



ENERGY
Optimizers, USA

"Saving You Money While Saving Our Environment"



TIFFIN
City Schools

Facility Improvement Proposal

Tiffin City Schools

October 9, 2023

October 9, 2023

Ben Richards
Tiffin City Schools
244 South Monroe Street
Tiffin, Ohio 44883

Subject: Facility Improvement Proposal

Dear Ben,

Energy Optimizers, USA is pleased to submit the following proposal to provide a turnkey facility improvement and energy savings project for the Tiffin City Schools' High School Auditorium, Washington Elementary School, Krout Elementary School, and Noble Elementary School.

The audit was conducted in May 2023 by a team including Energy Optimizers, USA's auditors, and your operations staff. The goals of the project were:

- LED Lighting Upgrades
- Auditorium Renovation

The proposed scope of work addresses these goals and provides you with energy conservation measures and facility improvements that will save money and improve comfort and safety of the building. Turnkey energy savings projects include project development, materials, installation, and project management and are a core service that Energy Optimizers, USA provides with our staff of Certified Energy Managers.

Energy Optimizers is grateful for the opportunity to earn your business. Here are a few of the benefits of working with EOU as your turnkey project provider:

- As a vendor-neutral company, we represent you independent of any manufacturers, contractors, engineers, etc. This allows our company to provide you with the most competitive pricing.
- We have a strong reputation for standing by our customers and a 13-year track record of quality performance.
- We have never had a change order.
- We offer in-house billing and invoicing, allowing for flexibility in drafting the schedule of values to fit your needs.
- We have in-house warranty management, so any issues will be resolved quickly and easily.

Public School Districts are now able to engage in Energy Savings Projects without having to go through the costly and time-consuming bid-selection process:

- Ohio Council of Educational Purchasing Consortia's (OCEPC) competitively-bid the LED Lighting and Energy Savings program in February 2023.
- Energy Optimizers is the sole vendor selected for this program.
- This satisfies the requirements outlined in ORC 167.081.

Thank you for choosing Energy Optimizers USA as your partner in your efforts to improve your building performance. If you have any questions regarding the proposal or this letter, please do not hesitate to contact me at 419-341-0871.

Sincerely,

Dave Burns
Account Executive

Energy Conservation Measures (ECM) Recommendations:



Tiffin CSD

Facility Improvement and Energy Savings Project

(10.09.2023)



	Scope of Work	Annual Electrical Savings	Annual Maint. Savings	Project Cost	Simple Payback (Yrs.)	ROI (%)
1	Lighting Retrofits - Middle School Low Watt Type B TLED Approach <ul style="list-style-type: none"> • Replace (56) 3-lamp 2x2 LED troffer fixtures with new LED 30W flat panel fixtures • Replace (102) CFL pin base lamps with new LED 9W direct-wire pin base lamps, permanently removing the ballasts from those fixtures • Replace (1,855) 4' fluorescent lamps with new LED 9W direct-wire tube lamps, permanently removing the ballasts from those fixtures • Retrofit (12) 10" recessed can fixtures on exterior with new LED 30W can kits - 10 Year Material Warranty Not Included Scope - Any Existing LED	\$ 3,796	\$ 940	\$ 79,580	16.80	5.95%
2	Lighting Retrofits - Bus Garage TLED Option <ul style="list-style-type: none"> • Replace (5) HID barn lights with new LED 40W barn lights • Replace (9) 6-lamp T5HO high bays with new LED 165W high bays • Replace (9) 4-lamp T8 high bays with new LED 90W high bays • Replace (145) 4' fluorescent lamps with new LED 10.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures • Replace (8) 4' fluorescent lamps with new LED 18.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures • Replace (2) screw base lamps with new LED 19W screw base lamps - 10 Year Material Warranty Not Included Scope - Any Existing LED Flat Panel Option Annual Electrical Savings: \$1,530 Annual Maintenance Savings: \$259 Project Cost: \$19,200 Simple Payback: 10.73 Years RIO: 9.32%	\$ 1,558	\$ 259	\$ 15,780	8.68	11.51%
3	Lighting Retrofits - Maintenance Building <ul style="list-style-type: none"> • Replace (33) 4' fluorescent lamps with new LED 10.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures - 10 Year Material Warranty Not Included Scope - Any Existing LED Flat Panel Option Annual Electrical Savings: \$141 Annual Maintenance Savings: \$25 Project Cost: \$1,600 Simple Payback: 9.64 Years RIO: 10.38%	\$ 137	\$ 25	\$ 890	5.49	18.20%



Tiffin CSD

Facility Improvement and Energy Savings Project

(10.09.2023)



	Scope of Work	Annual Electrical Savings	Annual Maint. Savings	Project Cost	Simple Payback (Yrs.)	ROI (%)
4	<p><u>Auditorium Renovations</u></p> <p><u>Seat Replacement</u></p> <ul style="list-style-type: none"> • Removal and disposal of existing seats • Install an estimated (700) Irwin Seating Company Citation Model 90.12.10.4 • No. 90 Citation - Square profile 34" tall padded and upholstered back with 2" foam and injection molded poly rear panel • No. 12 Ergo - Padded and upholstered seat with ergonomic substrate, molded foam, and structural composite seat pan • Seat fold - 3/4 • No. 10 Enclosed end with veneer insert - tablet arms not available • No. 4 Steel platform • Comfort curved injection molded plastic center armrests • Comfort curved solid hardwood aisle armrest • 2" round aluminum row designation letter plates • Row letter plated mounted on aisle end panel, Aluminum oval seat designated number plates, and seat number plates mounted on seat pan • (6) spare No. 90 - Square profile 34" tall padded and upholstered back with 2" foam and injection molded poly rear panel • (6) spare No. 12 Ergo - Padded and upholstered seat with ergonomic substrate, molded foam, and structural composite seat pan <p><u>Stage Extension, Abatement and General Construction</u></p> <ul style="list-style-type: none"> • Remove an estimated 2422 sqft of floor tile and mastic in the aisle ways of the auditorium and run a set of clearance air samples • Grind down the bolts flush with the concrete and diamond grind the concrete floor • After the completion of all abatement, installation of carpet square where the floor tile was removed • Painting of the walls • Extend the stage 6' wider than existing • Install ADA compliant ramp leading up to stage <p>Note:</p> <ul style="list-style-type: none"> • Extending the stage depends on the ability to get permitting from fire department due to extending close to fire exit • Amount of seating dependent on spacing requirements for ADA ramp 	\$ -	\$ -	\$ 476,060	NA	0.00%
5	<p><u>Theatrical and House Lighting System Replacement</u></p> <ul style="list-style-type: none"> • Theatrical lighting power and controls devices • Theatrical lighting distribution • Theatrical lighting fixtures • House lighting fixtures • Hanging of lighting fixtures • Terminations only of all theatrical low voltage equipment • System commissioning and owner training • Complete set of submittal drawings • Provide and install 400 amp disconnect and feed from existing stage lighting panel area to rear mezzanine of the auditorium including conduit, wire, and junction boxes • Provide the necessary conduit and wire for the new stage lighting and house lighting • Demo existing controls on stage and install new controls panel upstairs <p>Note:</p> <p>Excludes any asbestos abatement needed</p>	\$ -	\$ -	\$ 646,770	NA	0.00%



Tiffin CSD

Facility Improvement and Energy Savings Project

(10.09.2023)



	Scope of Work	Annual Electrical Savings	Annual Maint. Savings	Project Cost	Simple Payback (Yrs.)	ROI (%)
6	<u>Auditorium Sound System Replacement</u> <ul style="list-style-type: none"> • Provide a new Allen Heath 48 channel digital mixing console for the back of the auditorium • Provide Allen Heath I/O expander stage rack • Provide (16) Shure wireless earset microphones with (16) rechargeable battery packs and (2) 8-bay battery chargers • Provide and install (3) EAQ 2-way passive speakers • Provide and install (1) Crown power amplifier • (4) Audio Technica AT-853R hanging microphones • (4) Shure UA844+SWB Antenna Distribution • (2) Shure UA874 Active directional antenna • Provide 4 hour training class • Any necessary cabling and rigging needed 	\$ -	\$ -	\$ 56,610	NA	0.00%
7	<u>Estimated Checkbook Fund</u> <ul style="list-style-type: none"> • If not used, the funds will be refunded to the customer 	\$ -	\$ -	\$ 48,000	NA	NA
8	<u>Turn Key Project</u> Project Design, Engineering, Project Management, Energy Engineering, Permits, OCEPC Partnership Etc.	\$ -	\$ -	\$ 89,200	NA	NA
Project Total		\$ 5,491	\$ 1,224	\$ 1,412,890	20+	0.48%

Quoted using standard wage rates

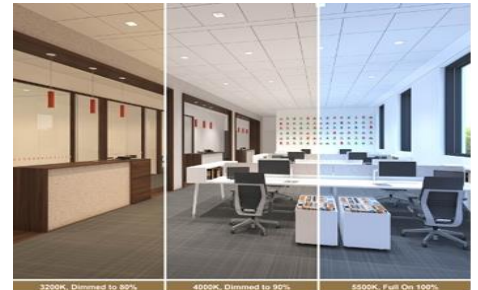
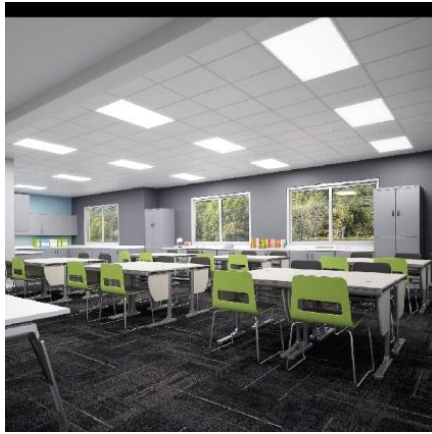
ECM pricing good for thirty (30) days from date of proposal

Proprietary Information of Energy Optimizers, USA

Scope Of Work

Lighting

De-Lamping and Re-Lamping of the Fluorescent Fixtures – Existing fluorescent lamps will be replaced with LED direct wire tube lamps in order to reduce the electrical load associated with their operation. These retrofits will be engineered and analyzed to ensure that proper light levels are maintained.



Middle School

Interior Lighting

- Replace (56) 3-lamp 2x2 LED troffer fixtures with new LED 30W flat panel fixtures
- Replace (102) CFL pin base lamps with new LED 9W direct-wire pin base lamps, permanently removing the ballasts from those fixtures
- Replace (1,855) 4' fluorescent lamps with new LED 9W direct-wire tube lamps, permanently removing the ballasts from those fixtures
- Retrofit (12) 10" recessed can fixtures on exterior with new LED 30W can kits

Bus Garage

TLED Option

- Replace (5) HID barn lights with new LED 40W barn lights
- Replace (9) 6-lamp T5HO high bays with new LED 165W high bays
- Replace (9) 4-lamp T8 high bays with new LED 90W high bays
- Replace (145) 4' fluorescent lamps with new LED 10.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures
- Replace (8) 4' fluorescent lamps with new LED 18.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures
- Replace (2) screw base lamps with new LED 19W screw base lamps

Flat Panel Option

- Replace (5) HID area lights with new LED 40W barn lights
- Replace (9) fluorescent high bay fixtures with new LED 155W high bay fixtures
- Replace (9) fluorescent high bay fixtures with new LED 90W high bay fixtures
- Replace (1) screw base lamp with a new LED 11W A19
- Replace (8) 4' fluorescent lamps with new LED 18.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures
- Replace (1) screw base lamp with a new LED 19W A21
- Replace (46) 2x4 fluorescent troffer fixtures with new LED 30W flat panels

Maintenance Building

TLED Option

- Replace (33) 4' fluorescent lamps with new LED 10.5W direct-wire tube lamps, permanently removing the ballasts from those fixtures

New Fixture Option

- Replace (11) fluorescent troffer fixtures with new LED 30W flat panel fixtures

Sample Room by Room

Tiffin CSD Bus Garage Lighting Retrofit Scope of Work																	
Blended Rate \$/kWh		\$0.10															
No.	Area	Space	Fixture Type	Fixture Wattage	Total Existing Quantity	Total Watts	Hrs/yr	kWh/yr	\$/yr.	Retrofit Decision	Proposed Lighting Description	Lamp Wattage	Total New Qty	New Total Watts	New kWh/yr	New \$/yr.	Savings \$/yr.
1	Interior	Entrance	DL-LED-10W-1	10.00	1	10.00	2,346	23.46	\$ 2.35	Keep							\$0.00
2	Interior	Entrance	TR-T8-4 ft-32W-3	84.50	9	760.50	2,346	1,784.13	\$178.41	Replace Lamp	T8 Linear/LED/240 Deg/G13/Internal Driver/5000K/120-277V	10.50	27	283.50	665.09	\$ 66.51	\$111.90
3	Interior	Entrance	TR-T8-4 ft-32W-4	112.60	7	788.20	2,346	1,849.12	\$184.91	Replace Lamp	T8 Linear/LED/240 Deg/G13/Internal Driver/5000K/120-277V	10.50	28	294.00	689.72	\$ 68.97	\$115.94
4	Interior	Closet	DL-CFL SCR-42W-1	42.00	1	42.00	2,346	98.53	\$ 9.85	Replace Lamp	A19/LED/230 Deg/E26/5000K/120V/Dimmable	11.00	1	11.00	25.81	\$ 2.58	\$ 7.27
5	Interior	Warehouse	DL-CFL SCR-42W-1	42.00	2	84.00	2,346	197.06	\$ 19.71	Replace Lamp	A21/LED/220 Deg/E26/Internal Driver/5000K/120-277V/Non Dimmable	19.00	2	38.00	89.15	\$ 8.91	\$ 10.79
6	Interior	Warehouse	HB-T8-4 ft-32W-4	112.60	9	1,013.40	2,346	2,377.44	\$237.74	Replace Fixture	Highbays & Lowbays/LED/Linear/16 in+/5000K/0-10V Dimming/White	90.00	9	810.00	1,900.26	\$190.03	\$ 47.72
7	Interior	Warehouse	STR-T8-4 ft-32W-2	56.30	4	225.20	2,346	528.32	\$ 52.83	Replace Lamp	T8 Linear/LED/240 Deg/G13/Internal Driver/5000K/120-277V/Non Dimmable	18.50	8	148.00	347.21	\$ 34.72	\$ 18.11
8	Interior	Warehouse	TR-T8-4 ft-32W-3	84.50	30	2,535.00	2,346	5,947.11	\$594.71	Replace Lamp	T8 Linear/LED/240 Deg/G13/Internal Driver/5000K/120-277V	10.50	90	945.00	2,216.97	\$221.70	\$373.01
9	Interior	Garage	HB-T5-4 ft-54W-6	379.10	9	3,411.90	2,346	8,004.32	\$800.43	Replace Fixture	Highbays & Lowbays/LED/Linear/16 in+/5000K/0-10V Dimming/White	155.00	9	1,395.00	3,272.67	\$327.27	\$473.16
10	Interior	Exterior	AL-MH-175W-1	210.00	5	1,050.00	2,346	2,463.30	\$246.33	Replace Fixture	Area Light/Barn/LED/5000K/120-277V/Slip Fitter/Silver	40.00	5	200.00	469.20	\$ 46.92	\$199.41

Scope of Work Continued

Auditorium Renovations

Seat Replacement

- Removal and disposal of existing seats
- Install (700) Irwin Seating Company Citation Model 90.12.10.4
- No. 90 Citation - Square profile 34" tall padded and upholstered back with 2" foam and injection molded poly rear panel
- No. 12 Ergo - Padded and upholstered seat with ergonomic substrate, molded foam, and structural composite seat pan
- Seat fold - 3/4
- No. 10 Enclosed end with veneer insert - tablet arms not available
- No. 4 Steel platform
- Comfort curved injection molded plastic center armrests
- Comfort curved solid hardwood aisle armrest
- 2" round aluminum row designation letter plates
- Row letter plated mounted on aisle end panel, Aluminum oval seat designated number plates, and seat number plates mounted on seat pan
- (6) spare No. 90 - Square profile 34" tall padded and upholstered back with 2" foam and injection molded poly rear panel
- (6) spare No. 12 Ergo - Padded and upholstered seat with ergonomic substrate, molded foam, and structural composite seat pan

Stage Extension, Abatement, Ceiling Replacement, and General Construction

- Remove an estimated 2422 sqft of floor tile and mastic in the aisle ways of the auditorium and run a set of clearance air samples
- Grind down the bolts flush with the concrete and diamond grind the concrete floor
- After the completion of all abatement, installation of carpet square where the floor tile was removed
- Painting of the walls
- Extend the stage 6' wider than existing
- Install ADA compliant ramp leading up to stage

Note:

- **Extending the stage depends on the ability to get permitting from fire department due to extending close to fire exit**
- **Amount of seating dependent on spacing requirements for ADA ramp**

Theatrical and House Lighting System Replacement

- Theatrical lighting power and controls devices
- Theatrical lighting distribution
- Theatrical lighting fixtures
- House lighting fixtures
- Hanging of lighting fixtures
- Terminations only of all theatrical low voltage equipment
- System commissioning and owner training
- Complete set of submittal drawings
- Provide and install 400 amp disconnect and feed from existing stage lighting panel area to rear mezzanine of the auditorium including conduit, wire, and junction boxes
- Provide the necessary conduit and wire for the new stage lighting and house lighting
- Demo existing controls on stage and install new controls panel upstairs

Note:

Excludes any asbestos abatement needed

Auditorium Sound System Replacement

- Provide a new Allen Heath 48 channel digital mixing console for the back of the auditorium
- Provide Allen Heath I/O expander stage rack
- Provide (16) Shure wireless ear set microphones with (16) rechargeable battery packs and (2) 8-bay battery chargers
- Provide and install (3) EAQ 2-way passive speakers
- Provide and install (1) Crown power amplifier
- (4) Audio Technica AT-853R hanging microphones
- (4) Shure UA844+SWB Antenna Distribution
- (2) Shure UA874 Active directional antenna
- Provide 4-hour training class
- Any necessary cabling and rigging needed

Checkbook Fund

The checkbook fund is considered your contingency funds. This fund is recommended to help alleviate any future burdens and cover any additional work outside the original scope that may arise. For example, during project implementation, the circuitry and electrical system will be inspected and it may be suggested that these systems are scrutinized to confirm that they are functioning properly and are operating up to code. All necessary repairs will be noted and reported. The funds will be used at the owner's discretion, and no funds will be used prior to approval. Any unused funds will be deducted from the final billing and returned to the owner.

Turnkey Project Cost

This program is a complete turnkey proposal that will include all necessary energy, mechanical and electrical engineering, permitting, project development, project management, and a complete project warranty for a period of (1) year following project completion and acceptance. The turnkey project cost covers these costs associated with project.

Proforma and Financial Options



Tiffin CSD



Facility Improvement and Energy Savings Project (10.09.2023)

Pro Forma

Term	Electric Savings	O&M Savings	Total Annual Savings	Project Payment	Annual Net Cash Flow
Year 1	\$ 5,491	\$ 1,224	\$ 6,715	\$ 1,412,890	(\$1,406,175)
Year 2	\$ 5,656	\$ 1,224	\$ 6,880	\$ -	\$6,880
Year 3	\$ 5,825	\$ 1,224	\$ 7,049	\$ -	\$7,049
Year 4	\$ 6,000	\$ 1,224	\$ 7,224	\$ -	\$7,224
Year 5	\$ 6,180	\$ 1,224	\$ 7,404	\$ -	\$7,404
Year 6	\$ 6,366	\$ 1,224	\$ 7,590	\$ -	\$7,590
Year 7	\$ 6,557	\$ 1,224	\$ 7,781	\$ -	\$7,781
Year 8	\$ 6,753	\$ 1,224	\$ 7,977	\$ -	\$7,977
Year 9	\$ 6,956	\$ 1,224	\$ 8,180	\$ -	\$8,180
Year 10	\$ 7,165	\$ 1,224	\$ 8,389	\$ -	\$8,389
Year 11	\$ 7,379	\$ 857	\$ 8,236	\$ -	\$8,236
Year 12	\$ 7,601	\$ 796	\$ 8,396	\$ -	\$8,396
Year 13	\$ 7,829	\$ 734	\$ 8,563	\$ -	\$8,563
Year 14	\$ 8,064	\$ 673	\$ 8,737	\$ -	\$8,737
Year 15	\$ 8,306	\$ 612	\$ 8,918	\$ -	\$8,918
Year 16	\$ 8,555	\$ 551	\$ 9,106	\$ -	\$9,106
Year 17	\$ 8,811	\$ 490	\$ 9,301	\$ -	\$9,301
Year 18	\$ 9,076	\$ 428	\$ 9,504	\$ -	\$9,504
Year 19	\$ 9,348	\$ 367	\$ 9,715	\$ -	\$9,715
Year 20	\$ 9,629	\$ 306	\$ 9,935	\$ -	\$9,935
Totals	\$ 147,545	\$ 18,054	\$ 165,599	\$ 1,412,890	(\$1,247,291)

Tentative Timeline

- | | |
|---|-------------------------------|
| 1. Work Session with Board | October 2023 |
| 2. Board Resolution | November 2023 - December 2023 |
| 3. Final Engineering & Material Procurement | |
| a. Lighting | December 2023 - February 2024 |
| b. Mechanical | December 2023 - May 2024 |
| 4. Project Implementation | |
| a. Lighting | May 2024 - July 2024 |
| b. Mechanical | May 2024 - August 2024 |

References

Project and Energy Services References (more available upon request)

Luke Barnett, Facility Manager

Preble Shawnee Local Schools

Phone: 937-313-3527

Email: barnettl@psarrows.com

Scope: LED Lighting, Bathroom Renovations, Window Upgrades/Replacements, HVAC Upgrades, etc.

Project Costs: \$7.5 Million Overall

Dan Leffingwell, Former Superintendent

Noble Local Schools

Phone: 740-236-0190

Email: dan.leffingwell@gozeps.org

Scope: LED Lighting, HVAC Upgrades, Building Controls & Automation, Door & Window Upgrades, Wastewater Treatment Plant, Renovations, & More

Project Costs: \$12.2 Million Overall

Robert Fischer, Superintendent

National Trail Local Schools

Phone: 937-437-3333 ext. 1106

Email: bfischer@nationaltrail.us

Scope: LED Lighting, HVAC and Mechanical Upgrades, Controls Upgrades, Indoor Air Quality

Project Cost: \$1,498,380

Annual Savings: \$51,049

Dr. Todd Rappold, Superintendent

Miami East Local Schools

Phone: 937-902-8110

Email: trappold@miamieast.k12.oh.us

Scope: LED Lighting

Project Costs: \$188,785 Overall

Annual Savings: \$18,220

Jon Wesney, Superintendent

Centerville City Schools

Phone: 937-433-8841

Email: jon.wesney@centerville.k12.oh.us

Scope: LED Lighting

Project Costs: \$219,660 Overall

Annual Savings: \$27,746

*Additional references available upon request

Sample Resolution

RESOLUTION NO. ____

The Superintendent recommends that the Board authorize a contract with Energy Optimizers USA, LLC. ("Energy Optimizers") for the District's Facility Improvement and Energy Savings Project (the "Project") based upon the authority of O.R.C. 167.081 for contracts procured through a Regional Council of Governments.

Rationale:

1. The District has identified a need for various LED lighting and auditorium improvements at Columbian High School facility, located at 300 South Monroe St, Tiffin, OH 44883.
2. O.R.C. 167.081 allows a school district to participate in a construction contract of a Regional Council of Governments (a "COG") without the need to engage in competitive bidding. Specifically, O.R.C. 167.081 states that a regional council may enter into a contract that establishes a unit price for, and provides upon a per unit basis, materials, labor, services, overhead, profit, and associated expenses for the repair, enlargement, improvement, or demolition of a building or structure if the contract is awarded pursuant to a competitive bidding procedure of a multistate consortium of which the council is a member. The Board is a member of the Ohio Council of Educational Purchasing Consortia ("OCEPC"). OCEPC is a Regional Council of Governments established under Chapter 167 of the Ohio Revised Code.
3. Energy Optimizers is an experienced contractor who has provided a proposal for the Project in the amount of \$1,412,890 (the "Contract Sum"), which is based on qualified unit pricing as set forth in Energy Optimizer's agreement with OCEPC.
4. The Superintendent recommends procuring Energy Optimizers through O.R.C. 167.081.

The Board of Education resolves as follows:

1. Based upon the information provided and exercising the authority given in O.R.C. 167.081, the Board authorizes the procurement of Energy Optimizers without the need to engage in competitive bidding.
2. The Board authorizes the Superintendent, Treasurer, and Board President to work with legal counsel to negotiate and execute a contract with Energy Optimizers for the Project and to sign any related documents for the work in an amount not to exceed \$1,412,890.

Motion _____ Second _____

AYES: _____ NAYS: _____