



**To:** Dr. Mike Riggle  
Board of Education

**From:** Dr. Kimberly Ptak

**Date:** Wednesday, October 17, 2018

**Re:** Grant Opportunity Natatorium LED Lighting

### **Recommendation**

It is recommended that the Board of Education

1. Approve a bid for Ensol Energy Management Solutions in the amount of \$152,671 for LED Lighting in the Glenbrook North and Glenbrook South natatoriums.
2. Accept a grant from ComEd in the amount of \$51,568 to use towards the LED natatorium lighting project resulting in a net project cost of \$101,103.

### **Background**

Glenbrook North and Glenbrook South each have an approx. 22,000 square foot natatorium, each with two pools. The lighting for the pools are part of a suspended truss system which hangs from the ceiling, forming a ring around each pool and provides indirect lighting. The older, six lane pool, has approximately 48 fixtures and the newer, eight lane pool, has approximately 80 fixtures. Additionally, in each natatorium, there are approximately 30 balcony fixtures and 12 fixtures serving the general pool area.

The current fixtures are a mixture of metal halide and fluorescent and utilize approximately 150kW of energy daily, district-wide. The proposal is to retrofit the existing fixtures with LED bulbs which utilize 50kW of energy. The original wiring and external housings/structural supports will stay intact and new LED/driver/reflector modules will be installed, to replace the current lamps/ballasts/reflectors. The fixtures will look the same, just have more powerful "light engines". The fixtures will have an IP65 coating to protect from the chlorine and chemical components inherent in this type of environment.

Energy use is expected to decrease by 66%. Since the natatoriums are so heavily used, the energy savings is significant and estimated at \$44,000 per year which creates a 27 month payback. Additionally, there will be far-reduced maintenance (LED's can last for five times as long as metal halide lamps, while exhibiting less color shift and lumen depreciation). The lighting level will maintain uniformity (ratio of dark to bright surfaces in the space) will improve and the spaces will "look" better.

The contractor is required to submit photometric calculations that prove "equal or better" lighting performance before the LED retrofits are approved, ordered and installed as well as after installation prior to the job being accepted and paid out.

Fixtures have a 4-6 week lead-time and all work will be completed during a third shift (i.e. beginning at 10pm once the pool is closed.) Work is expected to take 5-7 days per school.

Three contractors submitted bids with Ensol Energy Management Solutions being the lowest. Ensol's proposal is significantly lower than the others for a few reasons. First of all, Ensol is both a supplier and installer, allowing them to bid the product and labor package very competitively. Additionally Ensol spent time in the field during the bidding period (an opportunity offered to all bidders) to begin taking photometric calculations and running models to ensure fixture photometrics will be met at the beginning and end of the project; thus alleviating a bit of the risk. Lastly, Ensol is able to meet the scheduling requirement of performing work during a third shift without incurring additional cost. Ensol has successfully performed LED retrofits in the Glenbrook North and Glenbrook South parking lots, fitness centers, cafeterias and corridors.

**Bid Results**

Vendor	Bid
Ensol Energy Management Solutions	\$152,671
Carey Electric	\$345,940
Prospect Electric	\$463,980

