



LEVY COUNTY

SHERIFF'S OFFICE



EXHIBIT A

Project Number:	US24921 - Ver1	Site Name:	Levy County Detention Center, FL	Savings Calculation			FES Monthly Compensation Payment		
Country:	USA	Cost pkw (X):	0.10	Baseline Monthly Energy Cost	(a)	\$3,685.52	Monthly Savings	100%	\$2,376.65
Business Name:	TBD	Average Operational Hours (Y):	11	New Monthly Energy Cost	(b)	\$1,308.87	Allowance to Customer	25 %	\$594.16
Site Address:	9150 NE 80th Ave, Bronson, Florida 32621	Average Yearly Operational Days (Z):	302	Monthly Saving	(a-b)	\$2,376.65	Monthly Compensation	75 %	\$1,782.49

Exhibit A - Part 1 (Audit)

	Qty	Watts/Fixture	Total Wattage	KW	Hrs/Day	Days/Year	kWh	Cost P/H	Cost P/D	Cost P/M
Customer existing light fixtures	A	B	C = A*B	D = C/1000	Y	Z	E=(D*Y)*Z	F=D*0.10	G = F*Y	H = G*Z/12
1 MH - Metal Halide - Quartz - 175W-Sallyport - (1)	3	205.00	615.00	0.62	12.0	365	2,694	0.06	0.74	22.45
2 MH - Metal Halide - Quartz - 175W-Sallyport - (1)	3	205.00	615.00	0.62	12.0	365	2,694	0.06	0.74	22.45
3 Par - 75W-Sallyport - (2)	1	150.00	150.00	0.15	12.0	365	657	0.02	0.18	5.48
4 4' T8 32W - 32W-Armory - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
5 4' T8 32W - 32W-Sallyport Entrance - (3)	1	105.60	105.60	0.11	9.0	260	247	0.01	0.10	2.06
6 4' T8 32W - 32W-Control Room - (3)	3	105.60	316.80	0.32	9.0	260	741	0.03	0.29	6.18
7 4' T8 32W - 32W-Booking - (4)	9	140.80	1,267.20	1.27	9.0	260	2,965	0.13	1.14	24.71
8 4' T8 32W - 32W-Booking (With LED) - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
9 4' T8 32W - 32W-Booking - (2)	21	70.40	1,478.40	1.48	9.0	260	3,459	0.15	1.33	28.83
10 4' T8 32W - 32W-Booking (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
11 Incandescent - 75W-Booking (Screw-Ins) - (1)	4	75.00	300.00	0.30	9.0	260	702	0.03	0.27	5.85
12 4' T8 32W - 32W-Booking/Court Hallway - (2)	22	70.40	1,548.80	1.55	9.0	260	3,624	0.15	1.39	30.20
13 4' T8 32W - 32W-Booking/Court Hallway (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
14 4' T8 32W - 32W-Court Room - (4)	4	140.80	563.20	0.56	9.0	260	1,318	0.06	0.51	10.98
15 4' T8 32W - 32W-IT - (4)	2	140.80	281.60	0.28	9.0	260	659	0.03	0.25	5.49
16 4' T8 32W - 32W-Visitation - (2)	8	70.40	563.20	0.56	9.0	260	1,318	0.06	0.51	10.98
17 4' T8 32W - 32W-Visitation (LED) - (2)	2	70.40	140.80	0.14	9.0	260	329	0.01	0.13	2.75
18 4' T8 32W - 32W-Restrooms - (2)	2	70.40	140.80	0.14	9.0	260	329	0.01	0.13	2.75
19 4' T8 32W - 32W-Office - (4)	8	140.80	1,126.40	1.13	9.0	260	2,636	0.11	1.01	21.96

20	Incandescent - 75W-Office Bathroom - (1)	1	75.00	75.00	0.08	9.0	260	176	0.01	0.07	1.46
21	4' T8 32W - 32W-Office - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
22	4' T8 32W - 32W-Office (LED) - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
23	4' T8 32W - 32W-Office/Transportation - (4)	4	140.80	563.20	0.56	9.0	260	1,318	0.06	0.51	10.98
24	4' T8 32W - 32W-Office/Transportation (LED) - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
25	4' T8 32W - 32W-Office/Transportation - (2)	4	70.40	281.60	0.28	9.0	260	659	0.03	0.25	5.49
26	4' T8 32W - 32W-Office/Transportation (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
27	4' T8 32W - 32W-Transportation Cells - (2)	2	70.40	140.80	0.14	9.0	260	329	0.01	0.13	2.75
28	4' T8 32W - 32W-Transportation Cells (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
29	4' T8 32W - 32W-Cafeteria - (4)	11	140.80	1,548.80	1.55	9.0	260	3,624	0.15	1.39	30.20
30	4' T8 32W - 32W-Cafeteria (LED) - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
31	4' T8 32W - 32W-Breakroom - (2)	2	70.40	140.80	0.14	9.0	260	329	0.01	0.13	2.75
32	4' T12 34W - 34W-Storage - (2)	3	74.80	224.40	0.22	9.0	260	525	0.02	0.20	4.38
33	4' T8 32W - 32W-Kitchen - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
34	Incandescent - 75W-Kitchen (Under Hood) - (1)	8	75.00	600.00	0.60	9.0	260	1,404	0.06	0.54	11.70
35	4' T8 32W - 32W-Laundry - (2)	5	70.40	352.00	0.35	9.0	260	824	0.04	0.32	6.86
36	4' T8 32W - 32W-Laundry (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
37	4' T8 32W - 32W-Visitation - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
38	4' T8 32W - 32W-Visitation (LED) - (4)	1	140.80	140.80	0.14	9.0	260	329	0.01	0.13	2.75
39	4' T8 32W - 32W-Kitchen - (2)	10	70.40	704.00	0.70	9.0	260	1,647	0.07	0.63	13.73
40	4' T8 32W - 32W-Kitchen (LED) - (2)	14	70.40	985.60	0.99	9.0	260	2,306	0.10	0.89	19.22
41	Incandescent - 75W-Kitchen (Screw-In) - (2)	2	150.00	300.00	0.30	9.0	260	702	0.03	0.27	5.85
42	4' T8 32W - 32W-Uniform Storage - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
43	4' T8 32W - 32W-Uniform Storage (LED) - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
44	4' T8 32W - 32W-Lieutenant's Office - (4)	2	140.80	281.60	0.28	9.0	260	659	0.03	0.25	5.49
45	4' T8 32W - 32W-Tele. & Elec. - (2)	1	70.40	70.40	0.07	9.0	260	165	0.01	0.06	1.37
46	4' T8 32W - 32W-Pod 1 & 2 Above Room - (2)	2	70.40	140.80	0.14	9.0	260	329	0.01	0.13	2.75
47	4' T8 32W - 32W-Pod 2 - 4' Fixtures - (2)	73	70.40	5,139.20	5.14	17.0	365	31,889	0.51	8.74	265.74
48	T8 U - 32W-Pod 2 - U-Lamp Fixtures - (1)	12	35.20	422.40	0.42	9.0	260	988	0.04	0.38	8.24
49	Incandescent - 75W-Pod 2 - Shower Fixtures - (1)	8	75.00	600.00	0.60	17.0	365	3,723	0.06	1.02	31.03



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Exhibit A - Part 2 (Custom Lighting Solution, "CLS")

	Qty	Watts/Fixture	Total Wattage	KW	Hrs/Day	Days/Year	kWh	Cost P/H	Cost P/D	Cost P/M
FES replacement light fixtures	A	B	C = A*B	D = C/1000	Y	Z	E=(D*Y)*Z	F=D*0.10	G = F*Y	H = G*Z/12
1 CL-1257-45-LED-UVD-50K-BZ - (1)	3	45.00	135.00	0.14	12.0	365	591	0.01	0.16	4.93
2 CL-1257-45-LED-UVD-50K-BZ - (1)	3	45.00	135.00	0.14	12.0	365	591	0.01	0.16	4.93
3 PAR30-14-LED-E27-120-50K - (2)	1	28.00	28.00	0.03	12.0	365	123	0.00	0.03	1.02
4 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
5 T8-4FT-DS-15-LED-FR-UVD-50K - (3)	1	45.00	45.00	0.05	9.0	260	105	0.00	0.04	0.88
6 T8-4FT-DS-15-LED-FR-UVD-50K - (3)	3	45.00	135.00	0.14	9.0	260	316	0.01	0.12	2.63
7 T8-4FT-DS-15-LED-FR-UVD-50K - (4)	9	60.00	540.00	0.54	9.0	260	1,264	0.05	0.49	10.53
8 T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
9 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	21	30.00	630.00	0.63	9.0	260	1,474	0.06	0.57	12.29
10 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
11 A19-9-LED-E27-120-30K - (1)	4	9.00	36.00	0.04	9.0	260	84	0.00	0.03	0.70
12 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	22	30.00	660.00	0.66	9.0	260	1,544	0.07	0.59	12.87
13 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
14 T8-4FT-DS-15-LED-FR-UVD-50K - (4)	4	60.00	240.00	0.24	9.0	260	562	0.02	0.22	4.68
15 T8-4FT-DS-15-LED-FR-UVD-50K - (4)	2	60.00	120.00	0.12	9.0	260	281	0.01	0.11	2.34
16 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	8	30.00	240.00	0.24	9.0	260	562	0.02	0.22	4.68
17 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	2	30.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
18 T8-4FT-DS-15-LED-FR-UVD-50K - (2)	2	30.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17

19	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	8	60.00	480.00	0.48	9.0	260	1,123	0.05	0.43	9.36
20	A19-9-LED-E27-120-30K - (1)	1	9.00	9.00	0.01	9.0	260	21	0.00	0.01	0.18
21	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
22	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
23	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	4	60.00	240.00	0.24	9.0	260	562	0.02	0.22	4.68
24	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
25	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	4	30.00	120.00	0.12	9.0	260	281	0.01	0.11	2.34
26	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
27	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	2	30.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
28	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
29	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	11	60.00	660.00	0.66	9.0	260	1,544	0.07	0.59	12.87
30	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
31	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	2	30.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
32	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	3	30.00	90.00	0.09	9.0	260	211	0.01	0.08	1.76
33	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
34	A19-9-LED-E27-120-30K - (1)	8	9.00	72.00	0.07	9.0	260	168	0.01	0.06	1.40
35	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	5	30.00	150.00	0.15	9.0	260	351	0.02	0.14	2.93
36	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
37	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
38	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	1	60.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
39	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	10	30.00	300.00	0.30	9.0	260	702	0.03	0.27	5.85
40	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	14	30.00	420.00	0.42	9.0	260	983	0.04	0.38	8.19
41	A19-9-LED-E27-120-30K - (2)	2	18.00	36.00	0.04	9.0	260	84	0.00	0.03	0.70
42	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
43	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
44	T8-4FT-DS-15-LED-FR-UVD-50K - (4)	2	60.00	120.00	0.12	9.0	260	281	0.01	0.11	2.34
45	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	1	30.00	30.00	0.03	9.0	260	70	0.00	0.03	0.59
46	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	2	30.00	60.00	0.06	9.0	260	140	0.01	0.05	1.17
47	T8-4FT-DS-15-LED-FR-UVD-50K - (2)	73	30.00	2,190.00	2.19	17.0	365	13,589	0.22	3.72	113.24
48	T8-U-SL-18-LED-UVD-50K - (1)	12	18.00	216.00	0.22	9.0	260	505	0.02	0.19	4.21
49	A19-15-LED-E27-UVD-50K - (1)	8	15.00	120.00	0.12	17.0	365	745	0.01	0.20	6.21

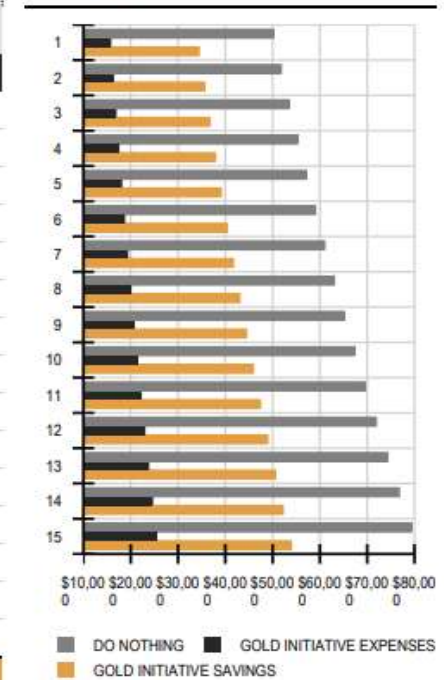
HOW FES PROTECTS YOU FROM INFLATION

While inflation will keep your electricity bill going up, the payments to FES for the Gold Initiative are fixed. That way you keep the extra savings achieved by your efficient lighting, offsetting the effects of inflation.



Year Of Agreement	CUSTOMER DOES NOTHING			CUSTOMER SIGNS AGREEMENT WITH FUTURE ENERGY SOLUTIONS					
	Payments To Energy Provider	Maintenance	Total Payments	Payments to Energy Provider	Maintenance_New	Total Payments_New	Total Savings Per Year	Payments To FES	Total Savings With Payment to FES
	a	b	a + b = c	d	e	d + e = f	c - f = g	h	g - h = i
1	\$44,226	\$5,924	\$50,151	\$15,706	\$0	\$15,706	\$34,444	\$21,390	\$13,054
2	\$45,774	\$6,040	\$51,814	\$16,256	\$0	\$16,256	\$35,558	\$21,390	\$14,168
3	\$47,376	\$6,158	\$53,534	\$16,825	\$0	\$16,825	\$36,709	\$21,390	\$15,319
4	\$49,034	\$6,278	\$55,312	\$17,414	\$0	\$17,414	\$37,898	\$21,390	\$16,508
5	\$50,751	\$6,400	\$57,151	\$18,023	\$0	\$18,023	\$39,127	\$21,390	\$17,738
6	\$52,527	\$6,525	\$59,052	\$18,654	\$0	\$18,654	\$40,398	\$21,390	\$19,008
7	\$54,365	\$6,652	\$61,018	\$19,307	\$0	\$19,307	\$41,710	\$21,390	\$20,321
8	\$56,268	\$6,782	\$63,050	\$19,983	\$0	\$19,983	\$43,067	\$21,390	\$21,677
9	\$58,238	\$6,914	\$65,152	\$20,682	\$0	\$20,682	\$44,469	\$21,390	\$23,080
10	\$60,276	\$7,049	\$67,325	\$21,406	\$0	\$21,406	\$45,919	\$21,390	\$24,529
11	\$62,386	\$7,187	\$69,572	\$22,155	\$0	\$22,155	\$47,417	\$21,390	\$26,027
12	\$64,569	\$7,327	\$71,896	\$22,931	\$0	\$22,931	\$48,965	\$21,390	\$27,575
13	\$66,829	\$7,470	\$74,299	\$23,733	\$0	\$23,733	\$50,565	\$21,390	\$29,175
14	\$69,168	\$7,615	\$76,783	\$24,564	\$0	\$24,564	\$52,219	\$21,390	\$30,829
15	\$71,589	\$7,764	\$79,353	\$25,424	\$0	\$25,424	\$53,929	\$21,390	\$32,539
TOTAL	\$853,376	\$102,085	\$955,461	\$303,066	\$0	\$303,066	\$652,395	\$320,848	\$331,547

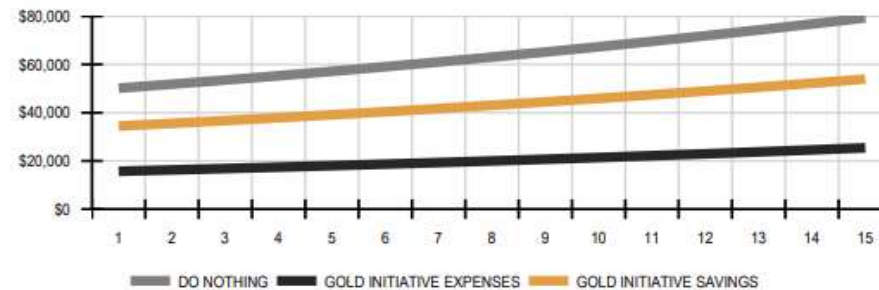
YEAR BY YEAR



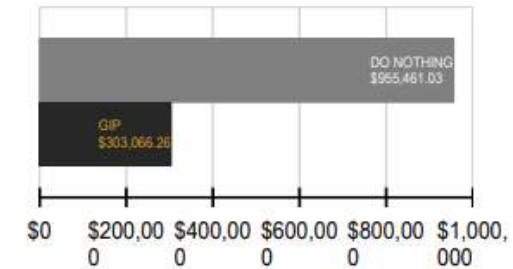
ASSUMPTIONS FOR CALCULATIONS ABOVE

Energy Inflation Rate Per Year*	3.50 %
General Inflation Rate**	1.95 %
Customer Share of Saving	25.00 %
FES Share of Saving	75.00 %
Current Maintenance Per Year	\$5,924

COMPARISON



CONCLUSION



* Source: U.S. Energy Information Administration ** Source: JC Rathbone Associates Limited

Capital Cost of System	\$ 117,500.00
Monthly Savings	\$ 2,376.65
Average Annual ROI on Reinvestment	5%
Savings After Project 1	N

Your Investment							
Year	#	Available Cash	Capital Costs	Savings	Reinvestment Return	Net	Cumulative Net
1	Project 1	\$ 117,500	\$ (117,500)	\$ 28,520	\$ -	\$ (88,980)	\$ (88,980)
2		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ (60,460)
3		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ (31,941)
4		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ (3,421)
5		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ 25,099
6	Project 2	\$ 117,500	\$ (117,500)	\$ -	\$ -	\$ (117,500)	\$ (92,401)
7		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (92,401)
8		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (92,401)
9		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (92,401)
10		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (92,401)
11	Project 3	\$ 117,500	\$ (117,500)	\$ -	\$ -	\$ (117,500)	\$ (209,901)
12		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (209,901)
13		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (209,901)
14		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (209,901)
15		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (209,901)
Total	3	\$ -	\$ (352,500)	\$ 142,599	\$ -	\$ (209,901)	\$ (209,901)

FES GI							
Year	#	Available Cash	Capital Costs	Net Savings	Reinvestment Return	Net	Cumulative Net
1	Project 1	\$ 117,500	\$ -	\$ 7,130	\$ 5,875	\$ 13,005	\$ 13,005
2		\$ 117,500	\$ -	\$ 7,130	\$ 5,875	\$ 13,005	\$ 26,010
3		\$ 117,500	\$ -	\$ 7,130	\$ 5,875	\$ 13,005	\$ 39,015
4		\$ 117,500	\$ -	\$ 7,130	\$ 5,875	\$ 13,005	\$ 52,020
5		\$ 117,500	\$ -	\$ 7,130	\$ 5,875	\$ 13,005	\$ 65,025
6		\$ 235,000	\$ -	\$ 7,130	\$ 11,750	\$ 18,880	\$ 83,905
7		\$ 235,000	\$ -	\$ 7,130	\$ 11,750	\$ 18,880	\$ 102,785
8		\$ 235,000	\$ -	\$ 7,130	\$ 11,750	\$ 18,880	\$ 121,665
9		\$ 235,000	\$ -	\$ 7,130	\$ 11,750	\$ 18,880	\$ 140,545
10		\$ 235,000	\$ -	\$ 7,130	\$ 11,750	\$ 18,880	\$ 159,425
11		\$ 352,500	\$ -	\$ 7,130	\$ 17,625	\$ 24,755	\$ 184,179
12		\$ 352,500	\$ -	\$ 7,130	\$ 17,625	\$ 24,755	\$ 208,934
13		\$ 352,500	\$ -	\$ 7,130	\$ 17,625	\$ 24,755	\$ 233,689
14		\$ 352,500	\$ -	\$ 7,130	\$ 17,625	\$ 24,755	\$ 258,444
15		\$ 352,500	\$ -	\$ 7,130	\$ 17,625	\$ 24,755	\$ 283,199
Total	1	\$ 352,500	\$ -	\$ 106,949	\$ 176,250	\$ 283,199	\$ 283,199

Capital Cost of System	\$ 99,875.00
Monthly Savings	\$ 2,376.65
Average Annual ROI on Reinvestment	5%
Savings After Project 1	N

Your Investment

Year	#	Available Cash	Capital Costs	Savings	Reinvestment Return	Net	Cumulative Net
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1	Project 1	\$ 99,875	\$ (99,875)	\$ 28,520	\$ -	\$ (71,355)	\$ (71,355)
2		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ (42,835)
3		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ (14,316)
4		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ 14,204
5		\$ -	\$ -	\$ 28,520	\$ -	\$ 28,520	\$ 42,724
6	Project 2	\$ 99,875	\$ (99,875)	\$ -	\$ -	\$ (99,875)	\$ (57,151)
7		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57,151)
8		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57,151)
9		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57,151)
10		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57,151)
11	Project 3	\$ 99,875	\$ (99,875)	\$ -	\$ -	\$ (99,875)	\$ (157,026)
12		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (157,026)
13		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (157,026)
14		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (157,026)
15		\$ -	\$ -	\$ -	\$ -	\$ -	\$ (157,026)

Total	3	\$ -	\$ (299,625)	\$ 142,599	\$ -	\$ (157,026)	\$ (157,026)
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FES GI

Year	#	Available Cash	Capital Costs	Net Savings	Reinvestment Return	Net	Cumulative Net
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1	Project 1	\$ 99,875	\$ -	\$ 7,130	\$ 4,994	\$ 12,124	\$ 12,124
2		\$ 99,875	\$ -	\$ 7,130	\$ 4,994	\$ 12,124	\$ 24,247
3		\$ 99,875	\$ -	\$ 7,130	\$ 4,994	\$ 12,124	\$ 36,371
4		\$ 99,875	\$ -	\$ 7,130	\$ 4,994	\$ 12,124	\$ 48,495
5		\$ 99,875	\$ -	\$ 7,130	\$ 4,994	\$ 12,124	\$ 60,619
6		\$ 199,750	\$ -	\$ 7,130	\$ 9,988	\$ 17,117	\$ 77,736
7		\$ 199,750	\$ -	\$ 7,130	\$ 9,988	\$ 17,117	\$ 94,853
8		\$ 199,750	\$ -	\$ 7,130	\$ 9,988	\$ 17,117	\$ 111,971
9		\$ 199,750	\$ -	\$ 7,130	\$ 9,988	\$ 17,117	\$ 129,088
10		\$ 199,750	\$ -	\$ 7,130	\$ 9,988	\$ 17,117	\$ 146,206
11		\$ 299,625	\$ -	\$ 7,130	\$ 14,981	\$ 22,111	\$ 168,317
12		\$ 299,625	\$ -	\$ 7,130	\$ 14,981	\$ 22,111	\$ 190,428
13		\$ 299,625	\$ -	\$ 7,130	\$ 14,981	\$ 22,111	\$ 212,539
14		\$ 299,625	\$ -	\$ 7,130	\$ 14,981	\$ 22,111	\$ 234,651
15		\$ 299,625	\$ -	\$ 7,130	\$ 14,981	\$ 22,111	\$ 256,762

Total	1	\$ 299,625	\$ -	\$ 106,949	\$ 149,813	\$ 256,762	\$ 256,762
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FL-2155

LED Flood Light

General Information:

Designed for outdoor use, the Flood Light comes with a range of wattage configurations and optical distributions that replace and surpass 1,000W MH or HPS.

Construction:

Designed to handle any environment. With a beautiful slimline design and one of the highest lumen outputs on the market. Available with multiple mounting options, surge protection devices, photocell capability and advanced LED technology.

SPECIFICATIONS

▪ SERIES	FL-2155
▪ WATTAGE	67, 92, 145, 178
▪ TECHNOLOGY	LED
▪ VOLTAGE	UVD (120-277)
▪ LUMINOUS EFFICACY	120 lm/W
▪ CRI	70+
▪ COLOR TEMPERATURE	4000K, 5000K
▪ LIFESPAN	50,000 hrs.
▪ BEAM ANGLE TYPE	3, 4, and 5

ITEM INFORMATION

PART NUMBER EXPLANATION:

SERIES_WATTAGE_TECHNOLOGY_VOLTAGE_TYPE

EXAMPLE: FL-2155-145-LED-UVD-TYPE5

Description: Die-Cast aluminum housing, white reflector with III, IV and V optics

Dimensions: 21.1in x 13in x 4in | **Weight:** 9 lbs.

Areas of use: Perfect for roadways and parking lots, industrial sites, etc.

Available Fitting Types



Trunnion

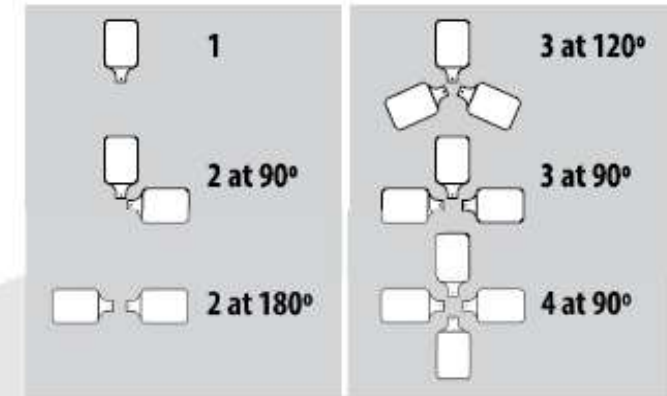


Slip Fitter



Pole Mount

MOUNTING OPTIONS



CERTIFICATIONS





RL-2050

6" LED Downlight

Description

Our LED Commercial Downlight Fixture is an ideal choice to reduce energy costs in Commercial and Residential applications. This fixture has a slim body that fits into shallow ceilings. Our Commercial Downlight Fixture replaces less efficient, traditional lighting fixtures. It's design includes an integrated hose, which connects directly to a junction box, saving time and money during installation.

ITEM INFORMATION

PART NUMBER EXPLANATION:

SERIES_WATTAGE_TECHNOLOGY_SIZE_VOLTAGE_COLOR TEMPERATURE_COLOR

EXAMPLE: RL-2050-10-LED-UVD-40K-WH

Dimensions:

6"

SPECIFICATIONS

▪ SERIES	RL-2050
▪ WATTAGE	10,15,22
▪ TECHNOLOGY	LED
▪ VOLTAGE	UVD (120-277)
▪ CRI	>80
▪ COLOR TEMPERATURE	3000K, 4000K, 5000K
▪ LUMENS	1750, 1950

CERTIFICATIONS





WP-1141 Series

LED Non Cut-off Wall Pack

General Information

Can be widely used in indoor or outdoor lighting (wet location), like mechanical or electronic processing workshops, storage warehouses, steel mills, gas stations, toll booth, waiting rooms, the platforms of railway station , indoor stadiums and flower cultivating tents etc.

Image above does not represent all wattages and styles. Lamp appearance subject to change

ITEM INFORMATION

PART NUMBER EXPLANATION:

SERIES_WATTAGE_TECHNOLOGY_VOLTAGE_COLOR TEMP_COLOR

EXAMPLE: WP-1141-50-LED-UVD-50-BZ

SPECIFICATIONS

▪ SERIES	WP-1141
▪ WATTAGE	50, 70, 100
▪ TECHNOLOGY	LED
▪ VOLTAGE	UVD (120-277)
▪ COLOR TEMPERATURE	3000K, 4000K, 5000K, 6500K
▪ LIFESPAN	50,000 hrs.

CERTIFICATIONS



Philips LED Limited Warranty – InstantFit 5-year Limited Warranty

For Professional, Industrial and Commercial Users / Applications Only

Philips Lighting North America Corporation ("Philips") warrants to the original purchaser ("Purchaser") that the Philips LED InstantFit Series linear lamps ("Products") will be free from defects in material and workmanship which cause the Product to fail to operate in accordance with the performance specifications set forth in documentation published for or provided with the Product.

This limited warranty is valid for a period of 5 years from date of Purchaser's purchase (the invoice date) and is based on lamp operation of 12 hours per day, 365 days per year. The 5 year warranty period is only applicable to Products used in combination with low ballast factor (0.77) and normal ballast factor (0.88) Instant-Start ballasts. Products used with any other Instant-Start ballasts, including, but not limited to, high ballast factor ballasts (>1.0), shall have a 4-year warranty period based on 12 hours per day, 365 days per year usage.

If any Product covered by this limited warranty is returned by Purchaser in accordance with Philip's Products Return Policy within the applicable warranty period, and Philips determines to its satisfaction that such Product failed to satisfy this warranty, Philips will, at its option, repair or replace the Product or the defective part thereof, or reimburse Purchaser for the purchase price, subject to the terms and conditions set forth below. For purposes of clarity, "repair or replace the Product or the defective part thereof" does not include any removal or reinstallation costs or expenses, including, without limitation, any labor costs or expenses, shipping costs to return non-conforming Products or any damages that may occur during the return of Product to Philips. If Philips chooses to replace the Product and is not able to do so because it has been discontinued or is not available, Philips may replace it with a comparable product.

This limited warranty is subject to the following additional conditions:

- The Products have been properly handled, wired, installed and operated in accordance with the manufacturer's instructions, which currently are contained in "Technical Application Guides" available at the following URL: http://www.usa.lighting.philips.com/connect/tools_literature/tds_sheets_1_wpd.
- The Products must be used in combination with ballasts (including emergency ballasts) that are certified compatible with Philips InstantFit as published in the Philips Ballast Compatibility Guide, which is currently available on philips.com at http://www.usa.lighting.philips.com/connect/tools_literature/tds_sheets_1_wpd.
- Adequate records of operating history are kept and available for inspection by Philips.
- A Philips representative will have access to the failed Products and the fixtures used to operate them. If the fixture or other parts become suspect, the representative shall have the right to invite other manufacturers' representatives to evaluate the lighting system components.
- The Product has been purchased directly from an authorized Philips distributor/dealer for use in regions that are within the jurisdiction of the United States or Canada.
- Purchase receipt for the Product is available for inspection by Philips.

This limited warranty does not apply to damage or failure to perform arising as a result of any acts of God or from any abuse, misuse, abnormal use, powers surges, corrosive environments, neglect, or any use or installation in violation of the instructions or restrictions prescribed by Philips or any applicable standard or code, including those contained in the latest National Electrical Code, Standards for Safety of Underwriters Laboratory, Inc. (UL), Standards for the American Standards Institute (ANSI), and the Canadian Standards Association (CSA). This limited warranty shall become void in the event any repairs or alterations not authorized by Philips in writing are made to the Product by any person.

THIS LIMITED WARRANTY IS THE ONLY WARRANTY GIVEN BY PHILIPS WITH RESPECT TO THE PRODUCTS AND THE SOLE REMEDY FOR ANY AND ALL CLAIMS, IN CONTRACT, IN TORT OR OTHERWISE ARISING FROM THE FAILURE OF PRODUCT AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. PURCHASER'S EXCLUSIVE REMEDY FOR ANY NONCONFORMITY OR DEFECT IN ANY PRODUCT SHALL BE ONLY AS EXPLICITLY SET FORTH HEREIN. UNDER NO CIRCUMSTANCES SHALL PHILIPS' AGGREGATE LIABILITY ARISING OUT OF OR IN CONNECTION WITH A DEFECTIVE PRODUCT, IN CONTRACT, TORT OR OTHERWISE, EXCEED THE PURCHASE PRICE OF THE PRODUCT TO WHICH SUCH LIABILITY RELATES. IN NO EVENT SHALL PHILIPS BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT OR COMPENSATORY DAMAGES, INCLUDING, WITHOUT LIMITATION, DAMAGES RESULTING FROM LOSS OF USE, PROFITS, BUSINESS OR GOODWILL.

This limited warranty is in consideration of and is strictly subject to and conditioned by the terms set forth herein. Philips reserves the right to modify this warranty from time to time and any modifications shall be effective for all orders placed on or after the effective date of such revised warranty.

Berkeley aims to switch old streetlights to LEDs

By Emilie Raguso, Oct. 30, 2013, 12 p.m.



The city of Berkeley plans to replace its existing streetlights with a more sustainable technology in 2014. Photo: Jeremy Brooks

Berkeley nights could have a slightly different hue next year if the city is successful in its plans to replace all 8,000 of its streetlights with LED fixtures.

The project would save money, improve lighting quality and reduce greenhouse gas emissions, according to the city.

LEDs are already being used in Albany, El Cerrito, Hayward, San Jose, Sunnyvale, Los Angeles and other cities around the state. Oakland is in the process of converting all its fixtures to LEDs, the city reported.

Tuesday night, the Berkeley City Council voted to allow the city manager to seek a \$3.5 million loan from the state Energy Commission to cover the cost of swapping out its old high-pressure sodium and metal halide lamps with light emitting diode (LED) fixtures beginning Jan. 1, 2014.

The city expects to save more money than it will spend on loan repayment due to energy savings and PG&E incentives, according to a staff report prepared for Tuesday's meeting. Currently, it costs more than \$600,000 annually to power the city's streetlights.

According to the staff report, the lights also generate more than 1,000 metric tons of carbon dioxide emissions each year, which accounts for 13% of the city's emissions. An LED conversion could reduce overall municipal emissions by 6.5%, according to the staff report.

The city-wide project must be completed next year for the city to be eligible for PG&E incentives. The city plans to release a call for bids to do the conversion this coming December.

According to the staff report, LEDs are a "proven alternative" to the city's current streetlights because they are more efficient, last longer and produce better light "that renders truer colors."

The city has already installed LED streetlights in a pilot program at the Berkeley Marina, and Telegraph Avenue lights are also slated to change. The city set aside \$48,000 for those conversions in fiscal year 2012-13, according to a report from the Public Works Commission to the City Council earlier this year.

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Berkeleyside

In late 2012, the city [replaced 75 high-pressure sodium streetlights with LEDs at the Berkeley Marina](#), on University Avenue west of West Frontage Road, and on Marina Boulevard, Spinnaker Way and Seawall Drive, according to the city website. The city expects those lights to require virtually no maintenance for 15-20 years.

Lighting on Telegraph Avenue has been identified [as an issue in need of improvement](#) by the city: "Pedestrian lighting is inconsistent in the Southside and, in many locations, sparse. Most lighting in the neighborhood has been designed and placed to illuminate the streets for vehicles, rather than the sidewalks for pedestrians. Along Telegraph Avenue, street lights glare down a harsh, bright yellow light on pedestrians." The city announced plans to [improve lighting on Telegraph](#) as part of its 2013 annual report.

The city began its investigation into the possibility of LED streetlights in 2012 with a council referral to the Public Works and Energy commissions. The City Council ultimately received a report back on those discussions in June 2013.

According to that report, "Savings from an LED streetlight conversion could fund new streetlights in the City."

Tuesday night's report, prepared by city Public Works director Andrew Clough, was more circumspect: "While the project may generate savings in excess of the debt service that could be used for other purposes, [it is](#)

[premature to program expenditures until the installation is complete and final cost and savings values are available."](#)

Read more from PG&E about its [LED streetlight conversion program](#). Learn more on the [city of Berkeley website about LED streetlights](#). Members of the public with comments on LED lighting can email greenbuilding@cityofberkeley.info or call Billi Romain at 510-981-7432.

Related:

[Berkeley greenhouse gas emissions down 8% since 2000](#) (09.06.13)

[Electric bike rental program coming to Berkeley in 2014](#) (08.26.13)

[Streamlined permitting aims to cut solar costs](#) (08.07.13)

['You're not with it if you're not air drying your clothes!'](#) (07.18.13)

[Berkeley to collect more plastics in curbside collections](#) (07.10.13)

[Big changes needed to meet 2020 emissions goals](#) (11.13.12)

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Berkeleyside

CITY

Berkeley to replace all its streetlights due to elevated failure rates

The city of Berkeley is in negotiations over who will pay for the labor to replace streetlights systemwide due to elevated failure rates observed over the past year, Berkeleyside has learned.

By Emilie Raguso, Feb. 19, 2019, 12:01 p.m.



Many people say Berkeley streets are too dark. As seen here on Martin Luther King Jr. Way at the city border, Oakland, in the distance, appears better lit. Oakland lights also appeared, to a casual observer, to be a brighter white than the yellow hue of Berkeley's LEDs. Photo: Emilie Raguso

The city of Berkeley is in negotiations over who will pay for the labor to replace its streetlights systemwide due to elevated failure rates that have dimmed some lights around town over the past year, Berkeleyside has learned.

San Jose-based Leotek Electronics “has accepted responsibility” for the failing fixtures, which are still under warranty, and will replace them at no charge with a newer model that’s more efficient, city spokesman Matthai Chakko told Berkeleyside last week. As it turns out, the fixtures Berkeley has throughout the city are no longer being made, he said, hence the new units.

Leotek will cover the equipment itself, but who will pay for the labor costs remains an open question. Chakko said he did not know when negotiations might conclude.

Phil Harrington, public works director, told City Council members earlier this month that the streetlight issue was “unfortunate.” He assured officials the city will “get a better deal” once the new lights have been installed, however. That’s because the new fixtures won’t be “as harsh” and will lead to greater cost savings because they are even more energy efficient than existing lights.

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A burnt-out streetlight at Harmon and Adeline streets in South Berkeley on Thursday. Photo: Emilie Raguso

Harrington told council members during a Feb. 5 special meeting that he thought the city was “almost at the final stages of working with Tanko [Lighting], who was the consultant who helped us, and with [supplier] Leotek, in getting those [lights] replaced.”

In 2014, the city began to swap out its old high-pressure sodium lamps with 8,000 light emitting diode (LED) fixtures. The change generated mixed reviews from community members, including some who complained the new lights were too bright.

That year, Chakko told Berkeleyside the LEDs were supposed to last 15-17 years. But, less than five years later, the city realized there was a problem.

In early 2018, he told Berkeleyside last week, diodes within some of the LEDs began to fail at a higher-than-expected rate. Chakko said the failure was noticed all over town, not just in one area. Minimal information was available from the city about the extent of the failure.

But Chakko said city staff has worked quickly to replace failing fixtures as they've happened. He also noted that, when individual diodes within a fixture fail, it diminishes the light but does not eliminate it. The number of lights that have been replaced was not immediately available.

Traffic safety concerns

News coverage on Berkeleyside of recent crashes has sparked a significant community dialogue about safety and street lighting. This year has already seen a number of crashes in Berkeley that resulted in serious injuries to pedestrians. It represents a broader trend: Year after year, the state's Office of Traffic Safety (OTS) has ranked Berkeley first, among nearly 60 cities of similar size, for injury or fatal vehicle collisions involving pedestrians and cyclists. Pedestrians who are 65 or older are more at risk in Berkeley than in any of those other cities, according to the most recent data from the OTS.

Many readers say driver and pedestrian behavior must change if the streets are to become safer. But concerns about lighting have also been a common theme.

“The lighting is so poor at night and it can be nearly impossible to tell where the crosswalks are,” wrote one Berkeleyside reader on Facebook.

Wrote another, “the streets are extraordinarily dim. I've had multiple Lyft drivers comment on how dark the streets of Berkeley are compared to surrounding cities in the Bay area.”



A crosswalk on Telegraph Avenue. Photo: Emilie Raguso



A crosswalk on Martin Luther King Jr. Way. Photo: Emilie Raguso



A dark crosswalk on Telegraph Avenue. Photo: Emilie Raguso

A crosswalk on Telegraph illuminated by headlights. Photo: Emilie Raguso

A police officer summed up the issue in many parts of town recently for Berkeleyside: “The only ambient lights are headlights.”

The city has launched its “[Vision Zero](#)” campaign to eliminate injury crashes and fatalities, but each new report brings more concern.

Some in the community have wondered whether the streetlight problems might explain why it's so hard to see in Berkeley at night, particularly for [drivers and pedestrians](#). Chakko said the issues are unrelated.

“I understand that people are concerned about lighting, and that's certainly something we're concerned about as well. That's unrelated to this issue,” he said. “We're replacing the bulbs so there's no impact on street lighting.”

Chakko said he did not know the typical turnaround-time for fixing the lights because the city does not track it. He said staff replaces the fixtures as failures are observed “to minimize the impact.”

The city says its LED lights will be warmer when they are replaced. Berkeley lights (at left) already appear more yellow than streetlights (in the distance) in Oakland. Photo: Emilie Raguso

It's up to staff or community members to report streetlight failures as they occur. The public can use the city's [311 system](#) to make those reports, Chakko said.

Chakko said the LEDs already save the city \$400,000 annually in electricity costs as compared with the old sodium lamps. The city is using the savings to pay down the [\\$3 million low-interest loan](#) it secured for the streetlight overhaul. And the new fixtures from Leotek will be 25% more efficient and cost even less than the existing LEDs, he said.

Streetlights used to make up 32% of the city's greenhouse gas emissions from municipal operations, he added. Now, they make up only 19% — and that number should go down when the new lights are installed, said Chakko.

Harrington told city officials in early February that Berkeley's new streetlights would measure 3,000 Kelvin, while the current lights have a [cooler color temperature](#) of 4,000 Kelvin.

“It's a better light,” Harrington said, of the new fixtures. “It'll tone it down but it's a lot nicer light.... It's going to be a better fit for the city of Berkeley going forward.”

The new lighting will be “more aesthetically pleasing to a lot of the residents,” he said.

Council members asked him if there's any way the light from the city's streetlights could cover more ground or spread farther.

Harrington said it's possible for the city to “increase the wattage” and add additional lights in “areas that we know to be a little more problematic.” He did not provide much detail about the wattage issue, other than to say residential areas are dimmer than “intersections,” measuring 42 watts rather than 87 watts.