrades can exceed the cost of the financing.

C-PACE programs are available in many states in the U.S., and they aim to promote environmental sustainability while helping businesses lower energy costs.

C-PACE is not available everywhere and is administered by independent programs in each state.

The State of Maine offers a C-PACE program.

This program can be used to finance recommendations made in this report and can also include energy/water audit costs.

### **Energy Savings Performance Contracting (ESPC)**

ESPC is a financing mechanism that enables organizations to implement energy efficiency improvements without upfront capital costs. The ESPC process includes the following:

1. **Partnership with an Energy Service Company (ESCO):** The organization partners with an ESCO, which conducts an energy audit to identify potential energy-saving projects, such as lighting upgrades, HVAC improvements, or renewable energy installations.
2. **Project Financing:** The ESCO typically arranges financing for the project, so the organization doesn't need to invest its own funds. The project is paid for over time through the energy savings it generates.
3. **Guaranteed Savings:** The ESCO guarantees that the energy savings will be sufficient to cover the project costs. If the savings fall short, the ESCO is responsible for making up the difference.
4. **Implementation and Monitoring:** The ESCO manages the project from start to finish, including design, installation, and maintenance. The ESCO also monitors the energy performance to ensure that savings are realized as expected.
5. **Contract Duration:** ESPC contracts typically last several years, during which the energy savings are used to pay off the project costs. After the contract period, the organization benefits from reduced energy costs without additional payments.

Overall, ESPC allows organizations to improve energy efficiency, reduce utility costs, and minimize environmental impact without needing upfront capital, while transferring the performance risk to the ESCO.

AEI is not an ESCO and does not offer this program as a service.

## 9.0 SIGNATURES OF PARTICIPATING PROFESSIONALS

---

AEI Consultants performed this ASHRAE Level II Energy Audit for the Property located at 3 Newport Drive, Bar Harbor, Hancock County, Maine, in conformance with the scope and limitations of ASHRAE *Procedures for Commercial Building Energy Audits, Second Edition*, ANSI/ASHRAE/ACCA Standard 211-2018, *Standard for Commercial Building Energy Audits*.

Prepared By:



Joshua Martin  
Report Author

Reviewed By:



Craig Burcham, CEM  
Senior Author



Joshua Martin  
Site Assessor

# APPENDIX A

## PROPERTY PHOTOGRAPHS



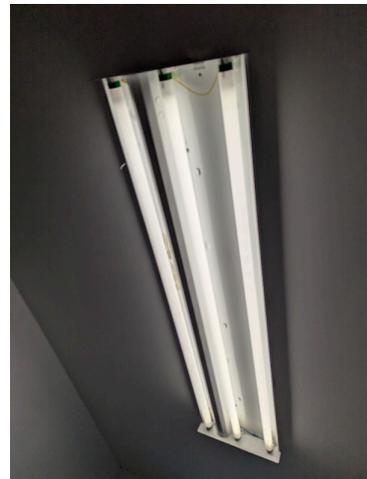
1. 1.0 GPF Urinal



2. Exterior Lighting



3. Exterior LED Lighting



4. Interior Fluorescent Light Fixture



5. Electric Hand Dryers



6. Interior LED Light Fixtures



7. 1.28 GPF Toilet



8. Port Security Building



9. Double Pane Windows with Wood Frame



10. 30 Park Street Comfort Station



11. Pier Comfort Station



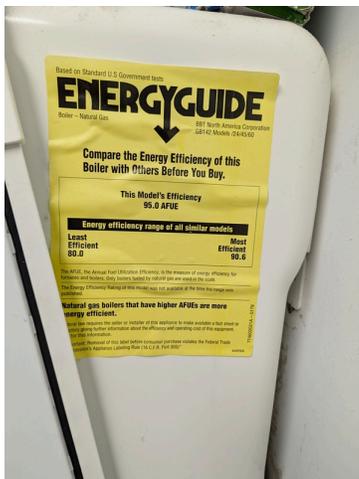
12. Pier Comfort Station Exterior Lighting



13. Exterior LED Light Fixture



14. Glen Mary Pool



15. Newport Drive Water Heater EnergyGuide Sticker - Nameplate Was Not Accessible



16. Water Heater Storage Tank at 3 Newport Drive

**APPENDIX B**

**SUPPORTING DOCUMENTATION**

## ABBREVIATIONS AND ACRONYMS

|        |   |      |   |
|--------|---|------|---|
| AC     | Air Conditioning  | kBTU | Kilo-British Thermal Unit                     |
| AEI    | AEI Consultants   | kGal | Kilogallons                                   |
| ALTA   | American Land Title Association   | kW   | Kilowatt                                      |
| APN    | Assessor's Parcel Number  | kWh  | Kilowatt hour                                 |
| ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers | LED  | Light Emitting Diode                          |
| BTU    | British Thermal Unit  | M    | Model   |
| CH     | Clubhouse   | MBH  | 1,000 BTUs/hour                               |
| DHW    | Domestic Hot Water  | O    | Occupied                                      |
| ECM    | Energy Conservation Measure   | OFC  | Office  |
| EEM    | Energy Efficiency Measures  | OSHA | Occupational Safety and Health Administration |
| EUI    | Energy Use Intensity  | PCA  | Property Condition Assessment                 |
| EUL    | Estimated Useful Life   | PCR  | Property Condition Report                     |
| EWEM   | Energy and Water Efficiency Measures                                      | ROI  | Return On Investment                          |
| F      | Fahrenheit  | RP   | Responsible Party                             |
| FCU    | Fan Coil Unit   | SEDI | Statement of Energy Design Intent             |
| Gal    | Gallon  | SF   | Square Footage/Square Feet                    |
| GFA    | Gross Floor Area  | SIR  | Savings to Investment Ratio                   |
| GPF    | Gallons Per Flush   | SP   | Subject Property                              |
| GPM    | Gallons Per Minute  | SEP  | Statement of Energy Performance               |
| HUD    | Department of Housing and Urban Development                               | V    | Vacant  |
| HVAC   | Heating, Ventilation and Air Conditioning                                 | ZAR  | Zoning Analysis Report                        |

## ASHRAE Equipment Life Expectancy chart

ASHRAE is the industry organization that sets the standards and guidelines for most all HVAC-R equipment.  
For additional info about ASHRAE the website is [www.ashrae.org](http://www.ashrae.org) .

| Equipment Item                      | Median Years | Equipment Item                    | Median Years | Equipment Item         | Median Years |
|-------------------------------------|--------------|-----------------------------------|--------------|------------------------|--------------|
| Air conditioners                    |              | Air terminals                     |              | Air-cooled condensers  | 20           |
| Window unit                         | 10           | Diffusers, grilles, and registers | 27           | Evaporative condensers | 20           |
| Residential single or Split Package | 15           | Induction and fan coil units      | 20           | Insulation             |              |
| Commercial through-the wall         | 15           | VAV and double-duct boxes         | 20           | Molded Blanket         | 20<br>24     |
| Water-cooled package                | 15           | Air washers                       | 17           | Pumps                  |              |
| Heat Pumps                          |              | Ductwork                          | 30           | Base-mounted           | 20           |
| Residential air-to-air              | 15           | Dampers                           | 20           | Pipe-mounted           | 10           |
| Commercial air-to-air               | 15           | Fans                              |              | Sump and well          | 10           |
| Commercial water-to-air             | 19           | Centrifugal                       | 25           | Condensate             | 15           |
| Roof-top air conditioners           |              | Axial                             | 20           | Reciprocating engines  | 20           |
| Single-zone                         | 15           | Propeller                         | 15           | Steam turbines         | 30           |
| Multi-zone                          | 15           | Ventilating roof-mounted          | 20           | Electric motors        | 18           |
| Boilers, hot water (steam)          |              | Coils                             |              | Motor starters         | 17           |
| Steel water-tube                    | 24 (30)      | DX, water, or steam               | 20           | Electric transformers  | 30           |
| Steel fire-tube                     | 25 (25)      | Electric                          | 15           | Controls               |              |
| Cast iron                           | 35 (30)      | Heat Exchangers                   |              | Pneumatic              | 20           |
| Electric                            | 15           | Shell-and-tube                    | 24           | Electric               | 16           |
| Burners                             | 21           | Reciprocating compressors         | 20           | Electronic             | 15           |
| Furnaces                            |              | Packaged chillers                 |              | Valve actuators        |              |
| Gas- or oil-fired                   | 18           | Reciprocating                     | 20           | Hydraulic              | 15           |
| Unit heaters                        |              | Centrifugal                       | 23           | Pneumatic              | 20           |
| Gas or electric                     | 13           | Absorption                        | 23           | Self-contained         | 10           |
| Hot water or steam                  | 20           | Cooling towers                    |              |                        |              |
| Radiant Heaters                     |              | Galvanized metal                  | 20           |                        |              |
| Electric                            | 10           | Wood                              | 20           |                        |              |
| Hot water or steam                  | 25           | Ceramic                           | 34           |                        |              |

# APPENDIX C

## EWEM CALCULATION WORKSHEETS

| Assumptions      |                |                   |                         |                        |           |               |                               |                 |                  |                         |                     |                          |                     |                      |       |                |                     |                     |                     |                        |  |
|------------------|----------------|-------------------|-------------------------|------------------------|-----------|---------------|-------------------------------|-----------------|------------------|-------------------------|---------------------|--------------------------|---------------------|----------------------|-------|----------------|---------------------|---------------------|---------------------|------------------------|--|
| Building Address | Fixture        | Water Heater Fuel | Water Heater Efficiency | Actual Use Rate        | Flowrate  | Occupancy     | Desired Hot Water Temperature | Hot Water Mix % | Number Occupants | Hot Water Gallons/ Year | HW Gal/ Person/ Day | Cold Water Gallons/ Year | Total Gallons/ Year | Water Heating Energy | Units | New Flow Rates | Total Water Savings | Option B Flow Rates | Total Water Savings | Total Gal/ Person/ Day |  |
| 1 West Street    | Toilets        | N/A               | N/A                     | 1 flushes/occupant/day | 1.6 GPF   | 214 days/year | 55                            | 0%              | 33               | 0 Gal                   | 0.0                 | 11,299 Gal               | 11,299 Gal          |                      |       | 0.60 Gal       | 7,062 Gal           | 0.60 Gal            | 7,062 Gal           | 0.9 Gal                |  |
| 1 West Street    | Urinals        | N/A               | N/A                     | 1 flushes/occ/day      | 1.0 GPF   | 214 days/year | 55                            | 0%              | 17               |                         |                     | 3,638 Gal                | 3,638 Gal           |                      |       | 0.125 Gal      | 3,183 Gal           | 0.000 Gal           | 3,638 Gal           | 0.6 Gal                |  |
| 1 West Street    | Bathroom Sinks | Electricity       | 91.0%                   | 0.5 min/occ/day        | 1 GPM     | 214 days/year | 110                           | 65%             | 50               | 3,456 Gal               | 0.9                 | 1,894 Gal                | 5,350 Gal           | 786 kWh              |       |                |                     |                     |                     | 0.3 Gal                |  |
| 3 Newport Drive  | Toilets        | N/A               | N/A                     | 1 flushes/occ/day      | 1.28 GPF  | 365 days/year | 55                            | 0%              | 66               | 0 Gal                   | 0.0                 | 30,835 Gal               | 30,835 Gal          |                      |       | 0.60 Gal       | 16,381 Gal          | 0.60 Gal            | 16,381 Gal          | 1.28 Gal               |  |
| 3 Newport Drive  | Urinals        | N/A               | N/A                     | 1 flushes/occ/day      | 0.125 GPF | 365 days/year | 55                            | 0%              | 33               |                         |                     | 1,506 Gal                | 1,506 Gal           |                      |       |                |                     | 0.00 Gal            | 1,506 Gal           | 0.125 Gal              |  |
| 3 Newport Drive  | Bathroom Sinks | Propane           | 95.0%                   | 0.5 min/occ/day        | 1 GPM     | 365 days/year | 105                           | 59%             | 99               | 10,605 Gal              | 2.9                 | 7,463 Gal                | 18,068 Gal          | 86 Gallons           |       |                |                     |                     |                     | 0.5 Gal                |  |
| 30 Park Street   | Toilets        | N/A               | N/A                     | 1 flushes/occupant/day | 1.6 GPF   | 214 days/year | 55                            | 0%              | 29               | 0 Gal                   | 0.0                 | 9,930 Gal                | 9,930 Gal           |                      |       | 0.60 Gal       | 6,206 Gal           | 0.60 Gal            | 6,206 Gal           | 0.94 Gal               |  |
| 30 Park Street   | Urinals        | N/A               | N/A                     | 1 flushes/occ/day      | 1.0 GPF   | 214 days/year | 55                            | 0%              | 15               |                         |                     | 3,210 Gal                | 3,210 Gal           |                      |       | 0.125 Gal      | 2,809 Gal           | 0.000 Gal           | 3,210 Gal           | 0.6 Gal                |  |
| 30 Park Street   | Bathroom Sinks | Electricity       | 91.0%                   | 0.5 min/occ/day        | 1 GPM     | 214 days/year | 110                           | 65%             | 44               | 3,041 Gal               | 0.8                 | 1,667 Gal                | 4,708 Gal           | 692 kWh              |       |                |                     |                     |                     | 0.3 Gal                |  |
| <b>Totals:</b>   |                |                   |                         |                        |           |               |                               |                 |                  | <b>17,102 Gal</b>       | <b>4.69</b>         | <b>71,441 Gal</b>        | <b>88,543 Gal</b>   |                      |       |                | <b>35,641 Gal</b>   |                     | <b>38,003 Gal</b>   | <b>24.3 Gal</b>        |  |

|                                    |  |                    |
|------------------------------------|--|--------------------|
| <b>From Utility Bills:</b>         |  | <b>88,543 Gal</b>  |
| Difference:                        |  | 0 Gal              |
| <b>1 West Street Consumption:</b>  |  | <b>20,287 Gal</b>  |
| <b>Newport Drive Consumption:</b>  |  | <b>50,408 Gal</b>  |
| <b>30 Park Street Consumption:</b> |  | <b>17,848 Gal</b>  |
| <b>2" Meter Allowance:</b>         |  | <b>287,232 Gal</b> |
| <b>1-1/2" Meter Allowance:</b>     |  | <b>179,520 Gal</b> |
| <b>1" Meter Allowance:</b>         |  | <b>89,760 Gal</b>  |
| <b>3/4" Meter Allowance:</b>       |  | <b>53,856 Gal</b>  |
| <b>5/8" Meter Allowance:</b>       |  | <b>35,904 Gal</b>  |

## Low Flush Volume Toilets & Urinals

Replace 15 Existing Toilets and 3 Existing Urinals with WaterSense Labeled  
Low Flow 0.6 GPF Single Flush Toilets and 0.125 GPF Urinals

|  |       |     |
|--|-------|-----|
| Number of Toilets To Be Replaced               | 15.00 |     |
| Number of Urinals To Be Replaced               | 3     |     |
| Existing Gallons Per Flush Ratings For Toilets | 1.28  |     |
| Existing Gallons Per Flush Ratings For Toilets | 1.60  | GPF |
| GPF of Proposed Low Flow Toilet                | 0.60  | GPF |
| Existing Gallons Per Flush Ratings For Urinals | 1.00  | GPF |
| Existing Gallons Per Flush Ratings For Urinals | 0.125 | GPF |
| GPF of Proposed Low Flow Urinals               | 0.125 | GPF |

### Water Saving Calculations

Water Savings 35,641 Gal

### Cost Savings Calculations

Enter Water Tariff Rate (\$/1000Gal) \$12.10 \$\$

Annual Estimated Cost Savings From Water \$431 \$\$

### Estimated Cost of Retrofit

Material and Labor Cost Per Toilet \$281.30 \$\$

Material and Labor Cost Per Urinal \$410.14 \$\$

Cost For Replacing Toilet with Low Flow Fixture \$4,220 \$\$

Cost For Replacing Urinals with Low Flow Fixture \$1,230

Total Cost For Replacing Toilets and Urinals \$5,450

Simple Pay Back Period 12.64 Yrs

## Lighting Audit

| Area of Building                             | Exitsting Fixture   | Total # Fixures | Bulbs Per Fixture | Total # of Bulbs | LED Equivalent Wattage | Current kWh Usage | kWh Usage w/ LED | kWh Saved Per Year | Cost Per kWh | Current Annual Op Cost | Annual Cost Using LEDs | Savings       | Cost to Install Lighting | Pay back    |
|--|---------------------|-----------------|-------------------|------------------|------------------------|-------------------|------------------|--------------------|--------------|------------------------|------------------------|---------------|--------------------------|-------------|
| 30 Park Street Comfort Station Interior      | 2B 32W 4' T8        | 2               | 2                 | 4                | 11                     | 1121              | 385              | 736                | 0.12         | \$136                  | \$47                   | \$89          | \$34                     | 0.4         |
| 30 Park Street Comfort Station Exterior      | 1B 60W Incandescent | 4               | 1                 | 4                | 10                     | 1615              | 269              | 1346               | 0.12         | \$196                  | \$33                   | \$164         | \$38                     | 0.2         |
| 3 Newport Drive Comfort Station Interior     | 2B 15W LED          | 10              | 2                 | 20               | 0                      | 2628              | 0                | 0                  | 0.12         | \$320                  | \$0                    | \$0           | \$0                      | -           |
| 3 Newport Drive Comfort Station Mech. Closet | 3B 32W 4' T8        | 1               | 3                 | 3                | 11                     | 70                | 24               | 46                 | 0.12         | \$9                    | \$3                    | \$6           | \$26                     | 4.6         |
| 3 Newport Drive Comfort Station Exterior     | 2B 15W LED          | 3               | 2                 | 6                | 15                     | 606               | 303              | 303                | 0.12         | \$74                   | \$0                    | \$0           | \$361                    | -           |
| 8 Waldron Rd Exterior                        | 1B 75W Incandescent | 1               | 1                 | 1                | 13                     | 505               | 44               | 461                | 0.12         | \$61                   | \$5                    | \$56          | \$122                    | 2.2         |
| 8 Waldron Rd Exterior                        | 1B 60W Incandescent | 1               | 1                 | 1                | 10                     | 404               | 34               | 370                | 0.12         | \$49                   | \$4                    | \$45          | \$123                    | 2.7         |
| 1 West Street Interior                       | 3B 32W 4' T8        | 10              | 3                 | 30               | 11                     | 4931              | 1695             | 3236               | 0.12         | \$600                  | \$206                  | \$394         | \$259                    | 0.7         |
|  |                     |                 |                   |                  |                        | <b>11,879</b>     | <b>2,754</b>     | <b>6,498</b>       |              | <b>\$ 1,445</b>        | <b>\$ 298</b>          | <b>\$ 753</b> | <b>\$ 963</b>            | <b>1.28</b> |

# APPENDIX D

## PROJECT TEAM



# Joshua D. Martin

## Senior Energy Engineer

---

### EDUCATION

- Bachelor of Science in Mechanical Engineering with a Minor in Mathematical Sciences - Clemson University, 2009

### CERTIFICATIONS

- Certified Energy Manager - Association of Energy Engineers, 2023
- Engineer In Training - South Carolina Board of Professional Engineers, 2009

### SUMMARY OF PROFESSIONAL EXPERIENCE

Mr. Joshua D. Martin is a Senior Energy Engineer in the energy services division, distinguished as a Certified Energy Manager (C.E.M.) and Engineer in Training (E.I.T.). His robust background includes over 12 years of experience in energy efficiency engineering, project management, building commissioning, and sustainability consulting. Throughout his career, he has specialized in commercial building energy consulting, executing energy audits, conducting site visits, and identifying energy conservation measures (ECMs) across various sectors, including residential, commercial, multi-family, industrial, MUSH (Municipal, University, School, and Hospital), and agricultural.

Mr. Martin is passionate about helping clients accomplish their sustainability goals, qualify for green loan programs, and satisfy local building code requirements. More recently, Mr. Martin has worked with clients to help them achieve their greenhouse gas reduction goals through decarbonization and electrification studies.

### PROJECT EXPERIENCE

Project experience for Mr. Martin includes:

- Project Management
- 50+ Multifamily Building Energy Efficiency Audits
- Fannie Mae and Freddy Mac Green Up program compliance
- Indoor Air Quality Measurement and Compliance for ASHRAE 62.1
- ASHRAE Level I & II Energy Audits for Commercial, Agricultural, and Industrial Facilities
- Building Commissioning and Retro-commissioning for Commercial and Industrial Facilities
- Energy Star Certifications for Residential and Commercial Facilities
- Measurement and Verification of Energy Efficiency Projects
- Energy Efficiency and Sustainability Consulting
- Greenhouse Gas Reduction Studies
- Energy Modeling
- Data Analysis

Mr. Martin has worked in the energy efficiency and sustainability services field since 2011. He is committed to advancing products, services, and ideas that reduce environmental impact and promote sustainability. He believes in contributing to a greener future without compromising resources for future generations.



# Craig Burcham

## Senior Engineer, Energy Services

---

### EDUCATION

- Master of Business Administration, East Carolina University
- Bachelor of Science - Mechanical Engineering, Louisiana Tech University

### CERTIFICATIONS

- Certified Energy Manager - Association of Energy Engineers - 20086
- Arkansas Licensed Professional Engineer - 22152
- South Carolina Licensed Professional Engineer - 39645

### SUMMARY OF PROFESSIONAL EXPERIENCE

Mr. Burcham provides expertise in energy efficiency evaluations in several markets including industrial, commercial, and residential properties. He has more than ten years of experience developing guaranteed energy saving performance contracting projects for clients throughout the Southeast and Midwest United States. He also has three years of experience with large utility energy efficiency program execution as well as four years of experience performing single family residential pre-sale home inspections and energy assessments.

### PROJECT EXPERIENCE

Project experience for Mr. Burcham includes:

- Lead developer on 18 performance contracting projects, \$90M in total project value
- 100+ ASHRAE Level 1, 2, 3 Energy Audits
- 1000+ single family residential home inspections and energy assessments