

Summary Energy Performance Report

Facilities included: Neptune Township Group

Number of facilities: 4

	Year ending 12/2009
Total Floorspace (sq. ft.)	105,800
Average Rating	N/A
Number of Facilities with a Rating	0
Number of Non-ratable Facilities*	4
Total Site Energy Use (kBtu)	13,727,135
Total Weather Normalized Source Energy Use (kBtu)	27,425,103
Average Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	259.2
Average Site Energy Intensity (kBtu/Sq. Ft.)	129.7
Total Site Electric Use (kWh)	1,850,137
Total Site Natural Gas Use (Therms)	74,145
Average Actual Annual Source Energy Intensity (kBtu/Sq. Ft.)	272.7

*Non-ratable buildings are defined as buildings that currently are ineligible to receive the ENERGY STAR rating due to its operating characteristics and/or building type.

Summary Energy Performance Report

Facilities included: Neptune Township Group

Facility Name	Facility Address	Year ending 12/2009 Facility Floorspace	Year ending 12/2009 Rating	Year ending 12/2009 Average Site Energy Intensity (kBtu/Sq. Ft.)	Year ending 12/2009 Average Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Year ending 12/2009 Site Electric Use (kWh)	Year ending 12/2009 Site Natural Gas Use (Therms)
Neptune Twn- Senior Center	1825 Corlies Ave Neptune, NJ 07753	10000	N/A	103.9	241	190,069	3,909
Neptune Twn- Municipal Building	25 Neptune Blvd Neptune, NJ 07753	83000	N/A	113.4	223.9	1,233,768	52,022
Neptune Twp- Penn Ave Pump Station	Pennsylvannia Ave Ocean Grove, NJ 07756	1800	N/A	320.4	984.9	168,999	0
Neptune Twp- Public Works	2201 Heck Ave Neptune, NJ 07753	11000	N/A	245.4	423.6	257,301	18,214

Buildings	Electric				Natural Gas			
	Account	Annual Consumption	Annual Cost	\$ / kWh	Account	Annual Consumption	Annual Cost	\$ / Therms
Municipal Building	1000155015-86	1,259,400	\$226,743.65	\$0.180	153174-9998-15	52,867	\$61,794.06	\$1.169
Municipal Building	NA				22000943797Y	1,557	\$2,489.23	\$1.599
Municipal Building	NA				22001190598Y	96	\$407.05	\$4.240
Penn. Ave Pump Station	100017317700	179,520	\$30,932.54	\$0.172	NA			
Public Works	100015501057	258,120	\$41,691.03	\$0.162	123159711019	19,647	\$24,101.09	\$1.227
Public Works	NA				220009252773	467	\$925.95	\$1.983
Senior Center	100015477464	187,840	\$32,942.98	\$0.175	15317431001Y	4,298	\$6,202.56	\$1.443
	TOTAL	1,884,880	332,310	\$0.176	TOTAL	78,932	95,920	\$1.215

Facility Name Neptune Municipal Building
 Company JCP&L
 Account# 1000155015-86
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electricity	kWh	12/23/2009	1/25/2010	218.4	126,800	\$19,970.69	\$0.16
Electricity	kWh	11/23/2009	12/23/2009	191.0	89,200	\$14,287.56	\$0.16
Electricity	kWh	10/24/2009	11/23/2009	204.2	102,800	\$15,867.88	\$0.15
Electricity	kWh	9/23/2009	10/24/2009	280.4	107,200	\$16,987.42	\$0.16
Electricity	kWh	8/24/2009	9/23/2009	309.6	140,800	\$23,824.64	\$0.17
Electricity	kWh	7/23/2009	8/24/2009	340.2	170,600	\$29,294.34	\$0.17
Electricity	kWh	6/24/2009	7/23/2009	308.2	131,200	\$22,882.89	\$0.17
Electricity	kWh	5/24/2009	6/24/2009	271.0	13,400	\$23,185.91	\$1.73
Electricity	kWh	4/24/2009	5/24/2009	246.8	103,200	\$16,323.17	\$0.16
Electricity	kWh	3/23/2009	4/24/2009	192.2	76,400	\$12,296.38	\$0.16
Electricity	kWh	2/21/2009	3/23/2009	270.6	100,400	\$16,178.69	\$0.16
Electricity	kWh	1/21/2009	2/21/2009	197.2	97,400	\$15,644.08	\$0.16
TOTAL/AVERAGE				252.4833333	1,259,400	\$226,743.65	\$0.180

Facility Name Neptune Municipal Building
 Company New Jersey Natural Gas
 Account# 153174-9998-15
 Meter# 00327123, 00535711
 Tariff/Rate GSS

Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/15/2009	1/15/2010	NA	9,711	\$11,419.04	\$1.18
Natural Gas	Therms	11/11/2009	12/15/2009	NA	7,372	\$8,169.80	\$1.11
Natural Gas	Therms	10/16/2009	11/11/2009	NA	3,195	\$3,634.89	\$1.14
Natural Gas	Therms	9/16/2009	10/16/2009	NA	2,226	\$2,649.72	\$1.19
Natural Gas	Therms	8/13/2009	9/16/2009	NA	2,616	\$2,994.66	\$1.14
Natural Gas	Therms	7/7/2009	8/13/2009	NA	1,912	\$2,618.21	\$1.37
Natural Gas	Therms	6/3/2009	7/7/2009	NA	2,002	\$2,530.12	\$1.26
Natural Gas	Therms	5/6/2009	6/3/2009	NA	2,587	\$3,001.45	\$1.16
Natural Gas	Therms	4/6/2009	5/6/2009	NA	3,908	\$4,290.41	\$1.10
Natural Gas	Therms	3/5/2009	4/6/2009	NA	3	\$36.97	\$12.32
Natural Gas	Therms	2/3/2009	3/5/2009	NA	9,016	\$9,926.84	\$1.10
Natural Gas	Therms	1/8/2009	2/3/2009	NA	8,319	\$10,521.95	\$1.26
TOTAL/AVERAGE				NA	52,867	\$61,794.06	\$1.169

Facility Name Neptune Municipal Building
 Company New Jersey Natural Gas
 Account# 22000943797Y gas - Police Records
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/18/2009	1/20/2010	NA	95	\$144.24	\$1.52
Natural Gas	Therms	11/17/2009	12/18/2009	NA	26	\$52.77	\$2.03
Natural Gas	Therms	10/19/2009	11/17/2009	NA	3	\$28.96	\$9.65
Natural Gas	Therms	9/17/2009	10/19/2009	NA	0	\$25.00	Flat rate
Natural Gas	Therms	8/18/2009	9/17/2009	NA	0	\$30.00	Flat rate
Natural Gas	Therms	7/10/2009	8/18/2009	NA	0	\$25.00	Flat rate
Natural Gas	Therms	6/8/2009	7/10/2009	NA	2	\$28.29	\$14.15
Natural Gas	Therms	5/8/2009	6/8/2009	NA	88	\$168.74	\$1.92
Natural Gas	Therms	4/8/2009	5/8/2009	NA	177	\$262.89	\$1.49
Natural Gas	Therms	3/10/2009	4/8/2009	NA	455	\$645.98	\$1.42
Natural Gas	Therms	2/5/2009	3/10/2009	NA	318	\$456.85	\$1.44
Natural Gas	Therms	1/8/2009	2/5/2009	NA	393	\$620.51	\$1.58
TOTAL/AVERAGE				NA	1,557	\$2,489.23	\$1.599

Facility Name Neptune Municipal Building
 Company New Jersey Natural Gas
 Account# 22001190598Y gas police generator
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/9/2008	1/8/2009	NA	1	\$26.66	\$26.66
Natural Gas	Therms	11/9/2008	12/8/2008	NA	0	\$40.10	Flat rate
Natural Gas	Therms	10/9/2008	11/8/2008	NA	1	\$16.61	\$16.61
Natural Gas	Therms	9/9/2008	10/8/2008	NA	1	\$31.72	\$31.72
Natural Gas	Therms	8/9/2008	9/8/2008	NA	26	\$53.12	\$2.04
Natural Gas	Therms	7/9/2008	8/8/2008	NA	1	\$31.72	\$31.72
Natural Gas	Therms	6/9/2008	7/8/2008	NA	25	\$51.39	\$2.06
Natural Gas	Therms	5/9/2008	6/8/2008	NA	0	\$30.20	Flat rate
Natural Gas	Therms	4/9/2008	5/8/2008	NA	26	\$52.96	\$2.04
Natural Gas	Therms	3/9/2008	4/8/2008	NA	0	\$15.10	Flat rate
Natural Gas	Therms	2/9/2008	3/8/2008	NA	0	\$27.18	Flat rate
Natural Gas	Therms	1/9/2008	2/8/2008	NA	15	\$30.29	\$2.02
TOTAL/AVERAGE				NA	96	\$407.05	\$4.240

Facility Name Neptune Penn Ave Pumping Station
 Company JCP&L
 Account# 100017317700
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electric	kWh	11/30/2009	12/29/2009	45.1	11,200	\$1,884.31	\$0.17
Electric	kWh	10/30/2009	11/29/2009	25.3	10,560	\$1,824.37	\$0.17
Electric	kWh	9/30/2009	10/29/2009	25.6	10,240	\$1,910.08	\$0.19
Electric	kWh	8/30/2009	9/29/2009	62.4	12,800	\$2,443.10	\$0.19
Electric	kWh	7/30/2009	8/29/2009	55.0	12,800	\$2,391.74	\$0.19
Electric	kWh	6/30/2009	7/29/2009	55.0	28,480	\$4,854.93	\$0.17
Electric	kWh	5/30/2009	6/29/2009	52.8	8,640	\$1,726.55	\$0.20
Electric	kWh	4/30/2009	5/29/2009	26.2	14,720	\$2,424.31	\$0.16
Electric	kWh	3/30/2009	4/29/2009	47.4	16,320	\$2,649.75	\$0.16
Electric	kWh	3/1/2009	3/29/2009	26.9	9,600	\$1,704.79	\$0.18
Electric	kWh	1/30/2009	2/28/2009	52.2	18,560	\$3,038.25	\$0.16
Electric	kWh	12/30/2008	1/29/2009	57.3	25,600	\$4,080.36	\$0.16
TOTAL/AVERAGE				44.3	179,520	\$30,932.54	\$0.172

Facility Name Neptune Public Works
 Company JCP&L
 Account# 100015501057
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electric	kWh	12/30/2009	1/30/2010	55.9	22,680	\$3,656.39	\$0.16
Electric	kWh	11/30/2009	12/29/2009	53.6	30,000	\$4,690.99	\$0.16
Electric	kWh	10/30/2009	11/29/2009	57.6	16,640	\$2,567.23	\$0.15
Electric	kWh	9/30/2009	10/29/2009	35.3	15,600	\$2,458.85	\$0.16
Electric	kWh	8/30/2009	9/29/2009	41.8	15,840	\$2,731.11	\$0.17
Electric	kWh	7/30/2009	8/29/2009	44.4	19,920	\$3,456.08	\$0.17
Electric	kWh	6/30/2009	7/29/2009	47.2	16,800	\$2,933.37	\$0.17
Electric	kWh	5/30/2009	6/29/2009	42.5	17,280	\$2,978.48	\$0.17
Electric	kWh	4/30/2009	5/29/2009	35.9	18,880	\$2,936.88	\$0.16
Electric	kWh	3/30/2009	4/29/2009	41.4	22,640	\$3,587.93	\$0.16
Electric	kWh	3/1/2009	3/29/2009	60.0	30,080	\$4,669.68	\$0.16
Electric	kWh	1/30/2009	2/28/2009	63.7	31,760	\$5,024.04	\$0.16
TOTAL/AVERAGE				48.3	258,120	\$41,691.03	\$0.162

Facility Name Neptune Public Works
 Company New Jersey Natural Gas
 Account# 123159711019
 Meter#
 Tariff/Rate GSS

Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/18/2009	1/20/2010	NA	3,709	\$4,443.61	\$1.20
Natural Gas	Therms	11/17/2009	12/18/2009	NA	2,057	\$2,428.99	\$1.18
Natural Gas	Therms	10/19/2009	11/17/2009	NA	1,230	\$1,463.13	\$1.19
Natural Gas	Therms	9/17/2009	10/19/2009	NA	936	\$1,171.45	\$1.25
Natural Gas	Therms	8/18/2009	9/17/2009	NA	847	\$1,089.00	\$1.29
Natural Gas	Therms	7/10/2009	8/18/2009	NA	935	\$1,293.42	\$1.38
Natural Gas	Therms	6/9/2009	7/10/2009	NA	904	\$1,179.22	\$1.30
Natural Gas	Therms	5/8/2009	6/9/2009	NA	780	\$1,038.17	\$1.33
Natural Gas	Therms	4/8/2009	5/8/2009	NA	1,229	\$1,477.17	\$1.20
Natural Gas	Therms	3/10/2009	4/8/2009	NA	1,800	\$2,095.80	\$1.16
Natural Gas	Therms	2/5/2009	3/10/2009	NA	2,591	\$2,996.59	\$1.16
Natural Gas	Therms	1/8/2009	2/5/2009	NA	2,629	\$3,424.54	\$1.30
TOTAL/AVERAGE				NA	19,647	\$24,101.09	\$1.227

Facility Name Neptune Public Works
 Company New Jersey Natural Gas
 Account# 220009252773
 Meter#
 Tariff/Rate

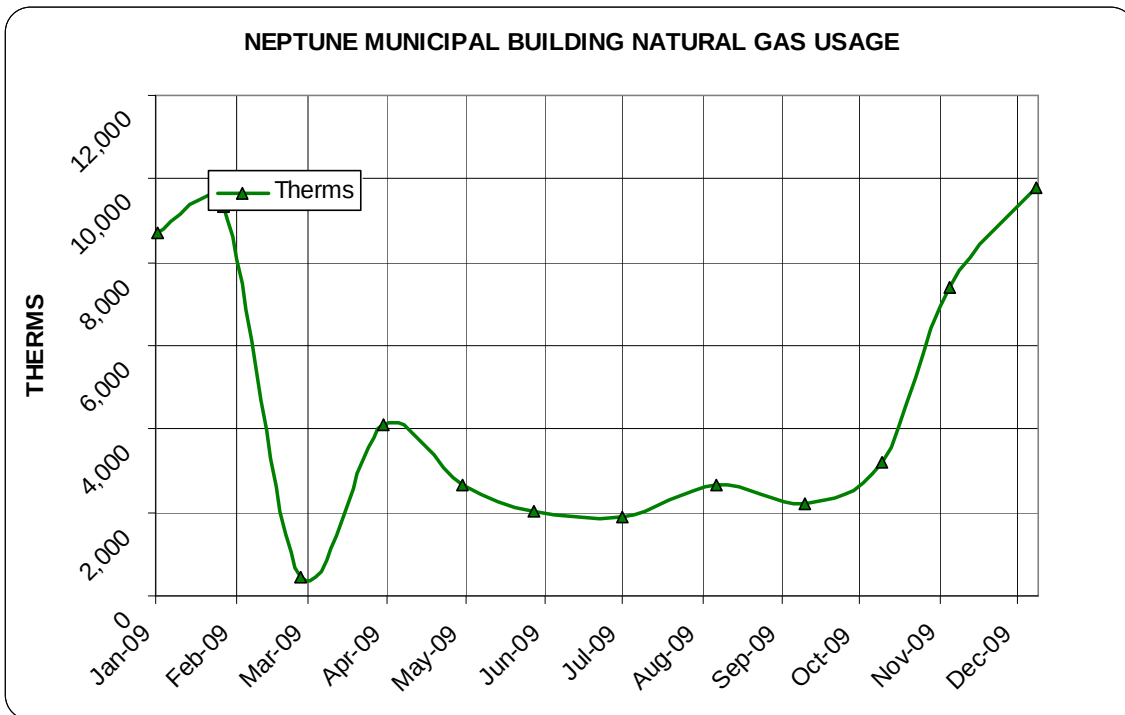
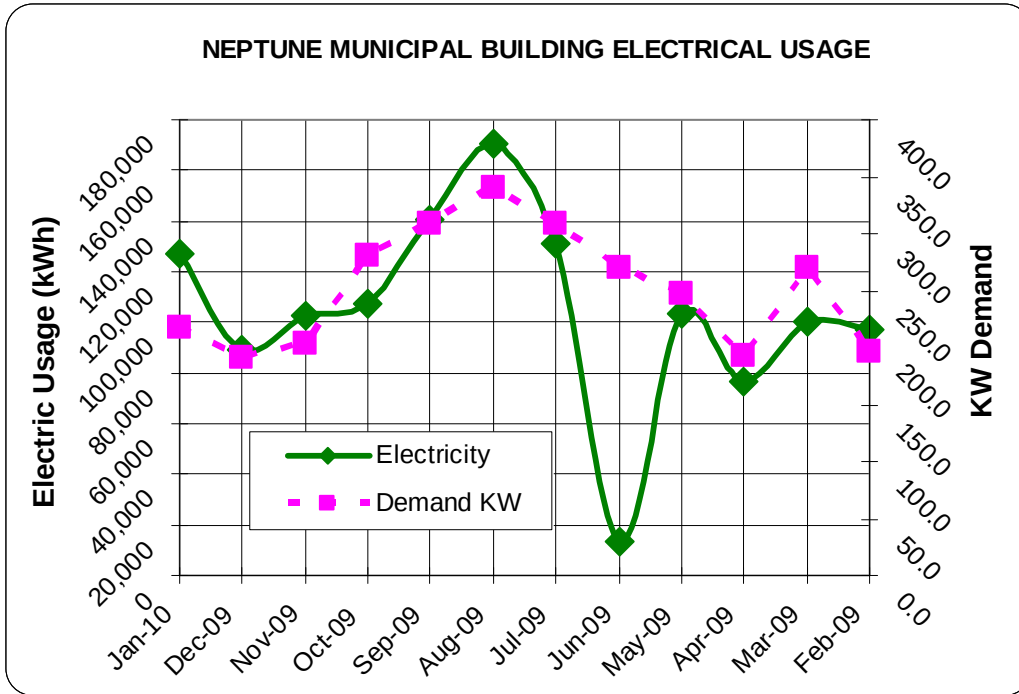
Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/18/2009	1/20/2010	NA	119	\$175.31	\$1.47
Natural Gas	Therms	11/17/2009	12/18/2009	NA	51	\$89.21	\$1.75
Natural Gas	Therms	10/19/2009	11/17/2009	NA	25	\$51.46	\$2.06
Natural Gas	Therms	9/17/2009	10/19/2009	NA	2	\$27.64	\$13.82
Natural Gas	Therms	8/18/2009	9/17/2009	NA	3	\$29.97	\$9.99
Natural Gas	Therms	7/10/2009	8/18/2009	NA	3	\$34.95	\$11.65
Natural Gas	Therms	6/9/2009	7/10/2009	NA	4	\$31.59	\$7.90
Natural Gas	Therms	5/8/2009	6/9/2009	NA	2	\$28.29	\$14.15
Natural Gas	Therms	4/8/2009	5/8/2009	NA	23	\$66.33	\$2.88
Natural Gas	Therms	3/10/2009	4/8/2009	NA	44	\$84.48	\$1.92
Natural Gas	Therms	2/5/2009	3/10/2009	NA	74	\$125.63	\$1.70
Natural Gas	Therms	1/8/2009	2/5/2009	NA	117	\$181.09	\$1.55
TOTAL/AVERAGE				NA	467	\$925.95	\$1.983

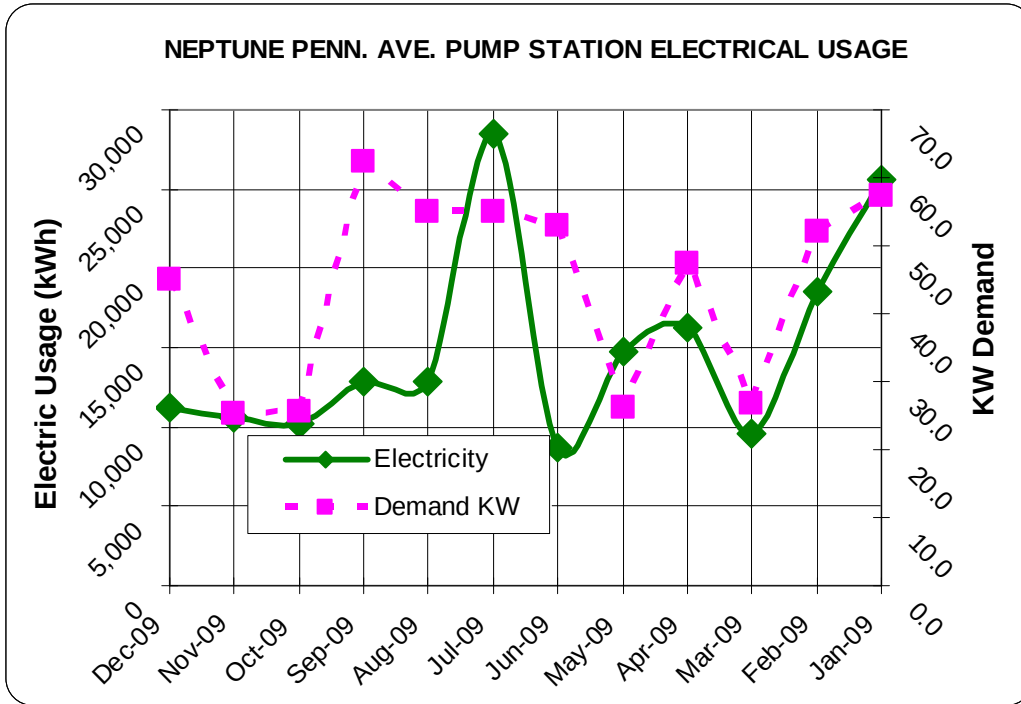
Facility Name Neptune Senior Center
 Company JCP&L
 Account# 100015477464
 Meter#
 Tariff/Rate

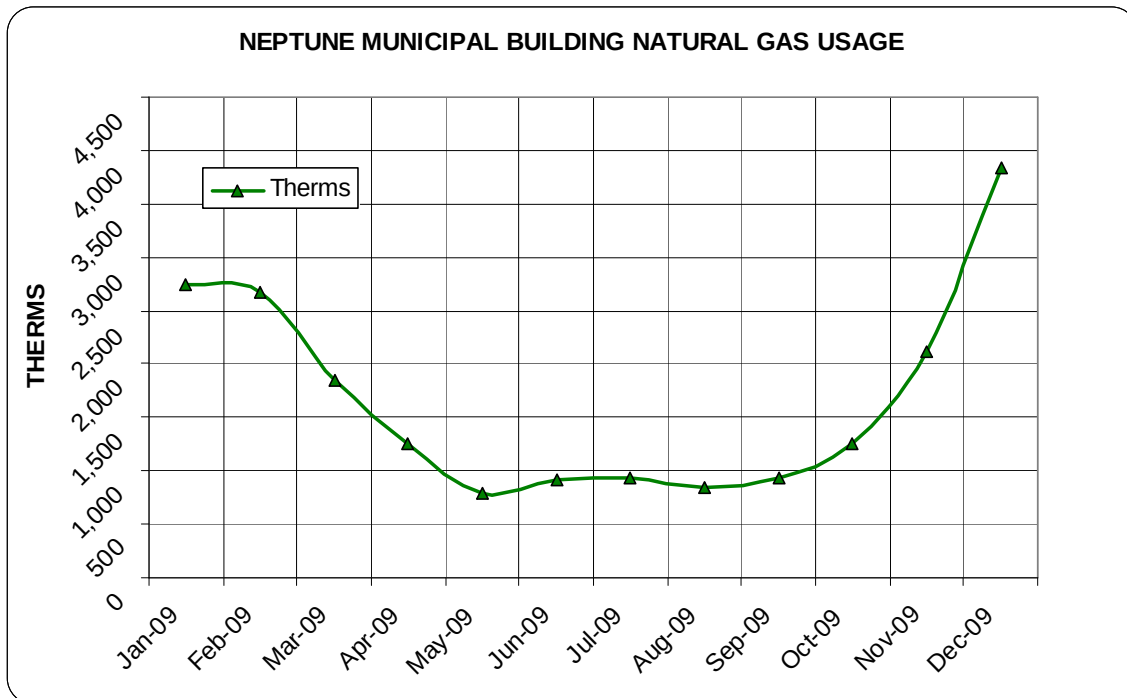
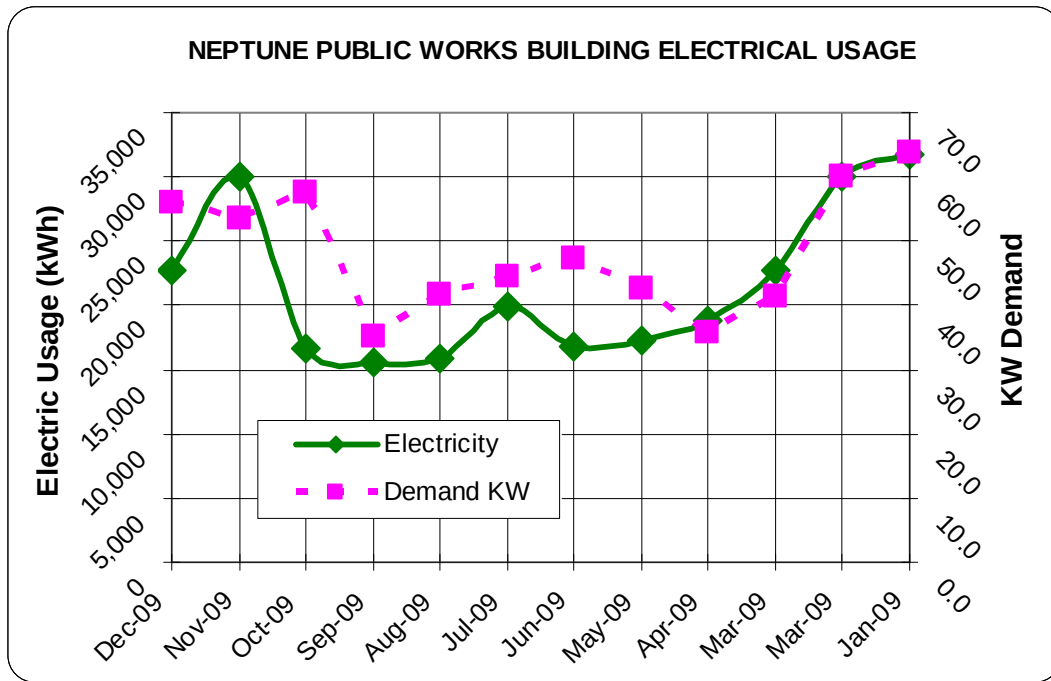
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Cost	\$/kWh
Electric	kWh	12/30/2009	1/29/2010	66.0	13,760	\$2,425.63	\$0.18
Electric	kWh	11/30/2009	12/29/2009	61.1	13,680	\$2,376.35	\$0.17
Electric	kWh	10/30/2009	11/29/2009	59.5	13,920	\$2,336.39	\$0.17
Electric	kWh	9/30/2009	10/29/2009	67.8	14,880	\$2,526.01	\$0.17
Electric	kWh	8/30/2009	9/29/2009	62.1	16,800	\$3,000.93	\$0.18
Electric	kWh	7/30/2009	8/29/2009	77.8	21,680	\$3,944.94	\$0.18
Electric	kWh	6/30/2009	7/29/2009	68.8	18,560	\$3,392.35	\$0.18
Electric	kWh	5/30/2009	6/29/2009	66.4	18,160	\$3,329.13	\$0.18
Electric	kWh	4/30/2009	5/29/2009	65.3	15,520	\$2,616.41	\$0.17
Electric	kWh	3/30/2009	4/29/2009	59.3	13,760	\$2,328.14	\$0.17
Electric	kWh	3/1/2009	3/29/2009	59.3	13,840	\$2,353.06	\$0.17
Electric	kWh	1/30/2009	2/28/2009	59.6	13,280	\$2,313.64	\$0.17
TOTAL/AVERAGE				64.4	187,840	\$32,942.98	\$0.175

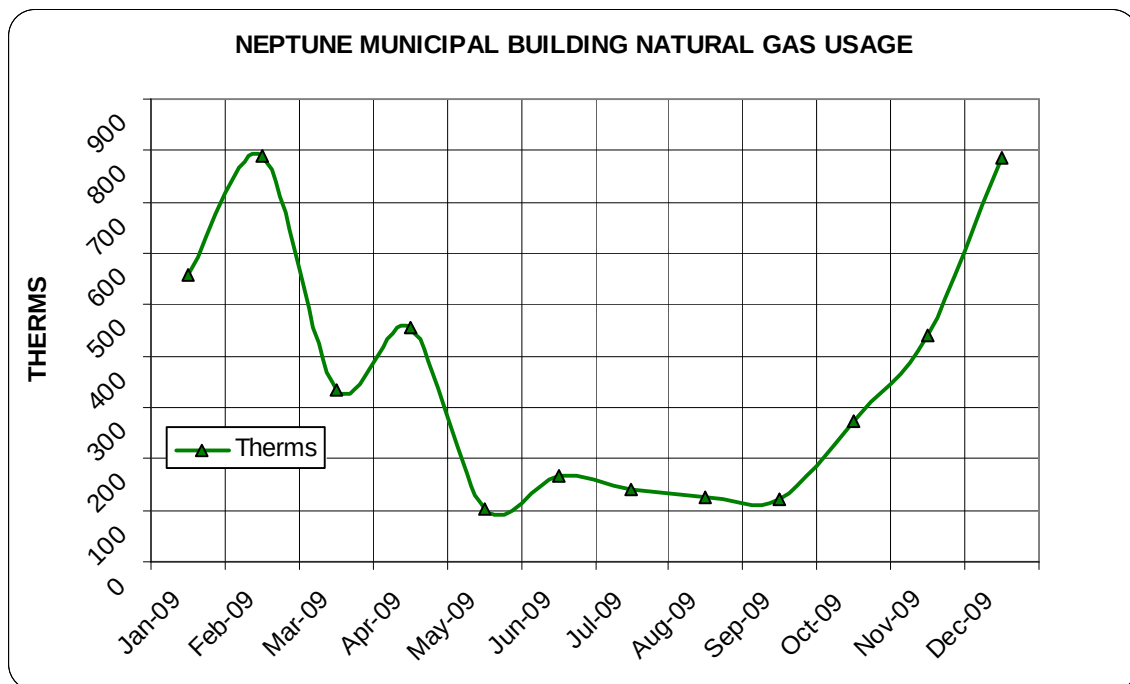
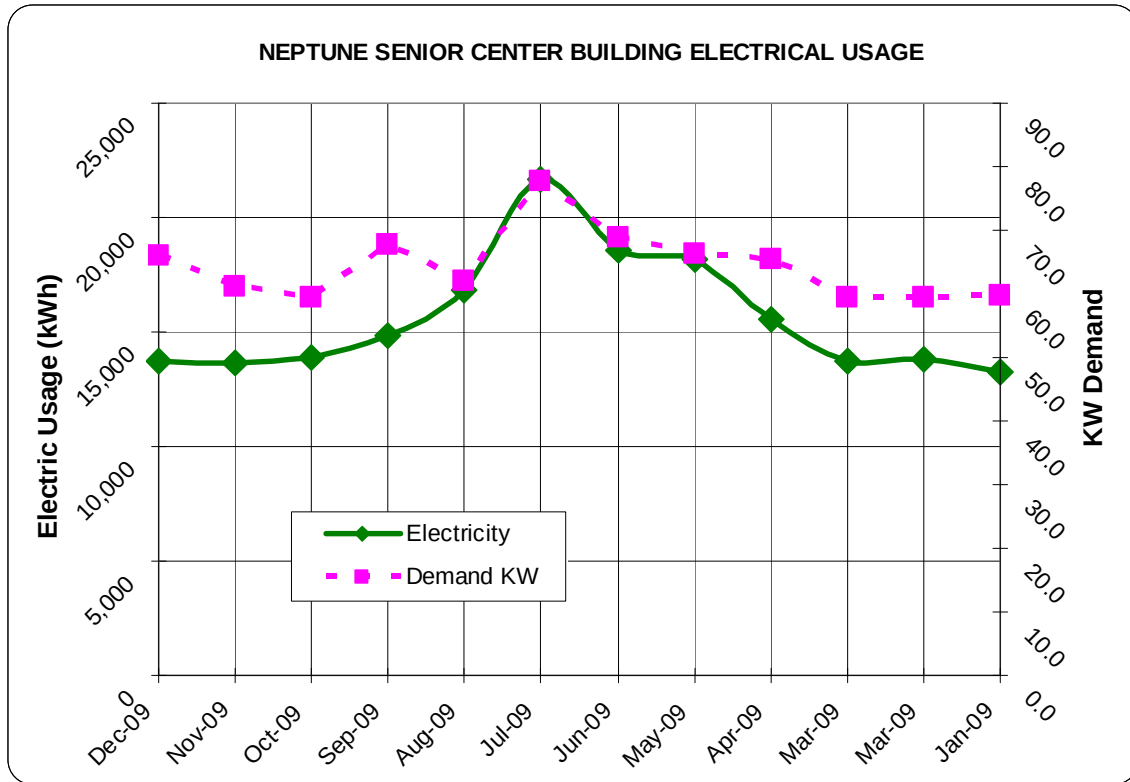
Facility Name Neptune Senior Center
 Company New Jersey Natural Gas
 Account# 15317431001Y
 Meter#
 Tariff/Rate

Energy Type	Energy Unit	Start Date	End Date	Demand KW	THERMS	Cost	\$/therm
Natural Gas	Therms	12/18/2009	1/20/2010	NA	786	\$1,013.78	\$1.29
Natural Gas	Therms	11/17/2009	12/18/2009	NA	441	\$579.32	\$1.31
Natural Gas	Therms	10/19/2009	11/17/2009	NA	273	\$368.16	\$1.35
Natural Gas	Therms	9/17/2009	10/19/2009	NA	123	\$180.33	\$1.47
Natural Gas	Therms	8/18/2009	9/17/2009	NA	125	\$223.15	\$1.79
Natural Gas	Therms	7/10/2009	8/18/2009	NA	141	\$251.77	\$1.79
Natural Gas	Therms	6/9/2009	7/10/2009	NA	168	\$289.12	\$1.72
Natural Gas	Therms	5/8/2009	6/9/2009	NA	102	\$185.60	\$1.82
Natural Gas	Therms	4/8/2009	5/8/2009	NA	455	\$740.12	\$1.63
Natural Gas	Therms	3/10/2009	4/8/2009	NA	336	\$485.84	\$1.45
Natural Gas	Therms	2/5/2009	3/10/2009	NA	791	\$1,099.74	\$1.39
Natural Gas	Therms	1/8/2009	2/5/2009	NA	557	\$785.63	\$1.41
TOTAL/AVERAGE				NA	4,298	\$6,202.56	\$1.443









LIGHTING INVENTORY SUMMARY
Township of Neptune - Municipal Complex
25 Neptune Blvd
Neptune, NJ 07753

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	74,428
Proposed Energy Usage (Watts)	41,260
Energy Saved (Watts)	33,168
Annual Kilowatt Hours Saved (kWh)	139,431

FINANCIAL DATA

Annual Existing Energy Cost	\$ 56,136.78
Annual Proposed Energy Cost	\$ 31,321.76
Annual Energy Savings	\$ 24,815.02
Additional Energy Savings (Occupancy Sensors)	\$ 282.56
Total Energy Savings	\$ 25,097.57
Initial Project Cost	\$ 43,732.27
Utility Rebate (Based on NJ Smart Start Approval)	\$ 6,765.00
Project Cost	\$ 36,967.27

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	67%
Payback (Years)	1.49
10 Year Savings	\$ 248,150.20
10-Year Cumulative Positive Cash Flow	\$ 211,182.92

Township of Neptune - Municipal Complex

25 Neptune Blvd

Neptune, NJ 07753

New Jersey

Leanne Hoffman, PE, PP, CME

732-988-5200 x228

UTILITY ACCOUNT NUMBER

BUILDING TYPE

SQUARE FOOTAGE

N/A

Municipal Building

83,000

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty	Exist. Fix Wts	Foot Candle	Total Fix Wts	Existing Amp Load	Replacement Fixture Description	NJ Rebate Code	NJ Rebate Amount	Repl Qty	Repl. Fix Wts	Total Fix Wts	Proposed Amp Load	Obs. Hours	Fix Wts Saved	KWh Saved	0.15/kWh	Annual Elec. Savings	Annual Sens. Savings
1	1	IT		Handicap Ramp	2L PL40 Blax (2x2)		8	40		320	\$172.80	2L PL25 BIAx RELAMP		\$ -	8	27	216	\$116.64	3000	104	312	56.16	\$ 56.16	
2	1	IT		IT Office	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
3	1	IT		Office	2L F32T8 (Indirect)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
4	1	IT		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
5	1	IT		IT Closet	2L F32T8 (1x4)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
6	1	IT		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
7	1	Finance		Finance Open Area	3L F32T8 (2x4)		15	130		1950	\$1,053.00	2L F32T8 25W RLRB/REFL	30	\$ 450.00	15	43	645	\$348.30	3000	1305	3915	704.7	\$ 704.70	
8	1	Finance		Finance Files	3L F32T8 (2x4)		3	130		390	\$210.60	2L F32T8 25W RLRB/REFL	30	\$ 90.00	3	43	129	\$69.66	3000	261	783	140.94	\$ 140.94	
9	1	Finance		Finance Reception Area	2L PL40 Blax (2x2)		8	40		320	\$172.80	2L PL25 BIAx RELAMP		\$ -	8	27	216	\$116.64	3000	104	312	56.16	\$ 56.16	
10	1	Finance		Finance Reception Area	1L CFL Quad (Rec Can)		3	20		60	\$32.40	NO MEASURE		\$ -	3	20	60	\$32.40	3000	0	0	0	\$ -	
11	1	Finance		Office - Bascom	2L PL40 Blax (2x2)		8	40		320	\$172.80	2L PL25 BIAx RELAMP		\$ -	8	27	216	\$116.64	3000	104	312	56.16	\$ 56.16	
12	1	Finance		Office - Bascom	1L CFL Quad (Rec Can)		8	20		160	\$86.40	NO MEASURE		\$ -	8	20	160	\$86.40	3000	0	0	0	\$ -	
13	1	Finance		Office - Purch. Assistant	2L F32T8 (1x4)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
14	1	Finance		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
15	1	Finance		Office - Hudson	2L F32T8 (Indirect)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
16	1	Finance		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
17	1	Finance		Mail Room	2L F32T8 (Indirect)		4	60		240	\$129.60	2L F32T8 25W RELAMP		\$ -	4	43	172	\$92.88	3000	68	204	36.72	\$ 36.72	
18	1	Finance		Waiting Area	2L PL40 Blax (2x2)		3	40		120	\$64.80	2L PL25 BIAx RELAMP		\$ -	3	27	81	\$43.74	3000	39	117	21.06	\$ 21.06	
19	1	Finance		Waiting Area	1L CFL Quad (Rec Can)		3	20		60	\$32.40	NO MEASURE		\$ -	3	20	60	\$32.40	3000	0	0	0	\$ -	
20	1	Finance		Drive up Window	2L F34T12 (Strip)		1	80		80	\$43.20	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$23.22	3000	37	111	19.98	\$ 19.98	
21	1	Engineering		Engineering Open Area	2L PL40 Blax (2x2)		4	40		160	\$86.40	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$58.32	3000	52	156	28.08	\$ 28.08	
22	1	Engineering		Engineering Open Area	2L F32T8 (Indirect)		18	60		1080	\$583.20	2L F32T8 25W RELAMP		\$ -	18	43	774	\$417.96	3000	306	918	165.24	\$ 165.24	
23	1	Engineering		Engineering Open Area	2L F32T8 (1x4)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
24	1	Engineering		Engineering Files	2L PL40 Blax (2x2)		2	40		80	\$43.20	2L PL25 BIAx RELAMP		\$ -	2	27	54	\$29.16	3000	26	78	14.04	\$ 14.04	
25	1	Engineering		Engineering Office	2L PL40 Blax (2x2)		4	40		160	\$86.40	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$58.32	3000	52	156	28.08	\$ 28.08	
26	1	Engineering		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 17.50	
27	1	Engineering		Tax Assessor Office	2L F32T8 (Indirect)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
28	1	Engineering		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
29	1	Engineering		Hall	2L PL40 Blax (2x2)		7	40		280	\$151.20	2L PL25 BIAx RELAMP		\$ -	7	27	189	\$102.06	3000	91	273	49.14	\$ 49.14	
30	1	Administration		Administration Conference	2L PL40 Blax (2x2)		2	40		80	\$43.20	2L PL25 BIAx RELAMP		\$ -	2	27	54	\$29.16	3000	26	78	14.04	\$ 14.04	
31	1	Administration		Administration Conference	1L CFL Quad (Rec Can)		9	20		180	\$97.20	NO MEASURE		\$ -	9	20	180	\$97.20	3000	0	0	0	\$ -	
32	1	Administration		Bathroom Hall	2L PL40 Blax (2x2)		1	40		40	\$21.60	2L PL25 BIAx RELAMP		\$ -	1	27	27	\$14.58	3000	13	39	7.02	\$ 7.02	
33	1	Administration		Bathroom	3L F32T8 (2x4)		1	130		130	\$70.20	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$23.22	3000	87	261	46.98	\$ 46.98	
34	1	Administration		Main Conference Room	2L F32T8 (Indirect)		3	60		180	\$97.20	2L F32T8 25W RELAMP		\$ -	3	43	129	\$69.66	3000	51	153	27.54	\$ 27.54	
35	1	Administration		Main Conference Room	1L CFL Quad (Rec Can)		12	20		240	\$129.60	NO MEASURE		\$ -	12	20	240	\$129.60	3000	0	0	0	\$ -	
36	1	Administration		Administration Office	2L PL40 Blax (2x2)		6	40		240	\$129.60	2L PL25 BIAx RELAMP		\$ -	6	27	162	\$87.48	3000	78	234	42.12	\$ 42.12	
37	1	Administration		Administration Open Area	2L PL40 Blax (2x2)		3	40		120	\$64.80	2L PL25 BIAx RELAMP		\$ -	3	27	81	\$43.74	3000	39	117	21.06	\$ 21.06	
38	1	Administration		Administration Open Area	2L F32T8 (Indirect)		33	60		1980	\$1,069.20	2L F32T8 25W RELAMP		\$ -	33	43	1419	\$766.26	3000	561	1683	302.94	\$ 302.94	
39	1	Administration		Clerk's Office	2L F32T8 (Indirect)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
40	1	Administration		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 13.93	
41	1	Administration		Counter	1L CFL Quad (Rec Can)		3	20		60	\$32.40	NO MEASURE		\$ -	3	20	60	\$32.40	3000	0	0	0	\$ -	
42	1	Administration		Fax Room	2L F32T8 (Indirect)		1	60		60	\$32.40	2L F32T8 25W RELAMP		\$ -	1	43	43	\$23.22	3000	17	51	9.18	\$ 9.18	
43	1	Administration		Office	2L F32T8 (Indirect)		2	60		120	\$64.80	2L F32T8 25W RELAMP		\$ -	2	43	86	\$46.44	3000	34	102	18.36	\$ 18.36	
44	1	Administration		Small Conference Room	2L F32T8 (Indirect)		1	60		60	\$32.40	2L F32T8 25W RELAMP		\$ -	1	43	43	\$23.22	3000	17	51	9.18	\$ 9.18	
45	1	Administration		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00					\$ 6.97	
46	1	Administration		File Room	3L F32T8 (2x4)		1	130		130	\$70.20	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$23.22	3000	87	261	46.98	\$ 46.98	
47	1	Administration		File Room	2L F34T12 (1x4)		4	80		320	\$172.80	2L F32T8 25W RLRB	10	\$ 40.00	4	43	172	\$92.88	3000	148	444	79.02	\$ 79.02	
48	1	Administration		Common Hall	2L F32T8 (Indirect)		21	60		1260	\$680.40	2L F32T8 25W RELAMP		\$ -	21	43	903	\$487.62	3000	357	1071	192.78	\$ 192.78	
49	1	Administration		Common Hall	1L CFL Quad (Rec Can)		39	20		780	\$421.20	NO MEASURE		\$ -	39	20	780	\$421.20	3000	0	0	0	\$ -	
50	1	Public Entrance		Main Entrance	1L CFL Screw-in (Rec Can)		30	18		540	\$851.47	NO MEASURE		\$ -	30	18	540	\$851.47	8760	0	0	0	\$ -	
51	1	Public Entrance		Main Entrance	1L CFL Screw-in (Globe)		41	18		738	\$1,163.68	NO MEASURE		\$ -	41	18	738	\$1,163.68	8760	0	0	0	\$ -	
52	1	Public Entrance		Main Entrance	75w PAR30 (Rec Can)		6	75		450	\$709.56	15W PAR30 CFL		\$ -	6	15	90	\$141.91	8760	360	3153.6	567.648	\$ 567.65	
53	1	Public Entrance		Mens Room	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
54	1	Public Entrance		Womens Room	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
55	1	Code/Construction																						

LN #	FL #	Section/ Building	Room #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exist Fix Wts	Foot Candle	Total Fix Wts	Existing Am. Cost	Replacement Fixtures Description	N/E Rebate Code	N/E Rebate Amount	Repl Qty	Repl Fix Wts	Total Fix Wts	Proposed Am. Cost	Chr. Hours	Fix Wts Saved	W/W Saved	0.15\$/Wh	Annual Ene. Savings	Annual Gens. Savings
68	1	Court		Hall	2L PL40 Blix (2x2)		12	40		480	\$756.80	2L PL25 BIAx RELAMP		\$ -	12	27	324	\$510.88	8760	156	1366.56	245.9808	\$ 245.98	
69	1	Court		Bathroom	2L F17T8 (2x2)		1	37		37	\$19.68	NO MEASURE		\$ -	1	37	37	\$19.68	3000	0	0	0	\$ -	
70	1	Court		Public Defender/Prosecutor	3L F32T8 (2x4)		6	130		780	\$421.20	2L F32T8 25W RLRB/REFL	30	\$ 180.00	6	43	258	\$139.32	3000	522	1566	281.88	\$ 281.88	
71	1	Court		Court Clerk	3L F32T8 (2x4)		8	130		1040	\$561.60	2L F32T8 25W RLRB/REFL	30	\$ 240.00	8	43	344	\$185.76	3000	666	2088	375.84	\$ 375.84	
72	1	Court		Office 1	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
73	1	Court		Office 2	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
74	1	Court		File Room 1	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
75	1	Court		File Room 2	3L F32T8 (2x4)		2	130		260	\$140.40	2L F32T8 25W RLRB/REFL	30	\$ 60.00	2	43	86	\$46.44	3000	174	522	93.96	\$ 93.96	
76	1	Court		Mens Room	2L F34T12 (Strip)		2	80		160	\$86.40	2L F32T8 25W RLRB	10	\$ 20.00	2	43	86	\$46.44	3000	74	222	30.90	\$ 30.90	
77	1	Court		Womens Room	2L F34T12 (Strip)		2	80		160	\$86.40	2L F32T8 25W RLRB	10	\$ 20.00	2	43	86	\$46.44	3000	74	222	30.90	\$ 30.90	
78	1	Court		Court Room	75w PAR30 (Track)		29	75		2175	\$1,174.50	15W PAR30 CFL		\$ -	29	15	435	\$234.90	3000	1740	5220	939.6	\$ 939.60	
79	1	Court		Court Room	2L F32T8 (1x4)		30	60		1800	\$972.00	2L F32T8 25W RELAMP		\$ -	30	43	1290	\$696.60	3000	510	1530	275.4	\$ 275.40	
80	1	Court		Detective Hall	2L PL40 Blix (2x2)		20	40		800	\$1,261.44	2L PL25 BIAx RELAMP		\$ -	20	27	540	\$851.47	8760	280	2277.6	409.968	\$ 409.97	
81	1	Police		Chief's Office	2L PL40 Blix (2x2)		4	40		160	\$129.60	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$87.48	4500	52	234	42.12	\$ 42.12	
82	1	Police		Secretary	2L PL40 Blix (2x2)		4	40		160	\$129.60	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$87.48	4500	52	234	42.12	\$ 42.12	
83	1	Police		Deputy Chief	2L PL40 Blix (2x2)		4	40		160	\$129.60	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$87.48	4500	52	234	42.12	\$ 42.12	
84	1	Police		Bathroom	40w Inc (Enclosed Vanity)		2	40		80	\$64.80	10W CFL		\$ -	2	10	20	\$16.20	4500	60	270	48.6	\$ 48.60	
85	1	Police		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 4.86
86	1	Police		Office	2L PL40 Blix (2x2)		4	40		160	\$129.60	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$87.48	4500	52	234	42.12	\$ 42.12	
87	1	Police		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 20.24
88	1	Police		Detective Room 1	2L F34T12 (1x4)		7	80		560	\$453.60	2L F32T8 25W RLRB	10	\$ 70.00	7	43	301	\$243.81	4500	250	1165.5	209.79	\$ 209.79	
89	1	Police		Detective Room 2	2L F34T12 (1x4)		9	80		720	\$583.20	2L F32T8 25W RLRB	10	\$ 90.00	9	43	387	\$313.47	4500	333	1498.5	269.73	\$ 269.73	
90	1	Police		Detective Room 3	2L F34T12 (1x4)		9	80		720	\$583.20	2L F32T8 25W RLRB	10	\$ 90.00	9	43	387	\$313.47	4500	333	1498.5	269.73	\$ 269.73	
91	1	Police		Detective Room 4 Juvey	2L PL40 Blix (2x2)		6	40		240	\$194.40	2L PL25 BIAx RELAMP		\$ -	6	27	162	\$131.22	4500	78	351	63.18	\$ 63.18	
92	1	Police		Public Waiting Room	2L PL40 Blix (2x2)		4	40		160	\$252.29	2L PL25 BIAx RELAMP		\$ -	4	27	108	\$170.29	8760	52	455.52	81.9936	\$ 81.99	
93	1	Police		Public Waiting Room	1L CFL Quad (Rec Can)		5	20		100	\$157.68	NO MEASURE		\$ -	5	20	100	\$157.68	8760	0	0	0	\$ -	
94	1	Police		Conference Room	3L F32T8 (2x4)		3	130	93	390	\$315.00	2L F32T8 25W RLRB/REFL	30	\$ 90.00	3	43	129	\$104.49	4500	261	1174.5	211.41	\$ 211.41	
95	1	Police		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 31.35
96	1	Police		ID Bureau	2L F34T12 (1x4)		10	80		800	\$648.00	2L F32T8 25W RLRB	10	\$ 100.00	10	43	430	\$348.30	4500	370	1665	299.7	\$ 299.70	
97	1	Police		Sensor Savings	Ceiling Mount		1			0	\$0.00	O/S CEILING	35	\$ 35.00	1			\$0.00						\$ 104.49
98	1	Police		Lab	2L F34T12 (Wrap)		1	80		80	\$64.80	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$34.83	4500	37	166.5	29.97	\$ 29.97	
99	1	Police		Bathroom	3L F32T8 (2x4)		1	130		130	\$105.30	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$34.83	4500	87	391.5	70.47	\$ 70.47	
100	1	Police		Traffic	2L F32T8 (Indirect)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
101	1	Police		Shift Commander	2L F32T8 (Indirect)		2	60		120	\$189.22	2L F32T8 25W RELAMP		\$ -	2	43	86	\$135.60	8760	34	287.84	53.0112	\$ 53.01	
102	1	Police		Dispatch	2L F32T8 (Indirect)		10	60		600	\$948.08	2L F32T8 25W RELAMP		\$ -	10	43	430	\$678.02	8760	170	1489.2	268.056	\$ 268.06	
103	1	Police		Break Room	2L F32T8 (Indirect)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
104	1	Police		IT Closet	2L F32T8 (Wrap)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
105	1	Police		Bathroom	3L F32T8 (2x4)		1	130		130	\$105.30	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$34.83	4500	87	391.5	70.47	\$ 70.47	
106	1	Police		Office	2L F32T8 (Indirect)		1	60		60	\$48.60	2L F32T8 25W RELAMP		\$ -	1	43	43	\$34.83	4500	17	76.5	13.77	\$ 13.77	
107	1	Police		Juvey Detention	2L F32T8 (Wrap)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
108	1	Police		Report Room	2L F32T8 (Indirect)		4	60		240	\$194.40	2L F32T8 25W RELAMP		\$ -	4	43	172	\$139.32	4500	68	306	55.08	\$ 55.08	
109	1	Police		Conference Room	2L F32T8 (Indirect)		6	60		360	\$291.60	2L F32T8 25W RELAMP		\$ -	6	43	258	\$208.98	4500	102	459	82.62	\$ 82.62	
110	1	Police		Break Room	2L PL40 Blix (2x2)		1	40		40	\$32.40	2L PL25 BIAx RELAMP		\$ -	1	27	27	\$21.87	4500	13	58.5	10.53	\$ 10.53	
111	1	Police		Break Room	2L F32T8 (Indirect)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
112	1	Police		Bathroom	2L F17T8 (2x2)		1	37		37	\$29.97	NO MEASURE		\$ -	1	37	37	\$29.97	4500	0	0	0	\$ -	
113	1	Police		Booking	2L F32T8 (Indirect)		2	60		120	\$97.20	2L F32T8 25W RELAMP		\$ -	2	43	86	\$69.66	4500	34	153	27.54	\$ 27.54	
114	1	Police		Male Cells	2L PL13 (Recessed)		12	13		156	\$126.36	NO MEASURE		\$ -	12	13	156	\$126.36	4500	0	0	0	\$ -	
115	1	Police		Male Cells	1L 18w CFL Screw-in		4	18		72	\$58.32	NO MEASURE		\$ -	4	18	72	\$58.32	4500	0	0	0	\$ -	
116	1	Police		Female Cells	2L PL13 (Recessed)		6	13		78	\$63.18	NO MEASURE		\$ -	6	13	78	\$63.18	4500	0	0	0	\$ -	
117	1	Police		Female Cells	1L 18w CFL Screw-in		4	18		72	\$58.32	NO MEASURE		\$ -	4	18	72	\$58.32	4500	0	0	0	\$ -	
118	1	Police		Salley Port	175w MH (Wall Pack)		2	205		410	\$332.10	80W INDUCTION WALL PACK	50	\$ 100.00	2	80	160	\$129.80	4500	250	1125	202.5	\$ 202.50	
119	1	Police		Records Entrance	2L F34T12 (1x4)		1	80		80	\$64.80	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$34.83	4500	37	166.5	29.97	\$ 29.97	
120	1	Police		Records Open Area	2L F34T12 (1x4)		19	80		1520	\$1,231.20	2L F32T8 25W RLRB	10	\$ 100.00	19	43	817	\$661.77	4500	703	3163.5	569.43	\$ 569.43	
121	1	Police		Womens Room	40w Inc (Enclosed Vanity)		4	40		160	\$129.60	10W CFL		\$ -	4	10	40	\$32.40	4500	120	540	97.2	\$ 97.20	
122	1	Police		Mens Room	40w Inc (Enclosed Vanity)		3	40		120	\$97.20	10W CFL		\$ -	3	10	30	\$24.30	4500	90	405	72.9	\$ 72.90	
123	1	Police		Lockers	4L F34T12 (2x4)		1	160		160	\$129.60	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$34.83	4500	117	526.5	94.77	\$ 94.77	
124	1	Police		File Room	1L F34T12 (Strip)		2	50		100	\$81.00	1L F32T8 25W RLRB	10	\$ 20.00	2	22	44	\$35.64	4500	56	252	45.36	\$ 45.36	
125	1	Police		File Room	4L F34T12 (Industrial)		6	160		960	\$777.60	2L F32T8 25W RLRB/REFL	30	\$ 180.00	6	43	258	\$208.98	4500	702	3159	568.62	\$ 568.62	
126	1	Police		Stairs 1	2L F34T12 (1x4)		3	80		240	\$378.43	2L F32T8 25W RLRB	10	\$ 30.00	3	43	129	\$203.41	8760	111	972.36	175.0248	\$ 175.02	
127	B	Police		Stairs 2	2L F34T12 (1x4)		2	80		160	\$252.29	2L F32T8 25W RLRB	10	\$ 20.00	2	43	86	\$135.60	8760	74	648.24	116.6832	\$ 116.68	
128	B	Police		Stairs 2	4L F34T12 (2x4)		2	160		320</														

LN #	FL #	Section/ Building	Room #	Room Description	Existing Fixture Description	Fixture Code	Exist Qty	Exist Fix Wts	Foot Candle	Total Fix Wts	Existing An. Cost	Replacement Fixture Description	N/E Rebate Code	N/E Rebate Amount	Repl Qty	Repl Fix Wts	Total Fix Wts	Proposed An. Cost	Opn Hours	Fix Wts Saved	kWh Saved	0.10/kWh	Annual Elec Savings	Annual Sens. Savings
140	B	Police		Boiler	2L F34T12 (Strip)		7	80		560	\$453.00	2L F32T8 25W RLRB	10	\$ 70.00	7	43	301	\$243.81	4500	259	1165.5	209.79	\$ 209.79	
147	B	Police		Boiler	175w MH (Wall Pack)		4	205		820	\$664.20	80W INDUCTION WALL PACK	50	\$ 200.00	4	80	320	\$259.20	4500	500	2250	405	\$ 405.00	
148	B	Police		Hall	2L F34T12 (1x4)		17	80		1360	\$2,144.45	2L F32T8 25W RLRB	10	\$ 170.00	17	43	731	\$1,152.64	8780	629	5510.04	991.8072	\$ 991.81	
149	B	Police		OEM Storage	2L F34T12 (1x4)		4	80		320	\$259.20	2L F32T8 25W RLRB	10	\$ 40.00	4	43	172	\$139.32	4500	148	666	119.88	\$ 119.88	
150	B	Police		Maintenance Locker	2L F34T12 (1x4)		4	80		320	\$259.20	2L F32T8 25W RLRB	10	\$ 40.00	4	43	172	\$139.32	4500	148	666	119.88	\$ 119.88	
151	B	Police		Maintenance Superintendent	2L F34T12 (1x4)		4	80		320	\$259.20	2L F32T8 25W RLRB	10	\$ 40.00	4	43	172	\$139.32	4500	148	666	119.88	\$ 119.88	
152	B	Police		Phone Room	2L F34T12 (Strip)		1	80		80	\$64.80	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$34.83	4500	37	166.5	29.97	\$ 29.97	
153	B	Police		B-12 Storage	2L F34T12 (1x4)		11	80		880	\$712.80	2L F32T8 25W RLRB	10	\$ 110.00	11	43	473	\$383.13	4500	407	1831.5	329.67	\$ 329.67	
154	B	Police		B-11 Storage	2L F34T12 (1x4)		21	80		1680	\$1,300.80	2L F32T8 25W RLRB	10	\$ 210.00	21	43	903	\$731.43	4500	777	3496.5	629.37	\$ 629.37	
155	B	Police		Storage	2L F34T12 (1x4)		2	80		160	\$129.60	2L F32T8 25W RLRB	10	\$ 20.00	2	43	86	\$69.66	4500	74	333	59.04	\$ 59.04	
156	B	Police		Electrical Closet	2L F34T12 (Strip)		1	80		80	\$64.80	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$34.83	4500	37	166.5	29.97	\$ 29.97	
157	B	Police		Maintenance Storage	2L F34T12 (Strip)		7	80		560	\$453.00	2L F32T8 25W RLRB	10	\$ 70.00	7	43	301	\$243.81	4500	259	1165.5	209.79	\$ 209.79	
158	B	Police		Stairs	2L F34T12 (1x4)		5	80		400	\$630.72	2L F32T8 25W RLRB	10	\$ 50.00	5	43	215	\$330.01	8780	185	1620.6	291.708	\$ 291.71	
159	B	Police		Police Stairs	2L F34T12 (1x4)		3	80		240	\$378.43	2L F32T8 25W RLRB	10	\$ 30.00	3	43	129	\$203.41	8780	111	972.36	175.0248	\$ 175.02	
160	B	Police		Storage	2L F34T12 (1x4)		3	80		240	\$194.40	2L F32T8 25W RLRB	10	\$ 30.00	3	43	129	\$104.49	4500	111	499.5	89.91	\$ 89.91	
161	1	Library		Entrance	75w PAR30 (Rec Can)		13	75		975	\$614.25	15W PAR30 CFL		\$ -	13	15	195	\$122.85	3500	780	2730	491.4	\$ 491.40	
162	1	Library		Closet	60w A		1	60		60	\$37.80	10W CFL		\$ -	1	10	10	\$6.30	3500	50	175	31.5	\$ 31.50	
163	1	Library		Mens Room	2L F34T12 (Strip)		1	80		80	\$50.40	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$27.09	3500	37	129.5	23.31	\$ 23.31	
164	1	Library		Womens Room	2L F34T12 (Strip)		1	80		80	\$50.40	2L F32T8 25W RLRB	10	\$ 10.00	1	43	43	\$27.09	3500	37	129.5	23.31	\$ 23.31	
165	1	Library		Showcase	50w PAR20 (Rec Can)		3	50		150	\$94.50	9W PAR20 CFL		\$ -	3	9	27	\$17.01	3500	123	439.5	77.49	\$ 77.49	
166	1	Library		Open Area	2L F17T8 (2x2)		157	37		5809	\$3,659.67	NO MEASURE		\$ -	157	37	5809	\$3,659.67	3500	0	0	0	\$ -	
167	1	Library		Office Large	2L F17T8 (2x2)		13	37		481	\$303.03	NO MEASURE		\$ -	13	37	481	\$303.03	3500	0	0	0	\$ -	
168	1	Library		Bathroom	60w A		2	60		120	\$75.60	10W CFL		\$ -	2	10	20	\$12.60	3500	100	350	63	\$ 63.00	
169	1	Library		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 3.78
170	1	Library		Office 1	2L F17T8 (2x2)		6	37		222	\$139.86	NO MEASURE		\$ -	6	37	222	\$139.86	3500	0	0	0	\$ -	
171	1	Library		Bathroom	60w A		2	60		120	\$75.60	10W CFL		\$ -	2	10	20	\$12.60	3500	100	350	63	\$ 63.00	
172	1	Library		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 3.78
173	1	Library		Office 2	2L F17T8 (2x2)		2	37		74	\$46.62	NO MEASURE		\$ -	2	37	74	\$46.62	3500	0	0	0	\$ -	
174	2	Library		Childrens	4L F32T8 (1x4)		35	160		5600	\$3,528.00	4L F32T8 25W RELAMP		\$ -	35	86	3010	\$1,896.30	3500	2590	9065	1631.7	\$ 1,631.70	
175	2	Library		Childrens	2L F32T8 (1x8)		2	60		120	\$75.60	2L F32T8 25W RELAMP		\$ -	2	43	86	\$54.18	3500	34	119	21.42	\$ 21.42	
176	2	Library		Childrens	1L F32T8 (1x4)		6	30		180	\$113.40	1L F32T8 25W RELAMP		\$ -	6	22	132	\$83.16	3500	48	168	30.24	\$ 30.24	
177	2	Library		Childrens	3L F32T8 (1x12)		3	130		390	\$245.70	2L F32T8 25W RLRB/REFL	30	\$ 90.00	3	43	129	\$81.27	3500	261	913.5	164.43	\$ 164.43	
178	2	Library		Office	3L F32T8 (1x12)		1	130		130	\$81.90	2L F32T8 25W RLRB/REFL	30	\$ 30.00	1	43	43	\$27.09	3500	87	304.5	54.81	\$ 54.81	
179	2	Library		Conference Room	2L F17T8 (2x2)		12	37		444	\$279.72	NO MEASURE		\$ -	12	37	444	\$279.72	3500	0	0	0	\$ -	
180	2	Library		Bathroom	75w PAR30 (Rec Can)		1	75		75	\$47.25	15W PAR30 CFL		\$ -	1	15	15	\$9.45	3500	60	210	37.8	\$ 37.80	
181	2	Library		Bathroom	60w A		2	60		120	\$75.60	10W CFL		\$ -	2	10	20	\$12.60	3500	100	350	63	\$ 63.00	
182	2	Library		Break Room	75w PAR30 (Rec Can)		1	75		75	\$47.25	15W PAR30 CFL		\$ -	1	15	15	\$9.45	3500	60	210	37.8	\$ 37.80	
183	2	Library		Break Room	60w A		1	60		60	\$37.80	10W CFL		\$ -	1	10	10	\$6.30	3500	50	175	31.5	\$ 31.50	
184	2	Library		Break Room	2L F32T8 (Wrap)		1	60		60	\$37.80	2L F32T8 25W RELAMP		\$ -	1	43	43	\$27.09	3500	17	59.5	10.71	\$ 10.71	
185	2	Library		Break Room	1L F32T8 (1x4)		3	30		90	\$56.70	1L F32T8 25W RELAMP		\$ -	3	22	66	\$41.58	3500	24	84	15.12	\$ 15.12	
186	2	Library		Storage	75w PAR30 (Rec Can)		1	75		75	\$47.25	15W PAR30 CFL		\$ -	1	15	15	\$9.45	3500	60	210	37.8	\$ 37.80	
187	2	Library		Bathroom	60w A		2	60		120	\$75.60	10W CFL		\$ -	2	10	20	\$12.60	3500	100	350	63	\$ 63.00	
188	2	Library		Stairs	75w PAR30 (Rec Can)		2	75		150	\$94.50	15W PAR30 CFL		\$ -	2	15	30	\$18.90	3500	120	420	75.6	\$ 75.60	
189	2	Library		Stairs	60w A		1	60		60	\$37.80	10W CFL		\$ -	1	10	10	\$6.30	3500	50	175	31.5	\$ 31.50	
190	2	Library		Stairs	2L F32T8 (Wrap)		1	60		60	\$37.80	2L F32T8 25W RELAMP		\$ -	1	43	43	\$27.09	3500	17	59.5	10.71	\$ 10.71	

Electric Rate: \$0.18

74,428 \$56,130.78

\$ 0,705.00

KW SAVED >>>>

41260 \$31,321.7568

33.17 137861.22 24815.0196 \$ 24,815.02 \$ 282.56

Total Cost Savings \$ 25,097.57

Total kWh Savings 139,430.97

Name:	Township of Neptune - Municipal Complex
Address:	25 Neptune Blvd
City, St:	Neptune, NJ 07753
Contact:	Leanne Hoffman, PE, PP, CME
Phone:	732-988-5200 x228

LN #	FL #	Replacement Fixture Description	Rep Qty	Qty Req	Fixture / Ballast	cost fix	Qty Imp	Lamp / Sensor	cost lamp	Qty Ref	Reflector / Downlight	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sub Total	NON UNION	
																	Labor Cost	Labor Tot Cost
1	1	2L PL25 BIAx RELAMP	8	8		\$ -	16	PL25 27W BIAx LAMP	\$ 18.00	8		\$ -	\$ -	\$ 288.00	\$ -	\$ 374.40	\$ 12.00	\$ 96.00
2	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
3	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
4	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
5	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
6	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
7	1	2L F32T8 25W RLRB/REFL	15	15	2L ELB/NBF	\$ 12.00	45	F32T8 25W LAMP	\$ 3.00	15	2X4 M4 REFL	\$ 18.00	\$ 180.00	\$ 135.00	\$ 270.00	\$ 760.50	\$ 35.00	\$ 525.00
8	1	2L F32T8 25W RLRB/REFL	3	3	2L ELB/NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
9	1	2L PL25 BIAx RELAMP	8	8		\$ -	16	PL25 27W BIAx LAMP	\$ 18.00	8		\$ -	\$ -	\$ 288.00	\$ -	\$ 374.40	\$ 12.00	\$ 96.00
10	1	NO MEASURE	3	3		\$ -	3		\$ -	3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	1	2L PL25 BIAx RELAMP	8	8		\$ -	16	PL25 27W BIAx LAMP	\$ 18.00	8		\$ -	\$ -	\$ 288.00	\$ -	\$ 374.40	\$ 12.00	\$ 96.00
12	1	NO MEASURE	8	8		\$ -	8		\$ -	8		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
14	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
15	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
16	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
17	1	2L F32T8 25W RELAMP	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
18	1	2L PL25 BIAx RELAMP	3	3		\$ -	6	PL25 27W BIAx LAMP	\$ 18.00	3		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 36.00
19	1	NO MEASURE	3	3		\$ -	3		\$ -	3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	1	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
21	1	2L PL25 BIAx RELAMP	4	4		\$ -	8	PL25 27W BIAx LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
22	1	2L F32T8 25W RELAMP	18	18		\$ -	36	F32T8 25W LAMP	\$ 3.00	18		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 216.00
23	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
24	1	2L PL25 BIAx RELAMP	2	2		\$ -	4	PL25 27W BIAx LAMP	\$ 18.00	2		\$ -	\$ -	\$ 72.00	\$ -	\$ 93.60	\$ 12.00	\$ 24.00
25	1	2L PL25 BIAx RELAMP	4	4		\$ -	8	PL25 27W BIAx LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
26	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
27	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
28	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
29	1	2L PL25 BIAx RELAMP	7	7		\$ -	14	PL25 27W BIAx LAMP	\$ 18.00	7		\$ -	\$ -	\$ 252.00	\$ -	\$ 327.60	\$ 12.00	\$ 84.00
30	1	2L PL25 BIAx RELAMP	2	2		\$ -	4	PL25 27W BIAx LAMP	\$ 18.00	2		\$ -	\$ -	\$ 72.00	\$ -	\$ 93.60	\$ 12.00	\$ 24.00
31	1	NO MEASURE	0	0		\$ -	0		\$ -	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	1	2L PL25 BIAx RELAMP	1	1		\$ -	2	PL25 27W BIAx LAMP	\$ 18.00	1		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 12.00
33	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00
34	1	2L F32T8 25W RELAMP	3	3		\$ -	6	F32T8 25W LAMP	\$ 3.00	3		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 36.00
35	1	NO MEASURE	12	12		\$ -	12		\$ -	12		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	1	2L PL25 BIAx RELAMP	6	6		\$ -	12	PL25 27W BIAx LAMP	\$ 18.00	6		\$ -	\$ -	\$ 216.00	\$ -	\$ 280.80	\$ 12.00	\$ 72.00
37	1	2L PL25 BIAx RELAMP	3	3		\$ -	6	PL25 27W BIAx LAMP	\$ 18.00	3		\$ -	\$ -	\$ 108.00	\$ -	\$ 140.40	\$ 12.00	\$ 36.00
38	1	2L F32T8 25W RELAMP	33	33		\$ -	66	F32T8 25W LAMP	\$ 3.00	33		\$ -	\$ -	\$ 198.00	\$ -	\$ 257.40	\$ 12.00	\$ 396.00
39	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
40	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
41	1	NO MEASURE	3	3		\$ -	3		\$ -	3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42	1	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
43	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
44	1	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
45	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
46	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
47	1	2L F32T8 25W RLRB	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
48	1	2L F32T8 25W RELAMP	21	21		\$ -	42	F32T8 25W LAMP	\$ 3.00	21		\$ -	\$ -	\$ 126.00	\$ -	\$ 163.80	\$ 12.00	\$ 252.00
49	1	NO MEASURE	39	39		\$ -	39		\$ -	39		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
50	1	NO MEASURE	30	30		\$ -	30		\$ -	30		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51	1	NO MEASURE	41	41		\$ -	41		\$ -	41		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
52	1	15W PAR30 CFL	6	6		\$ -	24	15W PAR30 CFL	\$ 10.00	6		\$ -	\$ -	\$ 240.00	\$ -	\$ 312.00	\$ 10.00	\$ 60.00
53	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
54	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
55	1	2L F32T8 25W RLRB/REFL	23	23	2L ELB/NBF	\$ 12.00	46	F32T8 25W LAMP	\$ 3.00	23	2X4 M4 REFL	\$ 18.00	\$ 276.00	\$ 138.00	\$ 414.00	\$ 1,076.40	\$ 35.00	\$ 805.00
56	1	NO MEASURE	3	3		\$ -	3		\$ -	3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
58	1	2L F32T8 25W RLRB/REFL	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 24.00	\$ 72.00	\$ 187.20	\$ 35.00	\$ 140.00
59	1	2L F32T8 25W RLRB/REFL	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 24.00	\$ 72.00	\$ 187.20	\$ 35.00	\$ 140.00
60	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
61	1	2L F32T8 25W RLRB/REFL	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 24.00	\$ 72.00	\$ 187.20	\$ 35.00	\$ 140.00
62	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
63	1	NO MEASURE	2	2		\$ -	2		\$ -	2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64	1	NO MEASURE	2	2		\$ -	2		\$ -	2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65	1	NO MEASURE	2	2		\$ -	2		\$ -	2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
66	1	2L F32T8 25W RLRB/REFL	3	3	2L ELB/NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
67	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00

LN #	PL #	Replacement Fixture Description	Repl Qty	Qty Inst	Fixture / Ballast	Cost Fix	Qty Imp	Lamp/Sensor	Cost Imp	Qty Refl	Reflector/Bowditch	Cost Ref	Ballast/Fix Cost Total	Lamp Cost Total	REFL/CFL Cost Total	Material Solt Total	Labor Cost	Labor Tot. Cost
68	1	2L PL25 BIAK RELAMP	12	12		\$ -	24	PL25 27W BIAK LAMP	\$ 18.00	12		\$ -	\$ -	\$ 432.00	\$ -	\$ 561.60	\$ 12.00	\$ 144.00
69	1	NO MEASURE	1	1		\$ -	1		\$ -	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
70	1	2L F32T8 25W RLRB/REFL	8	8	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	8	2X4 M4 REFL	\$ 18.00	\$ 72.00	\$ 18.00	\$ 108.00	\$ 257.40	\$ 35.00	\$ 210.00
71	1	2L F32T8 25W RLRB/REFL	8	8	2L ELB/NBF	\$ 12.00	32	F32T8 25W LAMP	\$ 3.00	8	2X4 M4 REFL	\$ 18.00	\$ 96.00	\$ 96.00	\$ 144.00	\$ 436.80	\$ 35.00	\$ 280.00
72	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
73	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
74	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 24.00	\$ 36.00	\$ 109.20	\$ 35.00	\$ 70.00
75	1	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
76	1	2L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
77	1	2L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
79	1	15W PAR30 CFL	29	29		\$ -	29	15W PAR30 CFL	\$ 10.00	29		\$ -	\$ -	\$ 290.00	\$ -	\$ 377.00	\$ 10.00	\$ 290.00
79	1	2L F32T8 25W RELAMP	30	30		\$ -	60	F32T8 25W LAMP	\$ 3.00	30		\$ -	\$ -	\$ 180.00	\$ -	\$ 234.00	\$ 12.00	\$ 360.00
80	1	2L PL25 BIAK RELAMP	20	20		\$ -	40	PL25 27W BIAK LAMP	\$ 18.00	20		\$ -	\$ -	\$ 720.00	\$ -	\$ 936.00	\$ 12.00	\$ 240.00
81	1	2L PL25 BIAK RELAMP	4	4		\$ -	8	PL25 27W BIAK LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
82	1	2L PL25 BIAK RELAMP	4	4		\$ -	8	PL25 27W BIAK LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
83	1	2L PL25 BIAK RELAMP	4	4		\$ -	8	PL25 27W BIAK LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
84	1	10W CFL	2	2		\$ -	2		\$ -	2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.00	\$ 20.00
85	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
86	1	2L PL25 BIAK RELAMP	4	4		\$ -	8	PL25 27W BIAK LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
87	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
88	1	2L F32T8 25W RLRB	7	7	2L ELB/NBF	\$ 12.00	14	F32T8 25W LAMP	\$ 3.00	7		\$ -	\$ 84.00	\$ 42.00	\$ -	\$ 163.80	\$ 25.00	\$ 175.00
89	1	2L F32T8 25W RLRB	9	9	2L ELB/NBF	\$ 12.00	18	F32T8 25W LAMP	\$ 3.00	9		\$ -	\$ 108.00	\$ 54.00	\$ -	\$ 210.60	\$ 25.00	\$ 225.00
90	1	2L F32T8 25W RLRB	9	9	2L ELB/NBF	\$ 12.00	18	F32T8 25W LAMP	\$ 3.00	9		\$ -	\$ 108.00	\$ 54.00	\$ -	\$ 210.60	\$ 25.00	\$ 225.00
91	1	2L PL25 BIAK RELAMP	6	6		\$ -	12	PL25 27W BIAK LAMP	\$ 18.00	6		\$ -	\$ -	\$ 216.00	\$ -	\$ 280.80	\$ 12.00	\$ 72.00
92	1	2L PL25 BIAK RELAMP	4	4		\$ -	8	PL25 27W BIAK LAMP	\$ 18.00	4		\$ -	\$ -	\$ 144.00	\$ -	\$ 187.20	\$ 12.00	\$ 48.00
93	1	NO MEASURE	5	5		\$ -	5		\$ -	5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
94	1	2L F32T8 25W RLRB/REFL	3	3	2L ELB/NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
95	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
96	1	2L F32T8 25W RLRB	10	10	2L ELB/NBF	\$ 12.00	20	F32T8 25W LAMP	\$ 3.00	10		\$ -	\$ 120.00	\$ 60.00	\$ -	\$ 234.00	\$ 25.00	\$ 250.00
97	1	O/S CEILING	1	1		\$ -	1	O/S CEILING	\$ 95.00	1	O/S POWER PACK	\$ 35.00	\$ -	\$ 95.00	\$ 35.00	\$ 169.00	\$ 55.00	\$ 55.00
98	1	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
99	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
100	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
101	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
102	1	2L F32T8 25W RELAMP	10	10		\$ -	20	F32T8 25W LAMP	\$ 3.00	10		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 12.00	\$ 120.00
103	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
104	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
105	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
106	1	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
107	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
108	1	2L F32T8 25W RELAMP	4	4		\$ -	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ -	\$ 24.00	\$ -	\$ 31.20	\$ 12.00	\$ 48.00
109	1	2L F32T8 25W RELAMP	6	6		\$ -	12	F32T8 25W LAMP	\$ 3.00	6		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 72.00
110	1	2L PL25 BIAK RELAMP	1	1		\$ -	2	PL25 27W BIAK LAMP	\$ 18.00	1		\$ -	\$ -	\$ 36.00	\$ -	\$ 46.80	\$ 12.00	\$ 12.00
111	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
112	1	NO MEASURE	1	1		\$ -	1		\$ -	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
113	1	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
114	1	NO MEASURE	12	12		\$ -	24		\$ -	12		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
115	1	NO MEASURE	4	4		\$ -	4		\$ -	4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
116	1	NO MEASURE	6	6		\$ -	12		\$ -	6		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
117	1	NO MEASURE	4	4		\$ -	4		\$ -	4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
118	1	80W INDUCTION WALL PACK	2	2	NEW 80W INDUCTION WALL PACK	\$100.00	2		\$ -	2		\$ -	\$ 200.00	\$ -	\$ -	\$ 260.00	\$ 75.00	\$ 150.00
119	1	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
120	1	2L F32T8 25W RLRB	19	19	2L ELB/NBF	\$ 12.00	38	F32T8 25W LAMP	\$ 3.00	19		\$ -	\$ 228.00	\$ 114.00	\$ -	\$ 444.60	\$ 25.00	\$ 475.00
121	1	10W CFL	4	4		\$ -	8		\$ -	4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.00	\$ 40.00
122	1	10W CFL	3	3		\$ -	3		\$ -	3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.00	\$ 30.00
123	1	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 12.00	\$ 12.00
124	1	1L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 6.00	\$ -	\$ 39.00	\$ 25.00	\$ 50.00
125	1	2L F32T8 25W RLRB/REFL	6	6	2L ELB/NBF	\$ 12.00	12	F32T8 25W LAMP	\$ 3.00	6	M4 REFL	\$ 18.00	\$ 72.00	\$ 36.00	\$ 108.00	\$ 280.80	\$ 35.00	\$ 210.00
126	1	2L F32T8 25W RLRB	3	3	2L ELB/NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	3		\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00
127	B	2L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
128	B	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
129	B	2L F32T8 25W RLRB/REFL	8	8	2L ELB/NBF	\$ 12.00	32	F32T8 25W LAMP	\$ 3.00	8	2X4 M4 REFL	\$ 18.00	\$ 96.00	\$ 96.00	\$ 144.00	\$ 436.80	\$ 35.00	\$ 280.00
130	B	2L F32T8 25W RLRB/REFL	6	6	2L ELB/NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	6	2X4 M4 REFL	\$ 18.00	\$ 72.00	\$ 18.00	\$ 108.00	\$ 257.40	\$ 35.00	\$ 210.00
131	B	2L F32T8 25W RELAMP	10	10		\$ -	20	F32T8 25W LAMP	\$ 3.00	10		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 12.00	\$ 120.00
132	B	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
133	B	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
134	B	2L F32T8 25W RELAMP	5	5		\$ -	10	F32T8 25W LAMP	\$ 3.00	5		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 12.00	\$ 60.00
135	B	NO MEASURE	1	1		\$ -	1		\$ -	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
136	B	2L F32T8 25W RLRB/REFL	2	2	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
137	B	2L F32T8 25W RELAMP	5	5		\$ -	10	F32T8 25W LAMP	\$ 3.00	5		\$ -	\$ -	\$ 30.00	\$ -	\$ 39.00	\$ 12.00	\$ 60.00
138	B	NO MEASURE	1	1		\$ -	1		\$ -	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
139	B	2L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
140	B	2L F32T8 25W RLRB/REFL	8	8														

LN #	RL #	Replacement Fixture Description	Repl Qty	qty fct	Fixture / Ballast	cost fct	qty lmp	Lamp/Sensor	cost lmp	qty refl	Reflector/Downdraft	cost refl	Ballast/Fixture Cost Total	Lmp Cost Total	REFLECT Cost Total	Material Sub Total	Labor Cost	Labor Tot. Cost
146	B	2L F32T8 25W RLRB	7	7	2L ELB/NBF	\$ 12.00	14	F32T8 25W LAMP	\$ 3.00	7		\$ -	\$ 84.00	\$ 42.00	\$ -	\$ 163.80	\$ 25.00	\$ 175.00
147	B	80W INDUCTION WALL PACK	4	4		\$100.00	4		\$ -	4		\$ -	\$ 400.00	\$ -	\$ -	\$ 520.00	\$ 75.00	\$ 300.00
148	B	2L F32T8 25W RLRB	17	17	2L ELB/NBF	\$ 12.00	34	F32T8 25W LAMP	\$ 3.00	17		\$ -	\$ 204.00	\$ 102.00	\$ -	\$ 397.80	\$ 25.00	\$ 425.00
149	B	2L F32T8 25W RLRB	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
150	B	2L F32T8 25W RLRB	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
151	B	2L F32T8 25W RLRB	4	4	2L ELB/NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4		\$ -	\$ 48.00	\$ 24.00	\$ -	\$ 93.60	\$ 25.00	\$ 100.00
152	B	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
153	B	2L F32T8 25W RLRB	11	11	2L ELB/NBF	\$ 12.00	22	F32T8 25W LAMP	\$ 3.00	11		\$ -	\$ 132.00	\$ 66.00	\$ -	\$ 257.40	\$ 25.00	\$ 275.00
154	B	2L F32T8 25W RLRB	21	21	2L ELB/NBF	\$ 12.00	42	F32T8 25W LAMP	\$ 3.00	21		\$ -	\$ 252.00	\$ 126.00	\$ -	\$ 491.40	\$ 25.00	\$ 525.00
155	B	2L F32T8 25W RLRB	2	2	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00
156	B	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
157	B	2L F32T8 25W RLRB	7	7	2L ELB/NBF	\$ 12.00	14	F32T8 25W LAMP	\$ 3.00	7		\$ -	\$ 84.00	\$ 42.00	\$ -	\$ 163.80	\$ 25.00	\$ 175.00
158	B	2L F32T8 25W RLRB	5	5	2L ELB/NBF	\$ 12.00	10	F32T8 25W LAMP	\$ 3.00	5		\$ -	\$ 60.00	\$ 30.00	\$ -	\$ 117.00	\$ 25.00	\$ 125.00
159	B	2L F32T8 25W RLRB	3	3	2L ELB/NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	3		\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00
160	B	2L F32T8 25W RLRB	3	3	2L ELB/NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	3		\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00
161	1	15W PAR30 CFL	13	13		\$ -	13	15W PAR30 CFL	\$ 10.00	13		\$ -	\$ -	\$ 130.00	\$ -	\$ 169.00	\$ 10.00	\$ 130.00
162	1	10W CFL	1	1		\$ -	4	10W CFL	\$ 10.00	1		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 10.00
163	1	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
164	1	2L F32T8 25W RLRB	1	1	2L ELB/NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00
165	1	9W PAR20 CFL	3	3		\$ -	12	9W PAR20 CFL	\$ 10.00	3		\$ -	\$ -	\$ 120.00	\$ -	\$ 156.00	\$ 10.00	\$ 30.00
166	1	NO MEASURE	157	157		\$ -	157		\$ -	157		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
167	1	NO MEASURE	13	13		\$ -	13		\$ -	13		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
168	1	10W CFL	2	2		\$ -	8	10W CFL	\$ 10.00	2		\$ -	\$ -	\$ 80.00	\$ -	\$ 104.00	\$ 10.00	\$ 20.00
169	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
170	1	NO MEASURE	6	6		\$ -	6		\$ -	6		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
171	1	10W CFL	2	2		\$ -	8	10W CFL	\$ 10.00	2		\$ -	\$ -	\$ 80.00	\$ -	\$ 104.00	\$ 10.00	\$ 20.00
172	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00
173	1	NO MEASURE	2	2		\$ -	2		\$ -	2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
174	2	4L F32T8 25W RELAMP	35	35		\$ -	35		\$ -	35		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.00	\$ 350.00
175	2	2L F32T8 25W RELAMP	2	2		\$ -	4	F32T8 25W LAMP	\$ 3.00	2		\$ -	\$ -	\$ 12.00	\$ -	\$ 15.60	\$ 12.00	\$ 24.00
176	2	1L F32T8 25W RELAMP	6	6		\$ -	6	F32T8 25W LAMP	\$ 3.00	6		\$ -	\$ -	\$ 18.00	\$ -	\$ 23.40	\$ 12.00	\$ 72.00
177	2	2L F32T8 25W RLRB/REFL	3	3	2L ELB/NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	1X8 M4 REFL	\$ 36.00	\$ 36.00	\$ 9.00	\$ 108.00	\$ 198.00	\$ 35.00	\$ 105.00
178	2	2L F32T8 25W RLRB/REFL	1	1	2L ELB/NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	1	1X8 M4 REFL	\$ 36.00	\$ 36.00	\$ 12.00	\$ 36.00	\$ 78.00	\$ 35.00	\$ 35.00
179	2	NO MEASURE	12	12		\$ -	12		\$ -	12		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
180	2	15W PAR30 CFL	1	1		\$ -	1	15W PAR30 CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00
181	2	10W CFL	2	2		\$ -	2	10W CFL	\$ 10.00	2		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
182	2	15W PAR30 CFL	1	1		\$ -	2	15W PAR30 CFL	\$ 10.00	1		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 10.00
183	2	10W CFL	1	1		\$ -	2	10W CFL	\$ 10.00	1		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 10.00
184	2	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
185	2	1L F32T8 25W RELAMP	3	3		\$ -	3	F32T8 25W LAMP	\$ 3.00	3		\$ -	\$ -	\$ 9.00	\$ -	\$ 11.70	\$ 12.00	\$ 36.00
186	2	15W PAR30 CFL	1	1		\$ -	2	15W PAR30 CFL	\$ 10.00	1		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 10.00
187	2	10W CFL	2	2		\$ -	2	10W CFL	\$ 10.00	2		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 20.00
188	2	15W PAR30 CFL	2	2		\$ -	4	15W PAR30 CFL	\$ 10.00	2		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 20.00
189	2	10W CFL	1	1		\$ -	2	10W CFL	\$ 10.00	1		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 10.00
190	2	2L F32T8 25W RELAMP	1	1		\$ -	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ -	\$ 6.00	\$ -	\$ 7.80	\$ 12.00	\$ 12.00
													\$ 4,572.00	\$ 9,486.00	\$ 2,645.00	\$ 21,713.90	Total	\$ 15,768.00
													With Tax	\$ 23,233.87	CONT	\$ -		
													Equipment	\$ -				
													Total Labor:	\$ 20,498.40				
													Total project	\$ 43,732.27				
													NEW JERSEY SMART START REBATE	\$ 6,765.00				

LIGHTING INVENTORY SUMMARY
Neptune Township - Dept. of Public Works
25 Neptune Blvd.
Neptune, NJ 07753

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	25,145
Proposed Energy Usage (Watts)	9,523
Energy Saved (Watts)	15,622
Annual Kilowatt Hours Saved (kWh)	54,767

FINANCIAL DATA

Annual Existing Energy Cost	\$ 14,257.22
Annual Proposed Energy Cost	\$ 5,399.54
Annual Energy Savings	\$ 8,857.67
Additional Energy Savings (Occupancy Sensors)	\$ 14.63
Total Energy Savings	\$ 8,872.30
Initial Project Cost	\$ 20,731.37
Utility Rebate (Based on NJ Smart Start Approval)	\$ 3,910.00
Project Cost	\$ 16,821.37

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	53%
Payback (Years)	1.90
10 Year Savings	\$ 88,576.74
10-Year Cumulative Positive Cash Flow	\$ 71,755.37

Neptune Township - Dept. of Public Works

25 Neptune Blvd.

Neptune, NJ 07753

New Jersey

Leanne Hoffmann, PE, PP, CME

732-988-5200 x228

UTILITY ACCOUNT NUMBER

BUILDING TYPE

SQUARE FOOTAGE

N/A

DPW

11,000

LN #	PL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty.	Exist. Fix/Wts	Foot. Candle	Total Fix/Wts	Existing Am. Cost	Replacement Fixture Description	Ni Rebate Code	Ni Rebate Amount	Repl. Qty.	Repl. Fix/Wts	Total Fix/Wts	Proposed Am. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0.15/kWh	Annual Ene. Savings	Annual Sene Savings
1	1	DPW		ENTRANCE	4L F34T12 (2X4)		1	160		160	\$90.72	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 30.00	1	43	43	\$24.38	3500	117	409.5	66.330	\$ 66.34	
2	1	DPW		MARGES OFFICE	4L F34T12 (2X4)		3	100	480	\$272.16	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 90.00	3	43	129	\$73.14	3500	351	1228.5	199.017	\$ 199.02		
3	1	DPW		SECRETARY	4L F34T12 (2X4)		3	160	480	\$272.16	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 90.00	3	43	129	\$73.14	3500	351	1228.5	199.017	\$ 199.02		
4	1	DPW		RECREATION	4L F34T12 (2X4)		4	160	640	\$362.88	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 120.00	4	43	172	\$97.52	3500	468	1638	265.356	\$ 265.36		
5	1	DPW		SUPPLY	4L F34T12 (2X4)		1	160	160	\$90.72	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 30.00	1	43	43	\$24.38	3500	117	409.5	66.330	\$ 66.34		
6	1	DPW		FREDS OFFICE	4L F34T12 (2X4)		4	160	640	\$362.88	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 120.00	4	43	172	\$97.52	3500	468	1638	265.356	\$ 265.36		
7	1	DPW		SUPERVISORS	4L F34T12 (2X4)		4	160	640	\$362.88	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 120.00	4	43	172	\$97.52	3500	468	1638	265.356	\$ 265.36		
8	1	DPW		RECEPTIONIST DESK	4L F34T12 (2X4)		2	160	320	\$181.44	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 60.00	2	43	86	\$48.76	3500	234	819	132.678	\$ 132.68		
9	1	DPW		MARKS OFFICE	4L F34T12 (2X4)		3	160	480	\$272.16	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 90.00	3	43	129	\$73.14	3500	351	1228.5	199.017	\$ 199.02		
10	1	DPW		HALL	4L F34T12 (2X4)		2	160	320	\$181.44	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 60.00	2	43	86	\$48.76	3500	234	819	132.678	\$ 132.68		
11	1	DPW		GARAGE	2L F34T12 IND		15	80	1200	\$680.40	2L F32T8 25W ELB-NBF RL RB	10	\$ 150.00	15	43	645	\$305.72	3500	555	1942.5	314.085	\$ 314.09		
12	1	DPW		HVAC	2L F34T12 IND		2	80	160	\$90.72	2L F32T8 25W ELB-NBF RL RB	10	\$ 20.00	2	43	86	\$48.76	3500	74	259	41.958	\$ 41.96		
13	1	DPW		LOCKERS	2L F34T12 WRAP		10	80	800	\$453.00	2L F32T8 25W ELB-NBF RL RB	10	\$ 100.00	10	43	430	\$243.81	3500	370	1295	209.79	\$ 209.79		
14	1	DPW		BATHROOM	2L F34T12 IND		2	80	160	\$90.72	2L F32T8 25W ELB-NBF RL RB	10	\$ 20.00	2	43	86	\$48.76	3500	74	259	41.958	\$ 41.96		
15	1	DPW		FIRST VEHICLE OFFICE	4L F34T12 (2X4)		5	160	800	\$453.00	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 150.00	5	43	215	\$121.01	3500	585	2047.5	331.695	\$ 331.70		
16	1	DPW		PARTS	2L F34T12 IND		1	80	80	\$45.36	2L F32T8 25W ELB-NBF RL RB	10	\$ 10.00	1	43	43	\$24.38	3500	37	129.5	20.979	\$ 20.98		
17	1	DPW		PARTS	2L F96T12 STRIP		7	123	861	\$488.19	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 210.00	7	54	378	\$214.33	3500	483	1690.5	273.861	\$ 273.86		
18	1	DPW		PARTS	1L F96T12 STRIP		3	83	249	\$141.18	2L F32T8 25W ELB-HBF RL RB/REFL	30	\$ 90.00	3	43	129	\$73.14	3500	120	420	68.04	\$ 68.04		
19	1	DPW		GARAGE	2L F34T12 IND		30	80	2400	\$1,360.80	2L F32T8 25W ELB-NBF RL RB	10	\$ 300.00	30	43	1290	\$731.43	3500	1110	3885	629.37	\$ 629.37		
20	1	DPW		GARAGE	400W HID HIGH BAY		3	455	1365	\$773.98	NEW 6L T5HO ELB-HBF HIGH BAY FIXTURE	100	\$ 300.00	3	351	1053	\$597.05	3500	312	1092	178.904	\$ 178.90		
21	1	DPW		WELDING SHOP	2L F34T12 IND		7	80	560	\$317.52	2L F32T8 25W ELB-NBF RL RB	10	\$ 70.00	7	43	301	\$170.67	3500	259	906.5	146.853	\$ 146.85		
22	1	DPW		TIRES	2L F34T12 WRAP		2	80	160	\$90.72	2L F32T8 25W ELB-NBF RL RB	10	\$ 20.00	2	43	86	\$48.76	3500	74	259	41.958	\$ 41.96		
23	1	DPW		CANOPY	75W A		2	75	150	\$85.05	15W CFL		\$ -	2	15	30	\$17.01	3500	120	420	68.04	\$ 68.04		
24	1	DPW		TRUCK PORT	150W PAR		30	150	4500	\$2,551.50	23W PAR38 CFL		\$ -	30	23	690	\$391.23	3500	3810	13335	2160.27	\$ 2,160.27		
25	1	OEM		OFFICES	4L F34T12 WRAP		8	160	1280	\$725.76	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 240.00	8	43	344	\$195.05	3500	936	3278	530.712	\$ 530.71		
26	1	OEM		HALL	2L F34T12 WRAP		1	80	80	\$45.36	2L F32T8 25W ELB-NBF RL RB	10	\$ 10.00	1	43	43	\$24.38	3500	37	129.5	20.979	\$ 20.98		
27	1	OEM		HALL	4L F34T12 WRAP		1	160	160	\$90.72	2L F32T8 25W ELB-NBF RL RB/REFL	30	\$ 30.00	1	43	43	\$24.38	3500	117	409.5	66.330	\$ 66.34		
28	1	OEM		BATHROOM	2L F34T8 U6 (2X2)		2	80	160	\$90.72	2L F17T8 17W ELB-NBF RL RB/REFL	30	\$ 60.00	2	43	86	\$48.76	3500	74	259	41.958	\$ 41.96		
29	1	OEM		SENSOR SAVINGS	WALL		1		0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00							\$ 14.83
30	1	OEM		TRAINING	2L F34T8 U6 (2X2)		8	80	640	\$362.88	2L F17T8 17W ELB-NBF RL RB/REFL	30	\$ 240.00	8	43	344	\$195.05	3500	296	1036	167.832	\$ 167.83		
31	1	OEM		BAYS	2L F96T12 STRIP		11	123	1353	\$767.15	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 330.00	11	54	594	\$336.80	3500	759	2656.5	430.353	\$ 430.35		
32	1	OEM		CLOSETS	2L F34T12 WRAP		1	80	80	\$45.36	2L F32T8 25W ELB-NBF RL RB	10	\$ 10.00	1	43	43	\$24.38	3500	37	129.5	20.979	\$ 20.98		
33	1	OEM		CLOSETS	75W A		1	75	75	\$42.53	15W CFL		\$ -	1	15	15	\$8.51	3500	60	210	34.02	\$ 34.02		
34	1	OEM		BAY	2L F96T12 STRIP		6	123	738	\$418.45	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 180.00	6	54	324	\$183.71	3500	414	1449	234.738	\$ 234.74		
35	1	OEM		BAY 7	2L F96T12 STRIP		4	123	492	\$278.96	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 120.00	4	54	216	\$122.47	3500	278	968	156.492	\$ 156.49		
36	1	OEM		BAY 8	2L F96T12 STRIP		3	123	369	\$209.22	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 90.00	3	54	162	\$91.85	3500	207	724.5	117.369	\$ 117.37		
37	1	OEM		BAY 8	150W PAR		4	150	600	\$340.20	23W PAR38 CFL		\$ -	4	23	92	\$52.16	3500	508	1778	288.036	\$ 288.04		
38	1	OEM		BAY 9	2L F96T12 STRIP		3	123	369	\$209.22	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 90.00	3	54	162	\$91.85	3500	207	724.5	117.369	\$ 117.37		
39	1	OEM		BAY 10	2L F96T12 STRIP		3	123	369	\$209.22	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 90.00	3	54	162	\$91.85	3500	207	724.5	117.369	\$ 117.37		
40	1	OEM		BAY 11	2L F96T12 STRIP		3	123	369	\$209.22	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 90.00	3	54	162	\$91.85	3500	207	724.5	117.369	\$ 117.37		
41	1	OEM		BAY 12	2L F96T12 STRIP		2	123	246	\$139.48	2L F32T8 28W ELB-HBF RL RB/REFL	30	\$ 60.00	2	54	108	\$61.24	3500	138	483	78.246	\$ 78.25		
										25,145	\$14,257.22													

Electric Rate: \$0.162

KW SAVED >>>>

9523 \$5,399.5410

Total Cost Savings \$ 8,872.30

Total kWh Savings 54,767.30

Name:	Neptune Township - Dept. of Public Works
Address:	25 Neptune Blvd.
City, St.	Neptune, NJ 07753
Contact:	Leanne Hoffmann, PE, PP, CME
Phone:	732-988-5200 x228

LN #	PL #	Replacement Fixture Description	Repl Qty	qty/fix	Fixture / Ballast	cost fix	qty/imp	Lamp/Socket	cost imp	qty ref	Reflector / Flow/Back	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECTOR Cost Total	Material Sub Total	NON UNION	
																	Labor Cost	Labor Tot. Cost
1	1	2L F32T8 25W ELB-NBF RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00
2	1	2L F32T8 25W ELB-NBF RLRB/REFL	3	3	2L ELB-NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
3	1	2L F32T8 25W ELB-NBF RLRB/REFL	3	3	2L ELB-NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
4	1	2L F32T8 25W ELB-NBF RLRB/REFL	4	4	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 12.00	\$ 72.00	\$ 171.60	\$ 35.00	\$ 140.00
5	1	2L F32T8 25W ELB-NBF RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	2X4 M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
6	1	2L F32T8 25W ELB-NBF RLRB/REFL	4	4	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 12.00	\$ 72.00	\$ 171.60	\$ 35.00	\$ 140.00
7	1	2L F32T8 25W ELB-NBF RLRB/REFL	4	4	2L ELB-NBF	\$ 12.00	12	F32T8 25W LAMP	\$ 3.00	4	2X4 M4 REFL	\$ 18.00	\$ 48.00	\$ 36.00	\$ 72.00	\$ 202.80	\$ 35.00	\$ 140.00
8	1	2L F32T8 25W ELB-NBF RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
9	1	2L F32T8 25W ELB-NBF RLRB/REFL	3	3	2L ELB-NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	3	2X4 M4 REFL	\$ 18.00	\$ 36.00	\$ 9.00	\$ 54.00	\$ 128.70	\$ 35.00	\$ 105.00
10	1	2L F32T8 25W ELB-NBF RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	2	2X4 M4 REFL	\$ 18.00	\$ 24.00	\$ 6.00	\$ 36.00	\$ 85.80	\$ 35.00	\$ 70.00
11	1	2L F32T8 25W ELB-NBF RLRB	15	15	2L ELB-NBF	\$ 12.00	15	F32T8 25W LAMP	\$ 3.00	15	M4 REFL	\$ 18.00	\$ 180.00	\$ 45.00	\$ 270.00	\$ 643.50	\$ 35.00	\$ 525.00
12	1	2L F32T8 25W ELB-NBF RLRB	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	M4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00
13	1	2L F32T8 25W ELB-NBF RLRB	10	10	2L ELB-NBF	\$ 12.00	10	F32T8 25W LAMP	\$ 3.00	10	M4 REFL	\$ 18.00	\$ 120.00	\$ 30.00	\$ 180.00	\$ 429.00	\$ 35.00	\$ 350.00
14	1	2L F32T8 25W ELB-NBF RLRB	2	2	2L ELB-NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	2	M4 REFL	\$ 18.00	\$ 24.00	\$ 18.00	\$ 36.00	\$ 101.40	\$ 35.00	\$ 70.00
15	1	2L F32T8 25W ELB-NBF RLRB/REFL	5	5	2L ELB-NBF	\$ 12.00	5	F32T8 25W LAMP	\$ 3.00	5	2X4 M4 REFL	\$ 18.00	\$ 60.00	\$ 15.00	\$ 90.00	\$ 214.50	\$ 35.00	\$ 175.00
16	1	2L F32T8 25W ELB-NBF RLRB	1	1	2L ELB-NBF	\$ 12.00	3	F32T8 25W LAMP	\$ 3.00	1	M4 REFL	\$ 18.00	\$ 12.00	\$ 9.00	\$ 18.00	\$ 50.70	\$ 35.00	\$ 35.00
17	1	2L F32T8 28W ELB-HBF RLRB/REFL	7	7	2L ELB-HBF	\$ 15.00	14	F32T8 28W LAMP	\$ 3.00	7	1X8 M4 REFL KIT	\$ 36.00	\$ 105.00	\$ 42.00	\$ 252.00	\$ 518.70	\$ 55.00	\$ 385.00
18	1	2L F32T8 25W ELB-HBF RLRB/REFL	3	3	2L ELB-HBF	\$ 15.00	0	F32T8 28W LAMP	\$ 3.00	3	1X8 M4 REFL KIT	\$ 36.00	\$ 45.00	\$ 27.00	\$ 108.00	\$ 234.00	\$ 55.00	\$ 165.00
19	1	2L F32T8 25W ELB-NBF RLRB	30	30	2L ELB-NBF	\$ 12.00	90	F32T8 25W LAMP	\$ 3.00	30	M4 REFL	\$ 18.00	\$ 360.00	\$ 270.00	\$ 540.00	\$ 1,521.00	\$ 35.00	\$ 1,050.00
20	1	NEW 6LT 15HO ELB-HBF HIGH BAY FIXTURE	3	3	NEW 6LT 15HO ELB-HBF HIGH BAY FIXTURE	\$200.00	9		\$ -	3		\$ -	\$ 600.00	\$ -	\$ -	\$ 780.00	\$ 75.00	\$ 225.00
21	1	2L F32T8 25W ELB-NBF RLRB	7	7	2L ELB-NBF	\$ 12.00	21	F32T8 25W LAMP	\$ 3.00	7	M4 REFL	\$ 18.00	\$ 84.00	\$ 63.00	\$ 126.00	\$ 354.90	\$ 35.00	\$ 245.00
22	1	2L F32T8 25W ELB-NBF RLRB	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	M4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00
23	1	15W CFL	2	2		\$ -	6	15W CFL	\$ 10.00	2		\$ -	\$ -	\$ 60.00	\$ -	\$ 78.00	\$ 10.00	\$ 20.00
24	1	23W PAR38 CFL	30	30		\$ -	30	23W PAR38 CFL	\$ 10.00	30		\$ -	\$ -	\$ 300.00	\$ -	\$ 360.00	\$ 10.00	\$ 300.00
25	1	2L F32T8 25W ELB-NBF RLRB/REFL	8	8	2L ELB-NBF	\$ 12.00	16	F32T8 25W LAMP	\$ 3.00	8	M4 REFL	\$ 18.00	\$ 96.00	\$ 48.00	\$ 144.00	\$ 374.40	\$ 35.00	\$ 280.00
26	1	2L F32T8 25W ELB-NBF RLRB	1	1	2L ELB-NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
27	1	2L F32T8 25W ELB-NBF RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
28	1	2L F17T8 17W ELB-NBF RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F17T8 17W LAMP	\$ 3.00	2	2X2 M4 REFL	\$ 12.00	\$ 24.00	\$ 12.00	\$ 24.00	\$ 78.00	\$ 35.00	\$ 70.00
29	1	O/S WALL	1	1		\$ -	2	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 110.00	\$ -	\$ 143.00	\$ 35.00	\$ 35.00
30	1	2L F17T8 17W ELB-NBF RLRB/REFL	8	8	2L ELB-NBF	\$ 12.00	16	F17T8 17W LAMP	\$ 3.00	8	2X2 M4 REFL	\$ 12.00	\$ 96.00	\$ 48.00	\$ 96.00	\$ 312.00	\$ 35.00	\$ 280.00
31	1	2L F32T8 28W ELB-HBF RLRB/REFL	11	11	2L ELB-HBF	\$ 15.00	22	F32T8 28W LAMP	\$ 3.00	11	1X8 M4 REFL KIT	\$ 36.00	\$ 165.00	\$ 66.00	\$ 396.00	\$ 815.10	\$ 55.00	\$ 605.00
32	1	2L F32T8 25W ELB-NBF RLRB	1	1	2L ELB-NBF	\$ 12.00	1	F32T8 25W LAMP	\$ 3.00	1	M4 REFL	\$ 18.00	\$ 12.00	\$ 3.00	\$ 18.00	\$ 42.90	\$ 35.00	\$ 35.00
33	1	15W CFL	1	1		\$ -	2	15W CFL	\$ 10.00	1		\$ -	\$ -	\$ 20.00	\$ -	\$ 26.00	\$ 10.00	\$ 10.00
34	1	2L F32T8 28W ELB-HBF RLRB/REFL	6	6	2L ELB-HBF	\$ 15.00	12	F32T8 28W LAMP	\$ 3.00	6	1X8 M4 REFL KIT	\$ 36.00	\$ 90.00	\$ 36.00	\$ 216.00	\$ 444.60	\$ 55.00	\$ 330.00
35	1	2L F32T8 28W ELB-HBF RLRB/REFL	4	4	2L ELB-HBF	\$ 15.00	8	F32T8 28W LAMP	\$ 3.00	4	1X8 M4 REFL KIT	\$ 36.00	\$ 60.00	\$ 24.00	\$ 144.00	\$ 296.40	\$ 55.00	\$ 220.00
36	1	2L F32T8 28W ELB-HBF RLRB/REFL	3	3	2L ELB-HBF	\$ 15.00	6	F32T8 28W LAMP	\$ 3.00	3	1X8 M4 REFL KIT	\$ 36.00	\$ 45.00	\$ 18.00	\$ 108.00	\$ 222.30	\$ 55.00	\$ 165.00
37	1	23W PAR38 CFL	4	4		\$ -	4	23W PAR38 CFL	\$ 10.00	4		\$ -	\$ -	\$ 40.00	\$ -	\$ 52.00	\$ 10.00	\$ 40.00
38	1	2L F32T8 28W ELB-HBF RLRB/REFL	3	3	2L ELB-HBF	\$ 15.00	6	F32T8 28W LAMP	\$ 3.00	3	1X8 M4 REFL KIT	\$ 36.00	\$ 45.00	\$ 18.00	\$ 108.00	\$ 222.30	\$ 55.00	\$ 165.00
39	1	2L F32T8 28W ELB-HBF RLRB/REFL	3	3	2L ELB-HBF	\$ 15.00	6	F32T8 28W LAMP	\$ 3.00	3	1X8 M4 REFL KIT	\$ 36.00	\$ 45.00	\$ 18.00	\$ 108.00	\$ 222.30	\$ 55.00	\$ 165.00
40	1	2L F32T8 28W ELB-HBF RLRB/REFL	3	3	2L ELB-HBF	\$ 15.00	6	F32T8 28W LAMP	\$ 3.00	3	1X8 M4 REFL KIT	\$ 36.00	\$ 45.00	\$ 18.00	\$ 108.00	\$ 222.30	\$ 55.00	\$ 165.00
41	1	2L F32T8 28W ELB-HBF RLRB/REFL	2	2	2L ELB-HBF	\$ 15.00	4	F32T8 28W LAMP	\$ 3.00	2	1X8 M4 REFL KIT	\$ 36.00	\$ 30.00	\$ 12.00	\$ 72.00	\$ 148.20	\$ 55.00	\$ 110.00
													\$ 2,739.00	\$ 1,508.00	\$ 3,756.00	\$ 10,403.90	Total	\$ 7,384.00
													With Tax \$ 11,132.17		CONT	\$ -		
													Equipment \$ -					
													Total Labor: \$ 9,599.20					
													Total project \$ 20,731.37					
													NEW JERSEY SMART START REBATE			\$ 3,910.00		

LIGHTING INVENTORY SUMMARY
Neptune Township - Senior Center
25 Neptune Blvd.
Neptune, NJ 07753

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	13,212
Proposed Energy Usage (Watts)	3,933
Energy Saved (Watts)	9,279
Annual Kilowatt Hours Saved (kWh)	32,883

FINANCIAL DATA

Annual Existing Energy Cost	\$ 8,092.35
Annual Proposed Energy Cost	\$ 2,408.96
Annual Energy Savings	\$ 5,683.39
Additional Energy Savings (Occupancy Sensors)	\$ 71.11
Total Energy Savings	\$ 5,754.50
Initial Project Cost	\$ 8,801.77
Utility Rebate (Based on NJ Smart Start Approval)	\$ 2,450.00
Project Cost	\$ 6,351.77

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	89%
Payback (Years)	1.12
10 Year Savings	\$ 56,833.88
10-Year Cumulative Positive Cash Flow	\$ 50,482.11

New Jersey

Neptune, NJ 07753

UTILITY ACCOUNT NUMBER

BUILDING TYPE

732-988-5200 x228

N/A

Senior Center

10.000

KW SAVED >>>>

2,408.9625

Total Cost Savings \$ 5,754.50

Total kWh Savings 32,882.85

Electric Rate: \$0.175

Name:	Neptune Township - Senior Center
Address:	25 Neptune Blvd.
City, St:	Neptune, NJ 07753
Contact:	Leanne Hoffmann, PE, PP, CME
Phone:	732-988-5200 x228

																		NON UNION	
LN #	FL #	Replacement Fixture Description	Repl Qty	qty fxd	Fixture / Ballast	cost fxd	qty imp	Lamp/Sensor	cost imp	qty ref	Recess/Downrod	cost ref	Recess/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Sell Total	Labor Cost	Labor Tot Cost	
1	1	2L F32T8 25W ELB - RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00	
2	1	2L F32T8 25W ELB - RLRB/REFL	5	5	2L ELB-NBF	\$ 12.00	10	F32T8 25W LAMP	\$ 3.00	5	2X4 REFL	\$ 18.00	\$ 60.00	\$ 30.00	\$ 90.00	\$ 234.00	\$ 35.00	\$ 175.00	
3	1	2L F32T8 25W ELB - RLRB/REFL	4	4	2L ELB-NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4	2X4 REFL	\$ 18.00	\$ 48.00	\$ 24.00	\$ 72.00	\$ 187.20	\$ 35.00	\$ 140.00	
4	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
5	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00	
6	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
7	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00	
8	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
9	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00	
10	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
11	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00	
12	1	2L F32T8 25W ELB - RLRB/REFL	4	4	2L ELB-NBF	\$ 12.00	8	F32T8 25W LAMP	\$ 3.00	4	2X4 REFL	\$ 18.00	\$ 48.00	\$ 24.00	\$ 72.00	\$ 187.20	\$ 35.00	\$ 140.00	
13	1	10W CFL	1	1		\$ -	1	10W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
14	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
15	1	2L F32T8 25W ELB - RLRB/REFL	21	21	2L ELB-NBF	\$ 12.00	42	F32T8 25W LAMP	\$ 3.00	21	2X4 REFL	\$ 18.00	\$ 252.00	\$ 126.00	\$ 378.00	\$ 682.80	\$ 35.00	\$ 735.00	
16	1	2L F32T8 25W ELB - RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00	
17	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
18	1	2L F32T8 25W ELB - RLRB/REFL	10	10	2L ELB-NBF	\$ 12.00	20	F32T8 25W LAMP	\$ 3.00	10	2X4 REFL	\$ 18.00	\$ 120.00	\$ 60.00	\$ 180.00	\$ 468.00	\$ 35.00	\$ 350.00	
19	1	2L F32T8 25W ELB - RLRB	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00	
20	1	2L F32T8 25W ELB - RLRB	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00	
21	1	2L F32T8 25W ELB - RLRB	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00	
22	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	1		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00	
23	1	2L F32T8 25W ELB - RLRB	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00	
24	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
25	1	20W CFL	3	3		\$ -	3	20W CFL	\$ 10.00	3		\$ -	\$ -	\$ 30.00	\$ -	\$ 36.00	\$ 10.00	\$ 30.00	
26	1	2L F32T8 25W ELB - RLRB/REFL	8	8	2L ELB-NBF	\$ 12.00	16	F32T8 25W LAMP	\$ 3.00	8	2X4 REFL	\$ 18.00	\$ 96.00	\$ 48.00	\$ 144.00	\$ 374.40	\$ 35.00	\$ 280.00	
27	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
28	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
29	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
30	1	2L F32T8 25W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	2	2X4 REFL	\$ 18.00	\$ 24.00	\$ 12.00	\$ 36.00	\$ 93.60	\$ 35.00	\$ 70.00	
31	1	2L F17T8 17W ELB - RLRB/REFL	2	2	2L ELB-NBF	\$ 12.00	4	F17T8 17W LAMP	\$ 3.00	2	2X2 REFL	\$ 12.00	\$ 24.00	\$ 12.00	\$ 24.00	\$ 76.00	\$ 35.00	\$ 70.00	
32	1	2L F32T8 25W ELB - RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00	
33	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
34	1	2L F32T8 25W ELB - RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	1	2X4 REFL	\$ 18.00	\$ 12.00	\$ 6.00	\$ 18.00	\$ 46.80	\$ 35.00	\$ 35.00	
35	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	1		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00	
36	1	2L F17T8 17W ELB - RLRB/REFL	1	1	2L ELB-NBF	\$ 12.00	2	F17T8 17W LAMP	\$ 3.00	1	2X2 REFL	\$ 12.00	\$ 12.00	\$ 6.00	\$ 12.00	\$ 36.00	\$ 35.00	\$ 35.00	
37	1	4L F32T8 25W ELB - RLRB/REFL	6	6	4L ELB-NBF	\$ 15.00	12	F32T8 25W LAMP	\$ 3.00	6	1X8 REFL KIT	\$ 36.00	\$ 90.00	\$ 36.00	\$ 216.00	\$ 444.60	\$ 55.00	\$ 330.00	
													\$ 990.00	\$ 871.00	\$ 1,476.00	\$ 4,338.10	Total		\$ 3,200.00
															With Tax	\$ 4,641.77	CONT		\$ -
															Equipment	\$ -			
															Total Labor:	\$ 4,160.00			
															Total project	\$ 8,801.77			
															NEW JERSEY SMART START REBATE		\$ 2,450.00		

LIGHTING INVENTORY SUMMARY
Neptune Township - Penn Ave. Pump Station
25 Neptune Blvd.
Neptune, NJ 07753

EXECUTIVE SUMMARY

ENERGY DATA

Existing Energy Usage (Watts)	960
Proposed Energy Usage (Watts)	456
Energy Saved (Watts)	504
Annual Kilowatt Hours Saved (kWh)	2,281

FINANCIAL DATA

Annual Existing Energy Cost	\$	709.60
Annual Proposed Energy Cost	\$	318.64
Annual Energy Savings	\$	390.96
Additional Energy Savings (Occupancy Sensors)	\$	1.36
Total Energy Savings	\$	392.32
Initial Project Cost	\$	1,090.31
Utility Rebate (Based on NJ Smart Start Approval)	\$	180.00
Project Cost	\$	910.31

CASH FLOW SUMMARY

Return On Investment (R.O.I.)	43%
Payback (Years)	2.33
10 Year Savings	\$ 3,909.63
10-Year Cumulative Positive Cash Flow	\$ 2,999.32

Neptune Township - Penn Ave. Pump Station

25 Neptune Blvd.

Neptune, NJ 07753

New Jersey

Leanne Hoffmann, PE, PP, CME

732-988-5200 x228

UTILITY ACCOUNT NUMBER

BUILDING TYPE

SQUARE FOOTAGE

N/A

Pump Station

1,800

LN #	FL #	Section/ Building	ROOM #	Room Description	Existing Fixture Description	Fixture Code	Exist. Qty.	Exist. Fix Wts	Foot Candle	Total Fix Wts	Existing Am. Cost	Replacement Fixture Description	NJ Rebate Code	NJ Rebate Amount	Repl. Qty.	Repl. Fix Wts	Total Fix Wts	Proposed Am. Cost	Op. Hours	Fix Wts Saved	kWh Saved	0.15/kWh	Annual Elec. Savings	Annual Sens. Savings
1	1	PUMP STATION		Entrance	100w A (surface mount fixture)		1	100		100	\$68.80	20W CFL		\$ -	1	20	20	\$13.76	4000	80	320	55.04	\$ 55.04	
2	1	PUMP STATION		General Open Area	2L F34T12 (1x4)		3	80		240	\$165.12	2L F32T8 25W ELB - RLRB	10	\$ 30.00	3	43	129	\$88.75	4000	111	444	76.368	\$ 76.37	
4	1	PUMP STATION		Office	2L F34T12 (1x4)		1	80		80	\$55.04	2L F32T8 25W ELB - RLRB	10	\$ 10.00	1	43	43	\$29.58	4000	37	148	25.456	\$ 25.46	
6	1	PUMP STATION		Bathroom	2L F34T12 (1x4)		1	80		80	\$55.04	2L F32T8 25W ELB - RLRB	10	\$ 10.00	1	43	43	\$29.58	4000	37	148	25.456	\$ 25.46	
8	1	PUMP STATION		Locker	2L F34T12 (1x4)		1	80		80	\$55.04	2L F32T8 25W ELB - RLRB	10	\$ 10.00	1	43	43	\$29.58	4000	37	148	25.456	\$ 25.46	
11	1	PUMP STATION		Breakroom	2L F34T12 (1x4)		2	80		160	\$110.08	2L F32T8 25W ELB - RLRB	10	\$ 20.00	2	43	86	\$59.17	4000	74	296	50.912	\$ 50.91	
9	1	PUMP STATION		Mechanical	2L F34T12 (Strip)		1	80		80	\$55.04	2L F32T8 25W ELB - RLRB	10	\$ 10.00	1	43	43	\$29.58	4000	37	148	25.456	\$ 25.46	
12	1	PUMP STATION		Storage	2L F34T12 (Strip)		1	80		80	\$55.04	2L F32T8 25W ELB - RLRB	10	\$ 10.00	1	43	43	\$29.58	4000	37	148	25.456	\$ 25.46	
3	1	PUMP STATION		General Open Area	Exit Sign - Incandescent		1	30		30	\$45.20	NEW LED EXIT SIGN	20	\$ 20.00	1	3	3	\$4.52	8760	27	236.52	40.68144	\$ 40.68	
10	1	PUMP STATION		Mechanical	Exit Sign - Incandescent		1	30		30	\$45.20	NEW LED EXIT SIGN	20	\$ 20.00	1	3	3	\$4.52	8760	27	236.52	40.68144	\$ 40.68	
5	1	PUMP STATION		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ 1.36
7	1	PUMP STATION		Sensor Savings	Wall Mount		1			0	\$0.00	O/S WALL	20	\$ 20.00	1			\$0.00						\$ -
											960	\$709.60		\$ 180.00		KW SAVED >>>>			0.50	2273.04	390.96288	\$ 390.96	\$ 1.36	

Electric Rate: \$0.172

456 \$318.6403

Total Cost Savings \$ 392.32

Total kWh Savings 2,280.92

Name:	Neptune Township - Penn Ave. Pump Station
Address:	25 Neptune Blvd.
City, St.	Neptune, NJ 07753
Contact:	Leanne Hoffmann, PE, PP, CME
Phone:	732-988-5200 x228

																	NON UNION			
LN #	FL #	Replacement Fixture Description	Repl Qty	qty fix	Fixture / Ballast	cost fix	qty imp	Lamp / Sensor	cost imp	qty ref	Rev / Power	cost ref	Ballast/Fix Cost Total	Lamp Cost Total	REFLECT Cost Total	Material Self Total	Labor Cost	Labor Tot. Cost		
1	1	20W CFL	1	1		\$ -	1	20W CFL	\$ 10.00	0		\$ -	\$ -	\$ 10.00	\$ -	\$ 13.00	\$ 10.00	\$ 10.00		
2	1	2L F32T8 25W ELB - RLRB	3	3	2L T8 ELB-NBF	\$ 12.00	6	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 36.00	\$ 18.00	\$ -	\$ 70.20	\$ 25.00	\$ 75.00		
4	1	2L F32T8 25W ELB - RLRB	1	1	2L T8 ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00		
6	1	2L F32T8 25W ELB - RLRB	1	1	2L T8 ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00		
8	1	2L F32T8 25W ELB - RLRB	1	1	2L T8 ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00		
11	1	2L F32T8 25W ELB - RLRB	2	2	2L T8 ELB-NBF	\$ 12.00	4	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 24.00	\$ 12.00	\$ -	\$ 46.80	\$ 25.00	\$ 50.00		
9	1	2L F32T8 25W ELB - RLRB	1	1	2L T8 ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00		
12	1	2L F32T8 25W ELB - RLRB	1	1	2L T8 ELB-NBF	\$ 12.00	2	F32T8 25W LAMP	\$ 3.00	0		\$ -	\$ 12.00	\$ 6.00	\$ -	\$ 23.40	\$ 25.00	\$ 25.00		
3	1	NEW LED EXIT SIGN	1	1	NEW LED EXIT SIGN	\$ 55.00	1		\$ -	0		\$ -	\$ 55.00	\$ -	\$ -	\$ 71.50	\$ 35.00	\$ 35.00		
10	1	NEW LED EXIT SIGN	1	1	NEW LED EXIT SIGN	\$ 55.00	1		\$ -	0		\$ -	\$ 55.00	\$ -	\$ -	\$ 71.50	\$ 35.00	\$ 35.00		
5	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	0		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00		
7	1	O/S WALL	1	1		\$ -	1	O/S WALL	\$ 55.00	0		\$ -	\$ -	\$ 55.00	\$ -	\$ 71.50	\$ 35.00	\$ 35.00		
													\$ 230.00	\$ 180.00	\$ -	\$ 533.00	Total	\$ 400.00		
																With Tax	\$ 570.31	CONT	\$ -	
																		Equipment	\$ -	
																		Total Labor:	\$ 520.00	
																		Total project	\$ 1,090.31	
																		NEW JERSEY SMART START REBATE		\$ 180.00

NEPTUNE TOWNSHIP _EQUIPMENT INVENTORY - MUNICIPAL BUILDING																	
Air Handling Units - AHUs																	
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	OA CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Estimated Service Life	Efficiency	Controls	Notes:
Municipal Building	RTU - 1	Roof	2nd Fl Library	Packaged Rooftop Unit	York	ZR-300	1	DX	10000	2200	0.80	7.50	25	15	10.5	Y	
Municipal Building	RTU - 2	Roof	1st Fl Library	Packaged Rooftop Unit	York	ZR-090	1	DX	10000	2200	0.80	7.50	7.5	15	11.2	Y	
Municipal Building	RTU - 3	Roof	New Library	Packaged Rooftop Unit	York	ZR-240	1	DX	2900	600	0.60	3.00	20	15	12.1	Y	
Municipal Building	RTU - 4	Roof	East Office	Packaged Rooftop Unit	York	ZR-240	1	DX	7000	1750	1.00	5.00	20	15	12.1	Y	
Municipal Building	RTU - 5	Roof	West Offices	Packaged Rooftop Unit	York	ZR-240	1	DX	7000	1750	1.00	5.00	20	15	12.1	Y	
Municipal Building	RTU - 6	Roof	2nd Fl Meeting Rm	Packaged Rooftop Unit	York	ZR-180	1	DX	6500	1500	1.00	5.00	15	15	12.1	Y	Scheduled to be installed
Municipal Building	RTU - 7	Roof	2nd Fl Offices	Packaged Rooftop Unit	York	ZR-150	1	DX	4850	1200	1.00	3.00	12.5	15	12.1	Y	Scheduled to be installed
Municipal Building	RTU - 8	Roof	Main Lobby	Packaged Rooftop Unit	York	ZR-180	1	DX	5200	1500	1.00	5.00	15	15	12.1	Y	
Municipal Building	RTU - 9	Roof	Building Dept	Packaged Rooftop Unit	York	ZR-240	1	DX	7100	1750	1.00	5.00	20	15	12.1	Y	
Municipal Building	RTU - 10	Roof	Court Room	Packaged Rooftop Unit	York	ZR-240	1	DX	7000	1750	1.00	5.00	20	15	12.1	Y	
Municipal Building	RTU - 11	Roof	Detective	Packaged Rooftop Unit	York	ZR-180	1	DX	6500	1500	1.00	5.00	15	15	12.1	Y	
Municipal Building	RTU - 12	Roof	Police	Packaged Rooftop Unit	York	ZR-240	1	DX	7500	2375	1.00	5.00	20	15	12.1	Y	
Municipal Building	RTU - 14	Roof	Police Dept - Records	Packaged Rooftop Unit	Carrier	48TAW006	1	DX	2000	NA	NA	NA	5	15	12	Y	
Municipal Building	RTU - 15	Roof	PD - Records Garage	Packaged Rooftop Unit	Carrier	48TAW006	1	DX	2000	NA	NA	NA	5	15	12	Y	
Municipal Building	DSS - 1	Roof	IT Server Rm	Split System - Heat Pump	Mitsubishi	PKA-A24	1	DX	705	0	NA	NA	2	15	17	Y	
Municipal Building	DSS - 2	Roof	IT Server Rm	Split System - Heat Pump	Mitsubishi	PKA-A18	1	DX	670	0	NA	NA	2	15	17	Y	
Municipal Building	DSS - 3	Roof	CFO Office	Split System - Heat Pump	Mitsubishi	PKA-A18	1	DX	670	0	NA	NA	2	15	17	Y	
Municipal Building	DSS - 4	Roof	CFO Conference Room	Split System - Heat Pump	Mitsubishi	PKA-A24	1	DX	670	0	NA	NA	2	15	17	Y	
Municipal Building	DSS - 5	Roof	Corridor	Split System - Heat Pump	Mitsubishi	PKA-A24	1	DX	705	0	NA	NA	2	15	17	Y	
Municipal Building	DSS - 6	Roof	Corridor	Split System - Heat Pump	Mitsubishi	PKA-A24	1	DX	705	0	NA	NA	2	15	17	Y	
Municipal Building	AHU - 3	Evidence Rm	Firing Range	Air Handling Unit	Airtherm	No Access	1	NA	3400	NA	NA	NA	NA	15	NA	No	
Municipal Building	AHU - 1	Firing Range	Firing Range	Air Handling Unit	Trane	No Access	1	NA	2700	NA	NA	NA	NA	15	NA	No	
Municipal Building	AHU	Roof	Cell Block	Air Handling Unit	NA	NA	1	NA	NA	NA	NA	NA	NA	15	NA	No	
Municipal Building	ACC - 1	Front of Building	Basement	Split System - Heat Pump	Bryant	132RNA036	1	DX	3000	NA	NA	NA	3	15	11	Y	
Municipal Building	ACC - 2	Front of Building	Basement	Split System - Heat Pump	Carrier	38CK024	1	DX	3000	NA	NA	NA	2	15	11	Y	
Municipal Building	ACC - 3	Front of Building	Basement	Split System - Heat Pump	Carrier	38CK036	1	DX	3000	NA	NA	NA	3	15	11	Y	
Municipal Building	ACC	Roof	Dispatch IT	Split System - Heat Pump	Liebert	DFH020	1	DX	1000	NA	NA	NA	1.5	15	11	Y	
Municipal Building	ACC	Roof	Dispatch	Split System - Heat Pump	Liebert	DFH027	2	DX	2000	NA	NA	NA	2	15	11	Y	
Municipal Building	ACC	Radio Building	Radio Building	Split System - Heat Pump	Marvaire	AVP36	1	DX	3000	NA	NA	NA	3	15	11	Y	

Boilers													
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency
Municipal Building	B - 1,2	MER	Building HHW	Fire-Tube Boilers	Cleaver Brooks	CB810-125	2	Natural Gas	5,230,000		41	20	80%

Heating Hot Water Pumps													
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?
Municipal Building	P - 1,2	MER	Building HHW	HHW Pumps	Vanguard	NVM 5150	2	595	60	15	89.5%	1800	No

DOMESTIC HOT WATER													
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	KW	# of elements	Age	Estimated Service Life
Municipal Building	DHW - 1	MER	Building DHW	Domestic Hot Water Heater	1	AO Smith	BT - 80 - 300	Natural Gas	80	NA	NA	1	15
Municipal Building	DHW - 2	MER	Building DHW	Domestic Hot Water Heater	1	AO Smith	DRE - 120	Electric	119	18	3	30	15

DOMESTIC HOT WATER PUMPS													
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?
Municipal Building	Recirc Pump - 1	MER	Building DHW	DHW Recirc Pump	1	PD-37-T	1	52	22	3/4	NA	NA	NO

NEPTUNE TOWNSHIP _ SENIOR CENTER - EQUIPMENT LIST																			
Air Handling Units - AHUs																			
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency	Controls
Senior Center	RTU	Roof	Kitchen	Packaged Rooftop Unit	York	DCGN041	1	DX	3750	0.30	3.00	5	Gas	50	NA	15+	15	11	Prog T Stat
Senior Center	MAU	Roof	Kitchen	Makeup Air Unit	Duo-Aire	AA-AGA	1	NA	2480	NA	NA	NA	Gas	275	NA	15+	15	11	Prog T Stat
Senior Center	RTU	Roof	Front Room	Packaged Rooftop Unit	York	DCG	1	DX	3750	0.30	3.00	10	Gas	275	NA	15+	15	11	Prog T Stat
Senior Center	RTU	Roof	Back Room	Packaged Rooftop Unit	York	DCGN044	1	DX	3750	0.30	3.00	7.5	Gas	120	NA	3	15	11	Prog T Stat
Senior Center	RTU	Roof	Side Offices	Packaged Rooftop Unit	York	DCGN045	1	DX	3750	0.30	3.00	7.5	Gas	120	NA	3	15	11	Prog T Stat
Senior Center	RTU	Roof	Ceramics	Packaged Rooftop Unit	Carrier	DCGN046	1	DX	900	0.30	0.50	3	Gas	90	NA	7	15	11	Prog T Stat
Senior Center	RTU	Roof	Lobby / BR / Health	Packaged Rooftop Unit	York	DCGN047	1	DX	900	0.30	0.50	3	Gas	100	NA	3	15	11	Prog T Stat
Senior Center	RTU	Roof	Offices	Packaged Rooftop Unit	York	DCGN048	1	DX	900	0.30	0.50	3	Gas	100	NA	10+	15	11	Prog T Stat

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
Senior Center	DHW	Storage Closet	Building DHW	Domestic Hot Water Heater	1	State Select	SEX 50 NXRT6	Natural Gas	50	NA	NA	21	10	

Kitchen Equipment Inventory List				
EQUIPMENT	MANUFACTURER	QUANTITY	AREA SERVING	ESTIMATED SERVICE LIFE
Ice Machine	HOSHNAKI	1	Kitchen	8
Gas Convection Oven	Blogett	1	Kitchen	12
Kitchen Hood		1	Kitchen	NA
Gas Toaster	Vulcan	1	Kitchen	NA
Gas Griddle	Vulcan	1	Kitchen	NA
6 Burner Stove	Vulcan	2	Kitchen	12
Refrigerator Single Door	Hobart	1	Kitchen	12
Refrigerator Double Door	Continental	1	Kitchen	12
Freezer Single Door	Hobart	1	Kitchen	12
Freezer Double Door	Traulsen	1	Kitchen	12

NEPTUNE TOWNSHIP - PUBLIC WORKS _ EQUIPMENT LIST														
Boilers														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
Public Works	B-1	MER	Building H+H	Gas Fired Boiler	Weil-Mclain	LGB SERIES 2 - 11	1	Natural Gas	1,300,000	1,053,000	5+	20	85%	

Heating Hot Water Pumps															
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
Public Works	P-1	MER	Building H+H	H+H Pump	B&G	M10532	1	NA	NA	1/4	NA	NA	NO	5+	20
Public Works	P-2	MER	Building H+H	H+H Pump	Baldor	JMM2154T	1	NA	NA	1 1/2	72.0%	NA	NO	5+	20

Air Handling Units - AHUs																		
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Static Pressure w.c.	Fan HP	Cooling Capacity (Tons)	Heating Technology	Heating Capacity (MBH)	Heating GPM	Age	Estimated Service Life	Efficiency
Public Works	AHU	NA	NA	AHU	Tempstar	CAPF3636	1	DX	1300	NA	NA	3	Gas	78	NA	2	15	13
Public Works	UH	Throughout Building	Throughout Building	Unit Heaters	Bodine	NA	6	NA	NA	NA	NA	NA	H+H	NA	NA	20+	15	NA
Public Works	Window AC Unit	Throughout Building	Throughout Building	Window AC	Various Brands	Various Brands	10	DX	800	NA	NA	1 to 2 tons	NA	NA	NA	10+	15	13

DOMESTIC HOT WATER														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	kW	# of elements	Age	Estimated Service Life	Notes
Public Works	DHW 1	MER	Building DHW	Domestic Hot Water Heater	1	AO Smith	FSG 50	Natural Gas	40	NA	NA	10+	10	
Public Works	DHW 2	MER	OEM DHW	Domestic Hot Water Heater	1	Rheem	Z1V40	Natural Gas	40	NA	NA	10+	10	

NEPTUNE TOWNSHIP _ PENN AVE PUMPING STATION - EQUIPMENT INVENTORY														
Boilers														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Heating Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
Pumping Station	B-1	MER	Building HHW	Oil Fired Boiler	Weil - McLain	No. 57 - AB - 257	1	Oil #2	117	NA	30+	20	NA	

Pumps															
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Age	Estimated Service Life
Pumping Station	P 1,2	Pumping Station	Township	Pumps	Sweden Water and Wastewater	3301.180-5195	2	NA	NA	70	52 kW	1185	Yes	2+	20
Pumping Station	P 3	Pumping Station	Township	Pumps	Sweden Water and Wastewater	0505.000-S0281176	1	NA	NA	70	52 kW	800	Yes	15+	20

Other Mechanical Equipment														
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Estimated Service Life	Efficiency	Notes
Pumping Station	Window AC Unit	Building	Building	Window AC Unit	2	Various Brands	Various Brands	NA	NA	NA	10+	10	NA	NA

Neptune Township Energy Audit - ECM Summary

	Energy Conservation Measures (ECM)	Buildings	Energy Savings				Gross Installation Costs*	Rebates/ Incentive	Avoided Cost	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	Internal Rate of Return (IRR)	Measure Life	Lifecycle Savings	CO ₂ Savings (tons)
			kWh	kW	Therms	Oil												
1	Time of Day Optimization	Municipal Building	265,850	0.0	13,860	0	\$2,160	\$0	\$0	\$2,160	\$64,050	\$0	\$64,050	0.0	2965.3%	5	\$318,090	169
1	Time of Day Optimization	Senior Center	28,330	0.0	1,480	0	\$540	\$0	\$0	\$540	\$7,090	\$0	\$7,090	0.1	1313.0%	5	\$34,910	18
2	Temperature Setpoint Optimization	Senior Center	16,080	0.0	670	0	\$560	\$0	\$0	\$560	\$3,800	\$0	\$3,800	0.1	678.5%	5	\$18,440	9
2	Temperature Setpoint Optimization	Municipal Building	300	0.0	380	0	\$270	\$0	\$0	\$270	\$450	\$0	\$450	0.6	165.4%	5	\$1,980	2
3	Server Room - Temperature Setpoint Optimization	Municipal Building	430	0.0	0	0	\$50	\$0	\$0	\$50	\$80	\$0	\$80	0.6	158.6%	5	\$350	0
4	Install Vendmisers	Municipal Building	1,180	0.0	0	0	\$180	\$0	\$0	\$180	\$210	\$0	\$210	0.9	114.1%	5	\$870	0
4	Install Vendmisers	Public Works Building	1,180	0.0	0	0	\$180	\$0	\$0	\$180	\$190	\$0	\$190	0.9	102.5%	5	\$770	0
5	Lighting Upgrade	Senior Center	32,880	9.3	50	0	\$8,800	\$2,450	\$0	\$6,350	\$5,750	\$0	\$5,750	1.1	90.6%	29	\$160,400	11
5	Lighting Upgrade	Municipal Building	139,430	33.2	50	0	\$43,730	\$6,765	\$0	\$36,970	\$25,100	\$0	\$25,100	1.5	67.9%	26	\$615,630	46
5	Lighting Upgrade	Public Works Building	54,770	15.6	50	0	\$20,730	\$3,910	\$0	\$16,820	\$8,870	\$0	\$8,870	1.9	52.7%	27	\$222,670	18
5	Lighting Upgrade	Pumping Station	2,280	0.5	0	0	\$1,090	\$180	\$0	\$910	\$390	\$0	\$390	2.3	42.9%	28	\$10,010	1
6	Demand Control Ventilation	Municipal Building	86,080	0.0	4,490	0	\$35,100	\$0	\$0	\$35,100	\$20,700	\$0	\$20,700	1.7	51.6%	5	\$68,400	55
7	OAT HHW Reset	Municipal Building	0	0.0	950	0	\$2,160	\$0	\$0	\$2,160	\$1,115	\$0	\$1,115	1.9	43.0%	5	\$3,415	6
8	Install Destratification Fans	Public Works Building	-2,300	0.0	1,040	0	\$2,180	\$0	\$0	\$2,180	\$905	\$0	\$905	2.4	30.6%	5	\$2,346	5
9	Replace Unit Heaters with IR Radiant Heaters	Public Works Building	0	0.0	4,426	0	\$20,170	\$0	\$0	\$20,170	\$5,430	\$0	\$5,430	3.7	10.8%	5	\$6,980	26
10	Weatherstripping	Senior Center	480	0.0	50	0	\$700	\$0	\$0	\$700	\$160	\$0	\$160	4.4	22.7%	25	\$3,300	0
10	Weatherstripping	Municipal Building	1,190	0.0	130	0	\$1,750	\$0	\$0	\$1,750	\$370	\$0	\$370	4.7	21.0%	25	\$7,500	1
11	Install Air Curtain	Senior Center	-2,935	0.0	555	0	\$2,080	\$0	\$0	\$2,080	\$290	\$0	\$290	7.2	6.5%	10	\$820	2
12	HHW Pump VFDs	Municipal Building	23,075	0.0	0	0	\$31,620	\$0	\$0	\$31,620	\$4,150	\$0	\$4,150	7.6	10.0%	15	\$30,630	8
13	EnergyStar Kitchen Equipment	Senior Center	8,555	0.7	0	0	\$12,410	\$0	\$0	\$12,410	\$1,500	\$0	\$1,500	8.3	8.6%	15	\$10,090	3
14	Replace AC Window Units	Public Works Building	1,530	0.2	0	0	\$2,500	\$0	\$0	\$2,500	\$250	\$0	\$250	10.0	-19.4%	5	-\$1,250	1
14	Replace AC Window Units	Pumping Station	310	0.0	0	0	\$1,500	\$0	\$0	\$1,500	\$50	\$0	\$50	30.0	-40.2%	5	-\$1,250	0
15	Exhaust Fan VFDs	Senior Center	1,410	0.7	0	0	\$2,955	\$0	\$0	\$2,955	\$250	\$0	\$250	11.8	-23.2%	5	-\$1,705	0
16	Premium Efficient Motors	Municipal Building	710	0.1	0	0	\$1,180	\$100	\$0	\$1,080	\$130	\$0	\$130	8.3	-14.8%	5	-\$430	0
17	Upgrade to High Efficiency condensing Boilers	Pumping Station	0	0.0	0	177	\$9,610	\$300	\$4,300	\$5,010	\$357	\$0	\$357	14.0	0.8%	15	\$345	2
17	Upgrade to High Efficiency condensing Boilers	Municipal Building	0	0.0	8,110	0	\$581,402	\$5,000	\$102,800	\$473,600	\$9,480	\$0	\$9,480	50.0	-12.3%	15	-\$331,400	47
18	Garage Bay Door Upgrade	Public Works Building	0	0.0	960	0	\$22,305	\$0	\$0	\$22,305	\$1,180	\$0	\$1,180	18.9	2.3%	25	\$7,195	6

	Energy Conservation Measures (ECM)	Buildings	Energy Savings				Gross Installation Costs*	Rebates/ Incentive	Avoided Cost	Net Implementation Costs	Annual Energy Cost Savings	Annual Oper. Cost Savings	Total Annual Cost Savings	Simple Pay Back	Internal Rate of Return (IRR)	Measure Life	Lifecycle Savings	CO ₂ Savings (tons)
			kWh	kW	Therms	Oil												
19	Instantaneous Tankless Domestic Hot Water Heaters	Senior Center	0	0.0	150	0	\$4,330	\$0	\$0	\$4,330	\$220	\$0	\$220	19.7	-3.2%	15	-\$1,030	1
19	Instantaneous Tankless Domestic Hot Water Heaters	Pumping Station	0	0.0	0	35	\$2,130	\$0	\$0	\$2,130	\$70	\$0	\$70	30.4	-7.8%	15	-\$1,080	0
20	Exhaust Fan Time of Day Optimization	Municipal Building	430	0.0	0	0	\$1,780	\$0	\$0	\$1,780	\$80	\$0	\$80	22.3	-35.4%	5	-\$1,380	0
21	AHU SEER Upgrade	Senior Center	3,620	0.6	0	0	\$61,500	\$1,460	\$0	\$60,040	\$600	\$0	\$600	100.1	-17.8%	15	-\$51,040	1
21	AHU SEER Upgrade	Public Works Building	490	0.1	0	0	\$15,570	\$405	\$0	\$15,165	\$100	\$0	\$100	151.7	-20.7%	15	-\$13,665	0
22	Upgrade Windows	Pumping Station	350	0.0	130	0	\$61,760	\$0	\$0	\$61,760	\$220	\$0	\$220	280.7	-13.7%	25	-\$56,260	1
22	Upgrade Windows	Senior Center	1,160	0.0	420	0	\$266,100	\$0	\$0	\$266,100	\$815	\$0	\$815	326.6	-14.3%	25	-\$245,733	3
22	Upgrade Windows	Public Works Building	1,680	0.0	610	0	\$372,430	\$0	\$0	\$372,430	\$1,020	\$0	\$1,020	365.1	-14.8%	25	-\$346,930	4
22	Upgrade Windows	Municipal Building	9,240	0.0	3,370	0	\$2,147,010	\$0	\$0	\$2,147,010	\$5,600	\$0	\$5,600	383.4	-15.0%	25	-\$2,007,010	23
23	Install BMS System	Municipal Building	376,770	0.0	19,600	0	\$225,900	\$0	\$0	\$225,900	\$90,730	\$0	\$90,730	2.5	28.9%	5	\$227,750	239
Totals			677,785	61	41,931	212	\$3,740,522	\$20,570	\$107,100	\$3,612,855	\$171,022	0	\$171,022	21.1	-5%	14	-\$1,261,304	471

Notes:

1. KW - Where Zero (0) values are shown in the table there is no demand reduction for this measure.
2. Rebates- Where Zero (0) values are shown in the table we could not find any rebates of other financial incentives that are currently available for this measure.

Township of Neptune

Neptune Municipal Building

NEPTUNE TOWNSHIP - MUNICIPAL BUILDING

VENDINGMISERS								
N/ N	DESCRIPTION OF WORK	UNI T	QT Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	1	179	179	-	-	179
	Other Estimated Implementation Costs							-
TOTAL								\$ 179

VENDING MACHINE POWER MANAGEMENT SYSTEM

3. Price of Electricity, \$/kWh (blended rate) \$0.180

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Peak Demand Reduction (kW)	0.06	0.03	0.02
Annual Energy Consumption (kWh)	2,102	925	1,177
Annual Cost and Savings, \$	\$ 378	\$ 167	\$ 212

1. Run hours based on fan motors being run 8760 hrs

2. Sample Calculations Below

Vending Machine Count	1
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Soda Machine Power Consumption, kw	0.40
Annual Savings %	56%
Annual Energy Savings	\$186

3. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

3. No rebates or other financial incentives were available for this measure

4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

Premium Efficiency Motors

N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTA L	
1	15	HP Prem Eff Motor	1	893	893	129	129	1,022
Other Estimated Implementation Costs								158

TOTAL

**\$
1,180**

SAVINGS FROM PREMIUM EFFICIENCY MOTORS														
3. Price of Electricity, \$/kWh (blended rate)														\$0.180
TAG	LOCATION	SERVICES	HP	RPM	ESTIMATED RUN TIME		FULL LOAD NOMINAL EFFICIENCY (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		NJCE REBATE	Peak Demand Reduction
					AVG HRS	LOAD FACTOR	EXISTIN G	PROPOSE D	EXISTING	PROPOSED	kWh	\$	\$	kW
HW-1	BOILER MER	PERIM HOT WATER	15	1,800	2,388	100%	90.2%	93.0%	23,700	22,986	714	\$ 128	\$ 104	0.1
TOTAL											714	\$ 128	\$ 104	0.1
1. Existing equipment data listed in italics were estimated due to unavailable information. 2. It is assumed that the breakhorse power of all motors is 80% of the nameplate horsepower. 3. Only the major motors were sampled for this calculations. 4. Run hours base on winter bin hours 5. Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor Study														

Weatherstripping

N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	5	200	1,000	150	750	1,750

TOTAL

**\$
1,750**

SAVINGS FROM WEATHERSTRIPPING DOORS

3. Price of Electricity, \$/kWh (blended rate)	\$0.180
5. Price of Natural Gas, \$/therm	\$1.169

	Existing Condition	Proposed System	Savings
Number of Doors	5	5	
Estimated Infiltration Rate per Door, CFM	106	21	
Annual Cooling Infiltration Hours, OAT > 80F	800	800	
Annual Heating Infiltration Hours, OAT < 55F	500	500	
Annual Cooling Load, kBTU	11,892	2,378	
Annual Cooling Electrical Consumption, kWh	1,486	297	1,189
Annual Heating Load, kBTU	12,864	2,344	
Annual Heating Natural Gas Consumption, therms	160.79	29.30	131
Annual Cost and Savings, \$	\$ 456	\$ 88	\$ 368

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration were based on all hours below 55F and above 80F for the region.
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not included.
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have a supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 55F is 39F.
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.
8. New weatherstripping is assumed to reduce infiltration by 80%.
9. There is no demand reduction for this measure
10. No rebates or other financial incentives were available for this measure

BUILDING MANAGEMENT SYSTEM

N/ N	DESCRIPTION OF WORK	UNI T	QT Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	DCV - See DCV Below	ea	1	35,100	35,100		-	35,100
2	TOD Optimization - BMS Programming - See TOD Optimization Below	ea	1	2,160	2,160		-	2,160
3	Exhaust Fan TOD - See Exhaust Fan TOD Below	ea	1	1,780	1,780		-	1,780
4	HHW VFD - See HHW VFD Below	ea	1	31,620	31,620	-	-	31,620
4	BMS Setup: Install sensors and controllers for HHW VFD	ea	59	256	15,104	891	52,569	67,673
5	Implement OA Reset Program - See Below OA RESET	ea	1	2,160	2,160		-	2,160
Other Estimated Implementation Costs								85,406
TOTAL								\$ 225,899

BUILDING MANAGEMENT SYSTEM

3. Price of Electricity, \$/kWh (blended rate) \$0.180
5. Price of Natural Gas, \$/therm \$1.169

	Existing Condition	Proposed System	Savings
Time of Day Optimization - Electric Savings (kWh)	478,944	213,090	265,853
Time of Day Optimization - Gas Savings (therms)	24,963	11,106	13,857
Setpoint Optimization - Electric Savings (kWh)	380		380
Setpoint Optimization - Gas Savings (therms)	304		304
Demand Control Ventilation - Electric Savings (kWh)	393,270	307,187	86,083
Demand Control Ventilation - Gas Savings (therms)	20,498	16,011	4,487
Exhaust TOD - Electric Savings (kWh)	1,136	710	426
HHW OAT Reset - Gas Savings	3,363	2,409	954
HHW VFD - Electric Savings (kWh)	35,500	12,425	23,075
Annual Energy Consumption (kWh)	908,851	533,413	376,772
Annual Energy Consumption (therms)	49,127	29,526	19,601
Annual Cost and Savings, \$	\$ 221,023	\$ 130,531	\$ 90,732

1. Assume existing systems run 24 hrs a day all year when outside air temperature is above 65F.
2. Assume the proposed systems operate during a 12 hour window every weekday when the outside air temperature (OAT) is above 65F And during unoccupied hours when the OAT is above 75F.
3. Load factor calculation represents the percentage of time when the units operate at full load during the operation schedule.
4. It is assumed that all heat pump units run at a combined derated efficiency of 13 EER.
5. There is no demand reduction for this measure
6. No rebates or other financial incentives were available for this measure

Temperature Setpoint Optimization								
N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming Programmable Thermostat	Hrs	2		-	135	270	270
Other Estimated Implementation Costs								-
TOTAL								\$ 270

Set Point Optimization

3. Price of Electricity, \$/kWh (blended rate) \$0.180
5. Price of Natural Gas, \$/therm \$1.169

	Existing Condition	Proposed System	Savings
Space Cooling Temperature Setting	70-75	75	\$50
Space Heating Temperature Setting	70-75	70	\$400
Annual Electric Savings (kWh)	304		304
Annual Gas Savings (Therms)	380		380
Annual Cost and Savings, \$			\$ 450

- Daily run hours are based on winter bin hours
- Cost per cfm for respective AC unit taken from "# Constants" sheet.
- Assumed 20 CFM/Student
- There is no demand reduction for this measure
- No rebates or other financial incentives were available for this measure
- See Sample Calculations below

AHU	CFM	VFD Load Factor	Observed Current Average Zone Winter Setpoint	Proposed Zone Winter Setpoint	Winter Bin Hours	Heating Load (\$ / Annually)
Police Dept - Records	2000	100%	74	70	5787	\$ 222
PD - Records Garage	2000	100%	74	70	5787	\$ 222
Total	4000					\$ 444

AHU	CFM	VFD Load Factor	Estimated Current Average Zone Summer Setpoint	Proposed Zone Summer Setpoint	Sumer Bin Hours	CC Load (\$ / Annually)
48TAW006	2000	100%	74	75	2973	\$ 27
48TAW006	2000	100%	74	75	2973	\$ 27
Total	4000					\$ 55

TOD Optimization								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming		16		-	135	2,160	2,160
TOTAL							\$	2,160

Time of Day Optimization

3. Price of Electricity, \$/kWh (blended rate) \$0.180
5. Price of Natural Gas, \$/therm \$1.169

	Existing Condition	Proposed System	Savings
Annual Run Hours	8,760	3,650	5,110
Annual Electric Use (kWh)	478,944	213,090	265,853
Annual Natural Gas Use (therms)	24,963	11,106	13,857
			-
Annual Cost and Savings, \$	\$ 115,392	\$ 51,340	\$ 64,052

1. Daily run hours are reduced from 18.5 hours to 15 hours.
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.
3. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
RTU - 1	2nd Fl Library	10000	0.75	1.00	0.50	\$ 8,541
RTU - 2	1st Fl Library	10000	0.75	1.00	0.50	\$ 8,541
RTU - 3	New Library	2900	0.75	1.00	0.50	\$ 2,477
RTU - 4	East Office	7000	0.75	1.00	0.42	\$ 6,975
RTU - 5	West Offices	7000	0.75	1.00	0.42	\$ 6,975
RTU - 6	2nd Fl Meeting Rm	6500	0.75	1.00	0.42	\$ 6,477
RTU - 7	2nd Fl Offices	4850	0.75	1.00	0.42	\$ 4,833
RTU - 8	Main Lobby	5200	0.75	1.00	0.42	\$ 5,182
RTU - 9	Building Dept	7100	0.75	1.00	0.42	\$ 7,075
RTU - 10	Court Room	7000	0.75	1.00	0.42	\$ 6,975
Hours of Operation	On	Off	Hrs/Day			
Existing	5	23.5	18.5			
Proposed	6	21	15			

3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Demand Controlled Ventilation							
DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
			PER UNIT	TOTAL	PER UNIT	TOTAL	
CO2 Sensors & Control Wiring	EA	6	375	2,250	625	3,750	6,000
RA / OA Dampers & Actuators	EA (avg)	6	1,250	7,500	750	4,500	12,000
Controllers	EA	6	1,500	9,000	600.0	3,600	12,600
Electrical Work	EA	6	250	1,500	500.0	3,000	4,500
Other Estimated Implementation Costs							-
TOTAL							\$ 35,100

Demand Control Ventilation

- | | |
|--|---------|
| 1. Price of #2 Fuel Oil, \$/gal | \$0.000 |
| 2. Price of City Water, \$/1000 gallons | \$4.000 |
| 3. Price of Electricity, \$/kWh (blended rate) | \$0.180 |
| 4. Price of the Demand of Electricity, \$/kW/month | \$0.000 |
| 5. Price of Natural Gas, \$/therm | \$1.169 |

	Existing Condition	Proposed System	Savings
Total (CFM)	41,600	41,600	
Average Cost Per CFM	\$2.278	\$1.779	
Run Hours	2,160	2,160	
Estimated Electric Use (kWh)	393,270	307,187	86,083
Estimated Natural Gas Use (therms)	20,498	16,011	4,487
			-
Annual Cost and Savings, \$	\$ 94,750	\$ 74,010	\$ 20,700

- Assumes 100% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; %OA = 100% for bin ranges >70
- Assumes 20% OA using "Recirc AHU Operation" from cost per cfm calcs on "# Constants" sheet; % OA = 20% for bin range >70
- Run hours based on bin data and time of day factor.
- See Sample Calculation below

Unit	Serves	TOD Factor	Total CFM	Current \$/CFM1	DCV \$/CFM2	Estimated Savings
RTU - 1	2nd FI Library	0.247	10000	\$ 2.28	\$ 1.78	\$ 4,986
RTU - 2	1st FI Library	0.247	10000	\$ 2.28	\$ 1.78	\$ 4,986
RTU - 3	New Library	0.247	2900	\$ 2.28	\$ 1.78	\$ 1,446
RTU - 6	2nd FI Meeting Rm	0.247	6500	\$ 2.28	\$ 1.78	\$ 3,241
RTU - 8	Main Lobby	0.247	5200	\$ 2.28	\$ 1.78	\$ 2,593
RTU - 10	Court Room	0.247	7000	\$ 2.28	\$ 1.78	\$ 3,490
Total			41600			\$ 20,740

- There is no demand reduction for this measure
- No rebates or other financial incentives were available for this measure

HHW PUMP VFDs								
N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	15	HP VFD	1	2,078	2,078	950	950	3,028
2	15	HP Prem Eff Motor	2	893	1,786	950	1,900	3,686
3	Install 2 Way Valves on HHW Coils	ea	59	301	17,759	26	1,539	19,298
4	Piping, Plumbing work	ea	59	20	1,180	75	4,425	5,605
4	Wiring to BMS - Electrical Work	ea	59	20	1,180	50	2,950	4,130
Other Estimated Implementation Costs								-

NJ Smart Start Incentive

1,904

TOTAL

\$ 31,617

HHW PUMP VFDs

1. Price of #2 Fuel Oil,
\$/gal \$0.000
2. Price of City Water, \$/1000 gallons \$4.000
3. Price of Electricity, \$/kWh (blended rate) \$0.180
4. Price of the Demand of Electricity, \$/kW/month \$0.000
5. Price of Natural Gas, \$/therm \$1.169

	Existing Condition	Proposed System	Savings
Avg Percent Required Power	100%	35%	
Annual Energy Consumption (kWh)	35,500	12,425	23,075
Run Hours	4,230	4,230	
			-
Annual Cost and Savings, \$	\$ 6,390	\$ 2,237	\$ 4,150

1. Assumes average rated fan volume of 75%
2. Includes replacement of existing motors with premium efficiency (inverter duty) motors
3. Run hours based on bin data and time of day factor.
4. There is no demand reduction for this measure
5. See Sample Calculation below

Building	HHW Pumps	Motor Nameplate HP	Equivalent Power Draw, kw	Annual Run Hours	Annual Electric Savings, kwh	Annual Electric Savings, \$
NEPTUNE TOWNSHIP - MUNICIPAL BUILDING	P 1	15	11.19	4,230	23,075	4,154
Percent Required Power						
	No Control	VFD	Safety Factor			
	100%	35%	75%			

Exhaust Fan TOD Optimization								
N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming - See Setpoint Opt	hrs	8		-	135	1,080	1,080
2	Wiring Exhaust Fans to BMS - Electrical Work	ea	7	25	175	75	525	700
TOTAL								\$ 1,780

Exhaust Fan Time of Day Optimization

3. Price of Electricity, \$/kWh (blended rate)

\$0.180

	Existing Condition	Proposed System	Savings
Annual Run Hours	4,320	2,700	1,620
Annual Electric Use (kWh)	1,136	710	426
Annual Cost and Savings, \$	\$ 204	\$ 128	\$ 77

1. Daily run hours are reduced from 24 hours to 1 hours.
2. Assumed Fans are equipped with 1/4 HP Motors
3. See Sample Calculations Below

Unit	Area Served	HP	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
EF - 1	Library	0.05	0.75	4320	2700	\$ 8
EF - 2	Break Rm	0.1	0.75	4320	2700	\$ 16
EF - 3	Admin	0.01	0.75	4320	2700	\$ 2
EF - 4	Public	0.09	0.75	4320	2700	\$ 15
EF - 5	Police					\$
EF - 5	Basement	0.19	0.75	4320	2700	\$ 31
EF - 6	Police	0.01	0.75	4320	2700	\$ 2
EF - 7	Comm	0.02	0.75	4320	2700	\$ 3
Total		0.5				\$ 77
Hours of Operation	On	Off	Hrs/Day			
Existing	0	24	24			
Proposed	6	21	15			

3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

OAT HHW RESET

N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	BMS Programming	hrs	16		-	135	2,160	2,160
2					-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 2,160

Implement a HHW Supply Water Temperature Setpoint reset program based on outside air temperature.

3. Price of Electricity, \$/kWh (blended rate)	\$0.180
5. Price of Natural Gas, \$/therm	\$1.169

	Existing Condition	Proposed System	Savings
HHW Supply Setpoint at OAT = 0 degrees, degrees F	180	180	
HHW Supply Setpoint at OAT = 40 degrees, degrees F	180	160	
Annual Natural Gas Consumption (therms)	3,363	2,409	954
Annual Cost and Savings, \$	\$ 3,931	\$ 2,816	\$ 1,115

- 1 Assumes HHW distribution is primarily made up of 6" and 3/4" piping.
- 2 Assumes 1" cellular glass fiber insulation with AP-T casing
- 3 Assumes 75 degree ambient temperature
4. There is no demand reduction for this measure
5. No rebates or other financial incentives were available for this measure

Upgrade Windows								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Demolition/removal old windows	sf	2,945			1.25	3,681	3,681
2	Install dbl glazed, alum dbl hung windows	sf	2,945	400	1178000	19	55,808	1,233,808
3	Demolition/removal old doors	ea	6		-	130	780	780
4	Install dbl glazed, alum doors	ea	6	3,125	18,750	19	114	18,864
Other Estimated Implementation Costs								889,878
TOTAL								\$ 2,147,010

Window Upgrade / Replacement

3. Price of Electricity, \$/kWh
(blended rate) \$0.180

5. Price of Natural Gas, \$/therm \$1.169

	Existing Condition	Proposed System	Savings
R-Value of Windows	1.1	2.6	
Annual heating loss, therms	5,337	1,968	3,369
Annual additional cooling, kWh	14,639	5,399	9,240
Annual Natural Gas Cost and Savings, \$	\$ 6,239	\$ 2,301	\$ 3,938
Annual Electric Cost and Savings, \$	\$ 2,635	\$ 972	\$ 1,663
Annual Cost and Savings, \$	\$ 8,874	\$ 3,273	\$ 5,601

1. Old windows are single glassed, no coating with storm window.
2. Assumes old windows experience 50% infiltration factor.
3. Assumes new windows are double glassed with low E coating, no storm window.
4. Assumes new windows experience 14% infiltration factor.

5. Sample Calculations Below

Quantity	166
Sq. Ft. / Window	24
Total Area (Sq. Ft.)	3137

HEATING		COOLING	
Heating Degree Days	4022	Cooling Degree Days	1379
Heating Plant Efficiency	0.80	Cooling Plant SEER	10
Natural Gas Cost, \$/therm	\$ 1.169	Electric Cost, \$/kWh	\$ 0.180
Existing Windows		Existing U Value	0.91
Existing U Value	0.91	Existing Infiltration Factor	0.5
Existing Infiltration Factor	0.5	Annual Additional Cooling Cost	\$ 498.95
Annual Heating Loss Cost	\$ 1,181.36		
New Windows	0	New Windows	
Proposed U Value	0.38	Proposed U Value	0.38
Proposed Infiltration Factor	0.14	Proposed Infiltration Factor	0.14
Annual Heating Loss Cost	435.679 997	Annual Additional Cooling Cost	184.0084 646
	0		
	\$		
Heating Savings	745.68	Cooling Savings	\$314.94
		Total Savings	\$1,060.62

6. There is no demand reduction for this measure

7. No rebates or other financial incentives were available for this measure

Condensing Boiler

N/ N	DESCRIPTION OF WORK	UNI T	QT Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2.0 MBTU High Eff Gas Boiler	ea	5	40,200	201,000	15,000	75,000	276,000
2	Demo Existing Boilers	ls	1	4,000	4,000	12,000	12,000	16,000
3	Piping Modifications	ls	1	4,000	4,000	6,000	6,000	10,000
4	Electric/Controls	ls	1	10,000	10,000	7,500	7,500	17,500
Other Estimated Implementation Costs								261,902
TOTAL								\$581,402
TOTAL INCREMENTAL COST								\$102,750
NJ SMART START REBATE								\$ 5,000

SAVINGS FROM HIGH EFFICIENCY CONDENSING BOILER

5. Price of Natural Gas, \$/therm

\$1.169

	Existing Conditio n	Proposed System	Savings
Boiler Plant Capacity, kBTU	1,500	1,500	
Hours of Operation	4,214	4,214	
Seasonal Efficiency	75%	93%	
Annual Gas Consumption, therms	42,409	34,302	8,107
Annual Oil Consumption, gals	0	0	-
Annual Cost and Savings, \$	\$ 49,576	\$ 40,099	\$ 9,477

1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.

2. Sample Calculation
Below

Single Boiler:

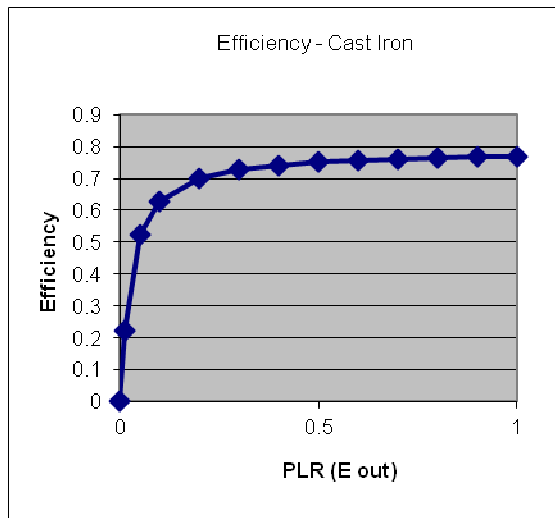
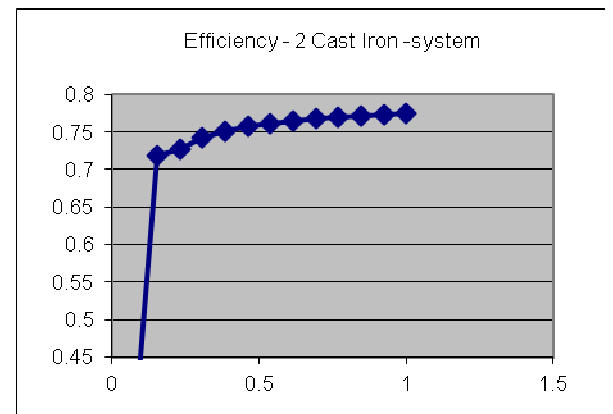
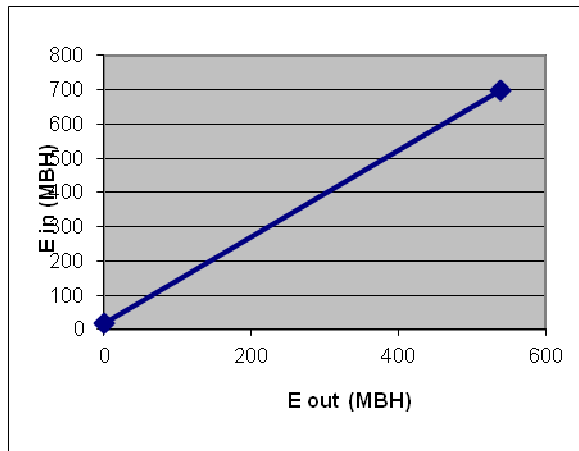
	Gas Fuel		
Eff 100%	0.77	E out	Ein
E in 100%	1500 MBH	0	37.5

E out 100%	1155	MBH	1155	1500
SBL (% Ein)	3%	0		
SBL	37.5	MBH		
Min E out	20%	300		
Comb, Eff	80%	0		
m slope=	1.2662337 66	0		
INDIVIDUAL BOILER	0	0		
0	0	0	linear relation	
Eout (Load)	PLR	E in	Efficiency	
0	0%	37.5	0	
11.55	1%	52.125	0.221582 734	
57.75	5%	110.625	0.522033 898	
115.5	10%	183.75	0.628571 429	
231	20%	330	0.7 0.727559	
346.5	30%	476.25	0.742168 055	
462	40%	622.5	0.751219 675	
577.5	50%	768.75	0.761837 512	
693	60%	915	0.767867 049	
808.5	70%	1061.25	0.774453 456	
924	80%	1207.5	0.773205 391	
1039.5	90%	1353.75	0.771736 036	
1155	100%	1500	0.77	

COMBINED SYSTEM BOILER
PART LOAD

Capacity of each	0	1500	0				
No. of Boilers	0	1	0				
Total Capacity	0	1500	0				
0	0	No. of	Load				
Load	PLR	Boilers	per boiler	per boiler	plant	0	Gas
0	0	0	0	E in	E in	Efficiency	Therm
1500	100%	1	1500	1937	1937	0.77445310 5	251.7905 844
1385	92%	1	1385	1791	1791	0.77320558 1	4244.069 805
1269	85%	1	1269	1645	1645	0.77173640 7	2878.125 4195.909
1154	77%	1	1154	1499	1499	0.76998075 0.76784576	091 6302.347
1038	69%	1	1038	1352	1352	6 0.76519362	403 6477.998
923	62%	1	923	1206	1206	8	377

808	54%	1	808	1060	1060	0.76181053 7	5428.363 636
692	46%	1	692	914	914	0.75734601	3574.222 403
577	38%	1	577	768	768	0.75118286 9	2995.275 974
462	31%	1	462	622	622	0.74212396 8	2369.498 377
346	23%	1	346	476	476	0.72750177 2	1779.535 714
300	15%	1	300	417	417	0.71878646 4	1911.555 195
0	0%	1	0	38	38	0	0

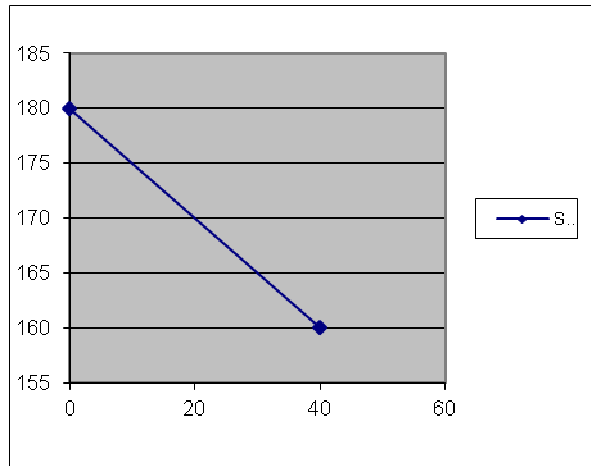


Temp Bin	Fuel Source # Days per Week in Operation	Gas	Plant LOAD
	6-9pm Mon-Sun	Op Hrs M-F	
0	13	13	100%
15	237	237	92%
20	175	175	85%
25	280	280	77%
30	466	466	69%
35	537	537	62%
40	512	512	54%
45	391	391	46%
50	390	390	38%
55	381	381	31%
60	374	374	23%
65	458	458	15%
0	0	0	8%

0 Total 4214 0%

Max Load 1500 MBH
 Condensing Boiler Capacity 1500 MBH Each
 # Boilers 1
 Plant Capacity 1500

RESET SCHEDULE 0 OA SWT
 Max 0 180
 40 160
 Reset Slope -0.5



ASSUMPTION							
0	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	% Load
100	0	180.00	160.00	100%	1500	1500.00	100%
92.30769231	5	177.50	158.41	92%	1384.615385	1384.62	92%
84.61538462	10	175.00	156.82	85%	1269.230769	1269.23	85%
76.92307692	15	172.50	155.23	77%	1153.846154	1153.85	77%
69.23076923	20	170.00	153.64	69%	1038.461538	1038.46	69%
61.53846154	25	167.50	152.05	62%	923.0769231	923.08	62%
53.84615385	30	165.00	150.45	54%	807.6923077	807.69	54%
46.15384615	35	162.50	148.86	46%	692.3076923	692.31	46%
38.46153846	40	160.00	147.27	38%	576.9230769	576.92	38%
30.76923077	45	157.50	145.68	31%	461.5384615	461.54	31%
23.07692308	50	155.00	144.09	23%	346.1538462	346.15	23%
15.38461538	55	152.50	142.50	15%	300	#DIV/0!	#DIV/0!
7.692307692	60	150.00	140.91	8%	300	#DIV/0!	#DIV/0!
0	65	147.50	139.32	0%	0	0	0

(1) 1500 Boilers Plant Load						
Zone Load	No Boilers	%	Eff %	E out	Op Hrs M-F 6-9pm	Gas Therm
1500	1	1	93%	1618	13	210
1384.615385	1	0.92308	93%	1492	237	3536
1269.230769	1	0.84615	93%	1366	175	2391
1153.846154	1	0.76923	93%	1242	280	3478
1038.461538	1	0.69231	93%	1117	466	5203
923.0769231	1	0.61538	93%	993	537	5330

807.6923077	1	0.53846	93%	868	512	4442
692.3076923	1	0.46154	93%	743	391	2904
576.9230769	1	0.38462	93%	618	390	2412
461.5384615	1	0.30769	93%	495	381	1885
346.1538462	1	0.23077	93%	371	374	1388
230.7692308	0	#DIV/0!	94%	245	458	1123
115.3846154	0	#DIV/0!	96%	120	0	0
						34302

Server Room - Temperature Setpoint Optimization

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTAL	
1	Programming	Hrs	1		-	47	47	47
Other Estimated Implementation Costs								-
TOTAL								\$ 47

Set Point Optimization - Server Room

3. Price of Electricity, \$/kWh (blended rate)

\$0.180

	Existin g Condi tion	Propos ed System	Savin gs
Space Cooling Temperature Setting	70-75	75	\$80
Annual Electric Savings (kWh)	428		428
Annual Cost and Savings, \$			\$ 80

1. Daily run hours are based on 180 days,
9 hour days

2. Cost per cfm for respective AC unit taken from "# Constants" sheet.

3. Assumed 20 CFM/Student

4. See Sample Calculations below

Estimated Current Average Zone Summer Setpoint	Propos ed Zone Summ er Setpoi nt	Sum er Bin Hour s	Occupi ed Hours Load Factor	CC Load (Ton- Hrs/yea r)	CC Load (DX kwh)	CC Load (\$ / Annual ly)	CC Load (\$ / Annual ly)
67	75	8	2973	0	573	428	\$ 77.12

5. There is no demand reduction for this measure

6. No rebates or other financial incentives were available for this measure

Township of Neptune

Neptune Senior Center

NEPTUNE TOWNSHIP - SENIOR CENTER

SOLID DOOR COMMERCIAL ICE MACHINE								
N/ N	DESCRIPTION OF WORK	UNI T	Q T Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Installation and Replacement of Commercial Ice Machine		1		-	50	50	50
2	Energy Star Rated Commercial Ice Machine		1	2,360	2,360		-	2,360
Other Estimated Implementation Costs								-
TOTAL								\$ 2,410

ENERGY STAR / CEE TIER I - ICE MACHINE

3. Price of Electricity, \$/kWh (blended rate)

\$0.175

	Existing Condition	Proposed System	Savings
Quantity	1	1	
Annual Peak Demand Reduction (kW)	2.4	1.9	0.49
Ice Machine Annual Energy Consumption (kWh)	30,178	24,134	6,044
Annual Cost and Savings, \$	\$ 5,281	\$ 4,223	\$ 1,060

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

3. No rebates or other financial incentives were available for this measure

SOLID DOOR COMMERCIAL REFRIGERATORS

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation and Replacement of Solid Door Commercial Refrigerator		4		-	50	200	200
2	Energy Star Rated Commercial Refrigerator		4	2,450	9,800		-	9,800
Other Estimated Implementation Costs								-
TOTAL								\$ 10,000

ENERGY STAR/ CEE TIER I - REFRIGERATOR/FREEZER UPGRADE

3. Price of Electricity, \$/kWh
(blended rate)

\$0.175

		Existing Condition	Proposed System	Saving s
Double Door Refrigerator (44 cu ft)	Total Annual Energy Consumption (kWh)	3,548	2,351	
Quantity		1	1	
Single Door Refrigerator (24 cu ft)	Total Annual Energy Consumption (kWh)	2,102	971	
Quantity		1	1	
Double Door Freezer (44 cu ft)	Total Annual Energy Consumption (kWh)	7,482	6,680	
Quantity		1	1	
Single Door Freezer (24 cu ft)	Total Annual Energy Consumption (kWh)	4,519	4,008	
Quantity		1	1	
Annual Peak Demand Reduction (kW)		1.3	1.1	0.20
Total Annual Energy Savings		15,549	13,038	2,510
Annual Cost and Savings, \$		\$ 2,721	\$ 2,282	\$ 440

1. This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.
2. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet
3. No rebates or other financial incentives were available for this measure

AHU SEER Upgrade								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	3-ton PRTU w/ Gas Heat & Econ	ea	1	8105	8,105	690	690	8,795
2	5-ton PRTU w/ Gas Heat & Econ	ea	1	9,712	9,712	795	795	10,507
1	10-ton PRTU w/ Gas Heat & Econ	ea	1	21,157	21,157	1,050	1,050	22,207
Other Estimated Implementation Costs								19,988

TOTAL INCREMENTAL COST

\$ 61,497

SUB-TOTAL

41,509

New Jersey Smart Start
Rebate

1,458

Replace aging AHUs with higher efficiency units

3. Price of Electricity, \$/kWh (blended rate) \$0.175
5. Price of Natural Gas, \$/therm \$1.443

	Existing Condition	Proposed System	Savings
Total Tons	18	18	
SEER	12.0	14.1	
Annual Run Hours	1,163	1,163	
Annual Peak Demand Reduction (kW)	3.7	3.1	0.60
Annual kWh	22,406	18,790	3,617
Annual Cost and Savings, \$	\$ 3,921	\$ 3,288	\$ 600

1. Cost per kWh and therm prices taken from "# Constants" sheet.
2. Run hours based on bin data and time of day factor.
3. Assumed 10 - 15 Ton RTUs throughout building
4. See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
Kitchen	5	1,163	13.0	15.0	716	\$ 125	\$ 500
Front Room	10	1,163	10.1	12.3	2471	\$ 433	\$ 1,000
Offices	3	1,163	13.0	15.0	429	\$ 75	\$ 300
Total	18				3617	\$ 633	\$ 1,800

5. Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor Study
6.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER
7. Proposed SEER/EER Ratings taken from Lennox Strategos Series

Weatherstripping

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Replace weatherstripping around doors	ea	2	200	400	150	300	700
Other Estimated Implementation Costs								
TOTAL								\$ 700

SAVINGS FROM WEATHERSTRIPPING DOORS

3. Price of Electricity, \$/kWh (blended rate)	\$0.175
5. Price of Natural Gas, \$/therm	\$1.443

	Existing Condition	Proposed System	Savings
Number of Doors	2	2	
Estimated Infiltration Rate per Door, CFM	106	21	
Annual Cooling Infiltration Hours, OAT > 80F	800	800	
Annual Heating Infiltration Hours, OAT < 55F	500	500	
Annual Cooling Load, kBTU	4,757	951	
Annual Cooling Electrical Consumption, kWh	595	119	476
Annual Heating Load, kBTU	5,145	938	
Annual Heating Natural Gas Consumption, therms	64.32	11.72	53
Annual Cost and Savings, \$	\$ 197	\$ 38	\$ 159

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration were based on all hours below 55F and above 80F for the region.
3. It is assumed that each door has a leakage area of 45 square inches (15 linear feet by 1/4 in). Vestibule doors are not included.
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have a supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature above 80F during the year is 86F. The average outside air temperature below 55F is 39F.
7. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.
8. New weatherstripping is assumed to reduce infiltration by 80%.
9. There is no demand reduction for this measure
10. No rebates or other financial incentives were available for this measure

Temperature Setpoint Optimization

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTAL	
1	Programmable Tstat Programming	Hrs	4		-	100	400	400
Other Estimated Implementation Costs								157
TOTAL								\$ 557

Set Point Optimization

3. Price of Electricity, \$/kWh (blended rate)	\$0.175
5. Price of Natural Gas, \$/therm	\$1.443

	Existing Conditio n	Propose d System	Savings
Space Cooling Temperature Setting	70-75	75	\$2,800
Space Heating Temperature Setting	70-75	70	\$1,000
Annual Electric Savings (kWh)	16,082		16,082
Annual Gas Savings (Therms)	666		666
Annual Cost and Savings, \$			\$ 3,800

1. Daily run hours are based on winter bin hours
2. Cost per cfm for respective AC unit taken from "# Constants" sheet.
3. Assumed 20 CFM/Student
5. There is no demand reduction for this measure
6. No rebates or other financial incentives were available for this measure
7. See Sample Calculations below

AHU	CFM	VFD Load Factor	Observed Current Average Zone Winter Setpoint	Proposed Zone Winter Setpoint	Winter Bin Hours	Heating Load (\$ / Annually)
Kitchen	3750	100%	70	70	5787	\$ -
Front Room	3750	100%	73	70	5788	\$ 386
Back Room	3750	100%	72	70	5789	\$ 257
Side Offices	3750	100%	72	70	5790	\$ 257
Ceramics	900	100%	70	70	5791	\$ -
Lobby / BR / Health	900	100%	72	70	5792	\$ 62
Offices	900	100%	70	70	5793	\$ -
Total	17700					\$ 962
AHU	CFM	VFD Load Factor	Estimated Current Average Zone Summer Setpoint	Proposed Zone Summer Setpoint	Summer Bin Hours	CC Load (\$ / Annually)
Kitchen	3750	100%	71	75	2973	\$ 199
Front Room	3750	100%	75	75	2972	\$ -
Back Room	3750	100%	74	75	2971	\$ 312
Side Offices	3750	100%	74	75	2970	\$ 443
Ceramics	900	100%	71	75	2969	\$ 551
Lobby / BR / Health	900	100%	72	75	2968	\$ 507
Offices	900	100%	71	75	2967	\$ 802
Total	17700					\$ 2,814

TOD Optimization

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTAL	
1	Programmable Tstat Programming		4		-	135	540	540
Other Estimated Implementation Costs								-
TOTAL								\$ 540

Time of Day Optimization

3. Price of Electricity, \$/kWh (blended rate) \$0.175
 5. Price of Natural Gas, \$/therm \$1.443

	Existing Condition	Proposed System	Savings
Annual Run Hours	4,015	3,650	365
Annual Electric Use (kWh)	56,554	28,223	28,331
Annual Natural Gas Use (therms)	7,590	6,113	1,477
			-
Annual Cost and Savings, \$	\$ 20,849	\$ 13,760	\$ 7,089

- Daily run hours are reduced from 18.5 hours to 15 hours.
- Cost per cfm for respective AC unit taken from "# Constants" sheet.
- See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
DCGN041	Kitchen	3750	0.75	0.46	0.42	\$ 273
DCGN045	Side Offices	3750	0.75	0.46	0.42	\$ 273
DCGN048	Offices	900	0.75	0.46	0.42	\$ 65
DCG	Front Room	3750	0.75	0.69	0.31	\$ 2,486
DCGN044	Back Room	3750	0.75	0.69	0.31	\$ 2,486
DCGN047	Lobby / BR / Health	900	0.75	0.69	0.31	\$ 597
DCGN046	Ceramics	900	0.75	1.00	0.42	\$ 911
Hours of Operation	On	Off	Hrs/Day			
Existing	6.5	17.5	11			
Proposed	6	21	15			

- There is no demand reduction for this measure
- No rebates or other financial incentives were available for this measure

Exhaust Fan VFDs

N/ N	DESCRIPTION OF WORK	UNIT	QT Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTA L	
1	5	HP VFD	1	1,519	1,519	528	528	2,047
7	5	HP Prem Eff Motor	1	380	380	528	528	908
1 2								
Other Estimated Implementation Costs								-
NJ Smart Start Incentive								829
TOTAL								\$ 2,955

Exhaust Fan VFDs

3. Price of Electricity, \$/kWh (blended rate)

\$0.175

	Existing Condition	Proposed System	Savings
Avg Percent Required Power	70%	35%	
Annual Energy Consumption (kWh)	2,820	1,410	1,410
Run Hours	1,440	1,440	
Annual Peak Demand Reduction (kW)	1.4	0.7	0.70
Annual Cost and Savings, \$	\$ 493	\$ 247	\$ 247

1. Assumes average rated fan volume of 75%

2. Assumes current vortex control position of 70%.

3. Includes replacement of existing motors with premium efficiency (inverter duty) motors

4. Run hours based on bin data and time of day factor.

5. Savings based on 5 HP Motor

6. See Sample Calculation below

Building	Fan	Motor Nameplate HP	Equivalent Power Draw, kw	Annual Run Hours	Annual Electric Savings, kwh	Annual Electric Savings, \$
NEPTUNE TOWNSHIP - SENIOR CENTER	Kitchen Hood	5	3 3/4	1440	1,410	247

Percent Required Power
70% 35% 75%

Instantaneous Tankless DHW Heaters / DHW OPTIMIZATION

N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Installation Tankless Water Heaters: 199 kBTU	ea	1	1,445	1,445	965	965	2,410
1	Installation Tankless Water Heaters : 75 kBTU	ea	1	512	512	660	660	1,172
Other Estimated Implementation Costs								752
TOTAL								\$ 4,334

OPTIMIZE DOMESTIC HOT WATER SYSTEM

3. Price of Electricity, \$/kWh (blended rate) \$0.175
 5. Price of Natural Gas, \$/therm \$1.443

	Existing Condition	Proposed System	Savings
Annual Domestic Water Usage for Sinks, gal	200,000	200,000	
Percentage of Hot Water per Sink Usage	50%	50%	
Annual Hot Water Usage for Sinks,gal	100,000	100,000	-
Annual Gas Usage, therms	722	-	722
Annual Gas Usage, therms	-	570	(570)
Annual Cost and Savings, \$	\$ 1,442	\$ 1,223	\$ 219

1. Assume the existing faucet flow rate is 2 gpm and each occupants uses the faucet for 2 minute(s) per day. Total occupants per the building is 200.

Reference: Water Use and Conservation, 1st Ed, Table 2.2 pg25, table 2.10 pg77, & table 2.15 pg103, WaterPlow Press, 2001

2. Assume existing gas fired hot water heaters have a thermal efficiency of 0.80.

3. Assume incoming city water temperature is 55F

4. Existing supply setpoint is 129F

5. Proposed supply setpoint is 120F

6. There is no demand reduction for this measure

7. No rebates or other financial incentives were available for this measure

Upgrade Windows

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTA L	
1	Demolition/removal old windows	sf	363			1.25	454	454
2	Install dbl glazed, alum dbl hung windows	sf	363	400	145,200	19	6,879	152,079
3	Demolition/removal old doors	ea	1		-	130	130	130
4	Install dbl glazed, alum doors	ea	1	3,125	3,125	19	19	3,144
Other Estimated Implementation Costs								110,290

TOTAL

**\$
266,096**

Window Upgrade / Replacement

3. Price of Electricity, \$/kWh
(blended rate)

\$0.175

5. Price of Natural Gas, \$/therm

\$1.443

	Existing Condi tion	Propose d System	Savings
R-Value of Windows	1.1	2.6	
Annual heating loss, therms	671	248	424
Annual additional cooling, kWh	1,841	679	1,162
Annual Natural Gas Cost and Savings, \$	\$ 968	\$ 357	\$ 611
Annual Electric Cost and Savings, \$	\$ 322	\$ 119	\$ 203
Annual Cost and Savings, \$	\$ 1,291	\$ 476	\$ 815

1. Old windows are single glazed, no coating with storm window.
2. Assumes old windows experience 50% infiltration factor.
3. Assumes new windows are double glazed with low E coating, no storm window.
4. Assumes new windows experience 14% infiltration factor.
5. Sample Calculations Below

Quantity 15
Sq. Ft. / Window 37

Total Area (Sq. Ft.) 394.5

HEATING

Heating Degree Days 4022
Heating Plant Efficiency 0.80
Natural Gas Cost, \$/therm 1.443

COOLING

Cooling Degree Days 1379
Cooling Plant SEER 10
Electric Cost, \$/kWh 0.175

Existing Windows

Existing U Value 0.91
Existing Infiltration Factor 0.5
Annual Heating Loss Cost \$ 368.25
New Windows 0
Proposed U Value 0.38
Proposed Infiltration Factor 0.14
Annual Heating Loss Cost 656
0
\$

Heating Savings 232.44

Existing U Value 0.91
Existing Infiltration Factor 0.5
Annual Additional Cooling Cost 122.50
New Windows
Proposed U Value 0.38
Proposed Infiltration Factor 0.14
Annual Additional Cooling Cost 45.17604
\$
Cooling Savings 77.32

Total Savings 309.76

6. There is no demand reduction for this measure

7. No rebates or other financial incentives were available for this measure

Air Curtain

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Installation of Air Curtain	ea	1	1,803	1,803	86	86	1,889
2			-		-		-	-
Other Estimated Implementation Costs								189
TOTAL								\$ 2,078

SAVINGS FROM AIR CURTAIN

3. Price of Electricity, \$/kWh (blended rate)

\$0.175

5. Price of Natural Gas, \$/therm

\$1.443

	Existing Condition	Proposed System	Savings
Number of Doors	1	1	
Estimated Summer Infiltration (kWh)	12,731	-	
Estimated Winter Infiltration (therms)	555	-	
Cost to run Air Curtain Summer (kWh)		1,372	
Cost to run Air Curtain Winter - Electric Heater (kWh)		13,880	
Annual Cost to run blower motor (kWh)		414	
Annual Cooling Infiltration Hours, OAT > 80F	375	375	
Annual Heating Infiltration Hours, OAT < 55F	4,230	4,230	
Annual Cooling Electrical Consumption, kWh	12,731	15,666	-2,935
Annual Heating Natural Gas Consumption, therms	554.71	-	555
Annual Cost and Savings, \$	\$ 3,028	\$ 2,741	\$ 287

1. Infiltration rate was calculated according to ASHRAE Fundamentals 2005 Door Leakage Rate Equation F27.12
2. Estimated hours of infiltration was based on all hours below 55F and above 80F for the region.
3. Assume 1.11 hrs per day for total hours of open door
4. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.
5. The average outside air temperature above 80F during the year is 73.1 F. The average outside air temperature below 55F is 35.9F.
6. Assume the cooling plant has an efficiency of 1.4 kw/ton and the natural gas fired heating units have an efficiency of 80%.
7. There is no demand reduction for this measure
8. No rebates or other financial incentives were available for this measure
9. See Sample Calculation Below

Heating

This calculator will estimate the cost savings of a Berner air door when used to keep warmer air inside and cooler air outside. This is a typical application during winter months.

Heat Loss from Temperature (therms)	53
Heat Loss from Wind (therms)	571
Total Heat Loss (therms)	555
	\$
Heat Loss per Season (\$)	800

AC

This calculator will estimate the cost savings of a Berner air door when used to keep warmer air inside and cooler air outside. This is a typical application during winter months.

Sensible heat load	1259
Latent heat load	11035
Total heat gain rate	12731
	\$
Cost of heat gain:	2,228

Township of Neptune

Neptune Public Works Building

NEPTUNE TOWNSHIP - PUBLIC WORKS BUILDING

VENDINGMISERS								
N/ N	DESCRIPTION OF WORK	UNI T	QT Y	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VendingMisers	EA	1	179	179	-	-	179
Other Estimated Implementation Costs								-
TOTAL								\$ 179

VENDING MACHINE POWER MANAGEMENT SYSTEM

3. Price of Electricity, \$/kWh (blended rate) \$0.162

5. Price of Natural Gas, \$/therm \$1.227

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	
Run Hours	8,760	8,760	
Annual Peak Demand Reduction (kW)	0.06	0.03	0.02
Annual Energy Consumption (kWh)	2,102	925	1,177
Annual Cost and Savings, \$	\$ 341	\$ 150	\$ 191

1. Run hours based on fan motors being run 8760 hrs

2. Sample Calculations Below

Vending Machine Count	1
Annual Run-Time Factor	60%
VendMiser Installation Savings	0
Soda Machine Power Consumption, kw	0.40
Annual Savings %	56%
Annual Energy Savings	\$186

3. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

3. No rebates or other financial incentives were available for this measure

4. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

AHU SEER Upgrade								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	5-ton PRTU w/ Gas Heat & Econ	ea	1	9,712	9,712	795	795	10,507
Other Estimated Implementation Costs								5,060

TOTAL \$ 15,567
New Jersey Smart Start Rebate 405

Replace aging AHUs with higher efficiency units

- | | |
|--|---------|
| 1. Price of #2 Fuel Oil, \$/gal | \$0.000 |
| 2. Price of City Water, \$/1000 gallons | \$4.000 |
| 3. Price of Electricity, \$/kWh (blended rate) | \$0.162 |
| 4. Price of the Demand of Electricity, \$/kW/month | \$0.000 |
| 5. Price of Natural Gas, \$/therm | \$1.227 |

	Existing Condition	Proposed System	Savings
Total Tons	5	5	
SEER	13.0	14.3	
Annual Run Hours	1,163	1,163	
Annual Peak Demand Reduction (kW)	0.9	0.8	0.08
Annual kWh	5,368	4,880	488
Annual Cost and Savings, \$	\$ 870	\$ 791	\$ 100

- Cost per kWh and therm prices taken from "# Constants" sheet.
- Run hours based on bin data and time of day factor.
- Assumed 10 - 15 Ton RTUs throughout building
- See Sample Calculations below

Tag	Tons	Run Hrs	Standard SEER Btu / Wh	Hi Eff SEER Btu / Wh	kWh Saved	Annual Savings	Incremental Cost
AHU - Loft	5	1,163	13.0	14.3	488	\$ 79	\$ 500
Total	5				488	\$ 79	\$ 500

- Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor Study
- ASHRAE 90.1-1989 Referenced for baseline SEER/EER

7. Proposed SEER/EER Ratings taken from Lennox Strategos Series

REPLACING WINDOW AC UNITS

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Window AC Unit	Uni t	10	200	2,000	50	500	2,500
Other Estimated Implementation Costs								-
TOTAL								\$ 2,500

SAVINGS FROM REPLACING WINDOW AC UNITS

3. Price of Electricity, \$/kWh (blended rate)

\$0.162

	Existing Condition	Proposed System	Savings
Number of Units	10	10	
Capacity per Unit, Tons	0.8	0.8	
Total Capacity, Tons	8	8	
Assumed Efficiency, SEER	8.0	10.1	
Total Hours of Normal Operation, hrs	1,021	1,021	
Cooling Load Factor	60%	60%	
Annual Cooling Production, ton-hours	4,901	4,901	
Annual Cooling Load, kBTU	58,810	58,810	
Annual Peak Demand Reduction (kW)	1.1	0.8	0.22
Annual Electrical Consumption, kWh	7,351	5,823	1,528
Annual Cost and Savings, \$	\$ 1,191	\$ 943	\$ 248

1. Assume existing systems runs all year when outside air temperature (OAT) is above 65F from Monday through Friday.

2. Both conditions are simulated with non-programmable thermostats.

3. Load factor calculation represents the percentage of time when the unit operates at full load.

4. It is assumed that the old systems have a 10% derated efficiency of 8 SEER.

5. Assume the new units have an efficiency of 10.1 EER.

6. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

7. No rebates or other financial incentives were available for this measure

Install Destratification Fans

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Install 60" fan, (115V, 100W)	ea	3	250	750	100	300	1,050
2	Install wiring/controls	ea	3	100	300	100	300	600
Other Estimated Implementation Costs								528
TOTAL								\$ 2,178

Install and Operate Destratification Fans in Heating Season

3. Price of Electricity, \$/kWh (blended rate)
5. Price of Natural Gas, \$/therm

\$0.162
\$1.227

	Existing Condition	Proposed System	Savings
Assumed temperature gain between Tstat height and ceiling, deg F	8.0	0.0	
Additional heating energy needed to create this temperature gain, MBtu	103,704	0	103,704
Additional gas consumed, therms	1,037	0	1,037
Annual cost of additional gas	\$ 1,272	\$ -	\$ 1,272
Additional power for fans, kWh	0	2,267	-2,267
Annual cost of fan power	\$ -	\$ 367	\$ (367)
Net Annual Cost and Savings, \$	\$ 1,272	\$ 367	\$ 905

1 Assumes 4 - 60 inch, 115V, 100W fans.
2. There is no demand reduction for this measure
3. No rebates or other financial incentives were available for this measure
4. See Sample Calculation Below

Bin Hrs Below 65 DegF	5,668
Load Factor	0.6
Assumed difference in Temperature due to stratification	8
Unit Heater Efficiency fed from HHW Boilers	85%
Number of Unit Htrs	6
Airflow of RTU (CFM)	500
Total CFM	3,000
Excess Energy Used (Btu) *	103,704,395
Excess Energy Used (Therms)	1,037
\$/Therm	\$1.227
Gas savings	\$1,272
Number of Fans	4
Watts per fan	100
Annual kWh for fans	2,267
\$/kWh	\$0.162
Cost of running fans	\$367
Net Savings	\$905

Upgrade Windows

N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTA L	
1	Demolition/removal old windows	sf	480			1.25	600	600
2	Install dbl glazed, alum dbl hung windows	sf	480	400	192,000	19	9,096	201,096
3	Demolition/removal old doors	ea	5		-	130	650	650
4	Install dbl glazed, alum doors	ea	5	3,125	15,625	19	95	15,720
Other Estimated Implementation Costs								154,361
TOTAL								\$ 372,426

Window & Door Upgrade / Replacement

3. Price of Electricity, \$/kWh
(blended rate)

\$0.162

5. Price of Natural Gas, \$/therm

\$1.227

	Existing Condi tion	Propose d System	Savings
R-Value of Windows	1.1	2.6	
Annual heating loss, therms	970	358	612
Annual additional cooling, kWh	2,660	981	1,679
Annual Natural Gas Cost and Savings, \$	\$ 1,190	\$ 439	\$ 751
Annual Electric Cost and Savings, \$	\$ 431	\$ 159	\$ 272
Annual Cost and Savings, \$	\$ 1,621	\$ 598	\$ 1,023

1. Old windows are single glazed, no coating with storm window.
2. Assumes old windows experience 50% infiltration factor.
3. Assumes new windows are double glazed with low E coating, no storm window.

4. Assumes new windows experience 14% infiltration factor.

5. Sample Calculations Below

Quantity	34
Sq. Ft. / Window	18
Total Area (Sq. Ft.)	570

HEATING		COOLING	
Heating Degree Days	4022	Cooling Degree Days	1379
Heating Plant Efficiency	0.80	Cooling Plant SEER	10
Natural Gas Cost, \$/therm	\$ 1.227	Electric Cost, \$/kWh	\$ 0.162

Existing Windows		Existing U Value	0.91
Existing U Value	0.91	Existing Infiltration Factor	0.5
Existing Infiltration Factor	0.5	Annual Additional Cooling Cost	\$ 163.29
Annual Heating Loss Cost	\$ 450.90		
New Windows	0	New Windows	

Proposed U Value	0.38	Proposed U Value	0.38
Proposed Infiltration Factor	0.14	Proposed Infiltration Factor	0.14
Annual Heating Loss Cost	\$ 166.29	Annual Additional Cooling Cost	\$ 60.22

Heating Savings	\$ 284.61	Cooling Savings	\$ 103.07
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Total Savings	\$ 387.68
---------------	-----------

6. There is no demand reduction for this measure

7. No rebates or other financial incentives were available for this measure

Replace Unit Heaters w/ IR Radiant Heaters								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	IR Radiant Tube Heaters (50 kbtu)	ea	6	1,178	7,068	1,600	9,600	16,668
2								-
3								-
Other Estimated Implementation Costs								3,500
TOTAL								\$ 20,168

Unit Heater Replacement

3. Price of Electricity, \$/kWh (blended rate)

\$0.162

5. Price of Natural Gas, \$/therm

\$1.227

	Existing Condition	Proposed System	Savings
Annual Run Hours	3,470	3,470	0
Annual Gas Use (therms)	10,950	6,524	4,426
Annual Cost and Savings, \$	\$ 13,436	\$ 8,005	\$ 5,430

1. Existing Condition assumes convective loss/thermal stratification due to large volume areas (high bay/ceiling) and overhead door opening.

2. There is no demand reduction for this measure

3. No rebates or other financial incentives were available for this measure

4. See Sample Calculations Below

Unit Heaters

Type

Number of Units	6
Heating Capacity Per Unit (MBH)	45
Total Heating Capacity (MBH)	270
Annual Operating Hours	3470
Load Factor	85%
Efficiency	80%
Annual Heating Load (Btu)	995,456,250
Convective Loss (Btu)	99,545,625
Total Usage (therms)	\$ 10,950.019
Unit Cost (\$/therm)	\$ 1
Total Annual Cost	1343567%
Radiant Unit Heaters	
Type	Gas Infrared
Number of Units	6
Design Capacity (MBH)	30.6
Annual Operating Hours	3470
Load Factor	85%
Efficiency	83%
Annual Heating Load (Btu)	652,443,614
Total Usage (therms)	6,524
Unit Cost (\$/therm)	\$ 1.227
Total Annual Cost Savings	\$ 8,005

Annual Cost Savings \$ 5,430

Upgrade Garage Doors								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Demolition/removal old doors	ea	3		-	130	390	390
2	Install fiberglass doors	ea	3	5,025	15,075	915	2,745	17,820
Other Estimated Implementation Costs								4,095
TOTAL								\$ 22,305

Garage Door Upgrade / Replacement
--

3. Price of Electricity, \$/kWh (blended rate)

\$0.162

5. Price of Natural Gas, \$/therm

\$1.227

	Existing Condition	Proposed System	Savings
R-Value of Windows	1.1	2.6	
Annual heating loss, therms	1,321	361	959
Annual Natural Gas Cost and Savings, \$	\$ 1,620	\$ 443	\$ 1,177
Annual Cost and Savings, \$	\$1,620	\$ 443	\$,177

1. Old Garage Door are single panel aluminum
2. Assumes old doors experience 50% infiltration factor.
3. Assumes new doors are insulated with fiberglass
4. Assumes new doors experience 14% infiltration factor.

5. Sample Calculations Below

Quantity	3
Sq. Ft. / Door	192
Total Area (Sq. Ft.)	576

HEATING

Heating Degree Days	4022
Heating Plant Efficiency	0.80
Natural Gas Cost, \$/therm	1.227

COOLING

Cooling Degree Days	1379
Cooling Plant SEER	10
Electric Cost, \$/kWh	0.162

Existing Windows	
Existing U Value	0.91
Existing Infiltration Factor	0.5
Annual Heating Loss Cost	\$1,620

Existing U Value	0.91
Existing Infiltration Factor	0.5
Annual Additional Cooling Cost	-

New Windows

Proposed U Value	0.38
Proposed Infiltration Factor	0.14
Annual Heating Loss Cost	\$443

New Windows	
Proposed U Value	0.38
Proposed Infiltration Factor	0.14
Annual Additional Cooling Cost	0

Heating Savings	\$1,177
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Cooling Savings	\$ -
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Total Savings	\$ -
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6. There is no demand reduction for this measure
7. No rebates or other financial incentives were available for this measure

Township of Neptune

Neptune Pumping Station

NEPTUNE TOWNSHIP - PUMPING STATION - PENNSYLVANIA AVE

REPLACING WINDOW AC UNITS								
N/ N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Window AC Unit	Unit	6	200	1,200	50	300	1,500
Other Estimated Implementation Costs								-
TOTAL								\$ 1,500

SAVINGS FROM REPLACING WINDOW AC UNITS

3. Price of Electricity, \$/kWh (blended rate)

\$0.172

			Existing Condition	Proposed System	Savings
Number of Units			2	2	
Capacity per Unit, Tons			0.8	0.8	
Total Capacity, Tons			2	2	
Assumed Efficiency, SEER			8.0	10.1	
Total Hours of Normal Operation, hrs			1,021	1,021	
Cooling Load Factor			60%	60%	
Annual Cooling Production, ton-hours			980	980	
Annual Cooling Load, kBTU			11,762	11,762	
Annual Peak Demand Reduction (kW)			0.2	0.2	0.04
Annual Electrical Consumption, kWh			1,470	1,165	306
Annual Cost and Savings, \$			\$ 253	\$ 200	\$ 53

1. Assume existing systems runs all year when outside air temperature (OAT) is above 65F from Monday through Friday.

2. Both conditions are simulated with non-programmable thermostats.

3. Load factor calculation represents the percentage of time when the unit operates at full load.

4. It is assumed that the old systems have a 10% derated efficiency of 8 SEER.

5. Assume the new units have an efficiency of 10.1 EER.

6. Coincidence Factor for peak kW reduction taken from Maryland Public Utility Commission: Appendix A Measure Analysis Spreadsheet

7. No rebates or other financial incentives were available for this measure

Instantaneous Tankless DHW Heaters								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTA L	PER UNIT	TOTAL	
1	Installation Tankless Water Heaters *Includes demolition of storage tank, installation of gas, electrical and pipe work.	LS	1	50	50	600	600	650
2	Tankless Water Heater	LS	1	845	845		-	845
Other Estimated Implementation Costs								632

\$
2,127

TOTAL

NJ Smart Start Rebate 300

Instantaneous Hot Water

3. Price of Electricity, \$/kWh (blended rate) \$0.172

5. Price of Natural Gas, \$/therm \$1.215

	Existing Condition	Proposed System	Savings
Standby Loss (Btu-hr)	570	0	
Annual Op Cost for Standby Losses	\$ 71	0	
Run Hours for Standby Losses	8,760	48	
Annual Energy Consumption (gals)	35	0	35
Annual Cost and Savings, \$	\$ 71	\$ -	\$ 71

Upgrade Windows								
N/ N	DESCRIPTION OF WORK	UN IT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOT AL	PER UNIT	TOTA L	
1	Demolition/removal old windows	sf	120			1.25	150	150
2	Install dbl glazed, alum dbl hung windows	sf	120	400	48,000	19	2,274	50,274
Other Estimated Implementation Costs								11,339
TOTAL								\$ 61,763

Window Upgrade / Replacement

3. Price of Electricity, \$/kWh (blended rate) \$0.172

5. Price of Natural Gas, \$/therm \$1.215

	Existing Condi tion	Propose d System	Savings
R-Value of Windows	1.1	2.6	
Annual heating loss, therms	204	75	129
Annual additional cooling, kWh	560	207	353
Annual Natural Gas Cost and Savings, \$	\$ 248	\$ 91	\$ 157
Annual Electric Cost and Savings, \$	\$ 96	\$ 36	\$ 61
Annual Cost and Savings, \$	\$ 344	\$ 127	\$ 217

1. Old windows are single glazed, no coating with storm window.

2. Assumes old windows experience 50% infiltration factor.

3. Assumes new windows are double glazed with low E coating, no storm window.

4. Assumes new windows experience 14% infiltration factor.

5. Sample Calculations Below

Quantity 10

Sq. Ft. / Window 12

Total Area (Sq. Ft.) 120

HEATING COOLING

Heating Degree 4022 Cooling Degree Days 1379

Days

Heating Plant

Efficiency 0.80

Natural Gas Cost, \$ 1.215

\$/therm

Cooling Plant SEER 10

Electric Cost, \$/kWh 0.172

Existing Windows

Existing U Value 0.91

Existing Infiltration

Factor 0.5

Annual Heating

Loss Cost \$ 248.05

New Windows 0

Proposed U Value 0.38

Proposed Infiltration

Factor 0.14

Annual Heating

Loss Cost 91.4795

0

\$

Heating Savings 156.57

Existing U Value 0.91

Existing Infiltration

Factor 0.5

Annual Additional

Cooling Cost \$ 96.32

New Windows

Proposed U Value 0.38

Proposed Infiltration

Factor 0.14

Annual Additional

Cooling Cost 35.52127

488

\$

Cooling Savings 60.80

\$

Total Savings 217.37

6. There is no demand reduction for this measure

7. No rebates or other financial incentives were available for this measure

Condensing Boiler								
N/ N	DESCRIPTION OF WORK	UNI T	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	150 BTU High Eff Gas Boiler	ea	1	5,795	5,795	635	635	6,430
2	Demo Existing Boilers	ls	1		-	600	600	600
3	Piping Modifications	ls	1		-	635	635	635
4	Electric/Controls	ls	1		-	695	695	695
5								
6					-		-	-
Other Estimated Implementation Costs								1,254
TOTAL								\$ 9,614
NJ SMART START REBATE								\$ 300
TOTAL INCREMENTAL COST								\$ 4,295

SAVINGS FROM HIGH EFFICENCY CONDENSING BOILER

5. Price of Natural Gas, \$/therm

\$1.215

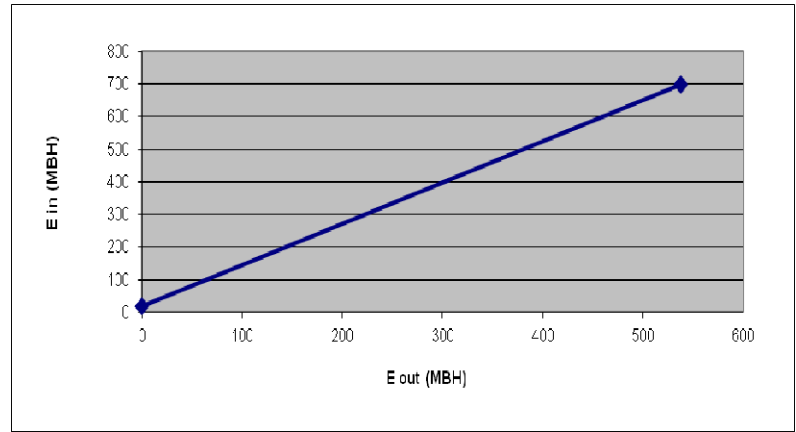
	Existing Condition	Proposed System	Savings
Boiler Plant Capacity, kBTU	50	50	
Hours of Operation	4,214	4,214	
Seasonal Efficiency	76%	93%	
Annual Gas Consumption, therms	0	0	-
Annual Oil Consumption, gals	1,002	823	179
Annual Cost and Savings, \$	\$ 2,004	\$ 1,647	\$ 357

1. Assume the boilers have a temperature reset schedule where the hot water is supplied at 180F/160F when it is 0F/40F outside.

2. Sample Calculation Below
Single Boiler:

Eff 100%	Gas Fuel			
E in 100%	0.77		E out	Ein
E out 100%	40	MBH	0	1
SBL (% Ein)	31	MBH	30.8	40
SBL	3%	0		
Min E out	1	MBH		
Comb, Eff	20%	8		
m slope=	80%	0		
	1.26623	0		

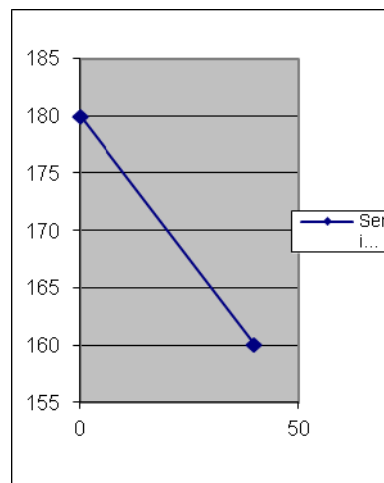
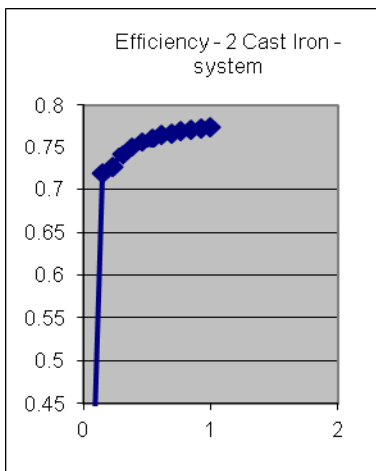
3766			
INDIVIDUAL			
BOILER	0	0	
0	0	0	linear relation
Eout (Load)	PLR	E in	Efficiency
0	0%	1	0
0.308	1%	1.39	0.221582734
1.54	5%	2.95	0.522033898
3.08	10%	4.9	0.628571429
6.16	20%	8.8	0.7
9.24	30%	12.7	0.727559055
12.32	40%	16.6	0.742168675
15.4	50%	20.5	0.751219512
18.48	60%	24.4	0.757377049
21.56	70%	28.3	0.761837456
24.64	80%	32.2	0.765217391
27.72	90%	36.1	0.767867036
30.8	100%	40	0.77



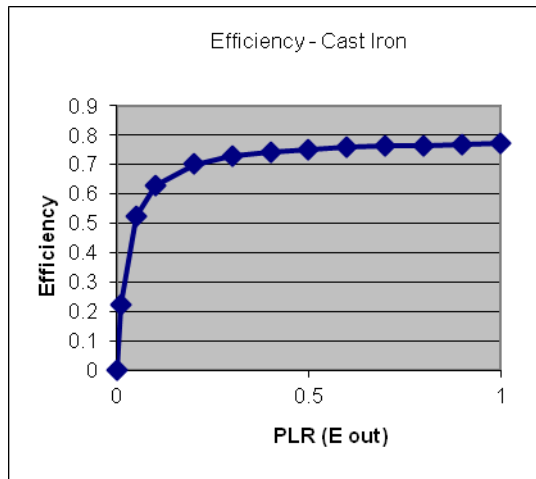
COMBINED SYSTEM BOILER PART LOAD

Capacity of each	0	50	0
No. of Boilers	0	1	0
Total Capacity	0	50	0
0	0	No. of	Load

Load	PLR	Boilers	per boiler	per boiler	plant	0	Fuel Oil #2 Gallons
0	0	0	0	E in	E in	Efficiency	
50	100%	1	50	64	64	0.777463651	610
46	92%	1	46	59	59	0.776457539	1
42	85%	1	42	55	55	0.775271849	69
38	77%	1	38	50	50	0.773853792	10
35	69%	1	35	45	45	0.772127641	15
31	62%	1	31	40	40	0.76998075	12
27	54%	1	27	35	35	0.767237943	9
23	46%	1	23	30	30	0.76361112	85
19	38%	1	19	25	25	0.758590794	71
15	31%	1	15	20	20	0.751182869	56
12	23%	1	12	16	16	0.739152694	42
8	15%	1	8	11	11	0.718786464	37
0	0%	1	0	1	1	0	0



Fuel Source	Oil		
# Days perWeek in Operation	7		
Temp	6-9pm	Op Hrs	Plant LO AD
Bin	Mon-Sun	M-F	



0	13	13	10
			0%
15	237	237	92
			%
20	175	175	85
			%
25	280	280	77
			%
30	466	466	69
			%
35	537	537	62
			%
40	512	512	54
			%
45	391	391	46
			%
50	390	390	38
			%
55	381	381	31
			%
60	374	374	23
			%
65	458	458	15
			%
0	0	0	8%
0	Total	4214	0%

Max Load	50	MBH	
Condensing Boiler		MBH	
Capacity	50	Each	
# Boilers	1		
Plant Capacity	50		
RESET			
SCHEDULE	0	OA	SWT
	Max	0	180
		40	160
Reset			
Slope	-0.5		

ASSUMPTION							%
0	OAT	SWT	RWT	Zone Load %	LOAD	Load/Boiler	Load
100	0	180.00	160.00	100%	50	50.00	10
92.30769231	5	177.50	158.41	92%	46.15384615	46.15	0%
84.61538462	10	175.00	156.82	85%	42.30769231	42.31	92
76.92307692	15	172.50	155.23	77%	38.46153846	38.46	%
69.23076923	20	170.00	153.64	69%	34.61538462	34.62	85
61.53846154	25	167.50	152.05	62%	30.76923077	30.77	%
53.84615385	30	165.00	150.45	54%	26.92307692	26.92	77
46.15384615	35	162.50	148.86	46%	23.07692308	23.08	%
38.46153846	40	160.00	147.27	38%	19.23076923	19.23	69
30.76923077	45	157.50	145.68	31%	15.38461538	15.38	%
23.07692308	50	155.00	144.09	23%	11.53846154	11.54	62
							%

15.38461538	55	152.50	142.50	15%	10	#DIV/0!	#DIV/0!
7.692307692	60	150.00	140.91	8%	10	#DIV/0!	#DIV/0!
0	65	147.50	139.32	0%	0	0	0
		(1) 50 Boilers Plant			Op Hrs	Oil	
Zone Load	No Boilers	Load %	Eff %	E out	M-F 6-9pm	Gal	
50	1	1	0.927	53.9374			
				3258	13	5	
46.15384615	1	0.92308	0.928	49.7347			
				4801	237	85	
42.30769231	1	0.84615	0.929	45.5411			
				112	175	57	
38.46153846	1	0.76923	0.929	41.4010			
				1018	280	83	
34.61538462	1	0.69231	0.93	37.2208			
				4367	466	125	
30.76923077	1	0.61538	0.93	33.0851			
				9438	537	128	
26.92307692	1	0.53846	0.931	28.9184			
				4997	512	107	
23.07692308	1	0.46154	0.932	24.7606			
				4708	391	70	
19.23076923	1	0.38462	0.933	20.6117			
				5695	390	58	
15.38461538	1	0.30769	0.933	16.4894			
				0556	381	45	
11.53846154	1	0.23077	0.933	12.3670			
				5417	374	33	
7.692307692	0	#DIV/0!	0.941	8.17460			
				9662	458	27	
3.846153846	0	#DIV/0!	0.958	4.01477			
				437	0	0	
						823	

Solar PV System

Neptune Public Works

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6
	N/S	N/S	N/S	N/S	N/S	N/S
Gross Length, feet	41	50				
Panel Count (calculated)	11.9	14.6	0.0	0.0	0.0	0.0
Panel Count (actual)	11	14	0	0	0	0

	E/W	E/W	E/W	E/W	E/W	E/W
Gross Length, feet	131	60				
Panel Count (calculated)	25.6	11.7	0.0	0.0	0.0	0.0
Panel Count (actual)	25	11	0	0	0	0

Gross Panel Qty	275	154	0	0	0	0	
Panel Reduction %	75%	75%	0%	0%	0%	0%	
Net Panel Qty	206	116	0	0	0	0	322

Total

System Capacity, kw	47	27	0	0	0	0	74
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Choose Closest City	Newark	Newark	Newark	Newark	Newark	Newark
Capacity Factor (kwh/kw)	1,054	1,054	1,054	1,054	1,054	1,054

First Year Expected Production (kWh)	49,999	28,000	0	0	0	0	77,999
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Site Energy Use

258,120
Roof

Install Roof Mount Solar Photovoltaic System(s)	
Neptune Public Works	
Assumptions	
System Capacity, kw-dc (maximum utilization of roof space)	74 kw dc
Estimated Annual AC Energy Produced by Proposed Solar PV System	77,999 kwh
Total Annual Facility Electric Use, kwhrs	258,120 kwh
Proposed % of Total Annual kWh supplied by Solar PV	30%
All-In Rate for Electric Year 1	\$0.167 / kwh
Year 1 Electric Cost Savings	\$13,026
Year 1 Maintenance Costs	\$1,480
Estimated Year 1 SREC Value:	\$640 / SREC
Estimated Year 1 SREC Revenue:	\$49,893
Financial Results	
Actual Payback	8.0 years
IRR (25 Years)	10.3%
Net Present Value (25 yrs, 8% discount rate)	\$71,662
Cost and Rebate / Tax Incentives	
Cost per kW installed	\$6,000
System Installed Cost	\$444,015
NJ CEP Rebate (\$1/watt for systems < 50 kW)	\$0
Federal Business Energy Tax Credit (30%)	\$0

Solar PV System

Neptune Senior Center
1825 Corlies Ave, Neptune, NJ

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6
	N/S	N/S	N/S	N/S	N/S	N/S
Gross Length, feet	18	35	0	0	0	0
Panel Count (calculated)	5.2	10.2	0.0	0.0	0.0	0.0
Panel Count (actual)	5	10	0	0	0	0

	E/W	E/W	E/W	E/W	E/W	E/W
Gross Length, feet	70	30	0	0	0	0
Panel Count (calculated)	13.7	5.9	0.0	0.0	0.0	0.0
Panel Count (actual)	13	5	0	0	0	0

Gross Panel Qty	65	50	0	0	0	0
Panel Reduction %	65%	65%	0%	0%	0%	0%
Net Panel Qty	42	33	0	0	0	0

Total

System Capacity, kw	10	7	0	0	0	0	17
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Choose Closest City	Atlantic City	Atlantic City	Newark	Newark	Newark	Newark
Capacity Factor (kwh/kw)	1,115	1,115	1,054	1,054	1,054	1,054

First Year Expected Production (kWh)	10,835	8,335	0	0	0	0	19,170
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Solar PV System

Neptune Municipal Building
25 Neptune Boulevard, Neptune, NJ

Performed By Dome-Tech Energy Advisors

	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	
	N/S	N/S	N/S	N/S	N/S	N/S	
Gross Length, feet	36	36	0	0	0	0	
Panel Count (calculated)	10.5	10.5	0.0	0.0	0.0	0.0	
Panel Count (actual)	10	10	0	0	0	0	
	E/W	E/W	E/W	E/W	E/W	E/W	
Gross Length, feet	12	12	0	0	0	0	
Panel Count (calculated)	2.3	2.3	0.0	0.0	0.0	0.0	
Panel Count (actual)	2	2	0	0	0	0	
Gross Panel Qty	20	20	0	0	0	0	
Panel Reduction %	70%	70%	0%	0%	0%	0%	
Net Panel Qty	14	14	0	0	0	0	28
							Total
System Capacity, kw	3	3	0	0	0	0	6
Choose Closest City	Atlantic City	Atlantic City	Newark	Newark	Newark	Newark	
Capacity Factor (kwh/kw)	1,115	1,115	1,054	1,054	1,054	1,054	
First Year Expected Production (kWh)	3,590	3,590	0	0	0	0	7,181



Wind Analysis - Neptune Municipal Building
Performed By Dome-Tech Energy Advisors

Average Wind Speed	4.6	4.6	5.8
Annual Electric Use, kwh	1,259,400	1,259,400	1,259,400
Electric Cost	\$0.18/kWh	\$0.18/kWh	\$0.18/kWh

Name	Neptune Municipal Building
Annual Electric Use, kwh	1,259,400
Electric Cost, kwh	\$ 0.180

	Micro	Traditional 5.2 kw	Traditional 50 kw
Number of Units	20	2	1
kW Capacity, per Unit	1 Kw	5.2 Kw	50.0 Kw
kW Capacity, Total	20 Kw	10 Kw	50 Kw
Annual Production Per Unit	742 Kwh	5,857 Kwh	110,472 Kwh
Annual Production Total	14,843 Kwh	11,713 Kwh	110,472 Kwh
Annual Savings	\$2,672	\$2,108	\$19,885
Installed Cost per Unit	\$6,500		
Installed Cost per Kw		\$6,000	\$5,000
Gross Installed Cost	\$130,000	\$62,400	\$250,000
NJ Incentive	\$47,498	\$37,483	\$98,436
Net Installed Cost	\$82,502	\$24,917	\$151,564
Simple PayBack	30.9	11.8	7.6
% Energy Use	1.2%	0.9%	8.8%

Monthly Averaged Wind Speed At 10 m Above The Surface Of The Earth For Terrain Similar To Airports (m/s)

Latitude	Longitude	January	February	March	April	May	June	July	August	September	October	November	December	avg
40.12	-74.02	5.14	5.19	5.28	5.03	4.42	4.09	3.74	3.66	3.88	4.26	4.87	5.1	4.56

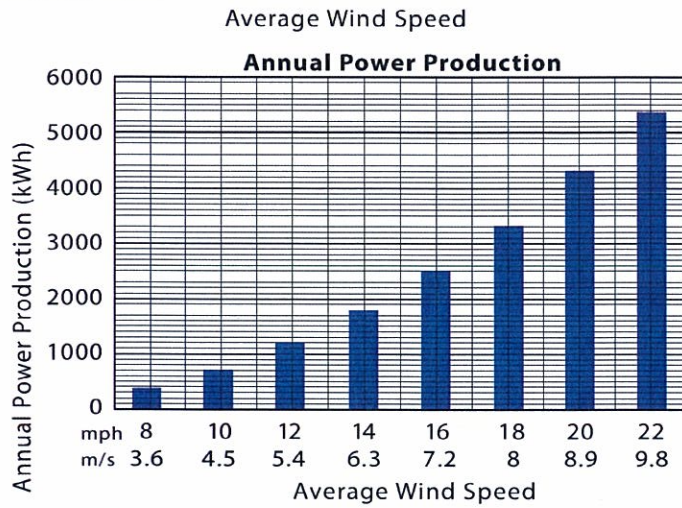
Monthly Averaged Wind Speed At 50 m Above The Surface Of The Earth (m/s)

Latitude	Longitude	January	February	March	April	May	June	July	August	September	October	November	December	avg
40.12	-74.02	6.51	6.57	6.68	6.37	5.59	5.18	4.73	4.63	4.91	5.39	6.17	6.45	5.77

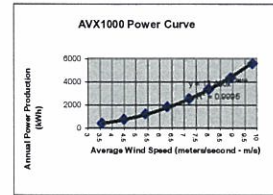
Latitude 40 34 N
Longitude 74 27 W
NASA Surface meteorology and Solar Energy: Data Subset
http://eosweb.larc.nasa.gov/cgi-bin/sse/subset.cgi?email=k_mccarthy@dome-tech.com
UN k_mccarthy@dome-tech.com
PW dometech

http://www.awea.org/smallwind/toolbox/TOOLS/fs_safety.asp

AVX1000 Power Curve



m/s	annual kwh
3.6	390
4.5	710
5.4	1200
6.3	1800
7.2	2500
8	3300
8.9	4300
9.8	5550



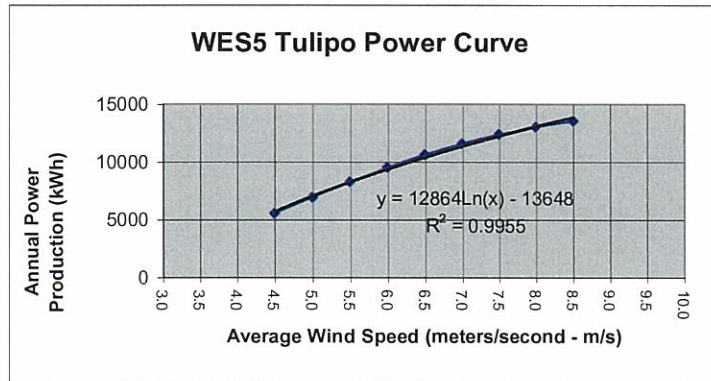
$$y = 13.436x^{2.6458}$$

$$R^2 = 0.9995$$

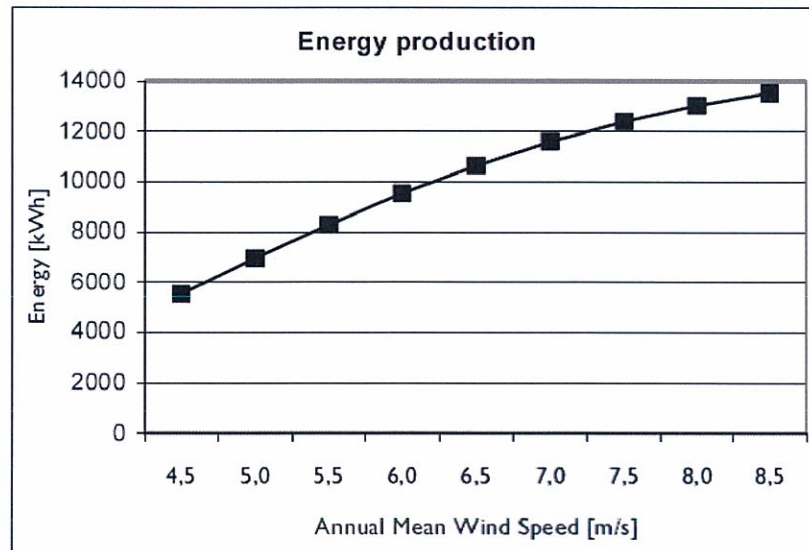
Average Wind Speed * Has to be greater than 2.2 m/s
Annual Power Producti 742.2

<http://www.prevailingwindpower.com/1000AVX.pdf>

WES5 Tulipo



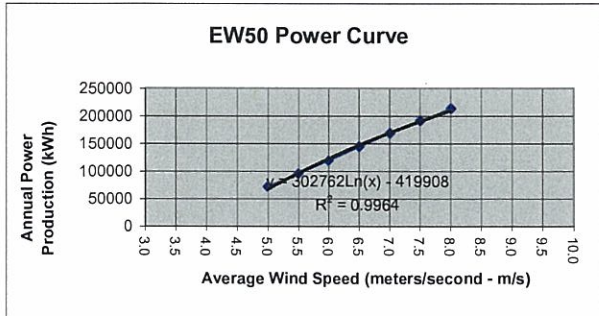
Wind speed [m/s]	Energy [kWh]
4,5	5541
5,0	6947
5,5	8294
6,0	9534
6,5	10638
7,0	11593
7,5	12391
8,0	13036
8,5	13534



) - 13648

Speed
Producti ##

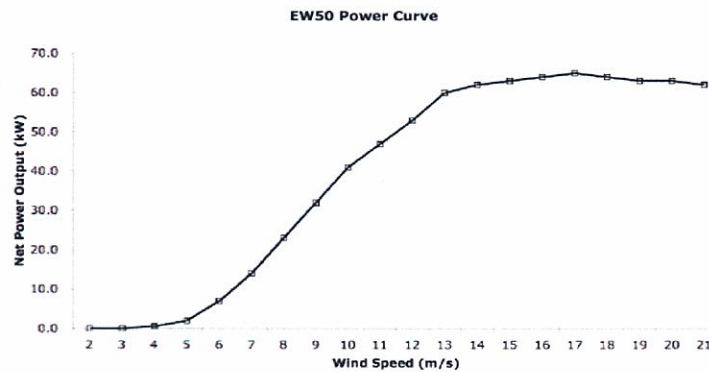
m/s	Annual kwh
5.0	72000
5.5	95000
6.0	119000
6.5	144000
7.0	168000
7.5	191000
8.0	213000



<http://www.entegritywind.com/pdfs/EW50-Specs.pdf>

EW50 Power Curve, 60hz

Wind Speed (m/s)	Wind Speed (mph)	Power (kW)
2	4.5	0
3	6.7	0
4	8.9	0.5
5	11.2	2.0
6	13.4	7.0
7	15.6	14.0
8	17.9	23.0
9	20.1	32.0
10	22.4	41.0
11	24.6	47.0
12	26.8	53.0
13	29.1	60.0
14	31.3	62.0
15	33.5	63.0
16	35.8	64.0
17	38.0	65.0
18	40.2	64.0
19	42.5	63.0
20	44.7	62.0
21	46.9	61.9



Expected Annual Net Energy Production (AEP)

Average Annual Wind Speed (m/s)	Average Annual Wind Speed (mph)	AEP Sea Level (kWh)
5	11.2	72,000
5.5	12.3	95,000
6	13.4	119,000
6.5	14.5	144,000
7	15.6	168,000
7.5	16.8	191,000
8	17.9	213,000