

Centennial School District

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COMMITTEE/BOARD AGENDA ITEM

TO: Board of School Directors

DATE: March 6, 2018

RE: ESCO – Investment Grade Audit

I support the following request:

Office/Department	Operations
Item Attached	Document
Description:	BE IT RESOLVED THAT THE CENTENNIAL SCHOOL BOARD: Receives and considers the report prepared by Reynolds Energy Services, Inc. pursuant to 62 Pa. C.S.A. § 3753(e) based on its Investment Grade Audit (IGA) conducted for Log College Middle School, Eugene Klinger Middle School, and Transportation's propane fueling station.
Cost	N/A
Funds Allocated in Department Budget Account	N/A
Budget Transfer Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Cabinet Discussion	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Solicitor Review for Contract/Agreement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Anticipated Approval Date	March 13, 2018
Other Information:	This is just the resolution to receive the IGA analysis from Reynolds. It must be approved before the resolution to award the ESCO contract.

Please contact me with any questions or comments regarding this information.



Investment Grade Audit Report

LOG COLLEGE MIDDLE SCHOOL

730 North Norristown Road,
Warminster, PA 18974

EUGENE KLINGER MIDDLE SCHOOL

1415 2nd Street Pike,
Southampton, PA 18966

and

INSTALLATION OF A PROPANE FUELING STATION

305 W Street Road
Warminster, PA 18974



Reynolds Energy Services, Inc.

February 27, 2018

Investment Grade Audit Summary



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Investment Grade Audit Summary

Overview

Reynolds Energy Services (RES) has completed the Investment Grade Audit (IGA) for Log College Middle School (LCMS), minor work at Klinger Middle School (Klinger) (following work completed last year), and the installation of a propane fueling station at the existing Centennial SD Bus Depot. During this process, RES has analyzed the overall potential for energy and cost savings; developed detailed scopes of work; estimated pricing and savings estimates; and has compiled the financial analysis. This document summarizes the utility analysis, scope of work and project financial analysis for the project.

The goal of this project is to achieve a reduction in purchased energy and water use and utilize the associated cost savings to pay down the cost of the planned improvements. The project will consist of installing new condensing boilers to replace the existing boiler not replaced during the previous energy project; removal of the water-cooled indoor chiller and roof mounted cooling tower and replacing with an exterior pad-mounted air-cooled high efficiency chiller, replacing all pumps with new pumps having variable frequency drives. All existing HVAC equipment (air handling units, fan coils condensing units, exhaust fans, terminal heating units, duct coils, etc.) will be replaced at Log College Middle School. The existing pneumatic controls will be replaced with direct digital controls (DDC) throughout the building. Carbon Dioxide sensors provided with new air handling units at Log College Middle School and in the air handling units that were installed at Klinger Middle School. Electrical improvements will consist of lighting replacement where ceilings are being replaced; new service entrance; panel replacement and select pane refeeding; new clock system. New low-flow faucets and toilets will be installed in conjunction with ADA improvements in the renovated gang toilets only that will further reduce water consumption. New windows, doors, and other architectural/envelope improvements will improve thermal comfort, reduce infiltration and help limit excess energy usage in the building. Asbestos abatement in select areas will be completed. All of the new equipment installed will provide more efficient and reliable operation, reduce maintenance, and extend the life of existing systems.

At the CSD Bus Depot a complete propane fueling station will be installed to allow for the transitions of the CSD bus fleet from a diesel bus fleet to a propane bus fleet.

This project will be implemented under amendment to the existing a guaranteed energy savings agreement (GESA) with a guaranteed fixed price for construction and implementation. The following pages include a summary of the key information about this project, including the utility basis for savings, a summary of the scope of work, the expected annual energy and cost savings produced from project implementation, and the financial justification for the project.

Investment Grade Audit Summary

Utility Analysis

The following tables and figures illustrate the total baseline energy use and cost of LCMS, Klinger and the Bus Depot. This baseline represents the projected energy use and costs without implementing any energy saving measures. This becomes the baseline or starting point for savings estimates and financial analysis.

The starting point for the energy audit was to assess the current annual energy usage of each building. To begin this process we examined and analyzed 24 months (December 2015 through November 2017) of utility bills for LCMS and Klinger. The information shown for the Bus Depot corresponds to the calculated annual consumption. The table belows contain the annual utility summary for the three sites.

TABLE: Annual Utility Summary by Building

Building Name	Electric			Fuels			Water/Sewer		TOTAL	
	kWh	kW	\$	ccf	ial. (Diesel)	\$	kgal	\$	\$	\$/sf-yr
Log College Middle School	954,000	380	\$ 98,222	51,853	-	\$ 39,725	1,163	\$ 12,978	\$ 150,926	\$ 0.99
CSD Bus Depot	-	-	\$ -	-	101,538	\$188,861	-	\$ -	\$ 188,861	
Klinger Middle School	823,047	342	\$ 85,261	47,366	-	\$ 28,051	1,369	\$ 22,304	\$ 135,617	\$ 1.16
TOTAL	1,777,047		\$ 183,484	99,219	101,538	\$256,637	2,532	\$ 35,282	\$ 475,403	\$ 1.62

Costs used in the analysis are indicative of utility information provided by Centennial SD. PECO provides distribution services for both the natural gas and electricity. Two natural gas accounts, one larger service associated with the boiler plants and one smaller service, exist for LCMS. The electric and gas commodity charges are provided through Constellation Energy. Electric rates were derived to be \$0.07/kWh and \$6.93/kW. Based on the gas billing, a rate of \$0.67/CCF was used for both accounts. Water and sewer billing is provided through Warminster Municipal Authority and their rates were found by contacting the authority. The water and sewer rates are \$5.00/kGal. and \$5.19/kGal. respectively.

Energy Benchmarking Analysis

The next step is to analyze how and where the energy is being used in the building by evaluating its energy use intensity (EUI). The EUI of the building is compared to average or expected use of peer buildings in similar climate conditions as well as to other Pennsylvania school buildings in our database. The following table summarizes the energy and cost indices for LCMS.

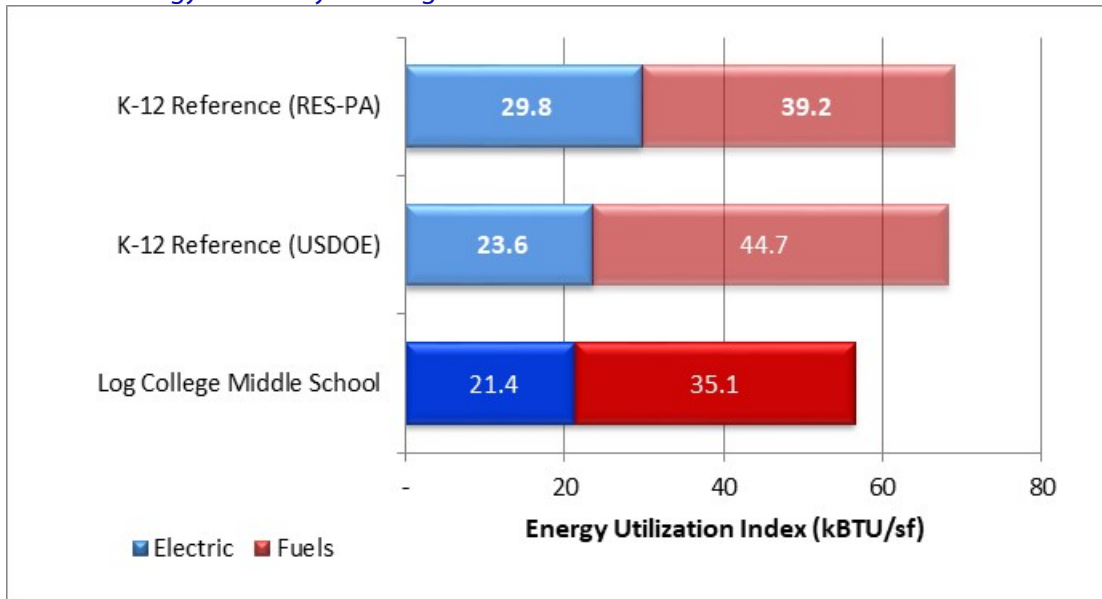
TABLE: Resource and Cost Indices By Building

Building Name	RESOURCES			COSTS		Water \$/sf-yr
	Electric kBTU/sf-yr	Fuels kBTU/sf-yr	Total Energy kBTU/sf-yr	Water kgal/sf-yr	Energy \$/sf-yr	
Log College Middle School	21.4	35.1	56.6	7.7	\$ 0.91	\$ 0.09
<i>K-12 Reference (USDOE)</i>	<i>23.6</i>	<i>44.7</i>	<i>68.3</i>	<i>na</i>	<i>na</i>	<i>na</i>
<i>K-12 Reference (RES-PA)</i>	<i>29.8</i>	<i>39.2</i>	<i>69.0</i>	<i>na</i>	<i>na</i>	<i>na</i>

As the figure below indicates, minimal savings potential for Log College MS exists in both electrical usage and fuel usage. As part of the 2012 energy savings project with Siemens, many energy savings measures (new lighting, building automation scheduling, new boiler, etc.) were addressed and are reflected within the energy usage profile.

Investment Grade Audit Summary

FIGURE: Energy Indices by Building



Investment Grade Audit Summary

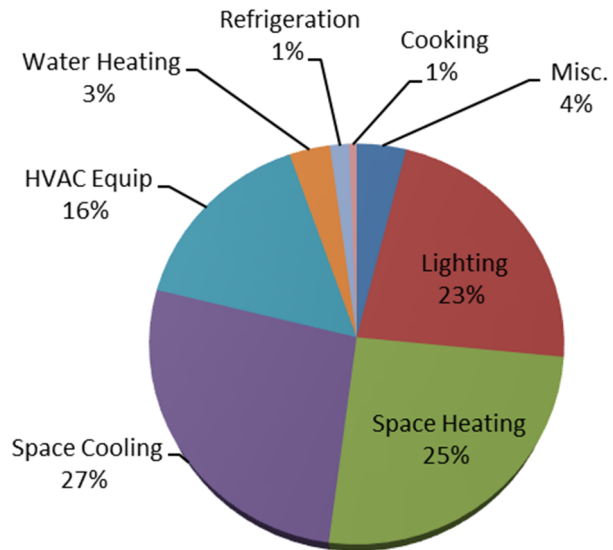
End-Use Analysis

Once the overall usage of the facility has been analyzed we can begin to look at how and where the energy is being used in the building, this is referred to as "End Use Analysis".

The following table and chart illustrate the energy cost breakdown by end use at LCMS. This analysis is presented by the percentage of energy dollars spent. In viewing the costs in this manner, we can better understand where the energy dollars are being spent and where savings efforts should be focused.

END USE UTILITY COST – LOG COLLEGE MIDDLE SCHOOL

Component	Modeled Annual %	Estimated Annual Cost
Misc.	4.0%	\$ 5,470
Lighting	22.6%	\$ 31,169
Space Heating	25.5%	\$ 35,199
Space Cooling	26.8%	\$ 36,911
HVAC Equip	15.7%	\$ 21,726
Water Heating	3.3%	\$ 4,526
Refrigeration	1.5%	\$ 2,104
Cooking	0.6%	\$ 842
TOTAL		\$ 137,947



The pie chart helps further validate that most of costs and savings potential lies within the HVAC and lighting components of the facility's utility expenditures. The proposed HVAC replacements, along with new lighting and building temperature control, will impact these areas in energy usage and cost savings.

Investment Grade Audit Summary

Scope of Work Summary

The main goal of this IGA is to identify and develop a scope of work that maximizes savings to be leveraged toward buying down the overall renovation project. At the same time, this scope needs to meet the needs of the District, be cost effective, and fit within the project's overall financial constraints.

The following section summarizes the scope of work broken down by energy efficiency measure (EEM).

EEM #1 – Mechanical System Upgrades

Hot Water Boiler Plant

The remaining existing boiler at LCMS has reached the end of its useful life. The boiler is in fair to poor operating condition. Replacement of this boiler will provide the efficiency gains that come with newer, high efficiency boiler technology.

Combining new condensing boiler technology with an aggressive hot water reset strategy will allow the condensing boilers to operate in condensing mode (with hot water supply temperatures below 150 °F) for a large portion of the school operating year to maximize efficient boiler plant operation.

Chilled Water Plant

The existing water-cooled chiller has reached the end of its useful life. The chiller is in fair to poor operating condition. Replacement of this chiller will provide the efficiency gains that come with newer, high efficiency chiller technology. The replacement chiller will be an air-cooled chiller which will allow for the removal of the existing cooling tower and associated condenser water piping, pumps and controls. An air-cooled chiller eliminates the additional installation cost and ongoing maintenance costs associated with a cooling tower. The new air-cooled chiller will employ high efficiency variable speed technology.

The central plant heating hot water and chilled water piping configuration will be modified to accommodate new heating and chilled water plant operational efficiencies that cannot be achieved with the current configuration. In addition, most piping specialties (manual valves, control valves, flexible connectors, air management components, etc.) are in very poor condition and will be replaced.

Automatic Temperature Controls

LCMS does not have a full building automation system installed. The building utilizes pneumatic controls that contain a master graphic control annunciation panel located in the boiler room. This panel provides hand-off-auto control of the heating/cooling zones in the building. Due to the age of the current control installation, this building will benefit from a modern direct digital control automation system.

LCMS: Carbon Dioxide sensors will be provided on units AHU-1 through AHU-16, AHU-19, ERV-1 through ERV-3 and FC-1 through FC-3. Carbon Dioxide sensors shall be by Vaisala. Sensors shall be connected to the new control system being installed under this project. All air handling units and energy recovery ventilators shall be programmed with a demand-controlled ventilation sequence.

KMS: Carbon Dioxide sensors will be provided on units AHU-1 through AHU-22, AHU-24 through AHU-26, ERV-1 through ERV-4 and FC-1 through FC-4. Carbon Dioxide sensors shall be by Vaisala. Sensors shall be connected to the Johnson Facility Explorer control system installed last summer. All air handling units and energy recovery ventilators shall be programmed with a demand-controlled ventilation sequence.

Investment Grade Audit Summary

HVAC Equipment

Most HVAC equipment throughout Log College Middle School has reached the end of its useful life and will be replaced.

Moderate demolition of existing piping and ductwork is required to accommodate updated installations. Asbestos abatement is required primarily at elbows of the of the existing to remain chilled water, heating hot water and domestic water piping and on piping in boilers in the mechanical/boiler room.

EEM #2 – Electrical System Upgrades

Lighting Systems

A detailed room-by-room interior and exterior lighting audit was conducted at LCMS. The audit showed that the lighting systems consists of energy efficient lamps (T-8, 25-watt fluorescent lamps and compact fluorescent technologies) installed in the 2012 energy project. Exterior lighting was not addressed as part of the 2012 project. Furthermore, the high wattage (350 watts per fixture) stage lighting in the auditorium is being used for classroom applications. An additional item indicated by staff, was to implement occupancy sensors for corridor lighting control on the second floor in the classroom section of the main building.

Exterior lighting work includes

- retrofitting existing parking lot and pathway lights with new LED technology
- replacing high pressure sodium (HPS) wall packs and surface mounted canopy lights in entryways with new LED technology.

Interior lighting work includes

- adding LED task lighting to the Auditorium stage to reduce use of high wattage fixtures
- adding occupancy sensors in 2nd floor corridors in the classroom section
- replacing all exit signs with new LED signs
- replacing lamps for China hats in maintenance shop and office, recessed cafeteria fixtures and back of house areas with LED equivalents
- replacing select stairwell fixtures with similar fixtures and lamps installed in the connecting ramp
- installing new lighting fixtures in drywall ceilings being removed and replaced with new lay-in ceilings.

Power Distribution Systems

Much of the power distribution infrastructure at LCMS is antiquated and in need of replacement. Power distribution work includes

- replacing the existing building service entrance switchgear
- replacing select antiquated power panels throughout the building
- refeeding existing to remain power panels with new feeders
- installing new transformers to replace existing inefficient transformers
- providing power to the ADA lift being installed in the connecting corridor at Klinger

Investment Grade Audit Summary

Low Voltage Systems

Low voltage system work includes

- replacing existing clock system with new wireless clock system
- replace existing non-plenum-rated data, speaker and security camera cabling with new plenum-rated data cabling
- wiring fire alarm devices installed to accommodate the HVAC system installation (primarily the wiring of duct mounted smoke detectors)

EEM #3 – Plumbing System Upgrades

A small quantity of toilet room fixtures has sensor operated flush valves. However, most domestic water fixtures in LCMS are old standard water flow models. Older toilets and urinals use approximately 3.5 gallons per flush (gpf) and 1.6-2.0 gpf, respectively. Most faucets have aerators with design flows of 2.0-2.5 gallons per minute.

Toilets that are not already low gpf fixtures will be replaced with more efficient china and valves. Urinal flush valves will be replaced with more efficient models. Faucets will be retrofitted with tamper resistant aerators to reduce flow and maintain pressure. These changes would minimize water use while maintaining equipment performance. Nominal energy savings would be achieved through reduction of hot water use at sinks.

The gang toilet rooms will receive significant reworking of the chases between the toilet rooms to allow the water closets to be converted from floor mounted fixtures to wall mounted fixtures. Floor drains will be added to the 2nd floor gang toilets only.

Drinking fountains and water coolers will be replaced with new ADA compliant bi-level water coolers, except a few instances where the existing water cooler location will only accommodate a direct replacement.

EEM #4 – Architectural Upgrades

This measure mostly includes improving the aesthetics and functionality associated with ADA improvements and architectural renovation scope. Building thermal performance will be improved with the installation of new double-pane windows and providing spray insulation and air barrier system where the façade is being replaced. Other architectural improvements include replacing brick at select locations; removal, cleaning and repointing of approximately 600 square feet of brick at first floor classroom wing, gym and pool; replacing corridor doors and hardware; updating gang bathrooms for accessibility; select suspended and hard ceiling replacements; select painting; select flooring replacement; window treatments for new windows; and select roofing replacement at wet areas only and coating approximately 23,000 square feet.

KMS: 1. Install a new lift in the connecting link corridor. Lift will be fully ADA compliant.

EEM #5 – Code Compliance

Many existing data and power circuiting cabling and flexible raceway are not properly supported. This existing to remain cabling will be correctly tied and supported to meet code requirements. Miscellaneous code issues that are discovered during code inspections will also be corrected.

Investment Grade Audit Summary

EEM #6 – Centennial SD Bus Depot

Construct a new propane refueling station located at Centennial School District’s existing bus depot located at 305 W. Street Road in Warminster. Includes demolition and excavation, concrete and bituminous macadam work; electrical power, controls, monitoring and safety devices; a new 18,000-gallon underground storage tank; fuel dispensing and distribution equipment; a nitrogen-operated emergency shut down system with remote shutdown stations; tie into existing fuel monitoring station; and all permitting associated with the new station.

Other Services Included in this Energy Project

- Energy analysis, engineering and architectural design
- Commissioning of all HVAC and control systems
- Project management and site supervision throughout construction
- Permitting, bonding and warranty
- Savings guarantee
- Performance assurance services, including monitoring of energy performance, measurement and verification of savings, and periodic reporting
- Training of district staff on operation and maintenance of new equipment and controls
- Fixed price contract
- No change orders unless initiated by customer, or necessitated by design modifications.

Savings Summary

Implementation of this project is estimated to result in annual electricity, fossil fuel and maintenance savings totaling \$25,308. A breakdown of the savings by measure is provided in the following table:

TABLE: Annual Energy and Cost Savings by Measure

EEM	ELECTRIC		FUELS			WATER/SEWER		O&M		TOTAL
	kWh	\$	Gal. (Diesel)	ccf (1)	\$	kgal	kgal	\$	\$	\$
1 Mechanical System Upgrades	47,700	\$ 2,671	-	2,186	\$ 1,468	-	-	\$ -	\$ 1,700	\$ 5,839
2 Electrical Systems Upgrades	9,540	\$ 534	-	-	\$ -	-	-	\$ -	\$ 1,050	\$ 1,584
3 Plumbing System Upgrades	-	\$ -	-	-	\$ -	480	-	\$ 2,232	\$ 525	\$ 2,757
4 Architectural Upgrades	-	\$ -	-	-	\$ -	-	-	\$ -	\$ 3,250	\$ 3,250
5 Code Compliance	-	\$ -	-	-	\$ -	-	-	\$ -	\$ -	\$ -
6 New Propane Fueling Station	-	\$ -	13,360	(23,269)	\$ 825	-	-	\$ -	\$11,053	\$ 11,878
TOTAL	57,240	\$ 3,205	13,360	(21,083)	\$ 2,293	480	-	\$ 2,232	\$17,578	\$ 25,308

Note: a negative savings value represents an increase in a resource, such as propane gas, that is being offset by reducing or eliminating another resource such as diesel fuel. (1) Units for EEM 6 in this column are gallons of propane used.

The total amount of guaranteed savings can be found in Schedule C.

Investment Grade Audit Summary

Financial Summary

The following table shows the financial overview for the project in terms of estimated construction cost, resource, and operational savings. Resource savings are the sum total of all savings associated with utilities (e.g., electric, water, fuel oil). Operational savings primarily include the maintenance costs avoided due to equipment being replaced or altogether removed as well as reduced bus maintenance as the fleet is converted to propane (these savings will increase annually as new buses are introduced into the fleet).

CSD - Log College and Bus Depot					
Energy Project Financial Overview					
EEM #	EEM Name	EEM Construction Cost	Annual Resource Savings	Annual Operational Savings (1)	Grants & Incentives
Log College Middle School					
1	Mechanical System Upgrades	\$ 4,263,851	\$ 4,139	\$ 1,700	\$ 2,500
2	Electrical Systems Upgrades	\$ 2,889,506	\$ 534	\$ 1,050	\$ 1,100
3	Plumbing System Upgrades	\$ 736,641	\$ 2,232	\$ 525	\$ -
4	Architectural Upgrades	\$ 5,296,847	\$ -	\$ 3,250	\$ -
5	Code Compliance	\$ 14,444	\$ -	\$ -	\$ -
Building Totals		\$ 13,201,288	\$ 6,905	\$ 6,525	\$ 3,600
CSD Bus Depot					
6	New Propane Fueling Station	\$ 793,790	\$ 825	\$ 11,053	\$ 292,338
Building Totals		\$ 793,790	\$ 825	\$ 11,053	\$ 292,338
Klinger Middle School					
2	Electrical Systems Upgrades	\$ 73,664	\$ -	\$ -	\$ -
4	Architectural Upgrades	\$ 38,999	\$ -	\$ -	\$ -
Building Totals		\$ 112,663	\$ -	\$ -	\$ -
PROJECT TOTALS		\$ 14,107,741	\$ 7,730	\$ 17,578	\$ 295,938
Alternate Scope Item					
A1	DEDUCT: Roof coating in lieu of replacement	\$ (100,500)			\$ -
PROJECT TOTALS (w/ Alternate)		\$ 14,007,241			

Projected Cash Flow

A cash flow analysis is provided on the following page based on the current project costs and savings estimates. The cash flow assumes a 20-year term.

**SCHEDULE B
Cash Flow Analysis**

**CSD - LOG COLLEGE AND BUS DEPOT
Guaranteed Energy Savings Contract**

Financed Project Cost (1): \$14,107,741
 Finance Term (years): 20
 Annualized Interest Rate: 3.750%
 Accrued Construction Interest: \$ -

Est. Avoided Capital Costs (2): \$13,759,758
Grants and Incentives (3): \$ 295,938

Escalation Rates by Utility & Fuel
 Electric: 3.0%
 Natural Gas: 3.0%
 Fuel Oil: 3.0%
 Water: 3.0%
 Other: 3.0%
 Operational: 3.0%
 Escalation Rates for Annual Fees: 2.0%

Year	Electric Cost Savings	Natural Gas Cost Savings	Water Cost Savings	Operational Cost Savings	Total Cost Savings	Guaranteed Savings	Avoided Capital Savings	Annual M&V Fees	Financing Payment	Net Savings	Cumulative Savings
1	\$ 3,205	\$ 2,293	\$ 2,232	\$ 17,578	\$ 25,308	\$ 24,758	\$ 978,960		\$ (1,003,718)	\$ -	\$ -
2	\$ 3,302	\$ 2,362	\$ 2,299	\$ 26,947	\$ 34,909	\$ 34,343	\$ 966,844	\$ 2,531	\$ (1,003,718)	\$ -	\$ -
3	\$ 3,401	\$ 2,432	\$ 2,368	\$ 35,492	\$ 43,693	\$ 43,110	\$ 958,014	\$ 2,594	\$ (1,003,718)	\$ -	\$ -
4	\$ 3,503	\$ 2,505	\$ 2,439	\$ 43,189	\$ 51,636	\$ 51,035	\$ 950,024	\$ 2,659	\$ (1,003,718)	\$ -	\$ -
5	\$ 3,608	\$ 2,581	\$ 2,512	\$ 51,116	\$ 59,816	\$ 59,197	\$ 941,795	\$ 2,725	\$ (1,003,718)	\$ -	\$ -
6	\$ 3,716	\$ 2,658	\$ 2,587	\$ 59,281	\$ 68,242	\$ 67,605	\$ 933,319	\$ 2,794	\$ (1,003,718)	\$ -	\$ -
7	\$ 3,827	\$ 2,738	\$ 2,665	\$ 67,691	\$ 76,921	\$ 76,265	\$ 924,590	\$ 2,863	\$ (1,003,718)	\$ -	\$ -
8	\$ 3,942	\$ 2,820	\$ 2,745	\$ 76,353	\$ 85,860	\$ 85,184	\$ 915,599	\$ 2,935	\$ (1,003,718)	\$ -	\$ -
9	\$ 4,061	\$ 2,904	\$ 2,827	\$ 85,275	\$ 95,068	\$ 94,371	\$ 906,338	\$ 3,008	\$ (1,003,718)	\$ -	\$ -
10	\$ 4,182	\$ 2,992	\$ 2,912	\$ 93,360	\$ 103,446	\$ 102,729	\$ 897,905	\$ 3,084	\$ (1,003,718)	\$ -	\$ -
11	\$ 4,308	\$ 3,081	\$ 3,000	\$ 101,687	\$ 112,076	\$ 111,337	\$ 889,220	\$ 3,161	\$ (1,003,718)	\$ -	\$ -
12	\$ 4,437	\$ 3,174	\$ 3,090	\$ 110,264	\$ 120,965	\$ 120,203	\$ 880,275	\$ 3,240	\$ (1,003,718)	\$ -	\$ -
13	\$ 4,570	\$ 3,269	\$ 3,182	\$ 113,572	\$ 124,593	\$ 123,810	\$ 876,588	\$ 3,321	\$ (1,003,718)	\$ -	\$ -
14	\$ 4,707	\$ 3,367	\$ 3,278	\$ 116,979	\$ 128,331	\$ 127,524	\$ 872,790	\$ 3,404	\$ (1,003,718)	\$ -	\$ -
15	\$ 4,849	\$ 3,468	\$ 3,376	\$ 120,489	\$ 132,181	\$ 131,350	\$ 868,880	\$ 3,489	\$ (1,003,718)	\$ -	\$ -
16	\$ 4,994	\$ 3,572	\$ 3,477	\$ 124,103	\$ 136,147	\$ 135,290	\$ 864,852	\$ 3,576	\$ (1,003,718)	\$ -	\$ -
17	\$ 5,144	\$ 3,679	\$ 3,582	\$ 127,826	\$ 140,231	\$ 139,349	\$ 860,704	\$ 3,665	\$ (1,003,718)	\$ -	\$ -
18	\$ 5,298	\$ 3,790	\$ 3,689	\$ 131,661	\$ 144,438	\$ 143,529	\$ 856,432	\$ 3,757	\$ (1,003,718)	\$ -	\$ -
19	\$ 5,457	\$ 3,903	\$ 3,800	\$ 135,611	\$ 148,771	\$ 147,835	\$ 852,032	\$ 3,851	\$ (1,003,718)	\$ -	\$ -
20	\$ 5,621	\$ 4,020	\$ 3,914	\$ 139,679	\$ 153,234	\$ 152,270	\$ 847,501	\$ 3,947	\$ (1,003,718)	\$ -	\$ -
TOTAL	\$ 86,131	\$ 61,609	\$ 59,973	\$ 1,778,154	\$ 1,985,868	\$ 1,971,094	\$ 18,042,660	\$ 60,602	\$ (20,074,355)	\$ -	

- NOTES:**
1. Financed Project Cost reflects the guaranteed fixed price of the scope executed under the Guaranteed Energy Savings Agreement, including the first year of measurement and verification of savings.
 2. Avoided Capital Savings includes the amortized annual cost of capital equipment replacement or repairs that would be realized by the Owner within the lifetime of the Energy Project, but will instead be completed and financed through the Energy Project. Savings include the total costs for all design, bidding, bonding, permitting, equipment and installation labor required to complete the work.
 3. Includes estimated payment from PECO Act 129 rebate programs and approved DEP grant amount for the propane fueling station. Rebates and grants are not included in the cash flow.

Investment Grade Audit Summary

Potential Subcontractor List

TRADE	COMPANY
Drywall and Ceiling	AD&C 475 Madison Ave, Suite 2, York, PA 17404
Door and Hardware	Capitol Door & Hardware 774 Corporate Circle, New Cumberland, PA 17070
Vinyl Floor	CB Flooring, LLC 2311 Hummingbird Lane, Harrisburg, PA 17112
Excavation Site	Construction Masters Services, LLC PO Box 1063, Reading PA 19607
Masonry	Dan LePore & Sons Company 501 Washington St, Conshohocken, PA 19428
Resilient Flooring	Durex Coverings, Inc. 53 Industrial Dr., Brownstown, PA 17508
Window Tinting	Doyle Window Tinting 2820 Terwood Road, Willow Grove, PA 19090
Thermal Insulation	Gibble Construction, Inc. 405 Hoffer Rd., Elizabethtown, PA 17022
Div. 10 Specialties	Hostetter Supply Co. 97 Church St., PO Box 329 Seven Valleys, PA 17360
Window Treatment	Jackson's Window Shop 633 Lausch Ln., Lancaster, PA 17601
Casework	Mastercraft Woodworking Company, Inc. 681 Mohrsville Rd., Shoemakersville, PA 19555
HVAC & Plumbing	Boro Mechanical or Myco Mechanical 400 Fehelley Drive #B. 1 N. Washington St. King of Prussia, PA 19406 Telford, PA 18969
Fencing	National Fence
Demolition	Power Component Systems 801 Spangler Road, Camp Hill, PA 17011
Electrical	Philips Brothers Electrical Contractors, Inc. 235 Sweet Springs Road, Glenmoore, PA 19343
Aluminum Window	Pottsgrove Glass, Inc. 480 Swamp Pike, Schwenksville, PA 19473
Roofing	To be determined
Final Cleaning	Interstate Building Maintenance