FCO-SHI

Client Name: LED His May Lighting legislation Address:



POWER CORP

Life Cycle
Analysis
PROJECT SUMMARY

-

Contact Name:

Date: April 19, 2011

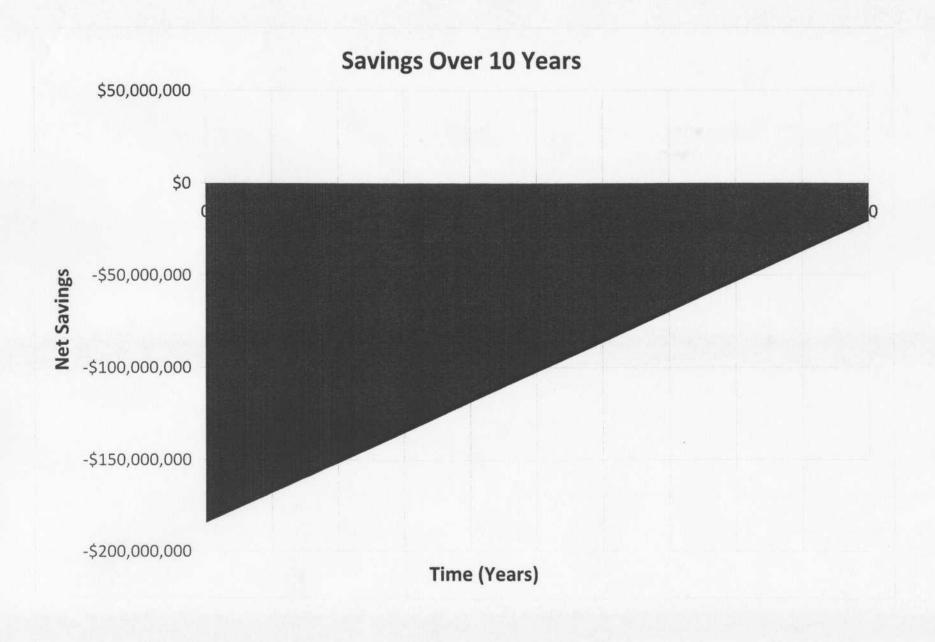
Lighting System Cost/Performance Comparison	Street Lights	Option B	#REF!	Option D	Option E	Option F	Option G	Option H	Option I	Option J	Option K	Option L	Option M	Option N	Option (
	LED Replacement for 400W	LED Replacement for 250W	LED Replacement for 150W	LED Replacement for 100W											
					Ini	itial Cost	s	1000	N. P. C.	- No. 10		-		NE HERO	-
Total Luminaire Package Cost	\$21,875,000	\$39,375,000	\$30,625,000	\$21,875,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Lamp Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Estimated Installation Cost	\$12,900,000	\$23,220,000	\$18,080,000	\$12,900,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	50	\$0	\$0	\$0
Sub Total	\$35,112,500	\$0	\$49,169,750	\$35,121,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total of Rentals and Incidentals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Recycling	\$337,500	\$621,000	\$484,750	\$346,250	\$0	50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rebates and other adjustments	\$0	\$0	\$0	\$0	\$0	30	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL INITIAL COST	\$35,112,500	\$63,216,000	\$49,169,750	\$35,121,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	50	\$0	\$0	\$0
		233213233	44011041140	400/12/1800		rating Co			-	-	40		1 40	1 40	40
EMEDON COST V IS EVIL I	** *** ***	45 442 404	******						**	**					
ENERGY COST per Year (@ Full Load) Total Possible Annual Load (KWhrs)	\$1,551,615 23,871,001	\$2,113,898	\$747,338	\$405,698	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Proposed Load (KVVnn)	23,871,001	32,521,502 32,521,502	11,497,501 11,497,501	6,241,500	0	0	0	0	0	0	0	0	0	0	0
Load Reduction Due to Dimming (KWhrs)	23,871,001	32,021,002	11,497,501	6,241,500	0	0	0	0	0	0	0	0	0	0	0
Energy Savings Due to Dimming	\$0	\$0	\$0	0	0	\$0	0	\$0	\$0	***	***	0	0	0	0
ENERGY COST WITH DIMMING	\$1,551,815	\$2,113,898	\$747,338	\$0 \$405,698	\$0	\$0	\$0	\$0	50	\$0	\$0	\$0	\$0	\$0 \$0	\$0
RELAMPING COSTS per Year	\$878,024	\$1,220,443	\$949,234	\$678,024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cleaning Costs per Year	\$0	\$0	\$0	\$078,024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
HVAC Factor Estimate	\$0	50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR	\$2,229,639	\$3,334,341	\$1,696,571	\$1,083,722	\$0	50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL SYSTEM COSTS for 10 YEAR PERIOD	\$57,408,891	\$95,559,409	\$66,135,462	\$45,958,486	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL STOTEM SOCIOIST TO TEACH ENGOS	401,400,001	\$80,008,408	\$00,130,40£	\$40,800,400		e Saving		40	- 40	80	30	30	1 90	80	\$0
DTAL ANNUAL OPERATING COST SAVINGS	\$3,669,511	\$5,856,347	to the same of the			e saving		TOTAL PROPERTY AND ADDRESS OF THE PARTY AND AD							-
OTAL COST SAVINGS OVER 10 YEAR PERIOD	\$3,582,612	-\$6,632,529	\$4,032,250 -\$5,647,249	\$2,631,066	80	\$0	\$40	\$0	\$0	\$0	\$0	10	\$0	\$0	10
VINGS as a %	5.9%	-7.4%	-15.4%	-\$8,810,589	\$0	\$0		0.0%	0.0%		\$0	30	\$0	\$0	\$0
Payback period (years)	9.1	11.2	12.2	-23.7%	0.0%	0.0%	0.0%	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Payback period (months)	109	134	146	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
(yearly savings on capital investment)	11%	9%	8%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Net Present Value @ Weighted Cost of Capital	\$112,502,724	\$176.382.942	\$129.814.752	\$87.742.573	\$0	50	\$0	50	30	\$0	\$0	50	\$0	\$0	50
T CASH FLOW /month	\$322,459	\$471.529	\$336.021	\$219,256	30	\$0	\$0	80	30	\$0	\$0	30	50	30	\$0
Financing Lease (ESP in House Financing calculated net of rebates)	\$1.534.709	\$2,763,066	\$2,149,128	\$1,535,091	30	50	\$0	50	80	50	\$0	\$0	\$0	30	\$0
CASH FLOW imonth (including lease through term)	-\$1,212,250	-\$2,291,537	-\$1,813,107	-\$1,315,836	\$0	50	\$0	80	50	80	\$0	50	50	30	\$0
		44444	41,010,101	Scenario B In				normy Cos	ete	-		1 00	1 00	1 2	90
	******					Returns	- Kising E	rergy cos	913			¥1	4		
ergy cost savings over 10 years (Including non-discounted rising energy costs)	\$47,314,953	\$54,251,778	\$26,421,256	\$12,992,176	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Intenance cost savings over 10 years	\$21,470,761	\$38,647,370	\$30,059,066	\$21,470,761	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
tial investment difference	-\$35,112,500	-\$83,216,000	-\$49,169,750	-\$35,121,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
tal Cost Savings over 10 Year Period	\$33,673,214	\$29,683,148	\$7,310,572	-\$658,313	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	50	\$0	\$0
				Ne	t Present	Value of	Investmen	rt .							
ergy cost savings over 10 years @ rising costs (discounted cash flows)	\$10,955,342	\$11,408,042	\$6,527,935	\$3,078,361	\$0	\$0	\$0	\$0	50	50	\$0	50	50	\$0	\$0
intenance cost savings (discounted cash flows)	\$42,941,522	\$77,294,740	\$60,118,131	\$42,941,522	50	\$0	\$0	\$0	50	\$0	\$0	\$0	\$0	\$0	\$0
V of cost savings	\$89,009,365	\$151,918,783	\$115,815,817	\$81,141,133	\$0	50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	50
7 of coat savings					Carriene	nmental I	mnact								1
7 to cook sayings					Enviror	IIII GIILGI I									
nual Emissiona REDUCTION	7,234	7,533	4,311	2,033	1 o	i o	I o	pro-constant		STORY OF THE PARTY.	Inches (Assessed	Printer of the	parties of the last	1 0	

ECG ORP.

Life Cycle Client Name: Address:	Highway Lighting Legis tion	VVLI	1
Analysis			
Contact Name:	19, 2011		
Date: April	10, 2011		
Lighting System Cost/Performance Comparison	Existing	Proposed	Fixture Cou
lights	400W MH Core On Coll	LED Replacement for 400W	25000
	250W MH Care On Call	LED Replacement for 250W	45000
	150W MH Core On Call	LED Replacement for 150W	35000 25000
	100W MH Core On Coll	LED Replacement for 100W	23000
Initial Cost		4442.750.000	
Total Luminaire Package Cost Total Lamp Cost	n/a \$0	\$113,750,000 \$0	
Total Estimated Installation Cost Sub Total	\$0 \$0	\$67,080,000 \$182,619,500	
Rentals and Incidental Costs	n/a	\$0	
Recycling Costs	nia	\$1,789,500	
Total Project Costs Including Rentals, Incidentals, and Recycling Total Rebates	n/a n/a	\$184,409,000 \$0	
TOTAL INITIAL COST	\$0	\$184,409,000	
Operating Co ENERGY COST per Year (@ Full Load)	\$9,844,927	\$4,818,548	
Total Possible Annual Load (KWhrs)	151460408.299	74131504.062	
Total Proposed Load with Dimming Load Reduction Due to Dimming (KWhrs)	151460408.299 \$0	74131504.062 0	
Energy Savings Due to Dimming	50	\$0	
ENERGY COST WITH DIMMING	\$9,844,927	\$4,818,548	1 1 1 1
RELAMPING COSTS per Year Cleaning Costs per Year	\$14,690,621 \$0	\$3,525,725 \$0	
HVAC Factor Estimate	\$0	\$0	
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR TOTAL SYSTEM COSTS for 10 YEAR PERIOD	\$24,535,447 \$245,354,473	\$8,344,273 \$266,062,228	
ANNUAL OPERATING COST SAVINGS		\$16,191,178	
COST SAVINGS OVER 10 YEAR PERIOD 38 as a % Payback period (years)		-8.4% -8.4%	
Payback period (months)		11.3	
early savings on capital investment) Net Present Value @ Weighted Cost of Capital		9% \$508,442,992	
ASH FLOW /month	\$1,349,265		
Financing Lease (ESP In House Financing calculated net of rebates) ISH FLOW /month (including lease through term)	\$7,981,994	100	
Scenario B Investment Returns	- Rising Energy Costs	-58,632,729	
cost savings over 10 years (Including non-discounted rising energy costs)		\$140,980,163	
nance cost savings over 10 years nvestment difference		\$111,647,958 -\$182,619,500	The state of the s
Cost Savings over 10 Year Period		\$70,008,621	
Net Present Value of	Investment		
cost savings over 10 years @ rising costs (discounted cash flows) nance cost savings (discounted cash flows)		\$31,969,681 \$223,295,916	
cost savings		\$437,885,097	

** Disclaimer

White every effected has been made to ensure socuracy, the information provided here is for exemple and and a based on information provided. The outsiderelineader is solely responsible to ensure the accuracy and applicability of this projection to the part





Client Name: LED Highway Lighting Legislation

Location Description: Street Lights

Contact Name:

Lighting !	System	Cost/Performance	Comparison
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Existing

\$0

\$0

\$0

\$6,099,150

\$60,991,503

Proposed

SO

\$35,112,500

\$0 \$0

\$2,229,639

\$57,408,891

System Type	
mens per watt	
age (total unit)	

System lu **Bulb watt** Number of Luminaires Footcandles on the ground

ed from data obtained on the Lighting Assessr

Initial Costs

Cost per Luminaire Net Cost per Luminaire Accessories **Total Luminaire Package Cost** Lamp Cost Number of Lamps **Total Lamp Cost** Sub Total Installation Time in hours Labour Rate (\$/hour) **Total Estimated Installation Cost** Total Estimated Recycling/Disposal Fees Sub Total

Rebates and other adjustments

TOTAL INITIAL COST

Operating Costs

Input Power (Watts) Redundant Emergency Lighting Annual Load (Watts) Energy Rate (\$/kW) Operating Time per Year, in Hours ENERGY COST per Year (@ Full Load) Total Possible Annual Load (KWhrs) Total Proposed Load with Dimming

Load Reduction Due to Dimming (KWhrs)
Energy Savings Due to Dimming **ENERGY COST WITH DIMMING** Relamping Method

Lamp/LEDs Life Expectancy

Lamps/LED Replaced per Year averaged over 10 years # Hours per Lamp/LED Change Labour Rate to Replace Lamps/LED, per Hour RELAMPING/Driver COSTS per Year Led Driver Replacement cost per hour Labour rate to replace LED Driver, per Hour

Total Driver replacement cost per Year **HVAC Factor Estimate** TOTAL MAINTENANCE & OPERATING COSTS PER YEAR TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)

TOTAL ANNUAL OPERATING COST SAVINGS (based on operational savings only) TOTAL COST SAVINGS OVER 10 YEAR PERIOD (includes initial costs) SAVINGS as a

The Savings

Payback period (years) Payback period (months)

ROI (yearly savings on capital investment excluding rentals, incidentals, and recycling costs) Net Present Value @ Weighted Cost of Capital

NET CASH FLOW /month

Financing Lease (ESP In House Financing calculated net of rebates)

NET CASH FLOW /month (including lease through term)

Scenario B Investment Returns - Rising Energy Costs

Energy cost savings over 10 years (Including non-discounted rising energy costs)

Maintenance cost savings over 10 years

Initial Investment difference

Total Cost Savings over 10 Year Period

Net Present Value of Investment

Energy cost savings over 10 years @ rising costs (discounted cash flows)

Maintenance cost savings (discounted cash flows)

NPV of cost savings

Environmental Impact

Annual Emissions REDUCTION

** Disclaimer

While every attempt has been made to ensure accuracy, the information provided here is for example only and is based on information provided. The customecheader is solely responsible to ensure the accuracy and applicability of this projection to the

ameters						
400W MH Core On Coil	LED Replacement for 400W					
55	65					
400	200					
25000	25000					
0	0					

\$875 n/a \$875 n/a \$0 \$21,875,000 \$0 \$0 25000 25000 \$0 \$0 \$21,875,000 \$0 0.00 2.00 \$258.00 \$128.00 \$0 \$12,900,000 n/a \$337,500 \$0 \$35,112,500

460 218 0 n/a \$0.065 \$0.065 4.380 4.380 \$3,274,050 \$1,551,615 50,370,003 23,871,001 50,370,003 23,871,001 0 0 \$0 \$0 \$1,551,615 \$3,274,050 Spot Spot 12000 50000 7,300 1,752 1.5 1.5 \$258.00 \$258.00 \$2,825,100 \$678,024 \$45.00 \$258.00

> \$3,889,811 \$3,582,812 9.1 109 11% \$112,502,724 \$322,459 \$1,534,709 -\$1,212,250 \$47,314,953 \$21,470,761

-\$35,112,500 \$33,673,214 \$10,955,342 \$42,941,522

metric tonnes (1000 kg) CO2 metric tonnes (1000 kg) Carbon

7.234 1,975

\$89,009,365

The price of the LED driver is not included in the replacement price.

								INPL	UI	TABLE					
A) Existin	ng Oper	rating	Hours												
		Т	w T	F	S	S		Ttl Hrs/Week		Wks/Yr		Total Hours/Season			Load/Hrs
ummer			12 12	12	12	12		84		17		1432		100%	1432
all			12 12	12	12	12		84		9		758		100%	758
Finter			12 12	12	12	12		84		17		1432		100%	1432
pring			12 12	12	12	12		84		9		758		100%	758
mara.	14	14	14.	16		otals		336		52		4380		100%	4380
B) Propo				-				Ttl Hrs/Week		Wks/Yr		Total Hours/Season		Lond	Load/Hrs
ummer	M 12		W T	F 12	S 12	S 12		111 Hrs/Vveek		17		10tal Hours/Season 1431.9228		Load 100%	1431.923
all			12 12	12	12	12		84		9		758		100%	758
/inter			12 12	12	12	12		84		17		1432		100%	1432
pring			12 12	12	12	12		84	-	9		758		100%	758
	3 1923					otals		336		52		4380		100%	4380
C) HVAC					tions										
			Heat Los					78%		Old Ballast Efficiency			M	Ionths Used	. 106
			ed Heat lo					97%		lew Ballast Efficiency			-	Annually	0
			iss saving					92%	1	AC Efficiency					
	- T	otal K	ilo/Watt h	ours S	aved		\$		2	Savings					
D) Capita	ALL PROPERTY OF		- ture,				Avera	ge Cost of Capi	oita		24				
	ng Infor							0.0%		Term (months):	24				
E) Rising	Energy	Cost				KWh \$0.01		costs		disc					
			1					264,990.01		0.0100					
			2			\$0.02 \$0.03		529,980.03 794,970.04		0.0190 0.0272					
			4			\$0.04		1,059,960.06		0.0346					
			5			\$0.05		1,324,950.07		0.0411					
			6			\$0.06		1,589,940.09		0.0470					
			7		-	\$0.07	\$	1,854,930.10		0.0522					
			8			80.08		2,119,920.12		0.0569					
			9			\$0.09	\$	2,384,910.13		0.0609					
			10			\$0.10	N. 27 (CA10)	2,649,900.15		0.0645					
F) Acces	enrine						\$	14,574,450.80		0.4134					
1 / //		Produ	ct Descrip	otion				Quantity		Unit Price		Discount		Total Cost	
Emerg	ency Lig	hting (Control &	Lamp				0		\$ 128.00		0%	\$	-	
Fixture	Mounte	d Occ	upancy M	otion/Se	ensor			0	-	\$ 89.00		0%	\$		
Step D	own Tra	insform	ner (700va	a)				0	3	\$ 89.00		0%	\$		
Lenses	s (Glass	/Acrylic	c/Silicone))				0	3	\$ 34.00		0%	\$		
Wire G	Guard							0	1	\$ 33.00		0%	\$		
Lens C	Clamp Ba	and						0		\$ 21.00		0%	\$	No. 7	
			ommunica	tion Pac	ckage			0		\$ 15,000.00		0%	\$	STATE OF THE	
			150/60								TO	TAL ACCESSORIES	150		
G) Client	Internal		ct Costs Details	(For Re	bate	Applic	ation	S ONLY)		Quantity/Hrs		Rate/Price		Total Cost	
Client	Employe		ervising/a	ssisting		Labor	Cost			0	\$	-	\$		
Scisso						Renta	ıt			0	s		\$	-	
Electric	cal Engi	neerin	g Review			Contra	actor	Fees		0	s		\$		
	cal Perm					Permi	ts, etc			0	\$		\$		
										TOTAL C		IT PROJECT COSTS	\$		
H) Rebate \$0.			1. Rebate	120000-07900			or e o	mount)					s		
\$0.				23 11 4 11		73.7911110		and the second s					\$		
			2. Rebate						440	allonal			\$		
\$0.						1115230002		ge in luminaire					\$		
\$0.						SUTTO SALE	OPERCO	W without Dimm	nif	9)			-34		
\$0.								fing Dimming)					\$		
\$0.					yr sav			ng Dimming)					\$		Total Estimated
\$150			X QTY				<- 7.	Occupancy Ser	ns	or Rebate (Box 1 X B	ox 2)		\$		Project Cost (inc
\$0.	00	<-	8. Flat Ar	nount									\$	-	labour & recycling
												al Calculated Rebate	\$		\$ 35,450,000.
I) Recycl	ling/Die	nneal	Fees /Fo	r Robet	0 0 000	licati	one O	NI YI		Total Allowa	ble i	Rebate (max of 40%)	\$		
ij Recyc	grois		nit Dispos		5300000000			10.00		# of Units		25000	\$	250,000.00	
			Unit Dispo	osal Rat	e for I	Lamp	\$	3.50		# of Lamps		25000	\$	87,500.00	
										Total	Estin	nated Disposal Fees	\$	337,500.00	



Client Name: LED Highway Lighting Legislation

Location Description: Contact Name:

Lighting System Cost/Performance Comparison

Existing

Proposed

dystem dosur enormance dompanson	Latitud	Topoaca
P	arameters	
System Type	250W MH Core On Coil	LED Replacement for 250W
System lumens per watt	52	63
Bulb wattage (total unit)	250	140
Number of Luminaires	45000	45000
Footcandles on the ground	0	0
(Retrieved from data obtained on the Lighting Assessment Form)		
Initial Costs		
Cost per Luminaire	n/a	\$875
Net Cost per Luminaire	n/a	\$875
Accessories	n/a	\$0
Total Luminaire Package Cost	n/a	\$39,375,000
Cost per Lamp	\$0	\$0
Number of Lamps	45000	45000
Total Lamp Cost	\$0	\$0
Sub Total	\$0	\$39,375,000
Installation Time in hours	0.00	2.00
Labour Rate (\$/hour)	\$258.00	\$258.00
Total Estimated Installation Cost	\$0	\$23,220,000
Total Estimated Recycling/Disposal Fees	n/a	\$621,000
Sub Total	\$0	\$63,216,000
Rebates and other adjustments	\$0	\$0
TOTAL INITIAL COST	\$0	\$63,216,000
Operating Costs	Committee of the Commit	TO STATE OF THE PERSON NAMED OF THE PARTY OF
Input Power (Watts)	305	165
Redundant Emergency Lighting Annual Load (Watts)	0	n/a
Energy Rate (\$/kW)	\$0.065	\$0.065
Operating Time per Year, in Hours	4,380	4,380
ENERGY COST per Year (@ Full Load)	\$3,907,508	\$2,113,898
Total Possible Annual Load (KWhrs)	60,115,503	32,521,502
Total Proposed Load with Dimming	60,115,503	32,521,502
Load Reduction Due to Dimming (KWhrs)	0	0
Energy Savings Due to Dimming	\$0	\$0
ENERGY COST WITH DIMMING	\$3,907,508	\$2,113,898
Relamping Method	Spot	Spot
Lamp/LED Life (Hours)	12000	50000
# Lamps/LEDs Replaced per Year averaged over 10 years	13,140	3,154
# Hours per Lamp Change	1.5	1.5
Labour Rate to Replace Lamps, per Hour	\$258.00	\$258.00
RELAMPING/Driver COSTS per Year	\$5,085,180	\$1,220,443
LED Driver Replacement Cost per Hour	0	0
Labour rate to replace LED Driver, per Hour	\$45.00	\$258.00
Total Driver replacement cost per Year	\$0	\$0
HVAC Factor Estimate		\$0
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR	\$8,992,688	\$3,334,341
THE COOTS I. JONEAN DEDICE II. I I WILL I.		600 FF0 400

\$89,926,880

motric tannes (1009 kg) GOs IDEADS: TORTHES Y TORTH WAS A METALORS

TOTAL ANNUAL OPERATING COST SAVINGS (based on operational savings only TOTAL COST SAVINGS OVER 10 YEAR PERIOD (includes initial costs)

TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)

The Savings

Payback period (years)

Payback period (months)

ROI (yearly savings on capital investment excluding rentals, incidentals, and recycling costs) Net Present Value @ Weighted Cost of Capital

NET CASH FLOW /month

Financing Lease (ESP In House Financing calculated net of rebates)

NET CASH FLOW /month (including lease through term)

Scenario B Investment Returns - Rising Energy Costs

Energy cost savings over 10 years (Including non-discounted rising energy costs)

Maintenance cost savings over 10 years

Initial Investment difference

Total Cost Savings over 10 Year Period

Net Present Value of Investment

Energy cost savings over 10 years @ rising costs (discounted cash flows)

Maintenance cost savings (discounted cash flows)

NPV of cost savings

Environmental Impact

Annual Emissions REDUCTION

** Disclaimer

11.2 134 9% \$176,382,942 \$471,529 \$2,763,066 -\$2,291,537

\$54,251,778 \$38,647,370 -\$63,216,000 \$29,683,148

\$96,559,409

\$11,408,042 \$77,294,740 \$151,918,783

7,533

The price of the LED driver is not included in the replacement price.

A) Exist	ing Op	erating	Hours													
				ev e		S			Ttl Hrs/Week		Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	M 12		W T			S 5			84		17		1432		100%	1432
all	12		12 12			12 1			84		9		758		100%	758
Vinter	12		12 12			12 1			84		17		1432		100%	1432
pring	12		12 12			12 1			84		9		758		100%	758
pring	12	12	12 14	0.00		Tota			336		52		4380		100%	4380
B) Prop	osed O	perating	g Hours													
	M		WT			S			Ttl Hrs/Weel		Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	12	1000	12 12			12 1			84		17		1431.9228		100%	1431.923
all	12		12 12			12 1			84		9		758		100%	758 1432
inter	12	1000	12 12			12 1			84		17		1432 758		100%	758
ring	12	12	12 12	2 1:	2	12 1 Total			338		9 52		4380		100%	4380
				0-1-												
C) HVAC			Savings Heat Lo		ulati	ions			78%	Old	Ballast Efficiency			u.	othe Head	
			ed Heat I						97%	New	Ballast Efficiency	,			enths Used Annually	0
			oss savin						92%	ACI	Efficiency				Armuany	
			ilo/Watt	2007	s Sa	ved		\$			ings					
D) Capit	tal Cos	IWACI	7) est	. 50	296	(Majaht	od A	unra.	ge Cost of Ca	Aletine						
		mation				Buyout		∀∪I d	0.0%	anai)	Term (months):	24				
E) Risin	a Enen	av Cost	s Ye	ar		\$/KV	Vh		costs	3	disc					
	3		1				01	\$	275,940.02		0.0100					
			2			\$0.	02	\$	551,880.03		0.0190					
			3			\$0.	03	\$	827,820.05		0.0272					
			4			\$0.			1,103,760.06		0.0346					
			5			\$0.			1,379,700.08		0.0411					
			6			\$0.			1,655,640.09		0.0470					
			7			\$0.			1,931,580.11		0.0522					
			8			\$0.			2,207,520.12		0.0569					
			9			\$0. \$0.			2,483,460.14		0.0609					
			10			Φ0.			2,759,400.15 5,176,700.83		0.4134					
F) Acce	ssories															
	SIERITA	100000000000000000000000000000000000000	uct Descr		ph				Quantity	S) William	Unit Price		Discount 0%	s	Total Cost	
			Control &						0	\$	128.00		0%	\$		
			cupancy 1		vSe	nsor			0	\$	89.00			\$		
			mer (700						0	\$	89.00		0%	S		
		ss/Acryli	ic/Silicon	e)					0	\$	34.00					
Wire	Guard								0	\$	33.00			\$	constitut I	
Lens	Clamp	Band							0	\$	21.00			\$		
Senz	aFil Wi	reless C	ommunic	cation	Pac	kage			0	\$	15,000.00			\$	1	
												T	OTAL ACCESSORIES	\$		
G) Clien	nt Intern	nal Proje	Details	s (For	Re	bate Ap	plica	ation	Type		Quantity/Hrs		Rate/Price		Total Cost	
Clien	nt Emple	vee sur	pervising	assist	ina	La	bor	Cost			0	\$	*	\$		
	sor Lift	,		2000			ental				0	\$		\$		
		ninovis	ng Revie						Fees		0	5		\$		
		ermit (ES	A COLUMN TO SERVICE STATE OF THE PARTY OF TH					s, etc			0	s		\$		
								-, -4					NT PROJECT COSTS	010		
DECHUISIO			s (Use o	0-0.7.297												
	0.00		1. Reb											\$		
	0.00		2. Reb					(500) (500) (500) (500)	WAS BUILDING TO THE REAL PROPERTY OF THE PARTY OF THE PAR					\$		
	0.00								ge in luminai					\$		
	0.00						03.5		W without Dir	O. Carried St.	0			\$		
\$	0.00	<	5. Reb	ate on	kW	atts sav	ed (ii	nclud	ding Dimming)				\$	EPITALS IN	
\$	0.00		6. Reb	ate on	GJ	yr save	CDD CHON		ng Dimming)					\$		Total Estimate
	50.00		X Q					c- 7.	Occupancy :	Senso	r Rebate (Box 1)	(Box	(2)	\$		Project Cost (li labour & recycli
\$	0.00	<	8. Flat	Amou	nt							-	tal Calculated Rebate	5		\$ 63,837,000
											Total Alloy		Rebate (max of 40%)	201		4 00,007,000
I) Recy	vclina/C)isposa	l Fees (F	or Re	bat	e Applie	atio	ns C	ONLY)							
			Unit Disp						10.00)	# of Units		45000	\$	450,000.00	
			Unit Dis	posal	Rat	le for La	mp	\$	3.80)	# of Lamps		45000	\$	171,000.00	
											Tota	Est	imated Disposal Fees	\$	621,000.00	
											0		ours Lit/day		0	# days lit/week

Location Description:	
Contact Name:	

Lighting System Cost/Performance Comparison

Existing

Proposed

Lighting System CostPerformance Comparison	Laisting	Toposea
	Parameters	
System Type	150W MH Core On Coil	LED Replacement for 150W
System lumens per watt	50	60
Bulb wattage (total unit)	150	70
Number of Luminaires	35000	35000
Footcandles on the ground	0	0
(Retrieved from data obtained on the Lighting Assessment Form)		
Initial Costs		
Cost per Luminaire	n/a	\$875
Net Cost per Luminaire	n/a	\$875
Accessories	n/a	\$0
Total Luminaire Package Cost	n/a	\$30,625,000
Cost per Lamp	\$0	\$0
Number of Lamps	35000	35000
Total Lamp Cost	\$0	\$0
Sub Total	\$0	\$30,625,000
Installation Time in hours	0.00	2.00
Labour Rate (\$/hour)	\$258.00	\$258.00
Total Estimated Installation Cost	\$0	\$18,060,000
Total Estimated Recycling/Disposal Fees	n/a	\$484,750
Sub Total	\$0	\$49,169,750
Rebates and other adjustments	\$0	\$0
TOTAL INITIAL COST	\$0	\$49,169,750
1000	A CONTRACTOR OF THE STATE OF TH	410,100,100
Operating Costs	470	75
Input Power (Watts)	178	
Redundant Emergency Lighting Annual Load (Watts)	0	n/a
Energy Rate (\$/kW)	\$0.065	\$0.065
Operating Time per Year, in Hours	4,380	4,380
ENERGY COST per Year (@ Full Load)	\$1,773,681	\$747,338
Total Possible Annual Load (KWhrs)	27,287,401	11,497,501
Total Proposed Load with Dimming	27,287,401	11,497,501
Load Reduction Due to Dimming (KWhrs)	0	0
Energy Savings Due to Dimming	\$0	\$0
ENERGY COST WITH DIMMING	\$1,773,681	\$747,338
Relamping Method	Spot	Spot 50000
Lamp/LED Life (Hours)	12000	
# Lamps/LEDs Replaced per Year averaged over 10 years	10,220	2,453 1.5
# Hours per Lamp Change	1.5	\$258.00
Labour Rate to Replace Lamps, per Hour	\$258.00 \$3,955,140	\$949,234
RELAMPING/Driver COSTS per Year	93,955,140	0
LED Driver Replacement Cost per Hour	\$258.00	\$258.00
Labour rate to replace LED Driver, per Hour	\$0	\$0
Total Driver replacement cost per Year		\$0
HVAC Factor Estimate	\$5,728,821	\$1,696,571
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR		\$66,135,462
TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)	\$57,288,213	\$00,130,402

Payback period (years) Payback period (months)

ROI (yearly savings on capital investment excluding rentals, incidentals, and recycling costs) Net Present Value @ Weighted Cost of Capital

NET CASH FLOW /month

Financing Lease (ESP In House Financing calculated net of rebates)

NET CASH FLOW /month (including lease through term)

Scenario B Investment Returns - Rising Energy Costs

The Savings

Energy cost savings over 10 years (Including non-discounted rising energy costs)

Maintenance cost savings over 10 years

Initial Investment difference

Total Cost Savings over 10 Year Period

Net Present Value of Investment

Energy cost savings over 10 years @ rising costs (discounted cash flows)

Maintenance cost savings (discounted cash flows)

NPV of cost savings

Environmental Impact

12.2 146 8% \$129,814,752 \$336,021 \$2,149,128 -\$1,813,107

\$26,421,256 \$30,059,066 \$49,169,750 \$7,310,572

\$6,527,935 \$60,118,131 \$115,815,817

metric tormes (1000 km) CO:

4.311

The price of the LED driver is not included in the replacement price.

								INF	PU	IT TABLE					
A) Existin	ng Oper	ating i	Hours												
		76													
			W T	F	S	S		Ttl Hrs/Week		Wks/Yr		Total Hours/Season		Load	
ummer			12 12	12	12	12		84		17		1432		100%	1432
all Vinter			12 12 12 12	12 12	12	12		84 84		9		758 1432		100%	758 1432
pring			12 12 12 12	12	12	12		84		9		758		100%	758
pring	12	12	12 12	12		otals		336		52		4380		100%	4380
B) Propo														rost	
HATER TO			W T	F	S	S		Ttl Hrs/Week 84		Wks/Yr 17		Total Hours/Season 1431.9228		Load 100%	Load/Hrs 1431.923
ummer all			12 12 12 12	12	12	12		84		9		758		100%	758
/inter			12 12	12	12	12		84		17		1432		100%	1432
pring			12 12	12	12	12		84		9		758		100%	758
						otals		336	•	52		4380		100%	4380
C) HVAC					tions				Ę						
			Heat Los					78% 97%		ld Ballast Efficiency			N	fonths Used	0
		7/	ed Heat lo							ew Ballast Efficiency				Annually	
			ss saving:		-			92%		C Efficiency					
		otal K	ilo/Watt h	iours 5	aved		\$		3	avings					
D) Capita	al Cost (Ave	erage Cost of Ca	api	ital) Term (months):	24				
					202										
E) Rising	Energy	Costs			3.76	/KWh		costs		0.0100					
			1 2			\$0.01 \$0.02		157,899.01 315,798.02		0.0190					
			3					473,697.03		0.0190					
			4			\$0.04		631,596.03		0.0346					
			5			\$0.05	100000	789,495.04		0.0411					
			6			\$0.06	7.8500.00	947,394.05		0.0470					
			7			\$0.07		1,105,293.06		0.0522					
			8			\$0.08	\$	1,263,192.07		0.0569					
			9			\$0.09		1,421,091.08		0.0609					
			10			\$0.10		1,578,990.09		0.0645					
							\$	8,684,445.48		0,4134					
F) Acces		Produ	ct Descrip	otion				Quantity		Unit Price		Discount		Total Cost	
Emerg	ency Lig	hting (Control & I	Lamp				0	\$			0%	\$		
Fixture	Mounte	ed Occa	upancy M	otion/Se	ensor			0	\$	89.00		0%	\$		
Step D	own Tra	ensform	ner (700va	a)				0	\$	89.00		0%	\$		
Lenses	s (Glass	Acrylic	c/Silicone))				0	\$	34.00		0%	\$		
Wire G	Guard							0	\$	33.00		0%	\$		
Lens C	Clamp Ba	and						0	\$	21.00		0%	\$		
			ommunica	tion Pa	ckage			0	S	15,000.00		0%	\$		
		100	2013	LAS.							T	TOTAL ACCESSORIES	\$		
G) Client	Internal	UWANIS23	ct Costs	(For Re	bate	Applie	cati	ons ONLY) Type		Quantity/Hrs		Rate/Price		Total Cost	
Client	Employe	e supe	ervising/a	ssisting		Labor	r Co			0	\$	-	\$		
Scisso	or Lift					Renta	al			0	\$		\$		
Electric	ical Engi	neerin	g Review			Contr	acto	or Fees		0	\$		\$		
	ical Pern					Perm	its,	etc		0	\$		\$		
			ar.							TOTAL C	LIE	ENT PROJECT COSTS	\$		
H) Rebat			1071290ccc050	500550				omount)					5		
\$0.			1. Rebate										\$	EST SERVICE	
\$0.			2. Rebate							wattage)			\$		
\$0.							3579	ange in luminai		AND THE PERSON NAMED OF THE PERSON NAMED IN			5		
\$0.								kW without Dir		mg)			200		
\$0.								luding Dimming	1)				\$		
\$0.					ryr sa	ved (ir		ding Dimming)					\$		Total Estimated Pro
\$150			X QTY				<-	7. Occupancy	Ser	nsor Rebate (Box 1 X	Bo	0X 2)	5		Cost (incl. labour recycling)
-	.00	<-	8. Flat Ar	mount									5		
\$0.										Tetal All		otal Calculated Rebate	\$		\$ 49,654,500
\$0.		noes!	Foot IF	r Dobet	to An	dicati	000	ONLY		Total Allowa	aDIE	e Rebate (max of 40%)	\$		
	lina/Di-	JUSEL	1 669 (10		100 111 111 111			10.00		# of Units		35000	\$	350,000.00	
\$0.	ling/Dis	70000000	Init Dispos	sal Rate	a tor F	IVITAG		10.00		II OI OI III O					
	ling/Dis	U										35000	s		
	ling/Dis	U	Unit Dispos					3.85		# of Lamps	Est		\$ 9	134,750.00 484,750.00	



Life Cycle

Analysis PROJECT SUMMARY

Ment Hanse.	and the state of t
Address	Nova Scotia

Contact Name:

Date: April 19, 2011

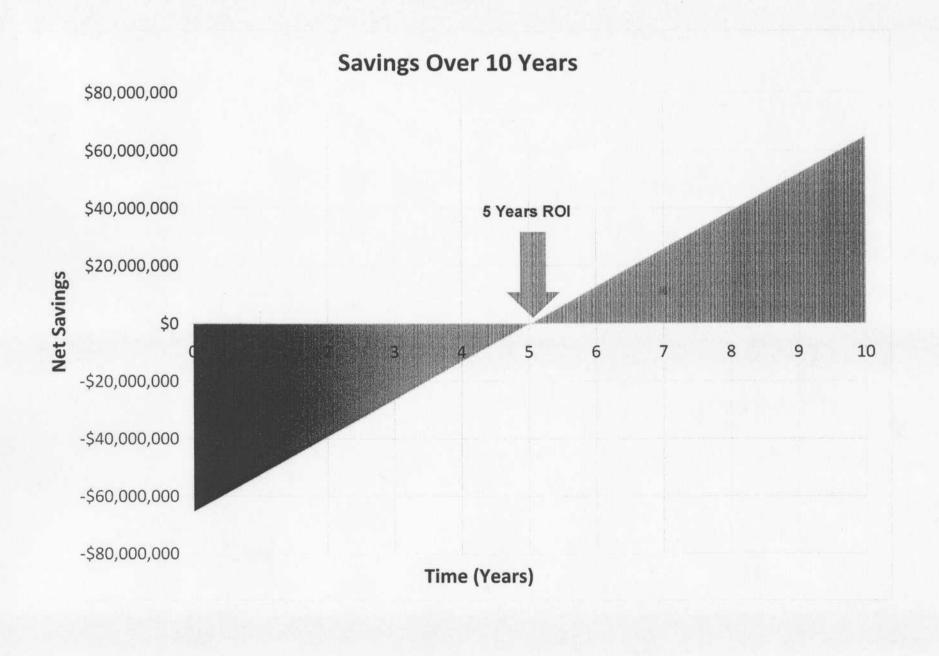
Lighting System Cost/Performance Comparison	treet Ligh	treet Light	treet Light	treet Light	Option E	Option F	Option G	Option H	Option I	Option J	Option K	Option L	Option M	Option N	Option (
250)	W Electronic B	V Electronic B	V Electronic Ba	/ Electronic Ba											
			11-00-100				2 21	nitial Cos	ts						
Total Luminaire Package Cost	\$6,700,000	\$9,900,000	\$4,900,000	\$3,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Lamp Cost		\$1,800,000	\$945,000	\$600,000	\$0	\$0	\$0	\$0						\$0	\$0
	The second second second second second							The second secon						\$0	\$0
				and the second second second second second										\$0	\$0
							7.0							\$0	\$0
														\$0	\$0 \$0
					4.4									\$0	\$0
TOTAL MITTAL COST	314,075,000	323,027,000	1 \$15,285,000	\$10,350,000	\$0	30				- 40	30	40	1 30	30	90
		***********					ALCOHOLD THE REAL PROPERTY.						,		
														\$0	\$0
							-		0				-	0	0
			The second second						. 0-	0		-		0	0
											-		-	\$0	\$0
ENERGY COST WITH DIMMING	-						80			\$0	\$0	\$0	\$0	\$0	\$0
RELAMPING COSTS per Year	\$1,273,120	\$2,244,312	\$1,692,432	\$1,200,120	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cleaning Costs per Year	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
HVAC Factor Estimate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR		\$4,268,529	\$2,469,663	\$1,605,818	\$0	\$0	\$0	\$0		the same of the sa		\$0		\$0	\$0
TOTAL SYSTEM COSTS for 10 YEAR PERIOD	\$47,335,202	\$66,512,792	\$39,991,631	\$26,408,176	\$0	\$0	7.7			\$0	\$0	\$0	\$0	\$0	\$0
	Total Luminaire Package Cost				ALE L										
TAL ANNUAL OPERATING COST SAVINGS	\$2,833,130	\$4,724,159	\$3,259,158	\$2,108,970	\$0	80				\$0	\$0	\$0	\$0	\$0	\$0
TAL COST SAVINGS OVER 10 YEAR PERIOD											\$0	\$0	80	\$0	80
VINGS as a %	22.4%	26.0%	30.2%	28.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Payback period (years)		5.0	4.7	4.9	0.0	0.0	0.0	0.0	0,0		0.0	0,0	0.0	0.0	0.0
Payback period (months)										and the same of th		-		0	0
(yearly savings on capital investment)														0%	0%
Net Present Value @ Weighted Cost of Capital														30	\$0
T CASH FLOW /month		The second second second second second												\$0	\$0
Financing Lease (ESP in House Financing calculated net of rebates) T CASH FLOW /month (including lease through term)														\$0	\$0
CASH FLORI Miking (including lease inrodgir term)	-\$400,320	-\$047,740	-\$380,822	-\$2/0,034	4.0							30	1 90	1 30	30
	to an annual section of the section		w.comercus	WITH THE PROPERTY OF THE PARTY	and the second second		A comment of the comment								
ergy cost savings over 10 years (Including non-discounted rising energy costs)														\$0	\$0
intenance cost savings over 10 years														\$0	\$0
tal Cost Soviess over 10 Year Region														\$0 \$0	\$0
al Cost Savings over 10 Year Period	1 244,420,803	309,091,795	\$33,500,393	\$18,891,977	50				4.4		30	30	\$0	30	\$0
		4				1 123	let Preser								
rgy cost savings over 10 years @ rising costs (discounted cash flows)									17.7					\$0	\$0
ntenance cost savings (discounted cash flows)														\$0	\$0
V of cost savings	\$53,863,203	\$92,623,308	\$66,886,964	\$45,927,962	\$0	\$0				\$0	\$0	\$0	\$0	\$0	\$0
							Envir	onmental	Impact						
							See 2 5 5 5 5 5	Other Court	millouse						
nual Emissions REDUCTION	5,381	7,910	4,185	2.033	1 0	1 0	1 0	 Control of the control of the control	0	0	1 0	0	100	1 0	0

EC

()-SHIF	T
	Life Cycle	Client
	Analysis	
		Contact
	Lighting System Cost/Performs	ance Comparison
	Street Lights	
	Street Lights	
	Street Lights	

Life Cycle Address:	D. Highway Lighting Legis tion AN Scotia	J V V LI	R-C
Analysis Contact Name:			
	pril 19, 2011		
Lighting System Cost/Performance Comparison	Existing	Proposed	Fixture Count
hts	400W MH Core On Coll	250W Electronic Ballast	25000
nts	250W MH Core On Coll	150W Electronic Ballast	45000
nts	150W MH Core On Coll	70W Electronic Ballast	35000
	100W MH Core On Coll	50W Electronic Ballast	25000
Initial Co	ists		
Total Luminaire Package Cost Total Lamp Cost Total Estimated Installation Cost Sub Total Rentals and incidental Costs Recycling Costs Total Project Costs including Rentals, incidentals, and Recycling Total Rebates	nia \$0 \$0 \$0 nia nia nia	\$24,500,000 \$4,570,000 \$33,540,000 \$64,147,500 \$0 \$1,537,500 \$65,685,000	
TOTAL INITIAL COST Operating	\$0 Costs	\$65,685,000	-
ENERGY COST per Year (@ Full Load) Total Possible Annual Load (KWhrs) Total Proposed Load with Dimming Load Reduction Due to Dimming (KWhrs) Energy Savings Due to Dimming ENERGY COST WITH DIMMING RELAMPING COSTS per Year Cleaning Costs per Year HVAC Factor Estimate TOTAL MAINTENANCE & OPERATING COSTS PER YEAR	\$9,844,927 151450409.299 151460408.299 50 50 59,844,927 \$14,890,521 50 50 \$24,535,447	\$5,200,046 80000704,384 80000704,384 0 \$0 \$5,200,046 \$5,409,884 \$0 \$0 \$11,610,030	
TOTAL SYSTEM COSTS for 10 YEAR PERIOD The Savi	\$245,354,473 Ings	\$180,247,801	
OST SAVINGS OVER 16 VEAR PERIOD as a % yyback period (years) yback period (months)		\$12,925,417 \$86,106,872 26.8% 5.0 80	
(y savings on capital investment) t Present Value @ Weighted Cost of Capital H FLOW /months sancing Lease (ESP in House Financing calculated net of rebetes)		20% \$322,655,844 \$1,077,118 \$2,803,780	
FLOW Imonth (including lease through term). Scenario B Investment Return	ns - Rising Energy Costs	-\$1,726,662	100
st savings over 10 years (including non-discounted rising energy costs) ce cost savings over 10 years strent difference Savings over 10 Year Period		\$137,752,103 \$82,805,365 -\$64,147,500 \$156,409,967	
Net Present Value st savings over 10 years @ rising costs (discounted cash flows) st savings (discounted cash flows) at savings	of Investment	\$29,543,208 \$165,610,729 \$259,301,437	

NPV of cost savings (discounted cash flows)	\$165,610,729 \$259,301,437
Environmental Impect	
Annuel Emissions REDUCTION metric tonnes (1998 kg) COst metric tonnes (1998 kg) Carbon "Disclaimer"	19,508 5,326
While every attempt has been made to ansure socuracy, the information provided here is for example only and is besed on information provided. The outloiner/header is solely responsible to ensure the socura	ny and applicability of this projection to the







Client Name: LED Highway Lighting Legislation

Location Description: Street Lights Contact Name:

Cleaning Costs per Year

HVAC Factor Estimate

Lighting System Cost/Performance Comparison

Existing

Proposed

	Parameters	
System Type	250W MH Core On Coil	150W Electronic Ballas
System lumens per watt	52	92
Bulb wattage (total unit)	250	150
Number of Luminaires	45000	45000
Footcandles on the ground	0	0
(Retrieved from data obtained on the Lighting Assessment Form)		
Initial Costs		
Cost per Luminaire	n/a	\$220
Net Cost per Luminaire	n/a	\$220
Accessories	n/a	\$0
Total Luminaire Package Cost	n/a	\$9,900,000
Cost per Lamp	\$0	\$40
Number of Lamps	45000	45000
Total Lamp Cost	\$0	\$1,800,000
Sub Total	\$0	\$11,700,000
Installation Time in hours	0.00	1.00
Labour Rate (\$/hour)	\$128.00	\$258.00
Total Estimated Installation Cost	\$ 0 S 1 S 1 S 1 S 1 S 1 S 1 S 1 S 1 S 1 S	\$11,610,000
Total Estimated Recycling/Disposal Fees	n/a	\$517,500
Sub Total	\$0	\$23,827,500
Rebates and other adjustments	\$0	\$0
TOTAL INITIAL COST	\$0	\$23,827,500
Operating Costs		ILDEAN, CAPENDA CONTRACTOR AND
Input Power (Watts)	305	158
	0	n/a
Redundant Emergency Lighting Annual Load (Watts)		
Energy Rate (\$/kW)	\$0.065	\$0.065
Operating Time per Year, in Hours	4,380	4,380 \$2,024,217
ENERGY COST per Year (@ Full Load)	\$3,907,508	31,141,802
Total Possible Annual Load (KWhrs)	60,115,503 60,115,503	31,141,802
Total Proposed Load with Dimming	0	0
Load Reduction Due to Dimming (KWhrs)	\$0	\$0
Energy Savings Due to Dimming	\$3,907,508	\$2,024,217
ENERGY COST WITH DIMMING		Spot
Relamping Method	Spot 12000	30000
Lamp Life (Hours)		5,256
# Lamps Replaced per Year averaged over 10 years	13,140 1.5	1.5
# Hours per Lamp Change	1.5 \$258.00	\$258.00
Labour Rate to Replace Lamps, per Hour	\$5,085,180	\$2,244,312
RELAMPING COSTS per Year	\$5,085,180	92,244,312
Luminaire Cleaning Time (hours) Labour Rate to Clean Luminaires, per Hour	\$45.00	\$45.00
Labour Rate to Clean Luminaires, per Hour	\$43.00	\$43.00

\$0

\$8,992,688

\$89,926,880

Payback period (years) Payback period (months) ROI (yearly savings on capital investment excluding rentals, incidentals, and recycling costs) Net Present Value @ Weighted Cost of Capital NET CASH FLOW /month Financing Lease (ESP In House Financing calculated net of rebates) NET CASH FLOW /month (including lease through term) Scenario B Investment Returns - Rising Energy Costs Energy cost savings over 10 years (Including non-discounted rising energy costs)

TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)

The Savings

TOTAL MAINTENANCE & OPERATING COSTS PER YEAR

Maintenance cost savings over 10 years Initial Investment difference Total Cost Savings over 10 Year Period Net Present Value of Investment

Energy cost savings over 10 years @ rising costs (discounted cash flows) Maintenance cost savings (discounted cash flows) NPV of cost savings

Environmental Impact

\$92,623,308 7,910

\$0

\$4,268,529

\$66,512,792

5.0

61

20%

\$118,310,675 \$393,680

\$1,041,460

-\$647,780

\$55,010,613

\$28,408,682

\$23,827,500

\$59,591,795

\$11,978,444 \$56,817,363

** Disclaimer

ade to ensure accuracy, the information provided here is for example only and is based on mer/reader is solely responsible to ensure the accuracy and applicability of this projection to the

	0000	70000	S. F.						INP	'U	T TABLE					
A) Existi	ing O	peratir	ng Ho	urs												
	M	Т	w	Т	F	S	S		Ttl Hrs/Week	k	Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	12	12	12	12	12	12	12		84		17		1432		100%	1432
all	12	12	12	12	12	12	12		84		9		758		100%	758
finter	12	12	12	12	12	12	12		84	4	17		1432		100%	1432
pring	12	12	12	12	12	12	12		84	4	9		758		100%	758
						1	otals		336	6	52		4380		100%	4380
B) Propo	nsed	Operat	ina H	ours												
	M	T	W	Т	F	S	S		Ttl Hrs/Week	k	Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	12	12	12	12	12	12	12		84	4	17		1431.9228		100%	1431.923
all	12	12	12	12	12	12	12		84	4	9		758		100%	758
finter	12	12	12	12	12	12	12		84		17		1432		100%	1432
oring	12	12	12	12	12	12 T	12 otals		84 336		9 52		758 4380		100%	758 4380
C) HVAC	Ann	ual Co	st Say	rinas C	alcula	tions										
				eat Loss					78%	(Old Ballast Efficiency					
	5	Prop	osed I	leat los	SS				97%	1	New Ballast Efficiency				Months Used Annually	0
	62	Heat	Loss	savings					92%	1	AC Efficiency				Annually	
	٠	Total	Kilo/	Watt he	ours S	aved		\$		**	Savings					
D) Capita				rate:	5.0%	(Wei	ghted	Ave	erage Cost of Ca	арі						
Leasin	ng Inf	ormati	on	rate:	4.9%	Buy	out %		0.0%		Term (months):	24				
E) Rising	Ene	rgy Co	sts	Year			KWh		costs	3	disc					
				1			\$0,01	\$	289,737.02		0.0100					
				2			\$0.02 \$0.03	\$ 5	579,474.03 869,211.05		0.0190 0.0272					
				4			\$0.03	5	1,158,948.06		0.0272					
				5			\$0.05	\$	1,448,685.08		0.0411					
				6			\$0.06	\$	1,738,422.10		0.0470					
				7			\$0.07	\$	2,028,159.11		0.0522					
				8		3	\$0.08	\$	2,317,896.13		0.0569					
				9		- 1	\$0.09	\$	2,607,633.14		0.0609					
				10			\$0.10		2,897,370.16 15,935,535.87		0.0645 0.4134					
F) Acces	sorie		4 4 5					•								
Fmem	ency			Descript trol & L					Quantity 0		<u>Unit Price</u> \$ 128.00		Discount 0%	s	Total Cost	
				incy Mo		ensor			0		\$ 89.00		0%	5		
				(700va)		,,,,,,,,			0		\$ 89.00		0%	5		
				licone)					0		\$ 34.00		0%	\$		
Wire C				NEW TOTAL					0		\$ 33.00		0%	5		
Lens C									0		\$ 21.00		0%	5		
			Come	nunicati	an Da	den an			0					8359		
Seriza	LII AA	ireless	Come	nunicati	ion Pad	xage			0		\$ 15,000.00	то	0% TAL ACCESSORIES	5		
3) Client	Inter	nal Pro	75/97/6/90	Costs (I	For Re	bate	Applio	ati	ions ONLY)		Overethylke		Data/Dring		Total Cont	
Client	Emol	ovee e		sing/as	sistino		Labor	C	Type osts		Quantity/Hrs 0	\$	Rate/Price	\$	Total Cost	
Scisso		-,00 3	-box 41	- ingras	- Indiana		Renta				0	\$		5		
		ngineer	ing P	oview					or Fees		0	\$		5		
Electri				OTION			Permi				0	\$		5		
H) Rebati	e Cal	culatio	ns (II	se only	y appli	cable					TOTAL C	LIEN	T PROJECT COSTS	\$		
\$0.					SCOTT SHIP CASE	e entre en		er s	s amount)					\$		
\$0.	00								nter %)					\$		
\$0.	00								ange in luminaire	8	wattage)			5		
\$0.									kW without Dim					\$		
\$0.									luding Dimming)					\$		
\$0.									ding Dimming)	H				\$		
\$150	0.00		X	QTY		an med	No. of Contract of			Ser	nsor Rebate (Box 1 X	Box 2)	\$		Project Cost (in
\$0.	00	The second	<- 8. I	Flat Am	ount							Tet	Coloulated Babata	5		labour & recyclin
											Total Allows		I Calculated Rebate Rebate (max of 40%)	5		\$ 24,345,000
i) Recyc	ling/I	Dispos							SECTION AND DESCRIPTION OF THE PARTY OF THE							
				Dispose					10.00	Parch	# of Units		45000	\$	450,000.00	
			Uni	t Dispos	sal Rat	e for I	amp	\$	1.50		# of Lamps		45000	\$	67,500.00	
											Total i	estin	ated Disposal Fees	\$	517,500.00	
												11100		1	011,000,00	



Client Name: LED Highway Lighting Legislation

Location Description: Street Lights

Contact Name:

Lighting System Cost/Performance Comparison

Existing

Proposed

J System Cosuremonnance Companson	Existing	Proposed
	Parameters	
System Type	150W MH Core On Coil	70W Electronic Ballast
System lumens per watt	50	90
Bulb wattage (total unit)	150	70
Number of Luminaires	35000	35000
Footcandles on the ground	0	0
(Retrieved from data obtained on the Lighting Assessment Form)		
Initial Costs		
Cost per Luminaire	n/a	\$140
Net Cost per Luminaire	n/a	\$140
Accessories	n/a	\$0
Total Luminaire Package Cost	n/a	\$4,900,000
Cost per Lamp	\$0	\$27
Number of Lamps	35000	35000
Total Lamp Cost	\$0	\$945,000
Sub Total	\$0	\$5,845,000
Installation Time in hours	0.00	1.00
Labour Rate (\$/hour)	\$128.00	\$258.00
Total Estimated Installation Cost	\$0	\$9,030,000
Total Estimated Recycling/Disposal Fees	n/a	\$420,000
Sub Total	\$0	\$15,295,000
Rebates and other adjustments	\$0	\$0
TOTAL INITIAL COST	\$0	\$15,295,000
Operating Costs	THE PERSON NAMED IN THE PE	
Input Power (Watts)	178	78
Redundant Emergency Lighting Annual Load (Watts)	0	rVa
Energy Rate (\$/kW)	\$0.065	\$0.065
Operating Time per Year, in Hours	4,380	4,380
ENERGY COST per Year (@ Full Load)	\$1,773,681	\$777,231
Total Possible Annual Load (KWhrs)	27,287,401	11,957,401
Total Proposed Load with Dimming	27,287,401	11,957,401
Load Reduction Due to Dimming (KWhrs)	0	0
Energy Savings Due to Dimming	\$0	\$0
ENERGY COST WITH DIMMING	\$1,773,681	\$777,231
Relamping Method	Spot	Spot
Lamp Life (Hours)	12000	30000
# Lamps Replaced per Year averaged over 10 years	10,220	4,088
# Hours per Lamp Change	1,5	1.5
Labour Rate to Replace Lamps, per Hour	\$258.00	\$258.00
RELAMPING COSTS per Year	\$3,955,140	\$1,692,432
Luminaire Cleaning Time (hours)	0	0
Labour Rate to Clean Luminaires, per Hour	\$45.00	\$45.00
Cleaning Costs per Year	\$0	\$0
HVAC Factor Estimate		\$0
TOTAL MAINTENANCE & OPERATING COSTS PER YEAR	\$5,728,821	\$2,469,663

\$57,288,213

Payback period (years)

Payback period (months) ROI (yearly savings on capital investment excluding rentals, incidentals, and recycling costs) Net Present Value @ Weighted Cost of Capital

TOTAL SYSTEM COSTS for 10 YEAR PERIOD (incl. initial costs)

The Savings

NET CASH FLOW /month

Financing Lease (ESP In House Financing calculated net of rebates)

NET CASH FLOW /month (including lease through term)

Scenario B Investment Returns - Rising Energy Costs

Energy cost savings over 10 years (Including non-discounted rising energy costs)

Maintenance cost savings over 10 years

Initial Investment difference

Total Cost Savings over 10 Year Period

Net Present Value of Investment

Energy cost savings over 10 years @ rising costs (discounted cash flows)

Maintenance cost savings (discounted cash flows)

NPV of cost savings

Annual Emissions REDUCTION

Environmental Impact

\$39,991,631

4.7

56

21%

\$80,478,164

\$271,597

\$668,519

-\$396,922

\$26,168,311

\$22,627,081

\$15,295,000

\$33,500,393

\$6,337,801

\$45,254,162

\$66,886,964

	ing Or	peratin	g Hour	S					INP	01	TABLE					
					-130				Tu 11 4471		14006		T-1-111		(Landilles
ummer	M	T 12	W	T 12	F 12	5	S 12		Ttl Hrs/Weel		Wks/Yr 17		Total Hours/Season 1432		Load 100%	Load/Hrs 1432
all	12	12	12	12	12	12	12		84		9		758		100%	758
/inter	12	12	12	12	12	12	12		84	3-	17		1432		100%	1432
pring	12	12	12	12	12	12	12		84		9		758		100%	758
Pull 19		12	12		-		otals		336		52		4380		100%	4380
							Ottais			•					100%	
B) Propo	osed C	Operati	ng Hou	ırs												
	M	T	W	T	F	S	S		Ttl Hrs/Weel		Wks/Yr		Total Hours/Season			Load/Hrs
ummer	12	12	12	12	12	12	12		84		17		1431.9228		100%	1431.923
all	12	12	12	12	12	12	12		84		9		758		100%	758
/inter	12	12	12	12	12	12	12		84		17		1432		100%	1432
oring	12	12	12	12	12	12 T	12 otals		336		9 52		758 4380		100%	758 4380
C) HVAC	Annu	ual Cos	t Savin	as C	alculat	ions										
			ng Heat	. 					78%		Old Ballast Efficiency			M	lonths Used	- 199
	2	Propo	sed He	at los	S				97%	N	New Ballast Efficiency				Annually	0
	37	Heat I	Loss sa	vings					92%	A	AC Efficiency					
		Total	Kilo/W	att ho	ours Sa	aved		\$		S	Savings					
D) Capita	al Cos	t (WA	(C)	ate:			ghted	Aver	age Cost of Capi	ital						
Leasi	ing Infe	ormati	on i	rate:	4.9%	Buy	out %		0.0%		Term (months):	24				
E) Rising	g Ener	rgy Co	sts	Year		-	KWh		costs		disc					
		770)		1			\$0.01		153,300.01		0.0100					
				2			\$0.02	\$	306,600.02		0.0190					
				3			\$0.03	132155	459,900.03		0.0272					
				4			\$0.04	\$	613,200.03		0.0346					A PAGE 1
				5			\$0.05	10000	766,500.04		0.0411					
				6			\$0.06		919,800.05		0.0470					
				7			\$0.07		1,073,100.06		0.0522					
				8			\$0.08	5.753	1,226,400.07		0.0569 0.0609					
				9			\$0.00	\$	1,379,700.08		0.0645					
				10		SEA.	90.10	5	8,431,500.46		0.4134					
F) Acces	ssorie	s							0,401,000.40							
MUSE			fuct De						Quantity		Unit Price		Discount		Total Cost	
			g Contr						0		\$ 128.00		0%	\$		
			ccupano			ensor			0		\$ 89.00		0%	\$		
			rmer (7)				0		\$ 89.00		0%	\$		
		iss/Acry	/lic/Silic	one)					0		\$ 34.00		0%	\$		
Wire (Guard								0	*	\$ 33.00		0%	\$		
Lens	Clamp	Band							0	5	\$ 21.00		0%	\$		
Senza	aFil Wi	ireless	Commu	inicati	ion Pac	kage			0	1	\$ 15,000.00		0%	\$		
	t Inton	nal Dro	inct Co	sete I	For Po	hata	Annli	catio	ne ONI VI			TO	TAL ACCESSORIES	\$		
C) Client	r miteri	ilai Fit	Deta	Salitania	roi Re	Datu	Appli	cauo	Type		Quantity/Hrs		Rate/Price		Total Cost	
G) Client				natae	sisting		Labo	Cos	ats		0	\$	*	\$		
	t Emple	oyee su	pervisi	ligras			Renta	al			0	\$		\$	ALGORITHM NE	
		oyee su	pervisi	iyras					Maria Cara		0	\$		\$		
Client	or Lift						Contr	acto	r Fees							
Client Scisso Electr	or Lift rical Er		ing Rev				Contr				0	\$	_	\$		
Client Scisso Electr Electr	or Lift rical Er rical Pe	ngineer ermit (E	ing Rev	riew	r appli	cable	Perm				0	\$	T PROJECT COSTS	200		
Client Scisso Electr Electr	or Lift rical Er rical Pe	ngineer ermit (E	ing Rev SA) ns (Use	riew e only			Perm	its, e	tc		0	\$	IT PROJECT COSTS	200		
Client Scisso Electr Electr H) Rebat	or Lift rical Er rical Pe	ngineer ermit (E culatio	ing Rev (SA) ns (Use	e only	per lur	ninair	Perm) e (Ent	its, e	tc amount)		0	\$	T PROJECT COSTS	200	•	
Client Scisso Electr Electr H) Rebat \$0 \$0	or Lift rical Er rical Pe ate Cale 0.00 0.00	ngineer ermit (E culatio	ing Rev SA) ns (Use - 1. Re - 2. Re	e only	per lur rate or	ninair n inve	Perm) e (Ent	er\$	amount) ter %)	Wa	O TOTAL C	\$	IT PROJECT COSTS	200		
Client Scisso Electr Electr H) Rebat \$0 \$0	or Lift rical Er rical Pe ate Cale 0.00 0.00	ngineer ermit (E culatio	ing Rev (SA) ns (Use - 1. Re - 2. Re - 3. Re	e only	per lur rate or on kW	ninair n inve atts s	Perm () e (Ent	er\$ (Cha	amount) ter %) nge in luminaire		0 TOTAL 0	\$	T PROJECT COSTS	200		
Client Scisso Electr Electr H) Rebat \$0 \$0 \$0	or Lift rical Er rical Pe te Cale 0.00 0.00 0.00	ngineer ermit (E culatio	ing Rev (SA) rns (Use 	e only	per lun rate or on kW on kW	minair n inve atts s atts s	Perm) e (Ent stmen aved aved	er\$ it (en (Cha (per l	amount) ter %) nge in luminaire kW without Dimn		0 TOTAL 0	\$	IT PROJECT COSTS	200		
Client Scisso Electr Electr H) Rebat \$0 \$0 \$0 \$0	or Lift rical Er rical Pe te Cale 0.00 0.00 0.00 0.00	ngineer ermit (E culatio	ing Rev SA) ons (Use 	e only ebate ebate ebate ebate	per lun rate or on kW on kW on kW	ninair n inve latts s latts s latts s	Perm) e (Ent stmen aved aved aved	er\$ t (en (Cha (per l	amount) ter %) nge in luminaire kW without Dimm uding Dimming)		0 TOTAL 0	\$	IT PROJECT COSTS	200		
Client Scisso Electr Electr H) Rebat \$0 \$0 \$0 \$0	or Lift rical Errical Period P	ngineer ermit (E culatio	ing Rev SA) ns (Usi - 1. Re - 2. Re - 3. Re - 4. Re - 5. Re - 6. Re	e only ebate ebate ebate ebate ebate	per lun rate or on kW on kW on kW	ninair n inve latts s latts s latts s	Perm) e (Ent stmen aved aved aved	er\$ it (en (Cha (per l (includ	amount) ter %) nge in luminaire kW without Dimm uding Dimming)	min	TOTAL C	\$ CLIEN	IT PROJECT COSTS	200		
Client Scisson Electr Electr H) Rebail \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Er rical Pe te Cale 0.00 0.00 0.00 0.00	ngineer ermit (E culatio	ing Rev SA) ons (Use 	e only ebate ebate ebate ebate ebate ebate	per lun rate or on kW on kW on kW on GJ/	ninair n inve latts s latts s latts s	Perm) e (Ent stmen aved aved aved	er\$ it (en (Cha (per l (includ	amount) ter %) nge in luminaire kW without Dimm uding Dimming)	min	0 TOTAL 0	\$ CLIEN	IT PROJECT COSTS	200		Project Cost (inc
Client Scisson Electr Electr H) Rebail \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Errical Peter Calcolor 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	ngineer ermit (E culatio	ing Rev (SA) ins (Using 1 Rec. 2 Rec. 3 Rec. 4 Rec. 5 Rec. 6 Rec. X	e only ebate ebate ebate ebate ebate ebate	per lun rate or on kW on kW on kW on GJ/	ninair n inve latts s latts s latts s	Perm) e (Ent stmen aved aved aved	er\$ it (en (Cha (per l (includ	amount) ter %) nge in luminaire kW without Dimm uding Dimming)	min	TOTAL C	\$ CLIEN Ox 2)	IT PROJECT COSTS	200		Project Cost (incl labour & recycling
Client Scisss Electr Electr H) Rebai \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Errical Peter Calc. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	ngineer ermit (E culatio	ing Rev (SA) ins (Using 1) Rec - 2. Rec - 3. Rec - 4. Rec - 5. Rec - 6. Rec X	e only ebate ebate ebate ebate ebate ebate QTY	per lun rate or on kW on kW on GJ/	minair n inve latts s latts s latts s lyr sa	Perm () () () () () () () () () (its, e er \$ it (en (Cha (per I (includ	amount) ter %) nge in luminaire kW without Dimm iding Dimming) ing Dimming) 7. Occupancy Se	min	TOTAL Contract of the state of	s CLIEN Ox 2)		** ** * * * * * * * *		Project Cost (incl labour & recycling
Client Scisson Electr Electr H) Rebail \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Errical Peter Calc. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	ngineer ermit (E culatio	ing RevisA) ns (Usic 1. Ric 2. Ric 2. Ric 4. Ric 5. Ric X x 8. Fi	e only ebate ebate ebate ebate ebate QTY	per lun rate or on kW on kW on GJ/	minair n inve latts s latts s latts s lyr sar	Perm) e (Ent stmen aved (aved (ir	er\$ it (en (Cha (per i (includ	amount) ter %) nge in luminaire kW without Dimm iding Dimming) ing Dimming) 7. Occupancy Se	ning	TOTAL Contract of the state of	s CLIEN Ox 2)	al Calculated Rebate	** ** * * * * * * * *	350,000.00	Project Cost (incl labour & recycling
Scisson Electr Electr H) Rebat \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Errical Peter Calc. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	ngineer ermit (E culatio	ing Rev SA) ins (Usic - 1. Ric - 2. Ric - 3. Ric - 4. Ric - 5. Ric - 5. Ric - 6. Ric X - 8. Fi Unit D	e only ebate ebate ebate ebate ebate QTY at Am	per lun rate or on kW on kW on GJ/ ount Rebat	minair n inve latts s latts s latts s lyr sal	Perm (Ent) (Ent) (Ent) (Aved) (Aved) (Aved) (Int) (Int)	er \$ er \$ it (en (Cha (per I (includ	amount) ter %) nge in luminaire kW without Dimm uding Dimming) ing Dimming) 7. Occupancy Se ONLY)	min ₍	TOTAL Contract of the state of Units	s CLIEN Ox 2)	al Calculated Rebate Rebate (max of 40%)	** ** * * * * * * * *		Total Estimated Project Cost (incl labour & recycling \$ 15,715,000.0
Client Scisss Electr Electr H) Rebai \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	or Lift rical Errical Peter Calc. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	ngineer ermit (E culatio	ing Rev SA) ins (Usic - 1. Ric - 2. Ric - 3. Ric - 4. Ric - 5. Ric - 5. Ric - 6. Ric X - 8. Fi Unit D	e only ebate ebate ebate ebate ebate QTY at Am	per lun rate or on kW on kW on GJ/ ount	minair n inve latts s latts s latts s lyr sal	Perm (Ent) (Ent) (Ent) (Aved) (Aved) (Aved) (Int) (Int)	er \$ er \$ it (en (Cha (per I (includ	amount) ter %) nge in luminaire kW without Dimm iding Dimming) ling Dimming) 7. Occupancy Se	min ₍	TOTAL Continues of the	\$ CLIEN Totable I	al Calculated Rebate Rebate (max of 40%) 35000	\$ 5555555 \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5	350,000.00 70,000.00 420,000.00	Project Cost (incl labour & recycling

									INP	U	TTABLE					
A) Existi	ing Op	erating	Hour	3												
	М	T	w	T	F	S	s		Ttl Hrs/Week		Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	12	12	12	12	12	12	12		84		17		1432		100%	1432
all	12	12	12	12	12	12	12		84		9		758		100%	758
/inter	12	12	12	12	12	12	12		84		17		1432		100%	1432 758
pring	12	12	12	12	12	12	12		84		9		758 4380		100%	4380
							otals		336		52		4380		100%	4380
B) Propo	osed C	perati	ng Ho	urs												
	M	T	W	T	F	S	S		Ttl Hrs/Week		Wks/Yr		Total Hours/Season		Load	Load/Hrs
ummer	12	12	12	12	12	12	12		84		17		1431.9228		100%	1431.923
all	12	12	12	12	12	12	12		84		9		758		100%	758 1432
inter	12	12	12	12	12	12	12		84 84		17		1432 758		100%	758
oring	12	12	12	12	12	12	12 otals		336		52		4380		100%	4380
C) HVAC	C Annu	al Cos	t Savir	ngs C	alculat	tions										
A101-01-01		Existin							78%	C	old Ballast Efficiency			M	onths Used	
	2	Propo	sed He	eat los	s				97%	N	lew Ballast Efficiency				Annually	0
	26	Heat L	oss sa	svings					92%	A	C Efficiency				,	
		Total	Kilo/W	att ho	ours S	aved		\$		S	avings					
D) Capit	tal Cos	t (WAC	(C)	rate:	5.0%	(Wei	ghted.	Ave	rage Cost of C	ар						
Leasi	ing Info	ormatic	on	rate:	4.9%	Buy	out %		0.0%		Term (months):	24				
E) Rising	g Ener	gy Cos	sts	Year			/KWh		costs	3	disc					
				1			\$0.01		74,460.00		0.0100					
				2			\$0.02	\$	148,920.01		0.0190					
				3			\$0.03	\$	223,380.01		0.0272					
				4			\$0.04	\$	297,840.02		0.0346					
				5			\$0.05	\$	372,300.02		0.0411					
				6			\$0.06 \$0.07	\$	446,760.02 521,220.03		0.0470 0.0522					
				8			\$0.08	5	595,680.03		0.0522					
				9			\$0.09	\$	670,140.04		0.0609					
				10			\$0.10		744,600.04		0.0645					
								\$	4,095,300.22		0.4134					
F) Acces	ssorie		t and Da	andal	lan				Owneriby		Heit Drice		Discount		Total Cost	
F			duct De						Quantity 0		Unit Price 128.00		Discount 0%		Total Cost	
		Lighting nted Ox				oneor			0		\$ 89.00		0%	\$		
		Transfo				DISOI			0		\$ 89.00		0%	S		
		ss/Acry			,				0		\$ 34.00		0%	\$		
	Guard	SSITION Y	nic/Oni	corre					0		\$ 33.00		0%	S		
													0%	5		
	Clamp		2	-10-12-10-012		1210000			0		\$ 21.00			1878		
Senza	aFil Wi	reless	Comm	unicat	ion Pa	ckage			0		\$ 15,000.00	TO	0% TAL ACCESSORIES	\$		
G) Clien	t Inten	nal Pro	A 5 S S S S S S S S S S S S S S S S S S		For Re	ebate	Appli	cati	ons ONLY)		O marity in lan		Data/Dries		Total Cost	
C.			Deta	Will Street	-1-11-	9715	Lab		Type		Quantity/Hrs		Rate/Price	s	Total Cost	
		oyee su	pervis	ing/as	sisting	C	Labor		1313		0	\$		1000		
	sor Lift			- Navion			Renta		or Fees		0	\$		\$		
		ngineer	LS STORY	view			-	-			0	\$		9		
Electr	rical Pe	ermit (E	SA)				Perm	its,	etc		TOTAL C	LIEN	PROJECT COSTS	\$		
H) Reba																
	0.00				A Selfman Falls				amount)					\$		
	0.00								nter %)					\$		
	0,00							X15-900	ange in lumina					\$		
	0.00								kW without Di		ning)			\$		
	0,00								luding Dimming					\$		
\$0	0.00		- 6. R	lebate	on GJ	l/yr sa	rved (ir		ding Dimming)					\$		Total Estimate
	50.00		X	QTY				<	7. Occupancy	Se	ensor Rebate (Box 1 X	(Box	2)	\$		Project Cost (in labour & recycle
\$0	0.00		c- 8. F	lat An	nount							Tota	Calculated Rebate	\$	Man Line	\$ 10,650,000
											Total Allowa		lebate (max of 40%)	2350	-	
I) Recy	cling/[Dispos									ar at a		05000		250,000,00	
					al Rate				10.00		# of Units		25000	\$	250,000.00	
			Unit	Dispo	sal Ra	ite for	Lamp	\$	2.00		# of Lamps		25000	\$	50,000.00	
											Total	Estim	ated Disposal Fees	\$	300,000.00	
													CHE CHE THE THROUGH THE THE THE			