



**LAKE SHORE**  
DESIGN • LIGHT • SUSTAIN



*Building Name*

**Gavin School District # 37**

*Proposal Name*

**Gavin School District #37**

*A Proposal For*

**Mark Lindem & Thomas Lynk**

*Business MGR & Maintenance MGR*

*Gavin School District #37*

*Thursday, July 09, 2015*



45 Castleton Court  
North Barrington, IL 60010  
<http://lakeshorelight.com/>

Thursday, July 09, 2015

Mark Lindem & Thomas Lynk  
Business MGR & Maintenance MGR  
Gavin School District #37  
25775 West Highway 134  
Ingleside IL 60041



45 Castleton Court  
North Barrington, IL 60010  
<http://lakeshorelight.com/>

Dear Mark Lindem & Board Members of Gavin School District #37,

Lakeshore Lighting is pleased to submit this plan for a retrofit of your lighting system.  
The lighting retrofit will consist of the following:

- \*Installation of New LED Fixtures, Retrofit LED fixtures and High Efficient Fluorescents
- \*Existing Metal Halide, Fluorescent, and High Pressure Sodium fixtures will be removed and recycled

How accurately this project will affect your monthly electric bill may be determined by any additional hours that your lights are in use, any utility rate increases that may occur and any add-ons or deletions. The amounts of the grants and incentives will vary upon wattage of existing fixtures and wattage of proposed fixtures.

Grants:

(ICE) Illinois Clean Energy Foundation, highly competitive. Pre App Due Date March 11 2015. 40% of project or \$0.15 a kwh reduced.

(DCEO) Department of Commerce and Economic Opportunity. It is unknown if or when DCEO will come back for PY8 at this point in time. DCEO themselves and others in the industry are bearish on the DCEO coming back anytime soon, if at all. Application availability is currently non-existent, and incentive levels were estimated to be cut in half (best case scenario) if incentives were to return for PY8 (2015-2016).

Process Before Financing Approval:

Soon to be provided is a financing application to get you a lower rate than the basic estimate in this proposal.

Process After Approval:

Fixtures Ordered upon Acceptance of 50% Payment of Total Project Cost (1 Week), Fixtures Lead Time (3-4 Weeks), Fixtures Installation (2-7 Days), Remaining 50% Payment of Total Project Cost (1 Week), Submittal of Final Grant Application (1-2 Days), Reimbursement of Project Cost by Grant (1-3 Weeks)

Project Completion and Grant Reimbursement:

(10-15 Weeks from ICE Grant Acceptance Date)

Respectfully Submitted,

Nicholas W. Betzold III  
Principal  
Lakeshore Lighting



45 Castleton Court  
North Barrington, IL 60010  
<http://lakeshorelight.com/>

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Principal  
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## Executive Summary

### Project Overview

Total Material Cost and Labor (\$)	189,935
Less Rebates and Incentives (\$)	114,672
<b>Net Cost of Project (\$)</b>	<b>75,263</b>
Annual Operating Savings	
Energy Savings (\$)	45,869
Maintenance Savings (\$)	7,417
<b>Total Annual Operating Savings (\$)</b>	<b>53,286</b>
Operating Savings Over 10 Years	
Energy Savings (\$)	458,691
Maintenance Savings (\$)	74,172
<b>Total Operating Savings Over 10 Years (\$)</b>	<b>532,863</b>
Payback Period (yrs)	1.6
Net Present Value (\$)	326,901
Internal Rate of Return (%)	95.73

**Financial Analysis by Efficiency Measures**

EM Name	EM Type <sup>1</sup>	kWh/yr Savings	Operating Savings (\$) <sup>2,3</sup>	Total Cost (\$)	Net Cost (\$)	Payback Period (yrs)
A19 Incandescents to LED Lamps	ALU	3,874	3,604	202	(379)	N/A
4 Pin CFL to Lunera Helen LED	ALU	3,936	1,362	2,282	1,692	7.2
8ft Fluourescent to LED Retrofit	ALU	3,978	2,698	648	52	0.2
Br 30 Halogen to Par 30 LED	ALU	466	370	22	(48)	N/A
Metal Halide Wall Packs to LED Wall Packs	ALU	14,243	10,386	3,302	1,166	1.4
2x2 T8 Troffer to LED Retrofit	ALU	3,375	2,565	2,247	1,741	8.6
Bus Barn Metal Halide to T8 Fluorescent	ALU	11,064	7,550	1,153	(507)	N/A
Exterior Soffit 8" Can to New LED Fixture	ALU	113,412	79,047	22,814	5,802	0.9
2x4 Troffer to LED Retrofit	ALU	572,384	397,042	139,219	53,361	1.6
4 Ft. Fluorescent Strip/Wrap to LED Retrofit	ALU	37,748	28,235	18,046	12,384	5.5

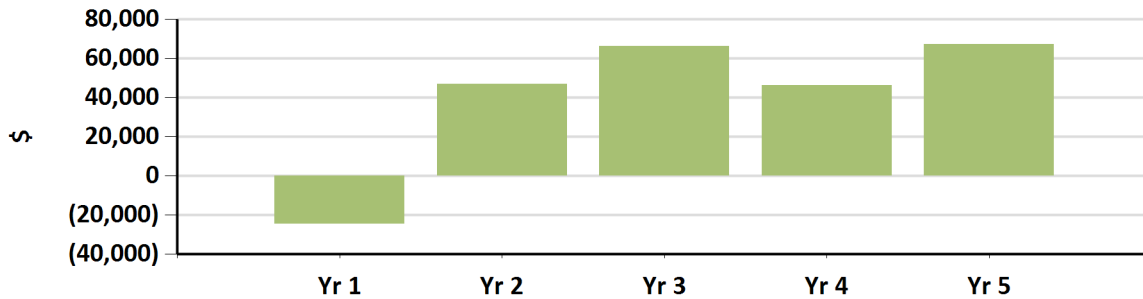
1. LC=Local Controls, LR=Luminaire Replacement, CU=Component Upgrade
2. Operating savings includes energy savings and maintenance savings
3. Energy cost (\$) = 0.0600/kWh; Annual energy cost escalation (%) = 0.00
4. Product Tax Rate (%) = 0.00
5. Service Tax Rate (%) = 0.00

## Cash Flow Analysis

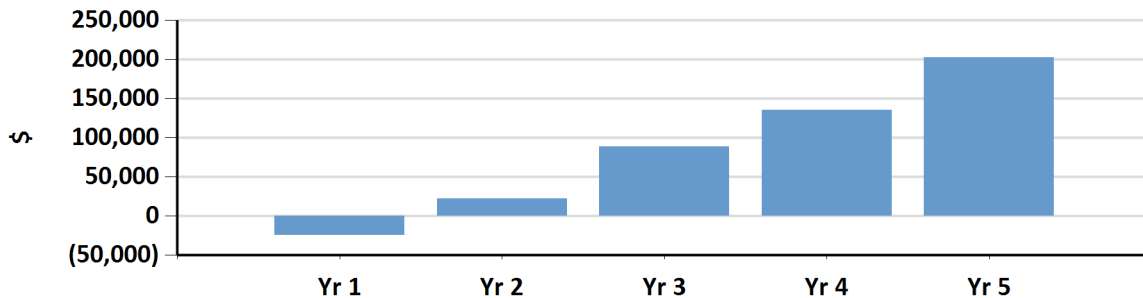
### 10 Year Cash Flow Analysis (\$)

	Yr1	Yr2	Yr3	Yr4	Yr5
Product Costs	163,434	-	-	-	-
Installation Services	26,501	-	-	-	-
Incentives	114,672	-	-	-	-
Energy Savings	45,869	45,869	45,869	45,869	45,869
Maintenance Savings	4,642	1,151	20,535	535	21,479
<b>Net Cash Flow</b>	<b>(24,752)</b>	<b>47,020</b>	<b>66,404</b>	<b>46,404</b>	<b>67,348</b>
<b>Cumulative Cash Flow</b>	<b>(24,752)</b>	<b>22,268</b>	<b>88,672</b>	<b>135,076</b>	<b>202,424</b>

Net Cash Flow



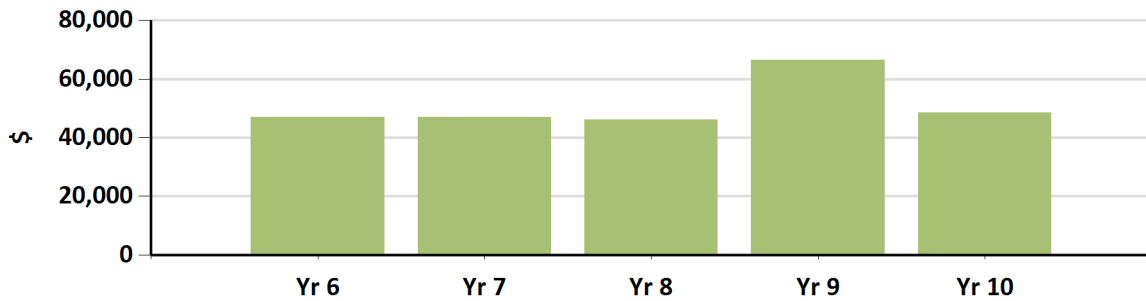
Cumulative Cash Flow



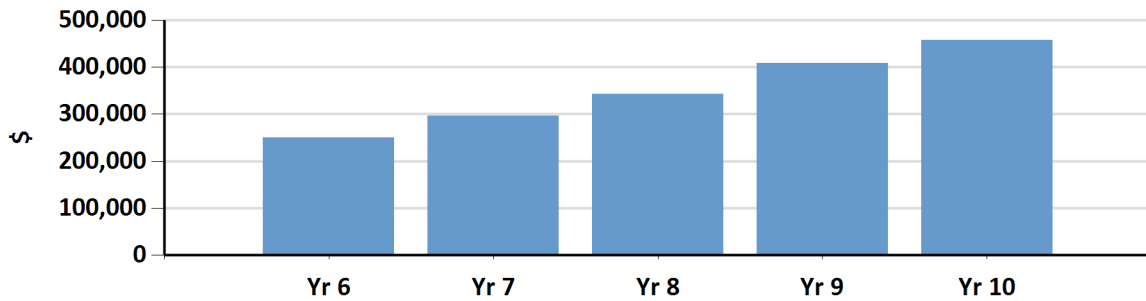
**10 Year Cash Flow Analysis (\$)**

	Yr6	Yr7	Yr8	Yr9	Yr10	Total
Product Costs	-	-	-	-	-	<b>163,434</b>
Installation Services	-	-	-	-	-	<b>26,501</b>
Incentives	-	-	-	-	-	<b>114,672</b>
Energy Savings	45,869	45,869	45,869	45,869	45,869	<b>458,691</b>
Maintenance Savings	1,147	1,099	201	20,601	2,785	<b>74,172</b>
<b>Net Cash Flow</b>	<b>47,016</b>	<b>46,968</b>	<b>46,070</b>	<b>66,470</b>	<b>48,654</b>	<b>457,601</b>
<b>Cumulative Cash Flow</b>	<b>249,439</b>	<b>296,407</b>	<b>342,477</b>	<b>408,947</b>	<b>457,601</b>	<b>457,601</b>

**Net Cash Flow**



**Cumulative Cash Flow**

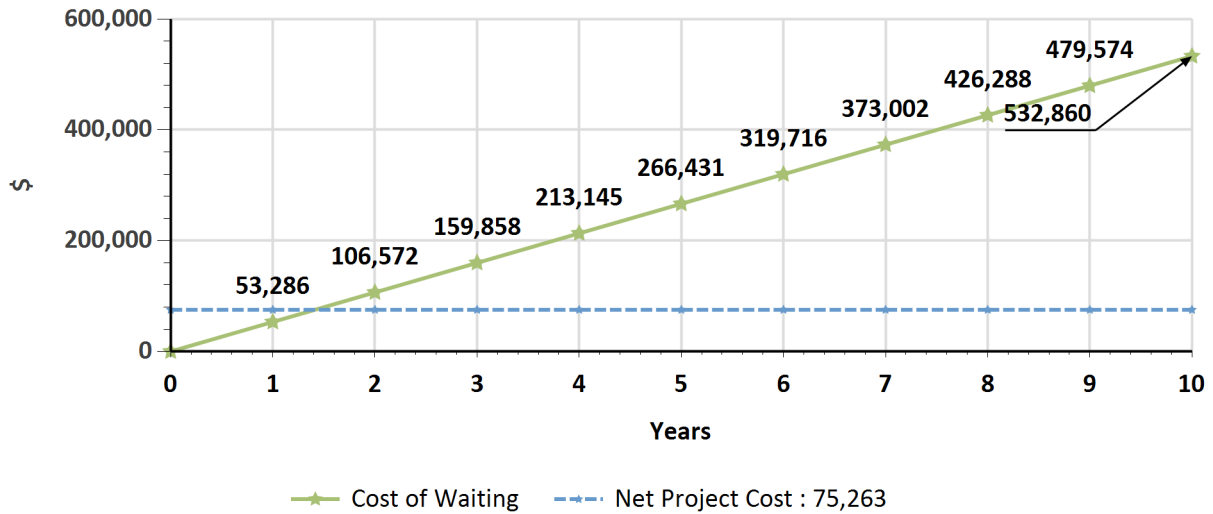




## Cost of Waiting

### Cost of Waiting

Monthly (\$)	Yearly (\$)	10 Years (\$)
4,440	53,286	532,860



1. Cost of waiting includes energy savings and maintenance savings applied as an average annual amount over a 10 year analysis period

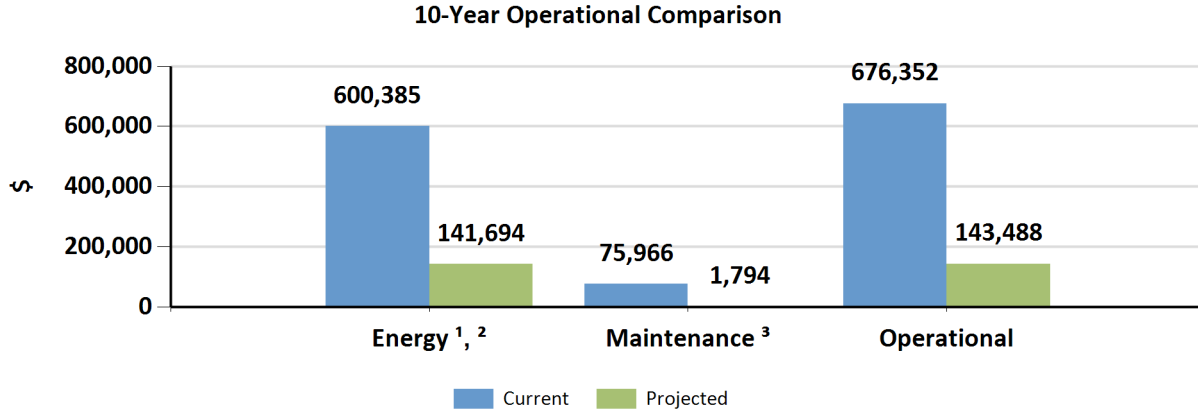
## Energy Usages and Costs

### Annual Energy Usage Reduction

Current Usage (kWh)	Projected Usage (kWh)	Reduction (kWh)	Reduction (%)
1,000,642	236,157	764,485	76

## Operational Overview

### Analysis Period Operational Savings Comparison



1. Energy cost (\$) = 0.0600/kWh; Annual energy cost escalation (%) = 0.00
2. Energy costs are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period

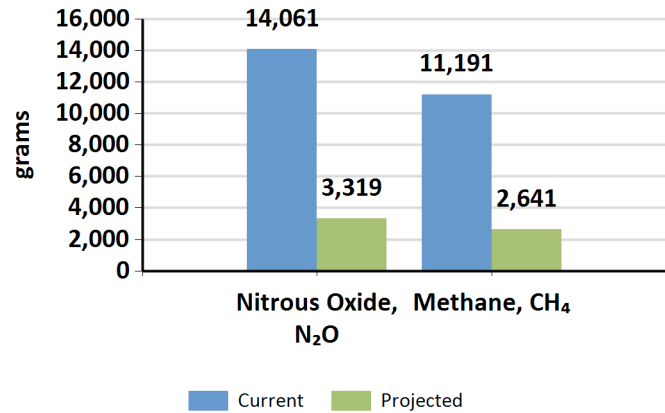
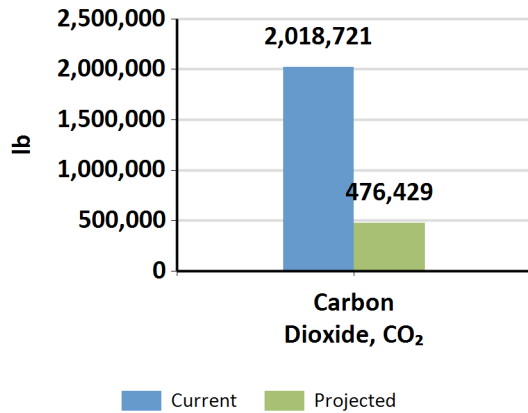
## Environmental Impact

### Greenhouse Gas Analysis

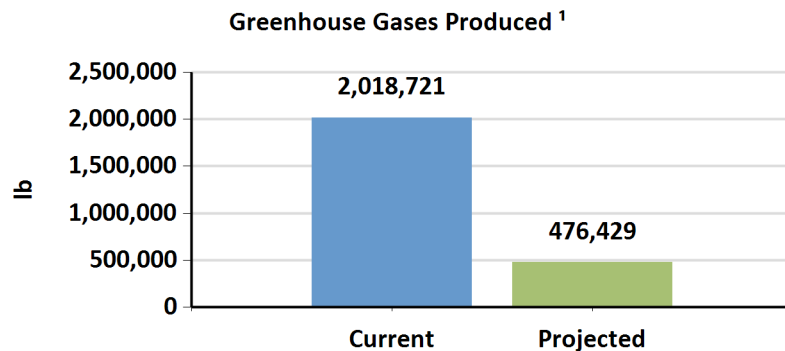
#### Greenhouse Gas Comparisons

Greenhouse Gas	Current <sup>1</sup>	Projected <sup>1</sup>	Avoided	Environmental Effect
Carbon Dioxide, CO <sub>2</sub>	2,018,721	476,429	1,542,292	Greenhouse Gas, Global Warming
Nitrous Oxide, N <sub>2</sub> O	14,061	3,319	10,743	Acid Rain, Global Warming
Methane, CH <sub>4</sub>	11,191	2,641	8,550	Greenhouse Gas, Global Warming

1. Average emission rates per kWh are based on EPA estimates for IL



#### Greenhouse Gas Comparables



#### Comparable Metrics

Trees Saved: 57,836  
Acres of trees planted: 134  
Fewer cars on the road: 191

1. Average emission rates per kWh are based on EPA estimates for IL

## Appendix

### Incentives

Description	Amount (\$)	Est. Receipt Date
ICEF	581.10	Immediate
ICEF	590.40	Immediate
ICEF	596.70	Immediate
ICEF	69.90	Immediate
ICEF	2,136.45	Immediate
ICEF	506.25	Immediate
ICEF	1,659.60	Immediate
ICEF	17,011.80	Immediate
ICEF	85,857.60	Immediate
ICEF	5,662.20	Immediate
<b>Total(s)</b>	<b>114,672.00</b>	

### Financial Assumptions

Analysis Period (yrs)	10
Payback Calculation Method	Simple Payback
Cost of Capital (%)	6.0 (for NPV calculations)
Energy Cost (\$/kWh)	0.0600
Energy Cost Annual Increase (%)	0.00
Product Tax Rate (%)	0
Service Tax Rate (%)	0
Cooling Savings Factor	0
Cooling Season Months	0
Heating Cost Factor	0
Heating Season Months	0

There is no data to be presented for Project Assumptions.