# Ohio Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 14-0362-EL-EEC

| Mercantile Customer:             | Revere Local Schools       |
|----------------------------------|----------------------------|
| Electric Utility:                | Ohio Edison Company        |
| Program Title or<br>Description: | Lighting and VFD Retrofits |

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. <u>10-834-EL-POR</u>

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at <u>ee-pdr@puc.state.oh.us</u>.

## Section 1: Mercantile Customer Information

Name: Revere Local Schools

Principal address:3496 Everett Road, Richfield Ohio, 44333

Address of facility for which this energy efficiency program applies:1246 N. Cleveland-Massillon Rd.; 3420 Everett Rd; 3195 Spring Valley Road; 3080 Revere Rd

Name and telephone number for responses to questions: David Forrest; 330.666.4155

Electricity use by the customer (check the box(es) that apply):

The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)



The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

## Section 2: Application Information

The customer is filing this application (choose which applies): A)

Individually, without electric utility participation.

- $\mathbb{N}$ Jointly with the electric utility.
- The electric utility is: Ohio Edison Company B)
- C) The customer is offering to commit (check any that apply):
  - Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
  - Capacity savings from the customer's demand response/demand . reduction program. (Complete Sections 4, 5, 6, and 7.)
  - $\mathbb{N}$ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

### **Section 3: Energy Efficiency Programs**

- A) The customer's energy efficiency program involves (check those that apply):
  - Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). If Checked, Please see Exhibit 1 and Exhibit 2
  - Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s):
  - Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):
  - Behavioral or operational improvement.
- B) Energy savings achieved/to be achieved by the energy efficiency program:
  - If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) – (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

### Annual savings: <u>924,328</u> kWh

2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: \_\_\_\_\_ kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment. Please see Exhibit 1 if applicable

 If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

### Annual savings: \_\_\_\_\_ kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable** 

4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

### Section 4: Demand Reduction/Demand Response Programs

- A) The customer's program involves (check the one that applies):
  - Coincident peak-demand savings from the customer's energy efficiency program.

Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)

- Potential peak-demand reduction (check the one that applies):
  - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
  - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.
- B) On what date did the customer initiate its demand reduction program?

### 7/31/2012

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

### <u>111</u> kW

### Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

- A) The customer is applying for:
  - Option 1: A cash rebate reasonable arrangement.

OR

Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

Commitment payment

- B) The value of the option that the customer is seeking is:
  - Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):
    - A cash rebate of \$\_\_\_\_\_. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)
  - Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.
    - An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for \_\_\_\_\_ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

### OR

A commitment payment valued at no more than \$\_\_\_\_\_. (Attach documentation and calculations showing how this payment amount was determined.)

⊠ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

### Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- Total Resource Cost (TRC) Test. The calculated TRC value is: \_\_\_\_(Continue to Subsection 1, then skip Subsection 2)
- Utility Cost Test (UCT). The calculated UCT value is: **See Exhibit 3** (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were \_\_\_\_\_.

Our program costs were \_\_\_\_\_.

The incremental measure costs were \_\_\_\_\_.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were See Exhibit 3

The utility's program costs were See Exhibit 3

The utility's incentive costs/rebate costs were See Exhibit 3

## Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.
- A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:
  - 1) any confidentiality requirements associated with the agreement;
  - 2) a description of any consequences of noncompliance with the terms of the commitment;
  - 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
  - 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
  - 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

# Ohio Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 14-0362-EL-EEC

State of Ohio :

David Forrest, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Revere Local Schools

[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, the believe that the information is true, accurate and complete.

TO/TREASURER

Signature of Affiant & Title

Sworn and subscribed before me this <u>27</u> day of <u>February</u>, <u>1014</u> Month/Year

Signature of official administering oath

C. SANDRA WIERZBICKI, Notary Public Residence - Summit County State WIER Junisalettion, Otho Itle My Commission Expires August 31, 2014

My commission expires on <u>August 31 2014</u>

#### Site Address: Bath

Principal Address: 1246 N. Cleveland-Massillon Rd.

#### What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new

| Project<br>No. | Project Name                   | Narrative description of your program including, but not limited to,<br>make, model, and year of any installed and replaced equipment:   | Description of methodologies, protocols and practices<br>used in measuring and verifying project results  | equipment if you had not replaced it early?<br>Also, please explain briefly how you<br>determined this future replacement date. | Please describe the less efficient new<br>equipment that you rejected in favor of<br>the more efficient new equipment. |
|----------------|--------------------------------|--|---|---|--|
| 1              | Lighting Retrofit and Controls | Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal<br>halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to<br>LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy<br>sensors and daylight sensors for additional contol.                       | Lighting inventory was performed with pre & post ECM fixture<br>consumption and demand utilized in school. Specified retrofits and<br>replacements of the existing fixtures. Electrical Usage (kWh) = (Number<br>of fixtures x watts per fixture x Operating hours).<br>Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ;<br>Electrical Energy Cost = (kWh x \$kWh); Existing KWh - Retrofit KWh =<br>Savings. See attached documentation for details. Measurement and<br>Verification is based on IPMVP Option A. Calculations based on physical<br>assessment of operational factors and commonly accepted usage<br>assumptions.             | Would be replaced as fixtures failed.   | N/A  |
| 2              | Pump VFD Installation          | Install 7.5 HP VFDs for HW pumps.  | Motor System inventory was performed with pre & post ECM consumption<br>calculated and demand utilized . Specified equipment selection of the<br>motors and motor controls. Electrical Usage (kWh) = Motor KWx<br>Operating hours. New kWh Usage= Motor KWx A Motor Speed ^3x<br>Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh -<br>Retrofit KWh = Savings. See attached summary spreadsheet for details.<br>Measurement and Verification is based on IPMVP Option A. Calculations<br>attached with operational factors and commonly accepted usage<br>assumptions.   | NA  | N/A  |
| 3              | Building Automation            | Bath Elementary:<br>(1) CH&V Unit (21) CH&V Zone Dampers (1) Heating Hot Water System (2) Single-Zone<br>Air-Handling Units (6) UV Day/Night Zones<br>(3) Split AC Units (5) Unit Heaters / Cabinet Unit Heaters (13) Exhaust Fans (1)<br>Gymnasium Lighting Control Panel<br>(1) Outdoor Lighting Control Panel<br>(1) Gas & Electric Meters Monitoring | The school was controlled by an outdated pneumatic control system. The<br>upgrades in the school included a building automation upgrade. The<br>temperature control and equipment schedules for all of the high school<br>HVAC incuded in the narrative above will be tracked by the new building<br>automation system. The equipment in the building will run reduced hours<br>based on the schedule. In addition, temperature control is implemented.<br>The savings was calculated in a building simulation model performed in<br>Market Manager software. The results of the model are based on 10 year<br>normalized weather data and 8760 hours simulation. | NA  | N/A  |
|                |                                |  |   |   |  |
|                |                                |  |   |   |  |
|                |                                |  |   |   |  |
|                |                                |  |   |   |  |

Rev (4.1.2013)

#### Site: Bath

#### Principal Address: 1246 N. Cleveland-Massillon Rd.

|                | Principal Address:             | 1246 N. Cleveland-Massi      | llon Rd.                           |  |  |  |                             |
|----------------|--------------------------------|------------------------------|------------------------------------|--|--|--|-----------------------------|
|                |                                | Unadjusted Usage,<br>kwh (A) | Weather Adjusted Usage,<br>kwh (B) | Weather Adjusted<br>Usage with Energy<br>Efficiency Addbacks,<br>kwh (C) | Note 1                                       |  |                             |
|                | 2012                           | 258,080                      | 258,080                            | 272,737  |  |  |                             |
|                | 2011                           | 310,400                      |                                    | 310,400  |  |  |                             |
|                | 2010                           | 313,080                      |                                    | 313,080  |  |  |                             |
|                | Average                        | 293,853                      | 293,853                            | 298,739  |  |  |                             |
| Project Number | Project Name                   | In-Service Date              | Project Cost \$                    | KWh Saved/Year<br>Counting towards<br>Utility compliance                 | KWh Saved/Year (D)<br>eligible for incentive | Utility Peak Demand<br>Reduction<br>Contribution, KW | Commitment<br>Payment<br>\$ |
| 1              | Lighting Retrofit and Controls | 07/31/2012                   | \$63,692                           | 34,833   | 34,833                                       | 13   |                             |
| 2              | Pump VFD Installation          | 07/31/2013                   | \$4,465                            | 9,223  | 9,223  | -  |                             |
| 3              | Building Automation            | 07/31/2013                   | \$214,582                          | 55,805   | 55,805                                       |  |                             |
|                |                                |                              |                                    | -  | -  | -  |                             |
|                |                                |                              |                                    | -  | -  | -  |                             |
|                |                                |                              |                                    | -  | -  | -  |                             |
|                |                                |                              |                                    | -  | -  | -  |                             |
|                |                                |                              | Total                              | 99,861   | 99,861                                       | 13   | \$0                         |
|                |                                |                              |                                    |  |  |  |                             |

|            |                                 | Savings as percent of  | 33.4% Note 2   |
|------------|---------------------------------|------------------------|----------------|
| Docket No. | 14-0362                         | usage                  | 33.470 11010 2 |
|            |                                 | = Total (D) divided by |                |
| Site:      | 1246 N. Cleveland-Massillon Rd. | Average (C)            |                |
|            |                                 |                        |                |

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

| Project | Total Annual<br>Savings, MWh<br>(A) | ty Avoided<br>Cost<br>\$/MWh<br>(B) | Ut | ility Avoided<br>Cost<br>\$<br>(C) | ι  | Jtility Cost<br>\$<br>(D) | Cash Rebate<br>\$<br>(E) | Administrator<br>Variable Fee<br>\$<br>(F) | То | otal Utility<br>Cost<br>\$<br>(G) | UCT<br>(H) |
|---------|-------------------------------------|-------------------------------------|----|------------------------------------|----|---------------------------|--------------------------|--|----|-----------------------------------|------------|
| 1       | 35                                  | \$<br>308                           | \$ | 10,738                             | \$ | 1,350                     | \$0                      | \$348                                      | \$ | 1,698                             | 6.3        |
| 2       | 9                                   | \$<br>308                           | \$ | 2,843                              | \$ | 1,350                     | \$0                      | \$92                                       | \$ | 1,442                             | 1.97       |
| 3       | 56                                  | \$<br>308                           | \$ | 17,204                             | \$ | 1,350                     | \$0                      | \$558                                      | \$ | 1,908                             | 9.02       |
|         |                                     |                                     |    |                                    |    |                           |                          |  |    |                                   |            |
| Total   | 100                                 | \$<br>308                           |    | 30,785                             |    | 4,050                     | \$0                      | \$999                                      |    | 5,049                             | 6.1        |

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### Revere Local Schools ~ Bath

Docket No. 14-0362

Site: 1246 N. Cleveland-Massillon Rd.

|   |                    |                    |                    | 1                  | Energy Use Comparison |                    |                    |                   |                    |                    |                    |                    |                      |            |
|---|--------------------|--------------------|--------------------|--------------------|-----------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|----------------------|------------|
| Scenario<br><b>Existing</b><br>Electric (kWh) | Jan<br>36,000.00   | Feb<br>34,880.00   | Mar<br>30,720.00   | Apr<br>22,720.00   | May 27,680.00         | Jun<br>18,060.00   | Jul<br>18,720.00   | Aug<br>12,480.00  | Sep<br>27,680.00   | Oct 29,920.00      | Nov<br>29,280.00   | Dec<br>25,600.00   | Annual<br>313,740.00 | Savings    |
| Demand (kW)<br>Natural Gas (MCF)              | 82.00<br>768.00    | 85.00<br>865.00    | 80.00<br>326.00    | 77.00<br>239.00    | 75.00                 | 42.00<br>0.00      | 40.00<br>11.00     | 75.00<br>12.00    | 78.00<br>17.00     | 75.00<br>304.00    | 77.00<br>370.00    | 77.00<br>847.00    | 85.00<br>3,866.00    |            |
| Demand (kBtuh)                                | 0.00               | 0.00               | 0.00               | 0.00               | 0.00                  | 0.00               | 0.00               | 0.00              | 0.00               | 0.00               | 0.00               | 0.00               | 0.00                 |            |
| New Controls<br>Electric (kWh)<br>Demand (kW) | 31,611.00<br>83.50 | 30,204.80<br>86.60 | 26,228.80<br>81.50 | 18,411.60<br>78.50 | 21,653.10<br>75.20    | 11,682.00<br>42.10 | 12,329.80<br>40.10 | 8,301.30<br>75.20 | 21,614.50<br>78.10 | 29,047.70<br>75.70 | 24,668.20<br>78.50 | 22,182.40<br>78.40 | 257,935.20<br>86.60  | 55,805 kWh |
| Natural Gas (MCF)<br>Demand (kBtuh)           | 596.40<br>0.00     | 652.60<br>0.00     | 232.80<br>0.00     | 150.60<br>0.00     | 59.80<br>0.00         | 0.00<br>0.00       | 11.00<br>0.00      | 12.00<br>0.00     | 17.00<br>0.00      | 396.20<br>0.00     | 247.90<br>0.00     | 654.30<br>0.00     | 3,030.60<br>0.00     | 835.4 MCF  |
| New Plant<br>Electric (kWh)<br>Demand (kW)    | 30,810.70<br>84.00 | 29,186.00<br>86.90 | 25,313.50<br>81.00 | 18,042.80<br>76.40 | 21,653.10<br>75.20    | 11,682.00<br>42.10 | 12,329.80<br>40.10 | 8,301.30<br>75.20 | 21,614.50<br>78.10 | 28,491.00<br>75.40 | 23,987.00<br>77.50 | 21,828.30<br>78.90 | 253,240.00<br>86.90  | 4,695 kWh  |
| Natural Gas (MCF)<br>Demand (kBtuh)           | 546.20<br>0.00     | 574.10<br>0.00     | 237.90<br>0.00     | 127.00<br>0.00     | 59.80<br>0.00         | 0.00<br>0.00       | 11.00<br>0.00      | 12.00<br>0.00     | 17.00<br>0.00      | 321.30<br>0.00     | 215.10<br>0.00     | 576.00<br>0.00     | 2,697.40<br>0.00     | 333.2 MCF  |

#### Lighting Inventory Form

| Applicant Name: Revere Schools Facility Name: Ban Elementary Date: 91/02/13  |   | ed control, choose OCC                    | oom or area<br>C for Occupany Sensor, DAYLTG for p<br>and exit signs in Column M, and the qu                    |  |                                |  | noted Lighting form  |  |   |   |                                      |   |   |  |   |   |   |  |
|--|---|---|---|--|--------------------------------|--|--|--|---|---|--------------------------------------|---|---|--|---|---|---|--|
| PROJECT BASIC INFORMATION<br>Line Building Address Poor Area Description Interfer or Exercise<br>Pattere Pattere   | Pro Pasture Pro Pasture Cod<br>Ory Pro Pasture Cod  | INSTALLATION<br>Pre Watts / Pre           | s kW / Existing Existing<br>pace Control Quantity<br>WW) drop down Quantity<br>When applicable                  | Post<br>Fixture<br>Oty   | POST-INSTALLA<br>Post Watts/ F | TION<br>Post kW / Proposed<br>Space Control<br>(kW) Please error<br>DATE OCC -<br>NONE | Proposed Interior<br>Sensor in Cor<br>Quantity L<br>When applicable (KW) e<br>CFLs | r Change Exterior<br>nnected Change in<br>coad Connected<br>excluding Load (kW)<br>s or Exit<br>igns or Exit Signs | Change in Ap<br>Connected Coin<br>Load F<br>(kW) I<br>S CFL or LED<br>exit sign | plicant Coincider<br>cidence Factor<br>actor<br>CF)<br>timate | ce Interactive<br>Factor<br>(demand) | Interactive Pre Control<br>Factor<br>(energy) | nergy Calculati<br>s Post<br>Controls<br>Factor | Interior Exit<br>Demand Dem<br>Savings Savi<br>(kW) (ki<br>xxcluding exclu<br>CFLs or CFL<br>Exit Signs Exit S | rior Demand<br>and Savings<br>ngs (kW)<br>V) CFLs or<br>ding LED Exit<br>s or Signs<br>igns | Applicant I<br>Equivalent I<br>Full Load<br>Hours<br>(EFLH)<br>Estimate | Prescribed Ar<br>Equivalent F<br>Full Load<br>Hours C | nnual Interior<br>Fixture kWh<br>Saved<br>(excluding<br>CFLs or Exit<br>Signs) |
| e.g.         400 Morth Street         2         Office         Interior         Office         Interior         Office         Sead         4,0         Control         Fill  | Cooled Space 162 F41ILL   | 31 5                                      | 125 OCC 5   | 162 F41SSILL   | 26                             | 4.21 NONE  | C  | 3.81   | 0.17 8  | 57%   | 34%                                  | 12%<br>30%                                    |   | 0.62   | 0.19  |   | 2,080   | 1,887  |
| 2 N. Cleveland Massallon R4 School Interior Education - Primary School     3 N. Cleveland Massallon R4 School Interior Education - Primary School     4 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School  | Cooled Space         20         F41ILL           Cooled Space         490         F42II           Cooled Space         4         F42II           Cooled Space         3         11001   | 31 0<br>59 21<br>59 0<br>100 0            | 0.62 NONE<br>8.91 NONE<br>1.24 NONE<br>1.30 NONE  | 20 F41SSILL<br>490 F42SSILL<br>4 F42SSILL<br>3 Cut Sheet 1                     | 26<br>48<br>48<br>5            | 0.52 OCC<br>23.52 NONE<br>0.19 OCC<br>0.02 NONE  | 5  | 0.10<br>5.39<br>0.04<br>0.29<br>1.16   |   | 57%<br>57%<br>57%   | 34%<br>34%<br>34%                    | 12%<br>12%<br>12%<br>12%                      | 30%   | 0.08<br>4.12<br>0.03<br>0.22   |   |   | 2,080<br>2,080<br>2,080<br>2,080                      | 233<br>12,557<br>103<br>664  |
| 7 BN. Cleveland-Massillon Rd. School Interior Education - Primary School     8 SN. Cleveland-Massillon Rd. School Interior Education - Primary School     9 SN. Cleveland-Massillon Rd. School Interior Education - Primary School   | Cooled Space         8         11501           Cooled Space         10         11501           Cooled Space         6         11501           Cooled Space         2         2001           Cooled Space         1         12001           Cooled Space         1         12001 | 150 1<br>150 1<br>150 0<br>200 0<br>200 0 | 20 NONE<br>50 NONE<br>90 NONE<br>140 NONE<br>20 NONE  | 8 Cut Sheet 1<br>10 F41SSILL<br>6 F42SSILL<br>2 Cut Sheet 1<br>1 F41SSILL      |                                | 0.04 NONE<br>0.26 NONE<br>0.29 NONE<br>0.01 NONE<br>0.03 NONE                          |  | 1.24<br>0.61<br>0.39   |   | 57%   | 34%<br>34%<br>34%<br>34%<br>34%      | 12%   |   | 0.89<br>0.96<br>0.47<br>0.30<br>0.13   |   |   | 2,080<br>2,080<br>2,080<br>2,080<br>2,080<br>2,080    | 1,426  |
| School Exterior Duskto-Dawn Lighting     N. Cleveland-Massilion Rd. School Exterior Duskto-Dawn Lighting     N. Cleveland-Massilion Rd. School Exterior Duskto-Dawn Lighting     School Exterior Duskto-Dawn Lighting     School Exterior Duskto-Dawn Lighting   | Uncooled space 3 MH25U1     Uncooled space 4 MH4001     Uncooled space 5 HP54001     Cooled Space 3 I100/1  | 458 1                                     | NONE           89         NONE           .83         NONE           .33         NONE           .30         NONE | 1 F41SSILL<br>3 Cut Sheet 3<br>4 Cut Sheet 2<br>3 Cut Sheet 5<br>2 Cut Sheet 5 | 80                             | 0.03 NONE<br>0.18 NONE<br>0.32 NONE<br>NONE<br>0.04 NONE                               | 0  | 0.71<br>1.51   |   |   |                                      |   |   |  |   |   | 3,833 3,833 2,833                                     |  |
| Ist. Deviced Matchen R.         Entrol         Instance         Exaction. Primy School           15.         R. Deviced Matchen R.         Extension. Primy School         Instance         Extension. Primy School           17.         R. Deviced Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen Research   | Coolid Space 2 I2001<br>Coolid Space 1 I2001<br>Unccolid space 3 HPS701   | 200 0<br>200 0<br>95 0                    |   | 2 F41SSILL<br>1 F44SSILL<br>3 Cut Sheet 6                                      | 26<br>96<br>60                 | 0.04 NONE<br>0.05 NONE<br>0.10 NONE<br>0.18 NONE<br>NONE<br>NONE                       |  | 0.26<br>0.35<br>0.10<br>0.11   |   | 57%   | 34%<br>34%<br>34%                    | 12%   |   | 0.20<br>0.27<br>0.08   |   |   | 2,080<br>2,080<br>2,080<br>2,080<br>3,833             | 242  |
| 20   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 25   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 29   |   |   | NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 34   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| b         b           35         -           38         -           39         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         - <tr td=""></tr>  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
|  |   |   |   |  |                                |  |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 43   |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 47   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 61            62            63            64            65   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 19         Image: Second s |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 0         0           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 66 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 70 71 71 72 73 73 74 75 75 75 75 75 75 75 75 75 75 75 75 75  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 75 76 77 78 78 79 79 79 70 70 70 70 70 70 70 70 70 70 70 70 70   |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| Display         Display           80         0           82         0           83         0   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 11         Image: Constraint of the second seco |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 89 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8   |   |   | NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 63 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 97 98 99 99 90 100 101 101 101   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 107  |   |   | NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 107 109 109 109 109 111 112 112 112 112 112 112 112 112 11   |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 113  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 110            107            108            109            109            100            120  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 121  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 122         Image: Constraint of the second sec |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 130  |   |   | NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |
| 131         Image: Constraint of the second sec |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |                                | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |  |  |   |   |                                      |   |   |  |   |   |   |  |

|   |   | PROJECT BASIC INFORMATION<br>Interior or Exterior Predominant Space Type  |              | PRE-INST  | TALLATION   |   |                 |                   | POST-INSTALLATIO                         | N   |  |  |  |  |   |                                   | Energy Calcul                                  | ations  |   |   |  |
|---|---|---|--------------|---|---|---|-----------------|-------------------|--|---|--|--|--|--|---|-----------------------------------|--|---|---|---|--|
| Line Building Address Floor<br>Item   | or Area Description   | Interior or Exterior Predominant Space Type<br>Fixture  | Area Cooling | Pre Fixture Pre Fixture Code F<br>Qty   | Pre Watts / Pre kW /<br>Fixture Space<br>(W) (kW) | Existing Existing<br>Control Sensor<br>drop down Quantity   | Post<br>Fixture | Post Fixture Code | Post Watts/ Post<br>Fixture Sp<br>(W) (K | kW / Proposed<br>ace Control<br>W) Please enter<br>DAYLTG, OCC o<br>NONE.   | Proposed Int<br>Sensor in                | erior Change Exterior<br>Connected Change in   | Change in<br>Connected (                               | Applicant<br>Coincidence<br>Factor<br>(CF)<br>Estimate | Coincidence Interactive<br>Factor Factor<br>(demand)  | Interactive<br>Factor<br>(energy) | Pre Controls Post<br>Factor Controls<br>Factor | Interior Exterio<br>Demand Deman  | or Demand<br>nd Savings   | Applicant Pres<br>Equivalent Equi       | scribed Annual Inte<br>uivalent Fixture kV                 |
|   |   |   |              |   | (W) (kW)  | drop down Quantity<br>When applicat   | Fixture<br>Qty  |                   | (W) (k                                   | W) Please enter<br>DAYLTG, OCC o  | Sensor in<br>Quantity<br>When applicable | Connected<br>Load<br>W) excluding<br>CFLs or Exit<br>Signs<br>Change in<br>Connected<br>Load (kW)<br>excluding CFLs<br>or Exit Signs | Connected (<br>Load<br>(kW)<br>CFL or LED<br>exit sign | Factor   | (demand)  | (energy)                          | Factor   | Demand Deman<br>Savings Saving<br>(kW) (kW)<br>excluding excludin<br>CFLs or CFLs o<br>Exit Signs Exit Sign | nd Savings<br>gs (kW)<br>CFLs or  | Full Load Full                          | Hours Fixture kW<br>Fours (excludin<br>CFLs or E<br>Signs) |
|   |   |   |              |   |   |   | 1 1             |                   |  | NONE.   | (iii)                                    | CFLs or Exit excluding CFLs  | CFL or LED   | Estimate   |   |                                   |  | excluding excludin  | ing LED Exit<br>or Signs  | Hours Ho<br>(EFLH)<br>Estimate          | CFLs or F  |
|   |   |   |              |   |   |   |                 |                   |  |   |  | Signs or Exit Signs  | exit sign  |  |   |                                   |  | CFLs or CFLs o<br>Exit Signs Exit Sig   | or Signs  | Estimate                                | Signs)   |
|   |   |   |              |   |   |   |                 |                   |  |   |  |  |  |  |   |                                   |  | Ent orginal Exit org  | PLD -   | ( )                                     |  |
| 139   |   |   |              |   |   | NONE  | +               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 140   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 141 142   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 143   |   |   |              |   |   | NONE  |                 |                   |  | NONE  | _  |  |  |  |   |                                   |  |   |   |   |  |
| 144 145   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 146   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 14/   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 149   |   |   |              |   |   | NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 150   |   |   |              |   |   | NONE  | + +             |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 152   |   |   |              |   |   | NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   | -   |   |  |
| 154   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 155   |   |   |              |   |   | NONE  | +               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 157   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 158   |   |   |              |   |   | NONE  | +               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 160   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 161   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 163   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   | i – – – – – – – – – – – – – – – – – – – |  |
| 164   |   |   | 1            |   |   | NONE  | +               |                   |  | NONE  | + +                                      |  |  |  |   |                                   |  |   |   |   |  |
| 166   |   |   |              |   |   | NONE  | 1 1             |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 167   |   |   | 1            |   |   | NONE  | +               |                   |  |   | + +                                      |  |  |  |   |                                   |  |   |   |   |  |
| 169   |   |   |              |   |   | NONE<br>NONE<br>NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 170   | +   | t   | 1            |   |   | NONE  | +               |                   |  | NONE  | + +                                      |  |  |  |   |                                   |  |   |   |   |  |
| 172   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 1/3 174   | +   | t   | 1            |   |   | NONE  | +               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 175   |   |   |              |   |   |   |                 |                   |  |   |  |  |  |  |   |                                   |  |   |   |   |  |
| 1/6   |   |   | 1            |   |   | NONE  | $\pm$           |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 178   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 180   |   |   | 1            |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | $\pm$           |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 181   |   |   |              |   |   | NONE  |                 |                   |  | NONE  | _  |  |  |  |   |                                   |  |   |   |   |  |
| 182   |   |   |              |   |   | NONE  | ++              |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 184   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 185   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 187   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 189   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 190   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   | _   |   |  |
| 191   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 193   |   |   |              |   |   | NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   | -   |   |  |
| 195   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 196   |   |   |              |   |   | NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   | -   |   |  |
| 198   |   |   |              |   |   | NONE  | -               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 199   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 201   |   |   |              |   |   | NONE<br>NONE<br>NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 202   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 204   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 205   |   |   |              |   |   | NONE  | ++              |                   |  | NONE  |  |  |  |  |   |                                   |  |   | -   |   |  |
| 207   |   |   |              |   |   | NONE  |                 |                   |  |   |  |  |  |  |   |                                   |  |   |   |   |  |
| 209   |   |   |              |   |   | NUME  |                 |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 210   | +   |   | +            |   |   | NUNE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 212   |   |   |              |   |   | NONE<br>NONE  | =               |                   |  | NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 213   |   |   |              |   |   | NONE  |                 |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 316   |   |   |              |   |   | NONE  | ╞               |                   |  | NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| A14   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216<br>217<br>218   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216<br>217<br>218<br>219<br>220   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216<br>217<br>218<br>219<br>220<br>221  |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216<br>217<br>218<br>218<br>219<br>220<br>220<br>221<br>221<br>222<br>223<br>223  |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE NONE NONE NONE NONE NONE NONE NONE   |  |  |  |  |   |                                   |  |   |   |   |  |
| 216         217           217         218           218         219           220         221           221         221           222         223           223         224   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE NONE NONE NONE NONE NONE NONE NONE   |  |  |  |  |   |                                   |  |   |   |   |  |
| 216<br>217<br>218<br>219<br>220<br>221<br>222<br>223<br>223<br>224<br>225<br>226<br>226   |   | Image:  |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE NONE NONE NONE NONE NONE NONE NONE   |  |  |  |  |   |                                   |  |   |   |   |  |
| 226           216           217           218           220           221           222           223           224           225           226           228           228           228           228           228           229   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE NONE NONE NONE NONE NONE NONE NONE   |  |  |  |  |   |                                   |  |   |   |   |  |
| 226         216           217         218           218         212           219         222           221         222           222         222           223         223           224         223           225         226           226         227           228         222           228         222           229         224   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216           217           218           219           220           221           222           223           224           225           226           227           228           229           220           221           223           224           225           226           228           229           220           220   |   |   |              | -         - |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 146         -           217         -           218         -           219         -           200         -           201         -           202         -           203         -           204         -           205         -           206         -           207         -           208         -           209         -           201         -           202         -           203         -           203         -   |   |   |              |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 216   |   |   |              |   |   | NORE         NORE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 146           247           248           249           249           220           221           222           223           224           225           226           227           228           229           220           221           222           223           224           225           226           227           228           229           230           241           232           233           243           244           245           245   |   |   |              |   |   | NOSE         NOSE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 114           117           118           119           111   |   |   |              |   |   | NOSE         NOSE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 111         111           117         111           118         111           119         111           111 |   | Image: Section of the sectio |              |   |   | NOSE         NOSE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 114         114           217         111           218         111           219         111           210         111           211         111           212         111           213         111           214         111           215         111           216         111           217         111           218         111           219         111           211         111           212         111           213         111           214         111           215         111           216         111           217         111           218         111           219         111   |   |   |              | -         - |   | NOSE         NOSE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 111         111           117         111           118         111           119         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           128         111           129         111   |   |   |              |   |   | NOSE         NOSE   |                 |                   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  |  |  |   |                                   |  |   |   |   |  |
| 111         111           117         111           118         111           119         111           119         111           111 |   |   |              | -         -             |   | NOSE         NOSE   |                 |                   |  | NOR           NOR |  |  |  |  |   |                                   |  |   |   |   |  |
| 111         111           117         111           118         111           119         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           133         111           134         111   |   | Image: Constraint of the sector of  |              | -         - |   | NOSE         NOSE   |                 |                   |  | NOR           NOR |  |  |  |  |   |                                   |  |   |   |   |  |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $  |   |   |              |   |   | NOSE         NOSE   |                 |                   |  | NOR           NOR |  |  |  |  |   |                                   |  |   |   |   |  |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $  |   | Image: Constraint of the section of the sec |              | -         -             |   | ACCE         ACCE           ACCE         ACCE |                 |                   |  | NOR           NOR |  |  |  |  |   |                                   |  |   |   |   |  |
| 114         114           117         114           118         114           119         114           119         114           119         114           119         114           119         114           111         114           112         114           112         114           112         114           112         114           113         114           114         114           115         114           116         114           117         114           118         114           119         114           110         114           111         114           112         114           113         114           114         114           115         114           116         114           117         114           118         114           119         114           110         114           111         114           112         114           113 |   |   |              |   |   | ACCE         ACCE           ACCE         ACCE |                 |                   |  | NOR           NOR |  |  |  |  |   |                                   |  |   | Image: Section of the sectio |   |  |
| na     na       na  | Image: section of the sectio | Image: Construction of the sector o |              | -         -             |   | NOSE         NOSE   |                 |                   |  | NOR           NOR |  | 902 2.22   |  |  | -           - |                                   |  |   |   |   |  |

| Project Estimate<br>Savings Sum   |            |
|---|------------|
| Estimated Annual kWh Savings  | 34,833     |
| Total Change in Connected Load  | 13.24      |
| Annual Estimated Cost Savings   | \$3,483.30 |
| Annual Operating Hours  | 2,492      |
|   |            |
| Interior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$1,271.75 |
| Exterior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$445.00   |
| Total retrofit CFL Incentive @<br>\$1/screw-in CFL lamp; \$15/hard-<br>wired CFL lamp (includes all retrofit<br>CFLs, both interior and exterior) | \$0.00     |
| Total retrofit LED Exit Incentive @ \$10/exit sign  | \$0.00     |
| Total Lighting Controls Incentive @<br>\$25/sensor (includes all Lighting<br>Controls, both interior and exterior)                                | \$0.00     |
|   |            |
| Total Calculated Incentive  | \$1,716.75 |
| Total Fixture Quantity excluding retrofit   | 700        |
| CFLs and LED Exit Sign<br>Total Lamp Quantity for retrofit Screw-In   | 722        |
| CFLs<br>Total Lamp Quantity for retrofit Hard-Wired   | 0          |
| CFLs  | 0          |
| Total Fixture Quantity for retrofit LED Exit<br>Signs   | 0          |
| Total Quantity for Occupancy Sensors  | 0          |
| Total Quantity for Daylight Sensors   | 0          |

| Please briefly describe how you estimat<br>equivalent full-load hours (EFLH) for facilit |      | , |
|--|------|---|
|  |      |   |
|  |      |   |
|  |      |   |
| Demand Savings (For Internal Use<br>Only)  | 8.34 |   |

Revere HW Pump VFD Calculation

|       | HWP        | Base Projec | ted without  | VFD      |        |           |             |                                 |
|-------|------------|-------------|--------------|----------|--------|-----------|-------------|---------------------------------|
|       | RUN TIME   | HOURS       | SPEED        | Total HP | MOTORS | Motor Eff | KW          | КМН                             |
|       | 100%<br>0% | 2,520<br>0  | 100%<br>100% | 15<br>0  | 1<br>0 | 93%       | 12.0<br>0.0 | 30,321<br>0                     |
| TOTAL | 100%       | 2,520       |              |          |        |           |             | 30,321                          |
|       | НWP        | with VFD    |              |          |        |           |             |                                 |
|       | RUN TIME   | HOURS       | SPEED        | Total HP | MOTORS | Motor Eff | KW          | KWH                             |
|       | 15%        | 378         | 50%          | 15       | 1      | 93%       | 1.5         | 569                             |
|       | 20%        | 504         | 60%          | 15       | 1      | 93%       | 2.6         | 1,310                           |
|       | 30%        | 756         | 70%          | 15       | 1      | 93%       | 4.1         | 3,120                           |
|       | 20%        | 504         | 80%          | 15       | 1      | 93%       | 6.2         | 3,105                           |
|       | 10%        | 252         | 90%          | 15       | 1      | 93%       | 8.8         | 2,210                           |
|       | 5%         | 126         | 100%         | 15       | 1      | 93%       | 12.4        | 1,562                           |
| TOTAL | 100%       | 2,520       |              |          |        |           |             | 11,875                          |
|       |            |             |              |          |        |           |             | 18,446 KWH SAVEL<br>61% % Saved |

#### Site Address: Hillcrest

#### Principal Address: 3080 Revere Rd

What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new Project Narrative description of your program including, but not limited to, Description of methodologies, protocols and practices Also, please explain briefly how you equipment that you rejected in favor of Project Name make, model, and year of any installed and replaced equipment: used in measuring and verifying project results determined this future replacement date. the more efficient new equipment. No. Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal of fixtures x watts per fixture x Operating hours). halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Lighting Retrofit and Controls Would be replaced as fixtures failed. N/A 1 LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = sensors and daylight sensors for additonal contol. Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions. Motor System inventory was performed with pre & post ECM consumptio calculated and demand utilized . Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KW x Motor Speed ^3x 2 Pump VFD Installation Install 15 HP VFDs for HW pumps. Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - N/A N/A Retrofit KWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations attached with operational factors and commonly accepted usage assumptions. Provide and install new Automated Logic WebCTRL components for systems outlined The school was controlled by an outdated pneumatic control system. The below. upgrades in the school included a building automation upgrade. The Hillcrest Elementary: (1) Heating Hot Water System (3) VVT Air-Handling Units (27) VVT Terminals (2) VVT emperature control and equipment schedules for all of the high school HVAC incuded in the narrative above will be tracked by the new building Rooftop Units (3) Single-Zone Air-Handling Units Building Automation automation system. The equipment in the building will run reduced hours N/A 3 N/A (1) Kitchen Make-up Air Unit (6) Unit Ventilators (19) Fan-Coil Units (6) UV Day/Night based on the schedule. In addtion, temperature control is implemented. Zones (3) Unit Heaters / Cabinet Unit Heaters The savings was calculated in a building simulation model performed in (14) Exhaust Fans Market Manager software. The results of the model are based on 10 year (1) Gymnasium Lighting Control Panel normalized weather data and 8760 hours simulation. 1) Outdoor Lighting Control Panel

Rev (4.1.2013)

#### Site: Hillcrest

#### Principal Address: 3080 Revere Rd

|                |                                | Fincipal Address. 5000 Revere Ru |                                    |  |  |  |                            |
|----------------|--------------------------------|----------------------------------|------------------------------------|--|--|--|----------------------------|
|                |                                | Unadjusted Usage,<br>kwh (A)     | Weather Adjusted Usage,<br>kwh (B) | kwh (C)  | Note 1                                       |  |                            |
|                | 2012                           | 432,64                           |                                    | 470,463  |  |  |                            |
|                | 2011                           | 593,76                           |                                    | 593,760  |  |  |                            |
|                | 2010                           | 579,04                           |                                    | 579,040  |  |  |                            |
|                | Average                        | 535,14                           | 7 535,147                          | 547,754  | -  |  |                            |
| Project Number | r Project Name                 | In-Service Date                  | Project Cost \$                    | KWh Saved/Year<br>Counting towards<br>Utility compliance | KWh Saved/Year (D)<br>eligible for incentive | Utility Peak Demand<br>Reduction<br>Contribution, KW | Commitmen<br>Payment<br>\$ |
| 1              | Lighting Retrofit and Controls | 07/31/2012                       | \$228,516                          | 89,891   | 89,891                                       | 28   |                            |
| 2              | Pump VFD Installation          | 07/31/2013                       | \$4,465                            | 18,446   | 18,446                                       | -  |                            |
| 3              | Building Automation            | 07/31/2013                       | \$383,011                          | 160,393  | 160,393                                      | -  |                            |
|                |                                |                                  |                                    | -  | -  | -  |                            |
|                |                                |                                  |                                    | -  |  |  |                            |
|                |                                |                                  |                                    | -  | -  | -  |                            |
|                |                                |                                  |                                    | -  | -  | -  |                            |
|                |                                |                                  | Total                              | 268,730  | 268,730                                      | 28   | \$0                        |
| Jocket No      | 14 0362                        |                                  | Savings as percent of              | 49.1%  | Note 2                                       |  |                            |

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

| Project | Total Annual<br>Savings, MWh | ty Avoided<br>Cost<br>\$/MWh | Ut | tility Avoided<br>Cost<br>\$ | ι  | Jtility Cost<br>\$ | Cash Rebate<br>\$ | Administrator<br>Variable Fee | То | tal Utility<br>Cost<br>\$<br>(C) | UCT   |
|---------|------------------------------|------------------------------|----|------------------------------|----|--------------------|-------------------|-------------------------------|----|----------------------------------|-------|
|         | (A)                          | (B)                          |    | (C)                          |    | (D)                | (E)               | (F)                           |    | (G)                              | (H)   |
| 1       | 90                           | \$<br>308                    | \$ | 27,712                       | \$ | 1,350              | \$0               | \$899                         | \$ | 2,249                            | 12.3  |
| 2       | 18                           | \$<br>308                    | \$ | 5,687                        | \$ | 1,350              | \$0               | \$184                         | \$ | 1,534                            | 3.71  |
| 3       | 160                          | \$<br>308                    | \$ | 49,446                       | \$ | 1,350              | \$0               | \$1,604                       | \$ | 2,954                            | 16.74 |
|         |                              |                              |    |                              |    |                    |                   |                               |    |                                  |       |
| Total   | 269                          | \$<br>308                    |    | 82,844                       |    | 4,050              | \$0               | \$2,687                       |    | 6,737                            | 12.3  |

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ Hillcrest**

Docket No. 14-0362

Site: 3080 Revere Rd

#### CCG Energy Solutions

#### Energy Use Comparison

| Scenario<br>Existing<br>Electric (kWh)<br>Demand (kW)<br>Natural Gas (MCF)<br>Demand (kBtuh) | Jan<br>51,200.00<br>138.00<br>1,415.00<br>0.00 | Feb<br>66,240.00<br>149.00<br>1,011.00<br>0.00 | Mar<br>54,880.00<br>147.00<br>862.00<br>0.00 | Apr<br>50,400.00<br>140.00<br>282.00<br>0.00 | May<br>42,560.00<br>140.00<br>130.00<br>0.00 | Jun<br>40,480.00<br>133.00<br>0.00<br>0.00 | Jul<br>35,680.00<br>133.00<br>3.00<br>0.00 | Aug<br>37,600.00<br>130.00<br>2.00<br>0.00 | Sep<br>50,400.00<br>137.00<br>178.00<br>0.00 | Oct<br>48,480.00<br>134.00<br>289.00<br>0.00 | Nov<br>55,520.00<br>134.00<br>417.00<br>0.00 | Dec<br>49,920.00<br>138.00<br>692.00<br>0.00 | Annual<br>583,360.10<br>149.00<br>5,281.00<br>0.00 | Savings          |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------------------|
| Lighting<br>Electric (kWh)<br>Demand (kW)  | 40,295.40<br>104.80                            | 51,803.30<br>113.10                            | 42,722.00<br>111.60                          | 39,897.80<br>110.10                          | 33,310.90<br>108.20                          | 39,311.50<br>130.00                        | 34,854.60<br>131.60                        | 36,900.60<br>128.70                        | 39,150.20<br>106.90                          | 38,250.00<br>103.30                          | 43,249.60<br>101.70                          | 39,509.80<br>104.80                          | 479,255.60<br>131.60                               | 104,105 kWh      |
| New Control<br>Electric (kWh)<br>Demand (kW)   | 34,076.80<br>104.80                            | 44,058.50<br>113.10                            | 34,777.10<br>111.60                          | 28,404.90<br>110.40                          | 21,740.70<br>108.60                          | 10,953.00<br>54.40                         | 10,014.10<br>55.50                         | 10,209.90<br>53.20                         | 27,206.30<br>107.30                          | 29,373.20<br>105.40                          | 34,844.90<br>101.70                          | 33,203.10<br>104.80                          | 318,862.50<br>113.10                               | 160,393 kWh      |
| Natural Gas (MCF)<br>Demand (kBtuh)  | 1,328.50<br>0.00                               | 914.90<br>0.00                                 | 698.50<br>0.00                               | 249.80<br>0.00                               | 31.60<br>0.00                                | 0.00<br>0.00                               | 3.00<br>0.00                               | 2.00<br>0.00                               | 190.30<br>0.00                               | 282.80<br>0.00                               | 315.80<br>0.00                               | 652.50<br>0.00                               | 4,669.70<br>0.00                                   | 611 MCF          |
| New Plant<br>Electric (kWh)<br>Demand (kW)   | 31,246.60<br>134.40                            | 41,180.80<br>139.50                            | 33,192.50<br>140.00                          | 27,468.30<br>133.70                          | 21,620.90<br>129.50                          | 10,953.50<br>104.80                        | 10,014.20<br>105.40                        | 10,209.90<br>101.60                        | 27,156.90<br>126.30                          | 27,777.30<br>124.30                          | 33,252.70<br>124.90                          | 30,397.30<br>133.90                          | 304,470.90<br>140.00                               | 14,392 kWh       |
| Natural Gas (MCF)<br>Demand (kBtuh)  | 1,047.20<br>0.00                               | 713.20<br>0.00                                 | 535.00<br>0.00                               | 152.40<br>0.00                               | 17.70<br>0.00                                | 0.00<br>0.00                               | 3.00<br>0.00                               | 2.00<br>0.00                               | 125.70<br>0.00                               | 149.40<br>0.00                               | 245.50<br>0.00                               | 511.40<br>0.00                               | 3,502.50<br>0.00                                   | 1,167 MCF<br>303 |
| Windows 5<br>Electric (kWh)<br>Demand (kW)   | 31,246.40<br>134.40                            | 41,180.80<br>139.50                            | 33,192.50<br>140.00                          | 27,468.30<br>133.70                          | 21,619.90<br>129.50                          | 10,952.50<br>104.80                        | 10,013.20<br>105.40                        | 10,207.90<br>101.60                        | 27,155.90<br>126.30                          | 27,777.30<br>124.30                          | 33,252.70<br>124.90                          | 30,397.30<br>133.90                          | 304,464.70<br>140.00                               | 6 kWh            |
| Natural Gas (MCF)<br>Demand (kBtuh)  | 1,044.20<br>0.00                               | 713.20<br>0.00                                 | 535.00<br>0.00                               | 152.40<br>0.00                               | 17.70<br>0.00                                | 0.00<br>0.00                               | 3.00<br>0.00                               | 2.00<br>0.00                               | 125.70<br>0.00                               | 149.40<br>0.00                               | 243.50<br>0.00                               | 510.40<br>0.00                               | 3,496.50<br>0.00                                   | 6 MCF            |

Hillcrest Elementary School

#### Lighting Inventory Form

| Applicant Name:<br>Facility Name:<br>Date:  | Revere Schools<br>Hildrest Elementary<br>9/102013  |   | ontrol, choose OCC  | room or area<br>CC for Occupany Sensor, DAYLTG for photosens<br>s and exit signs in Column M, and the quantities o  |  |  |   | fard Lighting form   |   |   |                       |   |  |   |               |   |   |   |
|---|--|---|---|---|--|--|---|--|---|---|-----------------------|---|--|---|---------------|---|---|---|
| Line Building Address Piloor Area Description   | PROJECT BASE INFORMATION<br>Interior of Exercise<br>Fractione Productment Space Type Area Cooling  | PRE-NAT<br>Pre Fisture Code Pr<br>City  | ALLATION<br>Pre Watts / Pre   | re kW/ Existing Existing Post<br>Space Control Sensor Fixtur<br>(KW) dras draw Quantity Oliy<br>When systeate   |  | POST-INSTALLATION<br>Post Watts/ Post k'<br>Fixture Spac<br>(W) (kW) | W/ Proposed   | Proposed<br>Sensor<br>Quantity<br>When applicable<br>(kW) exclus<br>CFLs or E<br>Signs | nge Exterior C<br>Connected<br>Ing Load (WW)<br>excluding CFLs C<br>or Exit Signs | Change in Applicant<br>connected Coincidence<br>Load Factor<br>(kW) (CF)<br>FL or LED Estimate<br>exit sign | Coincidence<br>Factor | Interactive Intera<br>Factor Fai<br>(demand) (end   | Ene<br>active Pre Controls<br>ctor Factor<br>ergy) | ay Calculations<br>Post Interi<br>Controls Dema<br>Factor Savin<br>(kW<br>exclus<br>CFLs<br>Exit Si | ina excludina | Demand Applic<br>Savings Equiva<br>(W) Full Lc<br>CFLs or Hou<br>LED Exit (EFL<br>Signs Estim | nt Prescribed<br>ent Equivalent<br>ad Full Load<br>s Hours<br>H)<br>ate | Annual Interior<br>Fixture kWh<br>Saved<br>(excluding<br>CFLs or Exit<br>Signs) |
| e.g. 400 North Street 2 Office<br>e.g. Example 1 Restaurant<br>1 3080 Revere Rd School  | Interior Education - Primary School Cooled Space   |   |   | 0.34         NONE         3           0.25         OCC         5         5           0.53         NONE         9         43.78         NONE         742   | F41SSILL   | 26 0.23  | NONE  | 0.30   |   | 0.17 84%<br>88%   | 57%                   | 34% 12  | 2%   | 0.23  |               | 0.19 2,80<br>8,76   | 2,080   | 692   |
| 2         3060 Revere Rd         School           3         3060 Revere Rd         School           4         3060 Revere Rd         School           5         3060 Revere Rd         School           6         3060 Revere Rd         School   | Interior Education Primary School Cooled Space<br>Interior Education Primary School Cooled Space   | 35 F42II<br>35 F42II<br>6 I75/1   | 59 2<br>59 2<br>75 0  | 2.07 NONE 76<br>2.07 NONE 35<br>0.45 NONE 6   | F41SSILL<br>F42SSILL<br>Cut Sheet 1  | 26 1.98<br>48 1.68<br>5 0.03   | 2 NONE<br>NONE<br>OCC<br>NONE<br>NONE   | 8.16<br>0.09<br>0.39<br>0.42<br>0.13   |   |   | 57%<br>57%            | 34% 12  | 2%   | 6.2<br>0.0<br>30% 0.2<br>0.3<br>0.1   |               |   | 2,080<br>2,080<br>2,080   | 978   |
| 6         3080 Revers Rd         School           7         3080 Revers Rd         School           8         3080 Revers Rd         School           9         3080 Revers Rd         School           10         3080 Revers Rd         School           11         3080 Revers Rd         School   | Interior Education Primary School Cooled Space<br>Interior Education Primary School Cooled Space<br>Exterior Duakto-Dawn Lighting Uncooled space<br>Exterior Duakto-Dawn Lighting Uncooled space   | 12 F43LL<br>10 I150'1<br>12 mb200'1<br>12 mb250'1<br>11 MH400'1<br>5 MH400'1  | 150 1<br>232 2<br>295 3<br>458 5  | 1.07         NONE         12           1.50         NONE         10           2.78         NONE         12           3.54         NONE         12           5.04         NONE         11           2.29         NONE         5  |  | 48 0.48<br>48 0.58<br>75 0.90<br>101 1.11                            | NONE<br>NONE<br>DAYLTG<br>NONE<br>NONE  | 1.02<br>2.21   | 2.64<br>3.93<br>1.28  |   | 57%<br>57%            | 34% 12<br>34% 12<br>34% 12  | 2%   | 0.11 0.71 50% 1.68  |               |   | 2,080<br>2,080<br>3,833<br>3,833  | 2,376<br>5,144  |
| 11         3080 Nevere Rd         School           12         3080 Revere Rd         School           13         3080 Revere Rd         School           14         School         16           16         17         17  | Exterior Dusk-to-Dawn Lighting Uhocolid space<br>Interior Education - Primary School Cooled Space<br>Exterior Dusk-to-Dawn Lighting Uncooled space   | 5 MH4001<br>24 MH4001<br>10 MH2501  | 458 2<br>458 10<br>295 2  | 2.29 NONE 5<br>10.99 NONE 24<br>2.95 NONE 10<br>NONE 10<br>NONE NONE  | Cut Sheet 5<br>F48ILL<br>Cut Sheet 7   | 202 1.01<br>224 5.38<br>60 0.60                                      | NONE<br>NONE<br>DAYLTG<br>NONE<br>NONE<br>NONE<br>NONE  | 5.62   | 2.35  |   | 57%                   | 34% 12  | 2%   | 50% 4.2   |               |   | 3,833<br>2,080<br>3,833   | 13,083  |
| 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19   |  |   |   | NONE NONE NONE NONE NONE NONE NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 21<br>22<br>23<br>24  |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 22         23           23         24           25         30           27         24           28         29           29         30   |  |   |   | NONE NONE NONE NONE NONE NONE   |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 30<br>31<br>32<br>33<br>34<br>34  |  |   |   | NONE NONE NONE NONE NONE NONE NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 35<br>36<br>37<br>38  |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| b         b           37         -           38         -           39         -           40         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         - |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 44 45 46 47 47 49   |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 40<br>49<br>50<br>51<br>52  |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 51 52 53 53 54 55 55 56 55 57 57 57 57 57 57 57 57 57 57 57 57  |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 56         57           58         59           60         61   |  |   |   | NONE NONE NONE NONE NONE NONE NONE NONE   |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 60  |  |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 67<br>68<br>69<br>70<br>71  |  |   |   | NONE NONE NONE NONE NONE NONE NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 72<br>73<br>74<br>75<br>76  |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 76            77  |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 81 82 83 84 85 85 85 85 85 85 85 85 85 85 85 85 85  |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 86<br>87<br>88<br>89<br>90  |  |   |   | NONE  |  |  | NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 91<br>92<br>93<br>94<br>95  |  |   |   |   |  |  | NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 96<br>97<br>98<br>99  |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 101<br>102<br>103<br>104  |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 105<br>106<br>107<br>108  |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 110 111 111 112 113 114   |  |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
|   |  |   |   | NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 119 120 121 121 122 123   |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 124<br>125<br>126<br>127<br>127   |  |   |   | NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE<br>NONE<br>NONE<br>NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 129 130 131 131 132 132 132 133 133 133 133 133   |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 133   |  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE  |  |  | NONE  |  |   |   |                       |   |  |   |               |   |   |   |
| 1         -           0         -             | Image: state | I         I           I         I | A           A | WORL         WORL           WORL         WORL | Image: state |  | 100         100           100 |  |   |   |                       | Image: Section of the sectio |  |   |               |   |   |   |

|  |                  | PROJECT BASIC INFORMATION<br>Interior or Exterior Predominant Space Type |              | PRE-P                               | NSTALLATION                                       |  |                        |                   | POST-INSTAL                   | LATION                             |  |  |   |  |  |                                   | Energy Calcu                                   | lations  |                                       |  |                          |  |
|--|------------------|--|--------------|-------------------------------------|---|--|------------------------|-------------------|-------------------------------|------------------------------------|--|--|---|--|--|-----------------------------------|--|--|---------------------------------------|--|--------------------------|--|
| Line Building Address Floor<br>Item  | Area Description | Interior of Exterior Predominant Space Type Fixture                      | Area Cooling | Pre Fixture Pre Fixture Code<br>Qty | Pre Watts / Pre kW /<br>Fixture Space<br>(W) (kW) | Existing Existing<br>Control Sensor<br>drop down Quantity    | Post<br>Fixture<br>Qty | Post Fixture Code | Post Watts/<br>Fixture<br>(W) | Post kW / Pr<br>Space C<br>(kW) Pk | roposed F<br>Control<br>ease enter<br>LTG, OCC or<br>NONE.   | Proposed Interior Change Exterior<br>Sensor in Connected Change i                            | Change in<br>Connected  | Applicant<br>Coincidence<br>Factor<br>(CF)<br>Estimate | Coincidence Interactive<br>Factor Factor<br>(demand) | Interactive<br>Factor<br>(energy) | Pre Controls Post<br>Factor Controls<br>Factor | Interior Exte<br>Demand Dema   | nor Demand<br>and Savings             | Applicant<br>Equivalent                  | Prescribed<br>Equivalent | Annual Interior<br>Fixture kWh                               |
|  |                  |  |              |                                     | (W) (kW)  | drop down Quantity   | Qty                    |                   | (W)                           | (kW) Pla                           | LTG, OCC or  | Quantity<br>hese spiticable<br>(kW) excluding Load (KW)<br>CFLs or Exit<br>Signs or Exit Sig | Connected<br>d Load<br>(kW)<br>FLs CFL or LED<br>rs exit sign | Factor   | (demand)   | (energy)                          | Factor   | Demand Dema<br>Savings Savin<br>(kW) (kV<br>excluding exclu<br>CFLs or CFL1<br>Exit Signs Exit S | and Savings<br>ngs (kW)<br>/) CFLs or | Full Load<br>Hours<br>(EFLH)<br>Estimate | Full Load<br>Hours       | Fixture kWh<br>Saved<br>(excluding<br>CFLs or Exit<br>Signs) |
|  |                  |  |              |                                     |   |  |                        |                   |                               |                                    | NONE.  | CFLs or Exit excluding C   | FLs CFL or LED  | Estimate   |  |                                   |  | excluding exclu  | ding LED Exit                         | (EFLH)                                   | nours                    | CFLs or Exit   |
|  |                  |  |              |                                     |   |  |                        |                   |                               |                                    |  | Signs or Exit Sig  | ns exit sign  |  |  |                                   |  | CFLs or CFLs<br>Exit Signs Exit S  | or Signs                              | Estimate                                 |                          | Signs)   |
|  |                  |  |              |                                     |   |  |                        |                   |                               |                                    |  |  |   |  |  |                                   |  | EAR SIGNS EAR S  | ŵ.e                                   |  |                          | (  |
| 139  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 140  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |                        |                   |                               |                                    | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 141 142  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 143  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 144 145  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 146  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 147 148  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 149  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE   | _                      |                   |                               |                                    | NONE<br>NONE<br>NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          |  |
| 151  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          | (  |
| 152  |                  |  |              |                                     |   |  | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  | _                                     |  |                          |  |
| 154  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 155  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE                                 | _                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          | (  |
| 157  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 158  |                  |  |              |                                     |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  | _                                     |  |                          |  |
| 160  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 161  |                  |  |              |                                     |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  | _                                     |  |                          |  |
| 163  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 164  |                  | l  | -            | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  | _                        |  |
| 166  |                  |  |              |                                     |   | NONE<br>NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 167  |                  | l  | -            | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  | _                        |  |
| 169  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 170  |                  |  |              | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 172  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE                                 |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          | _  |
| 173  |                  |  |              |                                     |   | NONE   | -                      |                   |                               |                                    | NONE<br>NONE<br>NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          |  |
| 0a     0a       0a |                  |  |              |                                     |   |  |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 1/6 177  |                  |  | t            |                                     |   | NONE<br>NONE<br>NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 178  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 180  | 1                |  | 1            | <u> </u>                            |   | NONE<br>NONE<br>NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  | 1                                 |  |  |                                       |  |                          |  |
| 181  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 182  |                  |  |              |                                     |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 184  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 185  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 187  |                  |  |              |                                     |   | NONE<br>NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 188  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          | —  |
| 190  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 191 192  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                 |                        |                   |                               |                                    | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |  |   |  |  |                                   |  |  |                                       |  |                          | —  |
| 193  |                  |  |              |                                     |   |  | _                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       | _  |                          |  |
| 195  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 196  |                  |  |              |                                     |   | NONE   | _                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       | _  |                          |  |
| 197  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          | —  |
| 199  |                  |  |              |                                     |   | NONE   | _                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          | =  |
| 200  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 202  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE   | -                      |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  | _                                     |  |                          |  |
| 204  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 205  |                  |  |              |                                     |   | NONE   | _                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          | <u> </u>   |
| 207  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 208  |                  |  |              |                                     |   |  | -                      |                   |                               |                                    | NONE   |  | _   |  |  |                                   |  |  |                                       |  |                          |  |
| 210  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 211 212  |                  |  | 1            | + +                                 |   | NONE   | -                      | <u> </u>          |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  | -                                 |  |  |                                       |  |                          |  |
| 213  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 214 215  |                  |  | 1            |                                     |   | NONE<br>NONE<br>NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 216  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 218  |                  |  | t            |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 219  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 220  |                  |  |              | + +                                 |   | NONE   | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 222  |                  |  |              |                                     |   | NONE<br>NONE   |                        |                   |                               |                                    | NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 223  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 225  | -                |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   | -  |  |                                   |  |  |                                       |  | _                        |  |
| 227  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE |                        |                   |                               |                                    | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 228  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 230  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 231  | -                |  |              | <u> </u>                            |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       | <u> </u>                                 |                          |  |
| 233  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 234 235  |                  | l  | -            | <u> </u>                            |   | NONE<br>NONE<br>NONE   | -                      |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  | _                        |  |
| 236  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 237<br>238   |                  | l  | -            | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE   |  | -   |  |  |                                   |  |  |                                       |  |                          |  |
| 239  |                  |  |              |                                     |   | NONE<br>NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 240  | -                |  |              | <u> </u>                            |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       | <u> </u>                                 |                          |  |
| 242  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 243 244  |                  | l  | -            | <u> </u>                            |   |  | -                      |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  | _                        |  |
| 245  |                  |  |              |                                     |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 193  |                  |  |              | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE<br>NONE<br>NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 248  |                  |  |              |                                     |   | NONE   |                        |                   |                               |                                    | NONE   |  |   |  |  |                                   |  |  |                                       |  |                          |  |
| 249<br>250   |                  | l  | -            | <u> </u>                            |   | NONE   | -                      |                   |                               |                                    | NONE   |  | -   |  |  |                                   |  |  |                                       |  |                          |  |
| Totals   |                  |  |              | 923                                 | 79.05   |  | 964                    |                   |                               | 50.53                              |  | 18.33 10.20  |   |  |  |                                   |  | 14.00  |                                       | 1  |                          | 42,699   |
|  |                  |  |              |                                     |   |  |                        |                   |                               |                                    |  |  |   |  |  |                                   |  |  |                                       |  |                          |  |

| Project Estimate<br>Savings Sum   |            |
|---|------------|
| Estimated Annual kWh Savings  | 89,891     |
| Total Change in Connected Load  | 28.53      |
| Annual Estimated Cost Savings   | \$8,989.10 |
| Annual Operating Hours  | 2,619      |
|   |            |
| Interior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$2,134.95 |
| Exterior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$1,954.25 |
| Total retrofit CFL Incentive @<br>\$1/screw-in CFL lamp; \$15/hard-<br>wired CFL lamp (includes all retrofit<br>CFLs, both interior and exterior) | \$0.00     |
| Total retrofit LED Exit Incentive @ \$10/exit sign  | \$0.00     |
| Total Lighting Controls Incentive @<br>\$25/sensor (includes all Lighting<br>Controls, both interior and exterior)                                | \$0.00     |
|   |            |
| Total Calculated Incentive  | \$4,089.20 |
| Total Fixture Quantity excluding retrofit   |            |
| CFLs and LED Exit Sign  | 964        |
| Total Lamp Quantity for retrofit Screw-In<br>CFLs   | 0          |
| Total Lamp Quantity for retrofit Hard-Wired<br>CFLs   | 0          |
| Total Fixture Quantity for retrofit LED Exit Signs  | 0          |
| Total Quantity for Occupancy Sensors  | 0          |
| Total Quantity for Daylight Sensors   | 0          |

| Please briefly describe how you estimat<br>equivalent full-load hours (EFLH) for facilit |       | . , |
|--|-------|-----|
|  |       |     |
|  |       |     |
|  |       |     |
|  |       | 1   |
| Demand Savings (For Internal Use<br>Only)  | 14.00 |     |

Revere HW Pump VFD Calculation

|       | HWP        | Base Projec | ted without  | VFD      |        |           |             |                                 |
|-------|------------|-------------|--------------|----------|--------|-----------|-------------|---------------------------------|
|       | RUN TIME   | HOURS       | SPEED        | Total HP | MOTORS | Motor Eff | KW          | КМН                             |
|       | 100%<br>0% | 2,520<br>0  | 100%<br>100% | 15<br>0  | 1<br>0 | 93%       | 12.0<br>0.0 | 30,321<br>0                     |
| TOTAL | 100%       | 2,520       |              |          |        |           |             | 30,321                          |
|       | НWP        | with VFD    |              |          |        |           |             |                                 |
|       | RUN TIME   | HOURS       | SPEED        | Total HP | MOTORS | Motor Eff | KW          | KWH                             |
|       | 15%        | 378         | 50%          | 15       | 1      | 93%       | 1.5         | 569                             |
|       | 20%        | 504         | 60%          | 15       | 1      | 93%       | 2.6         | 1,310                           |
|       | 30%        | 756         | 70%          | 15       | 1      | 93%       | 4.1         | 3,120                           |
|       | 20%        | 504         | 80%          | 15       | 1      | 93%       | 6.2         | 3,105                           |
|       | 10%        | 252         | 90%          | 15       | 1      | 93%       | 8.8         | 2,210                           |
|       | 5%         | 126         | 100%         | 15       | 1      | 93%       | 12.4        | 1,562                           |
| TOTAL | 100%       | 2,520       |              |          |        |           |             | 11,875                          |
|       |            |             |              |          |        |           |             | 18,446 KWH SAVEL<br>61% % Saved |

#### Site Address: HS

#### Principal Address: 3420 Everett Rd

What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new Project Narrative description of your program including, but not limited to, Description of methodologies, protocols and practices Also, please explain briefly how you equipment that you rejected in favor of Project Name make, model, and year of any installed and replaced equipment: used in measuring and verifying project results determined this future replacement date. the more efficient new equipment. No. Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal of fixtures x watts per fixture x Operating hours). halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Lighting Retrofit and Controls Would be replaced as fixtures failed. N/A 1 LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = sensors and daylight sensors for additonal contol. Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions. Motor System inventory was performed with pre & post ECM consumptio calculated and demand utilized . Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KW x Motor Speed ^3x 2 Pump VFD Installation Install 15 HP VFDs for HW pumps. Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - N/A N/A Retrofit KWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations attached with operational factors and commonly accepted usage assumptions. below. The main high school was controlled by an outdated pneumatic control system. The upgrades in the High School included a building automation High School: upgrade. The temperature control and equipment schedules for all of the (1) Heating Hot Water System, (8) Science Wing Air-Handling Units, (16) Single-Zone high school HVAC incuded in the narrative above will be tracked by the Air-Handling Units new building automation system. The equipment in the building will run Building Automation 3 N/A N/A (3) Gymnasium Air-Handling Units, (3) VAV Air-Handling Units, (7) VAV Terminals, (19) educed hours based on the schedule. In addtion, temperature control is FPVAV Terminals, (4) Science Lab Supply Fan Terminals, (1) Fan-Coil Unit, (4) Science mplemented. The savings was calculated in a building simulation model Addition Unit Ventilators, (6) UV Day/Night Zone, (18) Split AC Units, (25) Unit Heaters / performed in Market Manager software. The results of the model are Cabinet Unit Heaters,(24) Exhaust Fans,(1) Gymnasium Lighting Control Panel,(1) based on 10 year normalized weather data and 8760 hours simulation. Outdoor Lighting Control Panel,(1) Gas & Electric Meters Monitoring

Rev (4.1.2013)

#### Site: HS

#### Principal Address: 3420 Everett Rd

|                |                                | Principal Address: 3420 Everett Rd |                                    |  |   |  |                             |
|----------------|--------------------------------|------------------------------------|------------------------------------|--|---|--|-----------------------------|
|                |                                | Unadjusted Usage,<br>kwh (A)       | Weather Adjusted Usage,<br>kwh (B) | Weather Adjusted<br>Usage with Energy<br>Efficiency Addbacks,<br>kwh (C) | Note 1                                    |  |                             |
|                | 2012                           | 1,012,400                          |                                    | 1,076,362  |   |  |                             |
|                | 2011<br>2010                   | 1,391,24(<br>1,431,60(             |                                    | 1,391,240<br>1,431,600   |   |  |                             |
|                | Average                        | 1,278,413                          |                                    | 1,299,734  |   |  |                             |
| Project Number | Project Name                   | In-Service Date                    | Project Cost \$                    | KWh Saved/Year<br>Counting towards<br>Utility compliance                 | KWh Saved/Year (D) eligible for incentive | Utility Peak Demand<br>Reduction<br>Contribution, KW | Commitment<br>Payment<br>\$ |
| 1              | Lighting Retrofit and Controls | 07/31/2012                         | \$228,516                          | 152,013  | 152,013                                   | 40   |                             |
| 2              | Pump VFD Installation          | 07/31/2013                         | \$1,365                            | 18,446   | 18,446                                    | -  |                             |
| 3              | Building Automation            | 07/31/2013                         | \$383,011                          | 191,691  | 191,691                                   | -  |                             |
|                |                                |                                    |                                    | -  | -   | -  |                             |
|                |                                |                                    |                                    | -  | -   | -  |                             |
|                |                                |                                    |                                    | -  | -   | -  |                             |
|                |                                |                                    |                                    | -  | -   | -  |                             |
|                |                                |                                    | Total                              | 362,150  | 362,150                                   | 40   | \$0                         |
| )ocket No.     | 14-0362                        |                                    | Savings as percent of<br>usage     | 27.9%  | Note 2                                    |  |                             |

3420 Everett Rd Site:

14-0362

**Customer Eligible Exemption Period:** 138 Month(s) Note 3

= Total (D) divided by Average (C)

#### Notes

Docket No.

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

| Project | Total Annual<br>Savings, MWh | y Avoided<br>Cost<br>MWh | Ut | ility Avoided<br>Cost<br>\$ | ι  | Jtility Cost<br>\$ | Cash Rebate<br>\$ | Administrator<br>Variable Fee<br>\$ | То | tal Utility<br>Cost<br>\$ | UCT   |
|---------|------------------------------|--------------------------|----|-----------------------------|----|--------------------|-------------------|-------------------------------------|----|---------------------------|-------|
|         | (A)                          | (B)                      |    | (C)                         |    | (D)                | (E)               | (F)                                 |    | (G)                       | (H)   |
| 1       | 152                          | \$<br>308                | \$ | 46,863                      | \$ | 1,350              | \$0               | \$1,520                             | \$ | 2,870                     | 16.3  |
| 2       | 18                           | \$<br>308                | \$ | 5,687                       | \$ | 1,350              | \$0               | \$184                               | \$ | 1,534                     | 3.71  |
| 3       | 192                          | \$<br>308                | \$ | 59,095                      | \$ | 1,350              | \$0               | \$1,917                             | \$ | 3,267                     | 18.09 |
|         |                              |                          |    |                             |    |                    |                   |                                     |    |                           |       |
| Total   | 362                          | \$<br>308                |    | 111,644                     |    | 4,050              | \$0               | \$3,622                             |    | 7,672                     | 14.6  |

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ HS**

Docket No. 14-0362

Site: 3420 Everett Rd

#### Energy Use Comparison Feb Mar Jul Sep Oct Nov Scenario Jan Apr May Jun Aug Dec Annual Savings Existing Electric (kWh) Demand (kW) 130,294.00 142,682.00 127,054.00 126,056.00 219.70 212.70 213.10 242.50 133,124.00 118,119.00 107,540.00 117,129.00 141,712.00 133,732.00 149,938.00 115,777.00 229.40 232.40 228.60 254.60 239.60 225.70 234.60 212.90 1,543,157.20 254.60 Natural Gas (MCF) 2,152.00 1,035.00 53.00 14.00 4.00 1,433.00 5,636.00 573.00 63.00 10.00 10.00 120.00 169.00 Demand (kBtuh) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 New Controls Electric (kWh) Demand (kW) 106,439.80 133,063.80 110,549.10 103,876.40 230.90 251.30 224.00 257.30 112,198.60 110,751.40 98,278.50 113,517.20 115,420.40 110,976.20 142,428.80 93,965.90 251.90 309.60 325.40 339.00 256.60 234.40 280.10 221.90 1,351,465.90 339.00 191,691 kWh Natural Gas (MCF) Demand (kBtuh) 6.40 0.00 4,612.20 1,785.50 841.60 457.40 54.50 43.80 6.50 2.40 4 00 92.40 138.60 1,179.10 1.024 MCF 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1,785.50 841.60 457.40 54.50 43.80 6.40 6.50 2.40 4.00 92.40 138.60 1,179.10 New Windows Electric (kWh) 106,439.80 133,063.80 110,549.10 103,876.40 112,198.60 110,751.40 98,278.50 113,517.20 115,420.40 110,976.20 142,428.80 93,965.90 1,351,465.90 0.00 kWh 339.00 Demand (kW) 230.90 251.30 224.00 257.30 251.90 309.60 325.40 339.00 256.60 234.40 280.10 221.90 Natural Gas (MCF) 1,752.90 0.00 820.40 440.10 0.00 54.50 43.80 6.40 0.00 6.50 2.40 0.00 4 00 92.40 0.00 122.10 1,140.00 4,485.50 0.00 127 MCF 0.00 Demand (kBtuh) 0.00 0.00 0.00 0.00 0.00 0.00

#### Lighting Inventory Form

| Applicant Name:         Revere Schools           Facility Name:         Revere MS           Date:         3/10/2013   | In  |  | C for Occupany Ser  | iensor, DAYLTG for photosensor, or NONE for none. Co<br>Column M, and the quantities of sensors in Column R, v  |   |  | Standard Lightin                                  | ıg form.  |   |   |   |   |   |   |  |
|---|---|--|---|---|---|--|---|---|---|---|---|---|---|---|--|
| Une Building Address Proof Area Description Peaker Proof Example Internet Factors   | SRAATCH Predominant Space Type Area Cooling P   | PRE-INSTALLATION<br>re Fixture Pre Fixture Code Pre Watts./ Pr<br>Oty Fixture 1<br>(W)   | e kW / Existing<br>pace Contro<br>kW) drop dow  | ing Existing Post<br>rol Sensor Fixture Code<br>Quantity Wan upplicable Qty   | POST-INSTALLATIO<br>Post Watis/ Post<br>Fixture Spa<br>(W) (kV      | N<br>KW / Proposed<br>Control<br>Pisasa enter<br>DAYLTG, OCC or<br>NONE.   | Proposed<br>Sensor<br>Quantity<br>When applicable | Interior Change Exterior<br>In Connected Change in<br>Load Connected<br>(WW) excluding Load (WW)<br>CFLs or Exit<br>Signs or Exit Signs   | Change in Ap<br>Connected Coin<br>Load F,<br>(KW) i<br>CFL or LED Es<br>exit sign | olicant (<br>cidence<br>actor<br>CF)<br>imate | Coincidence Interactive Interactive Pre C<br>Factor Factor Factor Fac<br>(demand) (energy)            | Energy Calculations<br>trols Post Interior<br>or Controls Demand<br>Factor (kW)<br>excluding<br>CFLs or<br>Exit Signs | Exterior Demand<br>Demand Savings I<br>Savings (WV)<br>(KW) CFLs or<br>excluding LED Exit<br>CFLs or Signs<br>Exit Signs  | Applicant Pr<br>Equivalent Er<br>Full Load F<br>Hours<br>(EFLH)<br>Estimate | rescribed Annual Interior<br>iquivalent Fixture kWh<br>Full Load Saved<br>Hours (excluding<br>CFLs or Exit<br>Signs) |
| e.g. 400 North Street 2 Office Interior<br>e.g. Example 1 Restaurant Exterior   | Ottice - Small Cooled Space<br>Restaurant - Fast Food Uncooled space  | 3 F44ILL 112<br>5 Example Cut Sheet 1 50   |   |   |   | 17 OCC<br>13 DAYLTG  |   | 0.13  |   |   |   |   | 0.19  |   |  |
| 3         3420 Event Rd         School         Interior         Oth           4         3420 Event Rd         School         Interior         Oth           5         3420 Event Rd         School         Interior         Oth           6         3420 Event Rd         School         Interior         Oth           6         3420 Event Rd         School         Interior         Oth   | her - Please estimate CF and EFLH Cooled Space<br>her - Please estimate CF and EFLH Cooled Space<br>her - Please estimate CF and EFLH Cooled Space<br>her - Please estimate CF and EFLH Cooled Space  | 1 160/1 60<br>77 F44ILL 112<br>5 MH50/1 72<br>24 MH250/1 295   | 7.63 NONE<br>1.21 NONE<br>0.06 NONE<br>3.62 NONE<br>0.36 NONE<br>7.08 NONE<br>0.45 NONE   | IE 1 Cut Sheet 1<br>IE 77 F44SSILL<br>IE 5 F42SSILL<br>IE 24 F43II  | 5 0.0<br>96 7.3<br>48 0.2<br>89 2.1                                 | NONE           66         NONE           01         NONE           39         NONE           24         DAYLTG           14         DAYLTG           38         DAYLTG |   | 1.23<br>9.55<br>0.06<br>1.23<br>0.12<br>4.94<br>0.06  |   | 0%<br>0%<br>0%<br>0%                          | 90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12% | 1.48<br>11.51<br>0.07<br>1.49<br>50% 0.14<br>50% 5.96<br>50% 0.08   |   | 2,500<br>2,500<br>2,500   | 2,500 3,450<br>2,500 336<br>2,500 13,843   |
| 8         3420 EventR Rd         School         Interior         Oth           9         3420 EventR Rd         School         Interior         Oth           10         3420 EventR Rd         School         Interior         Oth           11         3420 EventR Rd         School         Interior         Oth           12         3420 EventR Rd         School         Interior         Oth   | her - Plasse estimate CF and EFLH Cooled Space<br>her - Plasse estimate CF and EFLH Cooled Space  | 23         MH400'1         458         1           9         F41IL         31         1           75         F42II         59         3           3         F43II         89         25           26         CED26H         23         1 | 0.53 NONE<br>0.28 NONE<br>4.43 NONE<br>0.27 NONE  | HE         48         F48LL           HE         9         F41SSILL           HE         75         F42SSILL           HE         3         F43SSILL           HE         3         F43SSILL  | 96 0.3<br>224 100<br>26 0.2<br>48 3.6<br>72 0.2<br>18 0.6<br>20 0.1 | NONE           23         OCC           30         OCC           32         OCC           35         NONE           18         NONE                                    |   | 0.06<br>-0.22<br>0.05<br>0.83<br>0.05<br>0.54   | 0.22  | 0% 0% 0% 0% 0% 0%                             | 90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%                | 0.08<br>-0.28<br>30% 0.05<br>30% 0.99<br>30% 0.65   |   | 2,500<br>2,500<br>2,500<br>2,500<br>2,500                                   | 2,500 -610<br>2,500 126<br>2,500 2,310<br>2,500 143<br>2,500 1,512   |
| 16         34/20 Eventer Rd         School         Intenior         Other           17         34/20 Eventer Rd         School         Intenior         Other           18         34/20 Eventer Rd         School         Intenior         Other           19         34/20 Eventer Rd         School         Intenior         Other           19         34/20 Eventer Rd         School         Intenior         Other   | ther - Please estimate CF and EFLH Cooled Space<br>ther - Please estimate CF and EFLH Cooled Space<br>ther - Please estimate CF and EFLH Cooled Space   | 636 F42II 59 3<br>9 160/1 60<br>9 165/1 65<br>10 F43ILL 89   | 1.13         NONE           0.41         NONE           1.96         NONE           1.97         NONE           7.52         NONE           0.54         NONE           0.59         NONE           0.59         NONE | IE 636 F42SSILL<br>IE 9 Cut Sheet 1<br>IE 9 Cut Sheet 9<br>IE 9 Cut Sheet 9   |   | NONE           13         NONE           53         OCC           05         DAYLTG           16         NONE           NONE         NONE                              |   | 0.84<br>7.00<br>0.50<br>0.42  |   | 0%<br>0%<br>0%<br>0%<br>0%                    | 90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%                               | 1.01<br>30% 8.44<br>50% 0.60<br>0.51  |   | 2,500<br>2,500<br>2,500<br>2,500  | 2,500<br>2,500<br>2,500<br>2,500<br>2,500<br>19,589<br>2,500<br>1,386<br>2,500<br>1,184<br>2,500                     |
| 20         34.20 Eventm R0         School         Intendor         OP           21         34.20 Eventm R0         School         Intendor         OP           22         34.20 Eventm R1         School         Intendor         OP           23         34.20 Eventm R1         School         Intendor         OP           24         34.20 Eventm R1         School         Intenfor         OP           24         34.20 Eventm R1         School         Extentor         24           25         34.20 Eventm R1         School         Extentor         25   | http://kaase.estimato/chaofk/H/LCooledSpace<br>http://kaase.estimato/chaofk/H/LCooledSpace<br>http://kaase.estimato/chaofk/H/LCooledSpace<br>http://kaase.estimato/chaofk/H/LCooledSpace<br>Duskto-Dawn Lighting_UkrocoledSpace<br>Duskto-Dawn Lighting_UkrocoledSpace  | 8 1100/1 100<br>1 F44IL 112<br>4 160/1 60<br>20 MH400/1 458<br>10 MH400/1 296  | 0.80         NONE           0.11         NONE           0.24         NONE           0.16         NONE           2.95         NONE           0.04         NONE           2.09         NONE                             | IE 8 Cut Sheet 1<br>IE 1 F44SSILL<br>IE 2 F42SSILL<br>IE 20 F48SILL<br>IE 10 Cut Sheet 2  | 224 4.4<br>101 1.0<br>5 0.0   | NONE           NONE           NONE           NONE           NONE           NONE           NONE           NONE           NONE   |   | 0.76<br>0.02<br>0.14<br>4.68<br>1.94<br>0.04  | 9   | 0%  | 90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%<br>90% 34% 12%  | 0.92<br>0.02<br>0.17<br>5.64  |   | 2,500<br>2,500<br>2,500<br>2,500  | 2,500 2,128<br>2,500 45<br>2,500 403   |
| 26         3420 Event Rd         School         Extendor           29         3420 Event Rd         School         Extendor           30         3420 Event Rd         School         Extendor           31         3420 Event Rd         School         Extendor           32         3420 Event Rd         School         Extendor           32         3420 Event Rd         School         Extendor   | Dask-to-Dawn Lighting         Lincodel space           Dask-to-Dawn Lighting         Lincodel space | 7         Mh150/1         190           6         Mh250/1         295           9         Mh70/1         95           1         Mh400/1         458           3         HPS150/1         188   | 1.33 NONE<br>1.77 NONE<br>0.86 NONE<br>0.46 NONE<br>0.56 NONE<br>0.59 NONE  | E         7         Cut Sheet 8           EE         6         Cut Sheet 11           EE         9         Cut Sheet 12           EE         1         Cut Sheet 11           EE         2         Cut Sheet 13           EE         3         Cut Sheet 8           FE         2         Cut Sheet 8 | 90 0.5<br>50 0.4<br>90 0.0<br>77 0.2                                | 54         NONE           54         NONE           45         NONE           29         NONE           23         NONE           18         NONE                      |   | 1.43<br>0.79<br>1.23<br>0.41<br>0.37<br>0.33<br>0.41  |   |   |   |   |   |   | 3.833<br>3.833<br>3.833<br>3.833<br>3.833<br>3.833<br>3.833<br>3.833<br>3.833  |
| 3   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | E<br>E<br>E   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   | Image: Sector  |   |   |   |   | Image: Section of the sectio |   |  |
| 41<br>42<br>43<br>44  |   |  | NONE<br>NONE<br>NONE<br>NONE  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 6         -           6         -           7         -           8         -           9         -           9         -           9         -   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   | Image: Constraint of the second sec |   |   |   |   | Image: Section of the sectio |   |  |
| 33  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 12  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 59         60           60         61           61         61           63         61           64         65   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 16  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 66            67            68            69            71            72  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  | E   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   | Image: Constraint of the second sec |   |   |   |   | Image: Second  |   |  |
| 72  |   |  | NONE<br>NONE<br>NONE<br>NONE  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 73  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  | IE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   | Image: Sector  |   |   |   |   | Image: Section of the sectio |   |  |
| 86  |   |  | NONE<br>NONE<br>NONE<br>NONE  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 82  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  |   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 99         00           001         01           003         01           004         04  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 15  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 105 107 108 109 109 109 109 10 10 10 10 11 1 1 1 1  |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 82<br>85<br>86<br>86<br>86<br>86<br>86  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 112   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | λΕ<br>ΔΕ<br>ΔΕ  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 111         - |   |  | NONE<br>NONE<br>NONE<br>NONE  | 12  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 94         94           96         96           97         96           97         96           97         96           98         96           99         96           90         96           91         96           92         96           93         96           94         96           95         96   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | E   |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |
| 102         -           103         -           104         -           105         -           106         -           107         -           108         -   |   |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | 12  |   | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE   |   |   |   |   |   |   |   |   |  |

|  |                       |                             | PROJECT BASIC INFORMAT            | TION                 |              |                    | PRE-IN           | STALLATION             |                   |           |                 |                 |                   | POST-INSTAL            | LATION             |                       |  |             |                            |           |                                       |                             | Energy C                       | Calculation        | ns                  |                   |                                 |             |                |
|--|-----------------------|-----------------------------|-----------------------------------|----------------------|--------------|--------------------|------------------|------------------------|-------------------|-----------|-----------------|-----------------|-------------------|------------------------|--------------------|-----------------------|--|-------------|----------------------------|-----------|---------------------------------------|-----------------------------|--------------------------------|--------------------|---------------------|-------------------|---------------------------------|-------------|----------------|
|  | Line Building Address | Floor Area Description Inte | terior or Exterior Pre<br>Fixture | edominant Space Type | Area Cooling | Pre Fixture<br>Otv | Pre Fixture Code | Pre Watts /<br>Eixture | Pre kW /<br>Snace | Existing  | Existing        | Post<br>Fixture | Post Fixture Code | Post Watts/<br>Eixture | Post kW /<br>Snace | Proposed F<br>Control | Proposed Interior Ch<br>Sensor in Conner | ange Exter  | ior Change in<br>Connected | Applicant | Coincidence Interact<br>Factor Factor | ive Interactive<br>r Eactor | Pre Controls Po<br>Factor Cont | ist ir<br>trois De | nterior Exterior    | Demand<br>Savings | Applicant Pre<br>Equivalent Equ | iscribed An | inual Interior |
|  | num                   |                             | E DALOR O                         |                      |              |                    |                  | (W)                    | (kW)              | drop down | Quantity        | Qty             |                   | (W)                    | (kW)               | Please enter          | Quantity Load                            | Conne       | cted Load                  | Factor    | (demai                                | id) (energy)                | Fac                            | tor Sa             | avings Savings      | (kW)              | Full Load Fu                    | II Load     | Saved          |
|  |                       |                             |                                   |                      |              |                    |                  |                        |                   |           | When applicable |                 |                   |                        |                    | NONE. WY              | hen applicable (kW) exclu                | ding Load ( | kW) (kW)                   | (CF)      |                                       |                             |                                |                    | (kW) (kW)           | CFLs or           | Hours F                         | iours (     | excluding      |
|  |                       |                             |                                   |                      |              |                    |                  |                        |                   |           |                 |                 |                   |                        |                    |                       | Signs                                    | or Exit     | Signs exit sign            | esomate   |                                       |                             |                                | C                  | FLs or CFLs or      | Signs             | Estimate                        | / /         | Signs)         |
|  |                       |                             |                                   |                      |              |                    |                  |                        |                   |           |                 |                 |                   |                        |                    |                       |  |             |                            |           |                                       |                             |                                | Exi                | it Signs Exit Signs |                   |                                 | / /         |                |
|  |                       |                             |                                   |                      |              |                    |                  |                        |                   |           |                 |                 |                   |                        |                    |                       |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 139                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            | -         |                                       |                             |                                | -                  |                     |                   |                                 | -           |                |
|  | 141                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 142                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  | _           |                            |           |                                       | _                           |                                |                    |                     |                   |                                 |             | <u> </u>       |
|  | 143                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N        N         N         N         N   | 145                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 140                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 148                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 150                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 151                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 | _           |                |
|  | 152                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             | <u> </u>       |
|  | 154                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 155                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             | <u> </u>       |
|  | 157                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 158                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            | -         |                                       |                             |                                | -                  |                     |                   |                                 | -           | <u> </u>       |
| N        N         N         N         N   | 160                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 161                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 163                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 164                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             |                |
|  | 166                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 167                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 168                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             | _                          |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 170                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N        N        N        N        N      <   | 171                   |                             |                                   |                      |              | $- \neg$           |                  |                        |                   | NONE      |                 | + - T           |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 173                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 174                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             |                |
|  | 176                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 177                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             |                |
|  | 179                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N          | 180                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 181                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            | -         |                                       |                             |                                | -                  |                     |                   |                                 | -           |                |
| N          | 183                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 0          | 184                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  | _           |                            |           |                                       | _                           |                                |                    |                     |                   |                                 |             |                |
| N     N <td>186</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td>   | 186                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N          | 187                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N        N         N         N         N   | 189                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             | _              |
| N          | 190                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N          | 191                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| ·          | 193                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N          | 194                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            | -         |                                       | -                           |                                | -                  |                     |                   |                                 | -           | <u> </u>       |
|  | 196                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| N          | 197                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                | _                  |                     |                   |                                 |             | <u> </u>       |
|  | 199                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 200                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  | _           |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 201 202               |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 203                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  | _           |                            |           |                                       | _                           |                                |                    |                     |                   |                                 |             |                |
|  | 205                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 206                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 208                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 209                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             |                |
| 0       -  | 210                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 212                   |                             |                                   |                      |              |                    |                  |                        | _                 | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1     - <td>213</td> <td></td> <td></td> <td></td> <td></td> <td>1 1</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td>+ +</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td>   | 213                   |                             |                                   |                      |              | 1 1                |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | 215                   |                             |                                   |                      |              |                    |                  |                        | _                 | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1  | 216                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             | -                          |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 0       -  | 218                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 0  | 219 220               |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             | _                          |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1        | 221                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1  | 222                   |                             |                                   |                      |              | $- \neg$           |                  |                        |                   | NONE      |                 | + - T           |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1        | 224                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1  | 225                   |                             |                                   |                      |              | $- \neg$           |                  |                        | T                 | NONE      |                 | <b> </b> − T    |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1        | 227                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 0       -  | 228                   |                             |                                   |                      |              | $- \neg$           |                  |                        |                   | NONE      |                 | + - T           |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1        | 230                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| M        | 231                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             |                |
| 1        | 232                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| a       b  | 234                   |                             |                                   |                      | -            |                    |                  |                        | _                 | NONE      | -               | 1               |                   | _                      |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     | _                 |                                 |             |                |
| 21         | 230                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| a       b  | 237                   |                             |                                   |                      |              |                    |                  |                        | _                 | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| No       No <th< td=""><td>238</td><td></td><td></td><td></td><td></td><td>   </td><td></td><td></td><td></td><td>NONE</td><td></td><td>   </td><td></td><td></td><td></td><td>NONE</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<> | 238                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             | _                          |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1       1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>  | 240                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| A       A       B  | 241                   |                             |                                   |                      |              | $- \neg$           |                  |                        |                   | NONE      |                 | + - T           |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 1        | 243                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| Control       Contro       Control       Control   | 244                   |                             |                                   | -                    |              |                    | -                |                        |                   | NONE      |                 |                 |                   |                        | _                  | NONE                  |  |             |                            |           |                                       |                             |                                | T                  |                     |                   |                                 |             | _              |
| All       A  | 240 246               |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| as       -   | 247                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
| 20     - </td <td>248</td> <td></td> <td></td> <td></td> <td></td> <td>   </td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td>+ +</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>   | 248                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 | + +             |                   |                        |                    | NONE                  |  |             | -                          |           |                                       | -                           |                                |                    |                     |                   |                                 |             |                |
| 2,196 155,33 2,142 113,13 32,79 6,54 0,23 39,54 0,27 91,1  | 250                   |                             |                                   |                      |              |                    |                  |                        |                   | NONE      |                 |                 |                   |                        |                    | NONE                  |  |             |                            |           |                                       |                             |                                |                    |                     |                   |                                 |             |                |
|  | I OTAIS               |                             |                                   |                      |              | 2,198              | l                | L                      | 155.93            |           |                 | 2,162           |                   |                        | 113.13             |                       | 32.79                                    | 6.94        | 0.23                       | -         |                                       |                             |                                |                    | 39.54               | 0.27              |                                 | <u> </u>    | 91,801         |

| Project Estimate  | d Annual    |
|---|-------------|
| Savings Sum   |             |
| Estimated Annual kWh Savings  | 152,013     |
| Total Change in Connected Load  | 39.96       |
| Annual Estimated Cost Savings   | \$15,201.30 |
| Annual Operating Hours  | 2,875       |
|   |             |
| Interior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$4,590.05  |
| Exterior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$1,330.45  |
| Total retrofit CFL Incentive @<br>\$1/screw-in CFL lamp; \$15/hard-<br>wired CFL lamp (includes all retrofit<br>CFLs, both interior and exterior) | \$135.00    |
| Total retrofit LED Exit Incentive @ \$10/exit sign  | \$0.00      |
| Total Lighting Controls Incentive @<br>\$25/sensor (includes all Lighting<br>Controls, both interior and exterior)                                | \$0.00      |
|   |             |
| Total Calculated Incentive  | \$6,055.50  |
| Total Fixture Quantity excluding retrofit   | 2153        |
| CFLs and LED Exit Sign<br>Total Lamp Quantity for retrofit Screw-In   | 0           |
| CFLs<br>Total Lamp Quantity for retrofit Hard-Wired   | 9           |
| CFLs<br>Total Fixture Quantity for retrofit LED Exit  | 0           |
| Signs<br>Total Quantity for Occupancy Sensors   | 0           |
| Total Quantity for Daylight Sensors   | 0           |

| Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type "Other" indicated on the Lighting Form tab |       |  |  |  |  |
|---|-------|--|--|--|--|
|   |       |  |  |  |  |
| Demand Savings (For Internal Use<br>Only)   | 39.81 |  |  |  |  |

Revere HW Pump VFD Calculation

|       | HWP        | Base Projec | ted without  | ed without VFD |        |           |             |                                 |
|-------|------------|-------------|--------------|----------------|--------|-----------|-------------|---------------------------------|
|       | RUN TIME   | HOURS       | SPEED        | Total HP       | MOTORS | Motor Eff | KW          | КМН                             |
|       | 100%<br>0% | 2,520<br>0  | 100%<br>100% | 15<br>0        | 1<br>0 | 93%       | 12.0<br>0.0 | 30,321<br>0                     |
| TOTAL | 100%       | 2,520       |              |                |        |           |             | 30,321                          |
|       | НWP        | with VFD    |              |                |        |           |             |                                 |
|       | RUN TIME   | HOURS       | SPEED        | Total HP       | MOTORS | Motor Eff | KW          | KWH                             |
|       | 15%        | 378         | 50%          | 15             | 1      | 93%       | 1.5         | 569                             |
|       | 20%        | 504         | 60%          | 15             | 1      | 93%       | 2.6         | 1,310                           |
|       | 30%        | 756         | 70%          | 15             | 1      | 93%       | 4.1         | 3,120                           |
|       | 20%        | 504         | 80%          | 15             | 1      | 93%       | 6.2         | 3,105                           |
|       | 10%        | 252         | 90%          | 15             | 1      | 93%       | 8.8         | 2,210                           |
|       | 5%         | 126         | 100%         | 15             | 1      | 93%       | 12.4        | 1,562                           |
| TOTAL | 100%       | 2,520       |              |                |        |           |             | 11,875                          |
|       |            |             |              |                |        |           |             | 18,446 KWH SAVEL<br>61% % Saved |

#### Customer Legal Entity Name: Revere Local Schools

#### Site Address: MS

Principal Address: 3195 Spring Valley Road

What date would you have replaced your equipment if you had not replaced it early? Please describe the less efficient new

| Project<br>No. | Project Name                   | Narrative description of your program including, but not limited to,<br>make, model, and year of any installed and replaced equipment:  | Description of methodologies, protocols and practices<br>used in measuring and verifying project results   | equipment if you had not replaced it early?<br>Also, please explain briefly how you<br>determined this future replacement date. | Please describe the less efficient new<br>equipment that you rejected in favor of<br>the more efficient new equipment. |
|----------------|--------------------------------|---|--|---|--|
| 1              | Lighting Retrofit and Controls | Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal<br>halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to<br>LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy<br>sensors and daylight sensors for additional contol.  | Lighting inventory was performed with pre & post ECM fixture<br>consumption and demand utilized in school. Specified retrofits and<br>replacements of the existing fixtures. Electrical Usage (kWh) = (Number<br>of fixtures x watts per fixture x Operating hours).<br>Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ;<br>Electrical Energy Cost = (kWh x \$kwh); Existing KWh - Retrofit KWh =<br>Savings. See attached documentation for details. Measurement and<br>Verification is based on IPMVP Option A. Calculations based on physical<br>assessment of operational factors and commonly accepted usage<br>assumptions.        | Would be replaced as fixtures failed.   | N/A  |
| 2              | Building Automation            | Provide and install new Automated Logic WebCTRL components for systems outlined<br>below.<br>Middle School:<br>(1) Heating Hot Water System (6) Science Wing Air-Handling Units (13) Single-Zone Air-<br>Handling Units (3) Single-Zone Rooftop Units<br>(6) UV Day/Night Zones (6) Split AC Units<br>(12) Unit Heaters / Cabinet Unit Heaters<br>(14) Exhaust Fans<br>(1) Gymnasium Lighting Control Panel<br>(1) Outdoor Lighting Control Panel<br>(1) Gas & Electric Meters Monitoring | The school was controlled by an outdated pneumatic control system. The<br>upgrades in the school included a building automation upgrade. The<br>temperature control and equipment schedules for all of the school HVAC<br>incuded in the narrative above will be tracked by the new building<br>automation system. The equipment in the building will run reduced hours<br>based on the schedule. In addition, temperature control is implemented.<br>The savings was calculated in a building simulation model performed in<br>Market Manager software. The results of the model are based on 10 year<br>normalized weather data and 8760 hours simulation. | NA  | N/A  |
|                |                                |   |  |   |  |
|                |                                |   |  |   |  |
|                |                                |   |  |   |  |
|                |                                |   |  |   |  |
|                |                                |   |  |   |  |

Rev (4.1.2013)

#### Customer Legal Entity Name: Revere Local Schools

#### Site: MS

#### Principal Address: 3195 Spring Valley Road

|                |                                | Unadjusted Usage,<br>kwh (A)  | Weather Adjusted Usage,<br>kwh (B) | Efficiency Addbacks,                                     | Note 1                                       |  |                             |
|----------------|--------------------------------|-------------------------------|------------------------------------|--|--|--|-----------------------------|
|                | 2012<br>2011<br>2010           | 653,760<br>765,120<br>656,960 | 765,120                            | 765,120  |  |  |                             |
|                | Average                        | 691,947                       | 691,947                            | 706,355  |  |  |                             |
| Project Number | Project Name                   | In-Service Date               | Project Cost \$                    | KWh Saved/Year<br>Counting towards<br>Utility compliance | KWh Saved/Year (D)<br>eligible for incentive | Utility Peak Demand<br>Reduction<br>Contribution, KW | Commitment<br>Payment<br>\$ |
| 1              | Lighting Retrofit and Controls | 07/31/2012                    | \$164,364                          | 102,732  | 102,732                                      | 30   |                             |
| 2              | Building Automation            | 07/31/2013                    | \$385,820                          | 90,855   | 90,855                                       | -  |                             |
|                |                                |                               |                                    | -  | -  |  |                             |
|                |                                |                               |                                    | -  | -  | -  |                             |
|                |                                |                               |                                    | -  | -  | -  |                             |
|                |                                |                               |                                    | -  | -  | -  |                             |
|                |                                |                               |                                    | -  | -  |  |                             |
|                |                                |                               | Total                              | 193,587  | 193,587                                      | 30   | \$0                         |

|            |                         | Savings as percent of  | 27.4% Note 2 |
|------------|-------------------------|------------------------|--------------|
| Docket No. | 14-0362                 | usage                  |              |
|            |                         | = Total (D) divided by |              |
| Site:      | 3195 Spring Valley Road | Average (C)            |              |
|            |                         |                        |              |
|            |                         |                        |              |

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

| Project    | Total Annual<br>Savings, MWh<br>(A) |    | ty Avoided<br>Cost<br>\$/MWh<br>(B) | Ut | ility Avoided<br>Cost<br>\$<br>(C) | ι  | Jtility Cost<br>\$<br>(D) | Cash Rebate<br>\$<br>(E) | Administrator<br>Variable Fee<br>\$<br>(F) | Тс | otal Utility<br>Cost<br>\$<br>(G) | UCT<br>(H) |
|------------|-------------------------------------|----|-------------------------------------|----|------------------------------------|----|---------------------------|--------------------------|--|----|-----------------------------------|------------|
| 1          | 103                                 | \$ | 308                                 | \$ | 31,670                             | \$ | 2,025                     | \$0                      | \$1,027                                    | \$ | 3,052                             | 10.4       |
| 2          | 91                                  | \$ | 308                                 | \$ | 28,009                             | \$ | 2,025                     | \$0                      | \$909                                      | \$ | 2,934                             | 9.55       |
| <b>T</b> ! | 104                                 | •  | 200                                 |    | 50 ( 70                            |    | 1.050                     |                          | ¢4.027                                     |    | 5.00/                             | 10.0       |
| Total      | 194                                 | \$ | 308                                 |    | 59,679                             |    | 4,050                     | \$0                      | \$1,936                                    |    | 5,986                             | 10.0       |

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ MS**

Docket No. 14-0362

Site: 3195 Spring Valley Road

|   |                                 |                      |                      |                      | Energy Use Comparison |                      |                      |                      |                      |                      |                      |                      |                             |                  |
|---|---------------------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------------|------------------|
| Scenario<br>Existing  | Jan                             | Feb                  | Mar                  | Apr                  | May                   | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  | Annual                      | Savings          |
| Electric (kWh)<br>Demand (kW)   | 130,294.00<br>219.70            | 142,682.00<br>212.70 | 127,054.00<br>213.10 | 126,056.00<br>242.50 | 133,124.00<br>229.40  | 118,119.00<br>232.40 | 107,540.00<br>228.60 | 117,129.00<br>254.60 | 141,712.00<br>239.60 | 133,732.00<br>225.70 | 149,938.00<br>234.60 | 115,777.00<br>212.90 | 1,543,157.20<br>254.60      |                  |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 2,152.00<br>0.00                | 1,035.00<br>0.00     | 573.00<br>0.00       | 63.00<br>0.00        | 53.00<br>0.00         | 14.00<br>0.00        | 10.00<br>0.00        | 4.00<br>0.00         | 10.00<br>0.00        | 120.00<br>0.00       | 169.00<br>0.00       | 1,433.00<br>0.00     | 5,636.00<br>0.00            |                  |
| New Controls<br>Electric (kWh)<br>Demand (kW)                                     | 106,439.80<br>230.90            | 133,063.80<br>251.30 | 110,549.10<br>224.00 | 103,876.40<br>257.30 | 112,198.60<br>251.90  | 110,751.40<br>309.60 | 98,278.50<br>325.40  | 113,517.20<br>339.00 | 115,420.40<br>256.60 | 110,976.20<br>234.40 | 142,428.80<br>280.10 | 93,965.90<br>221.90  | 1,351,465.90<br>339.00      | 191,691 kWh      |
| Natural Gas (MCF)   | 1,785.50                        | 841.60               | 457.40               | 54.50                | 43.80                 | 6.40                 | 6.50                 | 2.40                 | 4.00                 | 92.40                | 138.60               | 1,179.10             | 4,612.20                    | 1,024 MCF        |
| Demand (kBtuh)  | 0.00                            | 0.00<br>841.60       | 0.00<br>457.40       | 0.00<br>54.50        | 0.00 43.80            | 0.00<br>6.40         | 0.00<br>6.50         | 0.00                 | 0.00                 | 0.00<br>92.40        | 0.00                 | 0.00                 | 0.00                        |                  |
| New Windows<br>Electric (kWh)<br>Demand (kW)                                      | 106,439.80<br>230.90            | 133,063.80<br>251.30 | 110,549.10<br>224.00 | 103,876.40<br>257.30 | 112,198.60<br>251.90  | 110,751.40<br>309.60 | 98,278.50<br>325.40  | 113,517.20<br>339.00 | 115,420.40<br>256.60 | 110,976.20<br>234.40 | 142,428.80<br>280.10 | 93,965.90<br>221.90  | 1,351,465.90<br>339.00      | 0.00 kWh         |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 1,752.90<br>0.00                | 820.40<br>0.00       | 440.10<br>0.00       | 54.50<br>0.00        | 43.80<br>0.00         | 6.40<br>0.00         | 6.50<br>0.00         | 2.40<br>0.00         | 4.00<br>0.00         | 92.40<br>0.00        | 122.10<br>0.00       | 1,140.00<br>0.00     | 4,485.50<br>0.00            | 127 MCF          |
| CCG Energy Solutions  |                                 |                      |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      | Revere Middle School        |                  |
|   |                                 |                      |                      |                      | Energy Use Comparison |                      |                      |                      |                      |                      |                      |                      |                             |                  |
| Scenario  | Jan                             | Feb                  | Mar                  | Apr                  | May                   | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  | Annual                      | Savings          |
| Existing<br>Electric (kWh)<br>Demand (kW)   | 72,640.00<br>180.00             | 79,440.00<br>182.00  | 70,320.00<br>184.00  | 61,680.00<br>186.00  | 61,840.00<br>184.00   | 45,520.00<br>120.00  | 34,320.00<br>94.00   | 50,800.00<br>183.00  | 63,360.00<br>200.00  | 70,640.00<br>192.00  | 78,000.00<br>181.00  | 71,680.00<br>192.00  | 760,240.20<br>200.00        |                  |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 1,180.00<br>0.00                | 1,052.00<br>0.00     | 772.00<br>0.00       | 533.00<br>0.00       | 259.00<br>0.00        | 40.00<br>0.00        | 29.00<br>0.00        | 26.00<br>0.00        | 48.00<br>0.00        | 422.00<br>0.00       | 575.00<br>0.00       | 840.00<br>0.00       | 5,776.00<br>0.00            |                  |
| New Control<br>Electric (kWh)<br>Demand (kW)                                      | 63,645.70<br>180.00             | 69,836.40<br>182.00  | 61,910.40<br>184.00  | 53,018.80<br>186.00  | 56,838.10<br>184.00   | 37,669.20<br>98.70   | 28,069.00<br>74.70   | 45,776.80<br>161.60  | 58,648.40<br>200.20  | 62,924.00<br>195.10  | 68,579.30<br>181.00  | 62,469.50<br>192.10  | 669,385.60<br>200.20        | 90,855 kWh       |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 785.10<br>0.00                  | 685.70<br>0.00       | 513.80<br>0.00       | 332.20<br>0.00       | 259.00<br>0.00        | 40.00<br>0.00        | 29.00<br>0.00        | 26.00<br>0.00        | 48.00<br>0.00        | 329.80<br>0.00       | 384.70<br>0.00       | 539.50<br>0.00       | 3,972.90<br>0.00            | 1,803.1 MCF      |
|   |                                 |                      |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      |                             |                  |
| CCG Energy Solutions  |                                 |                      |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      | Hillcrest Elementary School |                  |
|   |                                 |                      |                      |                      | Energy Use Comparison |                      |                      |                      |                      |                      |                      |                      |                             |                  |
| Scenario<br>Existing  | Jan                             | Feb                  | Mar                  | Apr                  | May                   | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  | Annual                      | Savings          |
| Electric (kWh)<br>Demand (kW)   | 51,200.00<br>138.00             | 66,240.00<br>149.00  | 54,880.00<br>147.00  | 50,400.00<br>140.00  | 42,560.00<br>140.00   | 40,480.00<br>133.00  | 35,680.00<br>133.00  | 37,600.00<br>130.00  | 50,400.00<br>137.00  | 48,480.00<br>134.00  | 55,520.00<br>134.00  | 49,920.00<br>138.00  | 583,360.10<br>149.00        |                  |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 1,415.00<br>0.00                | 1,011.00<br>0.00     | 862.00<br>0.00       | 282.00<br>0.00       | 130.00<br>0.00        | 0.00<br>0.00         | 3.00<br>0.00         | 2.00<br>0.00         | 178.00<br>0.00       | 289.00<br>0.00       | 417.00<br>0.00       | 692.00<br>0.00       | 5,281.00<br>0.00            |                  |
| Lighting<br>Electric (kWh)<br>Demand (kW)   | 40,295.40<br>104.80             | 51,803.30<br>113.10  | 42,722.00<br>111.60  | 39,897.80<br>110.10  | 33,310.90<br>108.20   | 39,311.50<br>130.00  | 34,854.60<br>131.60  | 36,900.60<br>128.70  | 39,150.20<br>106.90  | 38,250.00<br>103.30  | 43,249.60<br>101.70  | 39,509.80<br>104.80  | 479,255.60<br>131.60        | 104,105 kWh      |
| New Control<br>Electric (kWh)   | 34,076.80                       | 44,058.50            | 34,777.10            | 28.404.90            | 21,740.70             | 10,953.00            | 10,014.10            | 10,209.90            | 27.206.30            | 29.373.20            | 34.844.90            | 33.203.10            | 318,862.50                  | 160,393 kWh      |
| Demand (kW)   | 104.80                          | 113.10               | 111.60               | 110.40               | 108.60                | 54.40                | 55.50                | 53.20                | 107.30               | 105.40               | 101.70               | 104.80               | 113.10                      |                  |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 1,328.50<br>0.00                | 914.90<br>0.00       | 698.50<br>0.00       | 249.80<br>0.00       | 31.60<br>0.00         | 0.00<br>0.00         | 3.00<br>0.00         | 2.00<br>0.00         | 190.30<br>0.00       | 282.80<br>0.00       | 315.80<br>0.00       | 652.50<br>0.00       | 4,669.70<br>0.00            | 611 MCF          |
| New Plant<br>Electric (kWh)<br>Demand (kW)  | 31,246.60<br>134.40             | 41,180.80<br>139.50  | 33,192.50<br>140.00  | 27,468.30<br>133.70  | 21,620.90<br>129.50   | 10,953.50<br>104.80  | 10,014.20<br>105.40  | 10,209.90<br>101.60  | 27,156.90<br>126.30  | 27,777.30<br>124.30  | 33,252.70<br>124.90  | 30,397.30<br>133.90  | 304,470.90<br>140.00        | 14,392 kWh       |
|   | 1,047.20<br>0.00                | 713.20<br>0.00       | 535.00<br>0.00       | 152.40<br>0.00       | 17.70<br>0.00         | 0.00<br>0.00         | 3.00<br>0.00         | 2.00<br>0.00         | 125.70<br>0.00       | 149.40<br>0.00       | 245.50<br>0.00       | 511.40<br>0.00       | 3,502.50<br>0.00            | 1,167 MCF<br>303 |
| Natural Gas (MCF)<br>Demand (kBtuh)   | 0.00                            |                      |                      |                      |                       |                      |                      |                      |                      |                      |                      |                      |                             |                  |
|   | 31,246.40<br>134.40             | 41,180.80<br>139.50  | 33,192.50<br>140.00  | 27,468.30<br>133.70  | 21,619.90<br>129.50   | 10,952.50<br>104.80  | 10,013.20<br>105.40  | 10,207.90<br>101.60  | 27,155.90<br>126.30  | 27,777.30<br>124.30  | 33,252.70<br>124.90  | 30,397.30<br>133.90  | 304,464.70<br>140.00        | 6 kWh            |
| Demand (kBtuh)<br>Windows 5<br>Electric (kWh)                                     | 31,246.40                       |                      |                      | ,                    |                       |                      | - /                  |                      |                      |                      |                      |                      |                             | 6 kWh            |
| Demand (kBtuh)<br>Windows 5<br>Electric (kWh)<br>Demand (kW)<br>Natural Gas (MCF) | 31,246.40<br>134.40<br>1,044.20 | 139.50<br>713.20     | 140.00<br>535.00     | 133.70<br>152.40     | 129.50                | 104.80<br>0.00       | 105.40<br>3.00       | 101.60<br>2.00       | 126.30<br>125.70     | 124.30<br>149.40     | 124.90<br>243.50     | 133.90<br>510.40     | 140.00<br>3,496.50          |                  |

Scenario **Existing** Electric (kWh) Demand (kW) Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Annual Savings 36,000.00 34,880.00 30,720.00 22,720.00 82.00 85.00 80.00 77.00 
 27,680.00
 18,060.00
 18,720.00
 12,480.00
 27,680.00
 29,292.00
 29,280.00
 25,000.00

 75.00
 42.00
 40.00
 75.00
 76.00
 75.00
 77.00
 77.00
 313,740.00 85.00

| Natural Gas (MCF)                             | 768.00             | 865.00             | 326.00             | 239.00             | 107.00             | 0.00               | 11.00              | 12.00             | 17.00              | 304.00             | 370.00             | 847.00             | 3,866.00            |            |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------------------|------------|
| Demand (kBtuh)                                | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00              | 0.00               | 0.00               | 0.00               | 0.00               | 0.00                |            |
| New Controls<br>Electric (kWh)<br>Demand (kW) | 31,611.00<br>83.50 | 30,204.80<br>86.60 | 26,228.80<br>81.50 | 18,411.60<br>78.50 | 21,653.10<br>75.20 | 11,682.00<br>42.10 | 12,329.80<br>40.10 | 8,301.30<br>75.20 | 21,614.50<br>78.10 | 29,047.70<br>75.70 | 24,668.20<br>78.50 | 22,182.40<br>78.40 | 257,935.20<br>86.60 | 55,805 kWh |
| Natural Gas (MCF)                             | 596.40             | 652.60             | 232.80             | 150.60             | 59.80              | 0.00               | 11.00              | 12.00             | 17.00              | 396.20             | 247.90             | 654.30             | 3,030.60            | 835.4 MCF  |
| Demand (kBtuh)                                | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00              | 0.00               | 0.00               | 0.00               | 0.00               | 0.00                |            |
| New Plant<br>Electric (kWh)<br>Demand (kW)    | 30,810.70<br>84.00 | 29,186.00<br>86.90 | 25,313.50<br>81.00 | 18,042.80<br>76.40 | 21,653.10<br>75.20 | 11,682.00<br>42.10 | 12,329.80<br>40.10 | 8,301.30<br>75.20 | 21,614.50<br>78.10 | 28,491.00<br>75.40 | 23,987.00<br>77.50 | 21,828.30<br>78.90 | 253,240.00<br>86.90 | 4,695 kWh  |
| Natural Gas (MCF)                             | 546.20             | 574.10             | 237.90             | 127.00             | 59.80              | 0.00               | 11.00              | 12.00             | 17.00              | 321.30             | 215.10             | 576.00             | 2,697.40            | 333.2 MCF  |
| Demand (kBtuh)                                | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00               | 0.00              | 0.00               | 0.00               | 0.00               | 0.00               | 0.00                |            |

# Lighting Form

#### Lighting Inventory Form

| Applicant Name:<br>Facilty Name:<br>Date:   | Revere Schools<br>Revere MS<br>9/10/2013   |  | F   | lease use one line for ea<br>or existing or proposed o<br>he total of Column S, the | control, choose                            | OCC for Occupany Se   |   |                          |  |  |  | ve on the NonStandard Li   | ghting form.  |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
|---|--|--|---|---|--|---|---|--------------------------|--|--|--|--|---|--|---|--|---------------------------------|-----------------------------------|-----------------------------------|--|---|------------|---|---|---|
| Line Building Address Floor   | PROJECT BANC INFORM  | MATION<br>Predominant Space Type   | Area Cooling Pre Fixture<br>Oty   | PRE-INS<br>Pre Fixture Code   | TALLATION<br>Pre Watts /<br>Fixture<br>(W) | Pre kW / Existi<br>Space Contr<br>(kW) drop do                        | ng Existing<br>ol Sensor F<br>Quantity<br>When applicable | Post F<br>Fixture<br>Qty | Post Fixture Code  | POST-INSTAL<br>Post Watts/<br>Fixture<br>(W) | LATION<br>Post KW /<br>Space<br>(kW)         | Proposed<br>Control Senso<br>Please arter<br>VUTG, OCC or<br>NOME. | d Interior Char<br>in Connecti<br>Load<br>(kW) excludi<br>CFLs or Ex<br>Signs | d Exterior<br>d Change in<br>Connected<br>Load (kW)<br>excluding CFLs<br>or Exit Signs | Change in<br>Connected<br>Load<br>(kW)<br>CFL or LED<br>exit sign | Applicant<br>Coincidence<br>Factor<br>(CF)<br>Estimate | Coincidence<br>Factor           | Interactive<br>Factor<br>(demand) | Interactive<br>Factor<br>(energy) | Energy Calo<br>Pre Controls Post<br>Factor Control<br>Factor | Interior Extr<br>Demand Dem<br>Savings Sav<br>(kW) (k<br>excluding excl<br>CFLs or CFL<br>Exit Signs Exit | s or Signs | Applicant I<br>Equivalent I<br>Full Load<br>Hours<br>(EFLH)<br>Estimate | Prescribed An<br>Equivalent F<br>Full Load<br>Hours C       | nual Interiol<br>Ixture KWh<br>Saved<br>(excluding<br>FLs or Exit<br>Signs) |
| e.g. 400 North Street 2<br>e.g. Example 1<br>1 3195 Spring Valley Road  |  | Office - Smail<br>Restaurant - Fast Food<br>ducation - Secondary School  | Cooled Space 3<br>Uncooled space 5 .<br>Cooled Space 18   | F44ILL<br>Example Cut Sheet 1<br>CFQ26/1-L  |  |   |   |                          |  | 56<br>25                                     |  | OCC 3<br>DAYLTG 5  |   | 0.13   | 0.17  | 84%<br>88%   | 84%<br>88%<br>57%               |                                   |                                   |  | 0.  | 0.19       | 2,808<br>8,760  | 3,435<br>4,156<br>2,080                                     |   |
| 2 3195 Spring Valley Road<br>3 3195 Spring Valley Road<br>4 3195 Spring Valley Road<br>5 3195 Spring Valley Road<br>6 3195 Spring Valley Road   | School Interior Ed<br>School Interior Ed<br>School Interior Ed<br>School Interior Ed<br>School Interior Ed<br>School Interior Ed   | ducation - Secondary School<br>ducation - Secondary School<br>ducation - Secondary School<br>ducation - Secondary School<br>ducation - Secondary School        | Cooled Space 52<br>Cooled Space 5<br>Cooled Space 10<br>Cooled Space 4<br>Cooled Space 679                          | F42II<br>F31ee<br>CFQ26/2-L<br>F42II  | 59<br>38<br>50<br>59                       | 0.49 NON<br>1.61 NON<br>0.30 NON<br>0.38 NON<br>0.20 NON<br>40.06 NON | E   | 10<br>2<br>673           | F41SSILL<br>F31ILL<br>F42SSILL<br>F42SSILL   | 26<br>26<br>48<br>48                         | 0.26<br>0.10<br>32.30                        | NONE<br>NONE<br>NONE<br>NONE                                       | 0.26<br>0.12<br>0.10<br>7.76  |  |   |  | 57%<br>57%<br>57%<br>57%<br>57% | 34%<br>34%<br>34%<br>34%<br>34%   | 12%<br>12%<br>12%<br>12%<br>12%   |  | 0.20<br>0.09<br>0.08<br>5.92  |            |   | 2,080<br>2,080<br>2,080<br>2,080<br>2,080<br>2,080          | 280<br>242<br>18,071  |
| 7 8195 Spring Valley Road<br>8 8195 Spring Valley Road<br>9 8195 Spring Valley Road<br>10 8195 Spring Valley Road<br>11 8195 Spring Valley Road<br>12 8195 Spring Valley Road<br>13 8195 Spring Valley Road<br>14 8195 Spring Valley Road<br>15 8195 Spring Valley Road<br>15 8195 Spring Valley Road<br>16 8195 Spring Valley Road   | School         Exterior           School         Interior         Ed           School         Exterior         School         Exterior           School         Exterior         School         Exterior | ducation - Secondary School<br>Dusk-to-Dawn Lighting<br>ducation - Secondary School<br>Dusk-to-Dawn Lighting<br>Dusk-to-Dawn Lighting<br>Dusk-to-Dawn Lighting | Cooled Space 11<br>Uncooled space 1<br>Cooled Space 26<br>Uncooled space 10<br>Uncooled space 5<br>Uncooled space 4 | 1100/1<br>MH150/1<br>MH200/1  | 100<br>100<br>190<br>232                   | 0.79 NON<br>0.10 NON<br>2.60 NON<br>1.90 NON<br>1.16 NON<br>1.18 NON  | E   |                          | Cut Sheet 6<br>Cut Sheet 9<br>CF23/1-L<br>Cut Sheet 9<br>Cut Sheet 8<br>Cut Sheet 10 | 50<br>25<br>50                               | 0.14<br>0.05<br>0.65<br>0.50<br>0.38<br>0.36 | NONE<br>NONE<br>NONE   | 0.65  | 0.05   | 1.95  |  | 57%                             |                                   |                                   |  | 0.50  | 1.49       |   | 2,080<br>3,833<br>2,080<br>3,833<br>3,833<br>3,833<br>3,833 | 1,512   |
| 13         3195         Spring Valley Road           14         3195         Spring Valley Road           15         3195         Spring Valley Road           16         3195         Spring Valley Road           17         3195         Spring Valley Road  | School Exterior<br>School Interior Ed<br>School Interior Ed  | Justi-to-Jawn Lighting<br>ducation - Secondary School<br>ducation - Secondary School<br>ducation - Secondary School<br>ducation - Secondary School             | Uncooled space 10<br>Cooled Space 40<br>Cooled Space 412<br>Cooled Space 412<br>Cooled Space 21                     | HPS250/1<br>MH400/1<br>F42II<br>F42II   | 295<br>458<br>59                           | 2.95 NON<br>18.32 NON<br>NON<br>24.31 NON<br>1.24 NON                 |   | 10                       | Cut Sheet 11<br>F48il<br>F42SSII<br>F42ssII<br>F42ssII<br>F42ssII                    | 101<br>224<br>48                             | 1.01<br>8.96<br>0.43<br>19.78<br>1.01        | NONE<br>DAYLTG<br>NONE   | 9.36<br>4.53<br>0.23  | 1.94   |   |  | 57%<br>57%<br>57%<br>57%        | 34%<br>34%<br>34%                 | 12%<br>12%<br>12%                 | 50%  | 7.15<br>3.46<br>0.18  |            |   | 3,833<br>2,080<br>2,080<br>2,080<br>2,080<br>2,080          | 21,805  |
| 18<br>19<br>20<br>21  | School Intenor Ed  | ducation - Secondary School  | Cooled Space 21   | F42II   | 59   | NON<br>NON<br>NON   | E   | 21                       | F4255II  | 48   |  | NONE<br>NONE<br>NONE   | 0.23  |  |   |  | 5/%                             | 34%                               | 12%                               | 50%  | 0.18  |            |   | 2,080   | 538   |
| 22 23 24 24 24 24 24 24 25 25 24 25 25 25 25 25 25 25 25 25 25 25 25 25   |  |  |   |   |  | NON<br>NON<br>NON<br>NON  |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 20<br>27<br>28<br>29<br>30  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 31<br>32<br>33<br>34<br>35<br>36  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       |   |                          |  |  |  | NONE<br>NONE<br>NONE   |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 36<br>37<br>38<br>39<br>40  |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 41<br>42<br>43<br>44  |  |  |   |   |  | NON<br>NON<br>NON   | E E E E E E E E E E E E E E E E E E E                     |                          |  |  |  | NONE<br>NONE<br>NONE   |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 41         42           43         44           46         46           47         46           49         49           51         51           52         53   |  |  |   |   |  | NONI<br>NONI<br>NONI<br>NONI<br>NONI                                  | E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 50<br>51<br>52<br>53<br>54  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 54<br>55<br>56<br>57<br>58<br>58  |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | E E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 58<br>59<br>60<br>61<br>62<br>63  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON<br>NON                                | F   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 64<br>65<br>66<br>67<br>68  |  |  |   |   |  | NON<br>NON  | E E   |                          |  |  |  | NONE<br>NONE<br>NONE   |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 0         0           0         0 |  |  |   |   |  | NON<br>NON<br>NON   | E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 74<br>75<br>76<br>77  |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | E E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 79<br>80<br>81<br>82  |  |  |   |   |  | NON<br>NON<br>NON   | E   |                          |  |  |  | NONE<br>NONE<br>NONE   |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 83         44           64         94           65         97           66         96           67         96           97         96           90         97           91         96           92         96           93         96           94         96           97         97           98         97           98         97   |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | F   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 88<br>89<br>90<br>91<br>92  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON<br>NON                                |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 93<br>94<br>95<br>96  |  |  |   |   |  | NON   |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 97<br>98<br>99<br>100<br>101<br>102<br>103  |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       | E E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 102 103 104 105 106 107   |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 108<br>109<br>110   |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | E E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE                               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 112<br>113<br>114   |  |  |   |   |  | NON<br>NON<br>NON   | E   |                          |  |  |  | NONE<br>NONE<br>NONE   |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 115           116           117           118           119           120           121           122           123   |  |  |   |   |  | NON<br>NON<br>NON<br>NON  | E E   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 121<br>122<br>123<br>124<br>125   |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON                                       |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 126<br>127<br>128<br>129<br>120   |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON<br>NON                                |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 124   |  |  |   |   |  | NON<br>NON<br>NON<br>NON<br>NON<br>NON                                |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE               |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |
| 135<br>136<br>137<br>138  |  |  |   |   |  | NON<br>NON<br>NON   |   |                          |  |  |  | NONE<br>NONE<br>NONE<br>NONE                                       |   |  |   |  |                                 |                                   |                                   |  |   |            |   |   |   |

# Lighting Form

| Line Building Address   | Floor Area Description | PROJECT                         | BASIC INFORMATION      |              |                    | PRE-IN           | STALLATION                    |                           |  |                                |                        |                   | POST-INSTAL                   | LATION                     |  |  |   |                             |  |                          |                     |  | Ener                   | rgy Calcula                | tions  |   |                             |                           |  |
|---|------------------------|---------------------------------|------------------------|--------------|--------------------|------------------|-------------------------------|---------------------------|--|--------------------------------|------------------------|-------------------|-------------------------------|----------------------------|--|--|---|-----------------------------|--|--------------------------|---------------------|--|------------------------|----------------------------|--|---|-----------------------------|---------------------------|--|
| Line Building Address<br>Item   | Floor Area Description | Interior or Exterior<br>Fixture | Predominant Space Type | Area Cooling | Pre Fixture<br>Qty | Pre Fixture Code | Pre Watts /<br>Fixture<br>(W) | Pre kW /<br>Space<br>(kW) | Existing<br>Control<br>drop down                             | Existing<br>Sensor<br>Quantity | Post<br>Fixture<br>Qty | Post Fixture Code | Post Watts/<br>Fixture<br>(W) | Post KW /<br>Space<br>(KW) | Proposed<br>Control  | Proposed Into<br>Sensor in<br>Quantity | erior Change<br>Connected                                 | Exterior Ch<br>Change in Co | ange in Appli<br>nnected Coincid                           | ant Coincia<br>ance Fact | or Factor<br>(deman | ve Interactiv<br>Factor<br>d) (energy) | Pre Controls<br>Factor | Post<br>Controls<br>Factor | Interior Exter<br>Demand Dema<br>Savings Savin<br>(kW) (kW<br>excluding exclud<br>CFLs or CFLs<br>Exit Signs Exit Si | nd Savings                              | Applicant P<br>Equivalent E | rescribed A<br>iquivalent | Fixture kWh  |
|   |                        |                                 |                        |              |                    |                  | (W)                           | (kW)                      |  | Quantity<br>When applicable    | Qty                    |                   |                               | (kW)                       | Control<br>Please enter<br>AYLTG, OCC or<br>NONE.            | Quantity<br>When applicable (k)        | Connected<br>Load<br>W) excluding<br>FLs or Exit<br>Signs | Connected<br>Load (kW)      | Innected Coincid<br>Load Fact<br>(kW) (CF<br>Lor LED Estim | ¢                        | (deman              | d) (energy)                            |                        | Factor                     | Savings Savin<br>(kW) (kW<br>excluding exclud<br>CFLs or CFLs<br>Exit Signs Exit Si                                  | igs (kW)<br>() CFLs or<br>ding LED Exit | Full Load B                 | Full Load                 | Fixture kWh<br>Saved<br>(excluding<br>CFLs or Exit<br>Signs) |
|   |                        |                                 |                        |              |                    |                  |                               |                           |  |                                |                        |                   |                               |                            | NONE.  | C                                      | FLs or Exit   | excluding CFLs CF           | or LED Estim   | ite                      |                     |  |                        |                            | excluding exclusion  | ding LED Exit                           | Hours<br>(EFLH)             |                           | CFLs or Exit   |
|   |                        |                                 |                        |              |                    |                  |                               |                           |  |                                |                        |                   |                               |                            |  |  | Signs   | or Exit Signs e             | cit sign   |                          |                     |  |                        |                            | CFLs or CFLs<br>Exit Signs Exit Si   | or Signs                                | Estimate                    |                           | Signs)   |
|   |                        |                                 |                        |              |                    |                  |                               |                           |  |                                |                        |                   |                               |                            |  |  |   |                             |  |                          |                     |  |                        |                            |  | × .                                     |                             |                           |  |
| 139   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE                                 |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE                                 |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 140   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 142   |                        |                                 |                        |              | _                  |                  |                               |                           | NONE   | _                              | _                      |                   |                               |                            | NONE   |  |   |                             |  | _                        |                     | _                                      |                        |                            |  |   |                             |                           |  |
| 143   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 145   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE                                 |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     | -                                      |                        |                            |  | _                                       |                             |                           |  |
| 140   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 148   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          | -                   |  |                        |                            |  | -                                       |                             |                           | <u> </u>   |
| 150   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 151   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 153   |                        |                                 |                        |              | _                  |                  |                               |                           | NONE   | _                              | _                      |                   |                               |                            | NONE   |  |   |                             |  | _                        |                     |  |                        |                            |  |   |                             |                           |  |
| 155   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                 |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                 |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 156   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     | _                                      |                        |                            |  |   |                             |                           | <u> </u>   |
| 158   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 159   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          | -                   |  |                        |                            |  | -                                       |                             |                           | <u> </u>   |
| 161   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE   |                                | _                      |                   |                               |                            | NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 163   |                        | L                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 164   |                        | +                               |                        |              | -                  |                  |                               |                           | NONE<br>NONE<br>NONE   | 1                              | 1                      |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 166   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 167   | <u> </u>               | +                               |                        |              |                    |                  |                               |                           | NONE   | +                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 169   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 170   | <u> </u>               | +                               |                        |              |                    |                  |                               |                           | NONE   | +                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 172   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                | 1                      |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 1/3 174   | + +                    | 1                               | 1                      |              | +                  |                  |                               |                           | NONE   | 1                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  | -                                       |                             |                           |  |
| 175   | F - F                  |                                 |                        |              | -                  |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 100           101           102           103           104           105           104           105           106           107           108           109           100           101           102           103           104           105           106           107           108           109           101           102           103           104           105           106           107           108           109           101           102           103           104           105           105           106           107           108           109           101           102           103           104           105           106           107           108           109           101 |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE                                 |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 178   | +                      | +                               |                        |              |                    |                  |                               |                           | NONE   | -                              | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 180   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 181   |                        | +                               |                        |              |                    |                  |                               |                           | NONE   | +                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 183   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 184   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     | _                                      |                        |                            |  |   |                             |                           |  |
| 186   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 187   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     | _                                      |                        |                            |  |   |                             |                           |  |
| 189   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 190   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 192   |                        |                                 |                        |              | _                  |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                 | _                              | _                      |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  | _                        |                     | _                                      |                        |                            |  |   |                             |                           |  |
| 193   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 195   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     | _                                      |                        |                            |  |   |                             |                           | <u> </u>   |
| 197   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 198   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          | -                   |  |                        |                            |  | -                                       |                             |                           | <u> </u>   |
| 200   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 201 202   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 203   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     | _                                      |                        |                            |  | _                                       |                             |                           |  |
| 205   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 206   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          | -                   |  |                        |                            |  | -                                       |                             |                           | <u> </u>   |
| 208   |                        |                                 |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE |                                | _                      |                   |                               |                            | NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 209   |                        | L                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 211   |                        | +                               |                        |              |                    |                  |                               |                           | NONE   | 1                              | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 213   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                 |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 214   | + +                    | 1                               | 1                      |              |                    |                  |                               |                           | NONE   | +                              | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   | ⊢ – – –                     |                           |  |
| 216   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   | 1                              |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 21/<br>218  | + +                    | 1                               | 1                      |              | +                  |                  |                               |                           | NONE   |                                | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 219   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 220   |                        | L                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 222   |                        | +                               |                        |              | -                  |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE | 1                              | 1                      |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 224   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 225   | <u> </u>               | +                               |                        |              | +                  | I                |                               |                           | NONE   | +                              | +                      | L                 |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 227   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                | _                      |                   |                               |                            | NONE   |  |   |                             |  | _                        |                     |  |                        |                            |  |   |                             |                           |  |
| 229   |                        | L                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 230   |                        | +                               |                        |              | -                  |                  |                               |                           | NONE   | 1                              | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 232   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 233 234   |                        | +                               |                        |              |                    |                  |                               |                           | NONE   | +                              | +                      |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 235   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                | 1                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 236   | <u>+ +</u>             | +                               | 1                      |              | +                  |                  |                               | -                         | NONE   | +                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  | _                                       |                             |                           |  |
| 238   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 239 240   | + +                    | 1                               | 1                      |              | +                  |                  |                               |                           | NONE   | 1                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 241   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 243   |                        | L                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE<br>NONE<br>NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 244   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE         | 1                              | 1                      |                   |                               |                            | NONE<br>NONE<br>NONE<br>NONE<br>NONE                         |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 246   |                        | 1                               |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 247 248   |                        | +                               |                        |              |                    |                  |                               |                           | NONE   | +                              | +                      |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| 249   |                        |                                 |                        |              |                    |                  |                               |                           | NONE   |                                |                        |                   |                               |                            | NONE   |  |   |                             |  |                          |                     |  |                        |                            |  |   |                             |                           |  |
| Totals  | I I                    | 1                               | 1                      | 1            | 1,308              |                  |                               | 97.58                     | NONÉ   | J                              | 1,286                  |                   |                               | 67.28                      | NUNE   |  | 23.01   | 5.00                        | 1.95   |                          |                     |  |                        |                            | 17.58  | 1.49                                    |                             |                           | 53,611   |
|   |                        |                                 |                        |              | _                  | -                |                               |                           | -  |                                |                        | •                 |                               |                            |  |  |   |                             |  |                          |                     |  |                        |                            |  |   | -                           | _                         |  |

| Project Estimate<br>Savings Sum   |             |
|---|-------------|
| Estimated Annual kWh Savings  | 102,732     |
| Total Change in Connected Load  | 29.96       |
| Annual Estimated Cost Savings   | \$10,273.20 |
| Annual Operating Hours  | 2,596       |
| Interior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$2,680.55  |
| Exterior Lighting Incentive @<br>\$0.05/kWh (excluding retrofit CFLs,<br>sensors, or LED exit signs)  | \$957.30    |
| Total retrofit CFL Incentive @<br>\$1/screw-in CFL lamp; \$15/hard-<br>wired CFL lamp (includes all retrofit<br>CFLs, both interior and exterior) | \$26.00     |
| Total retrofit LED Exit Incentive @ \$10/exit sign  | \$0.00      |
| Total Lighting Controls Incentive @<br>\$25/sensor (includes all Lighting<br>Controls, both interior and exterior)                                | \$0.00      |
| Total Calculated Incentive  | \$3,663.85  |
| Total Fixture Quantity excluding retrofit<br>CFLs and LED Exit Sign   | 1260        |
| Total Lamp Quantity for retrofit Screw-In CFLs  | 26          |
| Total Lamp Quantity for retrofit Hard-Wired<br>CFLs   | 0           |
| Total Fixture Quantity for retrofit LED Exit<br>Signs   | 0           |
| Total Quantity for Occupancy Sensors  | 0           |
| Total Quantity for Daylight Sensors   | 0           |

| Please briefly describe how you estimate<br>equivalent full-load hours (EFLH) for facility | 5     | · / · · · |
|--|-------|-----------|
|  |       |           |
|  |       |           |
|  |       |           |
|  |       |           |
| Demand Savings (For Internal Use Only)   | 19.07 |           |

# <u>Mercantile Customer Project Commitment Agreement</u> <u>Exemption Option</u>

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT ("Agreement") is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the "Company") and Revere Local Schools, its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

# **WITNESSETH**

WHEREAS, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

**WHEREAS**, Customer is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

**WHEREAS,** R.C. § 4928.66 (the "Statute") requires the Company to meet certain annual energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

WHEREAS, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

WHEREAS, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit 1 (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

WHEREAS, the Customer, pursuant to and consistent with the Statute, desires to pursue exemption from paying charges included in the Company's then current cost recovery mechanism (hereinafter, "Rider DSE") as approved by the Public Utilities Commission of Ohio ("Commission") for recovery of the DSE2 costs associated with the Company Plan; and is committing the Customer Energy Project(s) as a result of such exemption.

**WHEREAS**, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of an exemption; and

**WHEREAS**, in consideration of, and upon receipt of, said exemption, Customer has consented to committing the Customer Energy Project(s) to the Company and complying with all other terms and conditions set forth herein, including without limitation, the submission of an annual report on the energy savings and/or peak-demand reductions achieved by the Customer Energy Project(s).

**NOW THEREFORE**, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects**. Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, and as evidenced by the affidavit attached hereto as Exhibit A, Customer

acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements.
- b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively as applicable, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's other requirements or obligations, including without limitation any reporting requirements, as set forth herein.
- c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
- d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of a joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
- e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
- 2. Joint Application to the Commission. The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" in which they will seek the Commission's approval of (i) this Agreement: (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's exemption from paying the DSE2 charge of the Company's Rider DSE.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
- ii. A copy of this Agreement; and

iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Exemption and Annual Report**. Upon Commission approval of the request for exemption, the Company will exempt Customer from paying any Rider DSE charges consistent with any Commission directives as set forth in the Commission's Finding and Order approving the Joint Application. Such exempt status shall apply to those accounts identified by Customer that pertain to those Customer sites with one or more Customer Energy Project(s) approved for integration into the Company Plan by the Commission in the Joint Application.

- a. For purposes of this Agreement, a "site" shall be a single location with one or more facilities. As examples only, a site includes an industrial plant, a hospital complex or a university located on one or more parcels of land, provided that said parcels are contiguous.
- b. For purposes of this Agreement, an "account" shall be as defined by the Company through its normal business practices. Any account identified by Customer shall be eligible for exemption, provided that said account pertains to a specific site with at least one Customer Energy Project that qualifies Customer for exemption from paying Rider DSE charges.
- c. Any new accounts created at a site on which there is already an approved Customer Energy Project shall, at the option of the Customer, be included within the exemption granted under said project, and shall be included for purposes of calculating future eligibility for exemption under the project. Any such election shall become effective in the first billing cycle after March 15<sup>th</sup> following identification of said account in the annual report required under Section 3(d)(iii) below.
- d. Customer acknowledges and agrees that if it desires to pursue such exempt status, as evidenced in the Joint Application, Customer is obligated to provide to the Company an annual report on the energy savings and peak-demand reductions achieved by the Customer Energy Project(s) on a calendar year basis. Company shall provide Customer with such information as it may require, that is in Company's possession, for the purposes of preparing such report. Company shall provide a template for Customer to use in preparing the annual report and shall make available a designated Company representative to answer questions.
  - i. Said report shall be submitted annually on or before January 31 of each year after Commission approval of the Joint Application.
  - ii. Said report shall provide all information required under the Rules, and where the requirements of the Rules conflict with a requirement under this Agreement or the Joint Application, the requirements of the Rules shall control.
  - iii. Said report shall, at a minimum, include the following information for each Customer Energy Project that has been approved by the Commission:
    - 1. A demonstration that the energy savings and peak-demand reductions associated with the Customer Energy Project(s) meet the total resource cost test or that the Company's avoided cost exceeds the cost to the Company for the Customer's program;
    - 2. A statement distinguishing programs implemented before and after January 1 of the current year;

- 3. A quantification of the energy savings or peak-demand reductions for programs initiated prior to 2009 in the baseline period;
- 4. A recognition that the Company's baselines have been increased by the amount of mercantile customer energy savings and demand reductions;
- 5. A listing and description of the Customer Energy Projects that have been implemented, which provides the detail required by the Rules;
- 6. An accounting of expenditures made by the mercantile customer for each program and its component energy savings and peak-demand reduction attributes; and
- 7. A timeline showing when each Customer Energy Project went into effect and when the energy savings and peak-demand reductions occurred.
- 8. Any other information reasonably necessary for the Company to (i) verify Customer's continued eligibility for exemption from paying Rider charges; and (ii) report in the Company's annual status report to the Commission the EE&PDR results related to each Customer Energy Project.
- e. Customer's exemption shall automatically terminate:
  - i. At the end of the exemption period as determined by the Commission
  - ii. Upon order of the Commission or pursuant to any Commission rule;
  - iii. If Customer fails to comply with the terms and conditions set forth in the Company's then current Rider DSE, or its equivalent, as amended from time to time by the Commission, within a reasonable period of time after receipt of written notice of such non-compliance;
  - iv. If it is discovered that Customer knowingly falsified any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated; or
  - v. If Customer fails to submit the annual report required in (d) above. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated. It is expressly agreed that this provision shall not apply should said report contain errors, provided that the submission of said report is made in good faith. It is further agreed that the Company will provide written notice of the date on which said report is due at least thirty (30) days prior thereto.
- f. Company reserves the right to recover from Customer any Rider DSE charges incurred by Customer after the date Customer's exemption terminates.
- 3. Termination of Agreement. This Agreement shall automatically terminate:
  - a. If the Commission fails to approve this Agreement through the Joint Application;

- b. Upon order of the Commission; or
- c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's exemption, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

Customer acknowledges that if a Customer Project is withdrawn pursuant to Paragraph 1(b) of this Agreement, the exemption or a portion of such exemption may be affected. Should Customer elect to withdraw a project pursuant to Paragraph 1(b), Customer shall provide Company with reasonable assistance in preparing any documentation that may be required by the Commission and, upon reasonable request, shall provide documentation supporting the necessity to withdraw such project.

- 4. **Confidentiality**. Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
  - a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.
  - b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
  - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
  - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
- 5. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the application of the exemption.
- 6. Notices. Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

### If to the Company:

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FirstEnergy Service Company 76 South Main Street Akron, OH 44308 Attn: Victoria Nofziger Telephone: 330-384-4684 Fax: 330-761-4281 Email: vmnofziger@firstenergycorp.com

### If to the Customer:

Revere Local Schools 3496 Everett Road Richfield, Ohio 44333 Attn:David Forrest Telephone:330-666-4155 Fax: Email:DForrest@RevereSchools.org

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

- 7. Authority to Act. The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
- 8. Non-Waiver. The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
- 9. Entire Agreement. This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.
- 10. Assignment. Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
- 11. Severability. If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.

- 12. Governing Law. This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.
- 13. Execution and Counterparts. This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

**Ohio Edison Company** (Company) By: Title: VP of Energy Efficiency 5 C. Date: **Revere Local Schools** (Customer) By: Title: Date:

### Affidavit of Revere Local Schools – Exhibit A

## STATE OF OHIO

SS:

)

)

# COUNTY OF Summit

I, David Forrest, being first duly sworn in accordance with law, deposes and states as follows:

- 1. I am the CFO/Treasurer of Revere Local Schools ("Customer") As part of my duties, I oversee energy related matters for the Customer.
- The Customer has agreed to commit certain energy efficiency projects to Ohio Edison Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
- 3. In exchange for making such a commitment, the Company has agreed to provide Customer with a Rider Exemption ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.
- All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

Sworn to before me and subscribed in my presence this 27 day of  $f = \frac{1}{20} \frac{20}{20}$ .

C. SANDRA WIERZBICKİ, Notary Public Residence - Summit County State Wide Jurisdiction, Ohio My Commission Expires August 31, 2014

# This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/27/2014 5:07:16 PM

in

Case No(s). 14-0362-EL-EEC

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of Ohio Edison Company and Revere Local Schools electronically filed by Ms. Jennifer M. Sybyl on behalf of Ohio Edison Company and Revere Local Schools