

## Energy Audit

In early 2011, the City utilized a competitive process to hire EMG, of Hunt Valley, MD, to perform an investment grade energy audit of 26 selected City owned buildings. This project was grant funded through a portion of a \$2.3M EECBG grant awarded to the City for the energy audit, solar powered trash compactors, a revolving green loan fund, and street lighting improvements.

The final reports (PDF) were presented to the City at the end of June 2011.

Certain properties were omitted from the audit because they are leased by the City (HEDC offices at 30 Montgomery, Administration/HHS offices at 1 Journal Square) or because the City has decided to vacate and sell the property (DPW complex at Rt 440). Police HQ at 8 Erie has recently been added to the list of surplus properties, however, this decision was made after the completion of the audit. In addition, some properties not under the direct control of the City (JC Public Libraries, Loews Theater) were also included as the marginal cost to audit did not exceed the budgeted amount for the audit. Those reports will be passed on to their respective organizations.

Each site was inspected by EMG staff who prepared a photographic record and complete inventory of all building systems. Based on the data collected during site visits, a series of ECMs were recommended for each building.

The following are samples of the calculations used by EMG to classify ECMs as Low/No Cost or Capital Cost:

UIC		Insulate Hot Water Tanks		Property of EMG Corp. All Rights Reserved	
EAH7		Details: Condensate tank insulation jacket			
<b>ENTER EXISTING CONDITION</b>					
No. of Tanks	1	Type of Heating Fuel	Natural Gas (Select)	Enter Estimated Surface Area of Tank (Sq.Ft)	56.55 Sq.Ft
Average Ambient Space Temperature Around The Exposed Tank (F)	80.00 °F	Average Temperature of Fluid In The Tank (°F)	160.00 °F	Estimated Annual Heating Plant Efficiency (%)	61%
Estimated Annual Hours of Operation (Hrs)	2340.00 Hrs				
<b>EXISTING STATE</b>			<b>PROPOSED</b>		
Enter The Existing Net Effective R-Value of The Tank Insulation	1.00 (Sq. Ft. deg. F./hr./Btu)	Enter The Proposed Net Effective R-Value of The Tank Insulation	4.00 (Sq. Ft. deg. F./hr./Btu)		
Annual Conduction Losses From Existing Insulation	10585.91 kBtu/yr	Annual Conduction Losses From Proposed Insulation	2648.48 kBtu/yr		
<b>ENERGY SAVINGS</b>					
Estimated Energy Savings	7938.43 kBtu	Estimated Total Annual Input Heating Energy Savings	13089.03 kBtu		
Cost of Heating Fuel/Unit:	\$1.04	Estimated Total Annual Input Heating Energy Savings	130.69 Therms		
<b>COST ANALYSIS</b>					
Estimated Cost For Adding Insulation	\$921.74	Total Annual Estimated Cost Savings	\$136.51		
Simple Pay Back Period	6.75 Years	Type of Recommendation	No/Low Cost ECM Recommendation		

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UIC	New Natural Gas/Propane Fired Water Heater	
EAD3	Details: Replace existing water heater With NG fired water heater	
	Number of Water Heaters Being Replaced:	2
	Size of Existing Water Heater Storage Tank:	100 gallons
<b>Step 1</b>	<b>Existing Water Heater Details</b>	
	Select Existing Hot Water Heater Fuel	Electric
	Input Existing Water Heater Input Rating	5.38 kW
	Input Annual Hours of Operations	1,040 hrs
	Estimated Annual Current Hot Water Heater Energy Consumption	5,595 kWh
	Total Estimated Annual Operating Energy Costs	\$1,047.63
<b>Step 2</b>	<b>Proposed New Natural Gas Fired Water Heater</b>	
	Select Proposed Hot Water Heater Fuel	Natural Gas
	Enter Energy Input Per Hour in kBtu For New Water Heater	18.36 kBtu/hr
	Proposed Annual Hours of Operations	1,040 hrs
	Annual kBtuh Consumption of the Proposed Water Heater	19090.82 kBtuh
	Estimated Annual Water Heater Fuel Consumption	191 Therms
	Estimated Annual Energy Costs	\$199.41
<b>Step 3</b>	<b>Energy &amp; Cost Saving Calculation</b>	
	Estimated Cost of New Water Heater/Unit	\$1,100.00 \$\$
	Estimated Installation Cost Per Heater	\$325.00 \$\$
	Total Estimated Installation Cost	\$3,078.00 \$\$
	Total Estimated Annual Cost Savings	\$848.22 \$
	Simple Pay Back Period	3.63 Years
	Type of Recommendation	Capital Cost ECM Recommendation

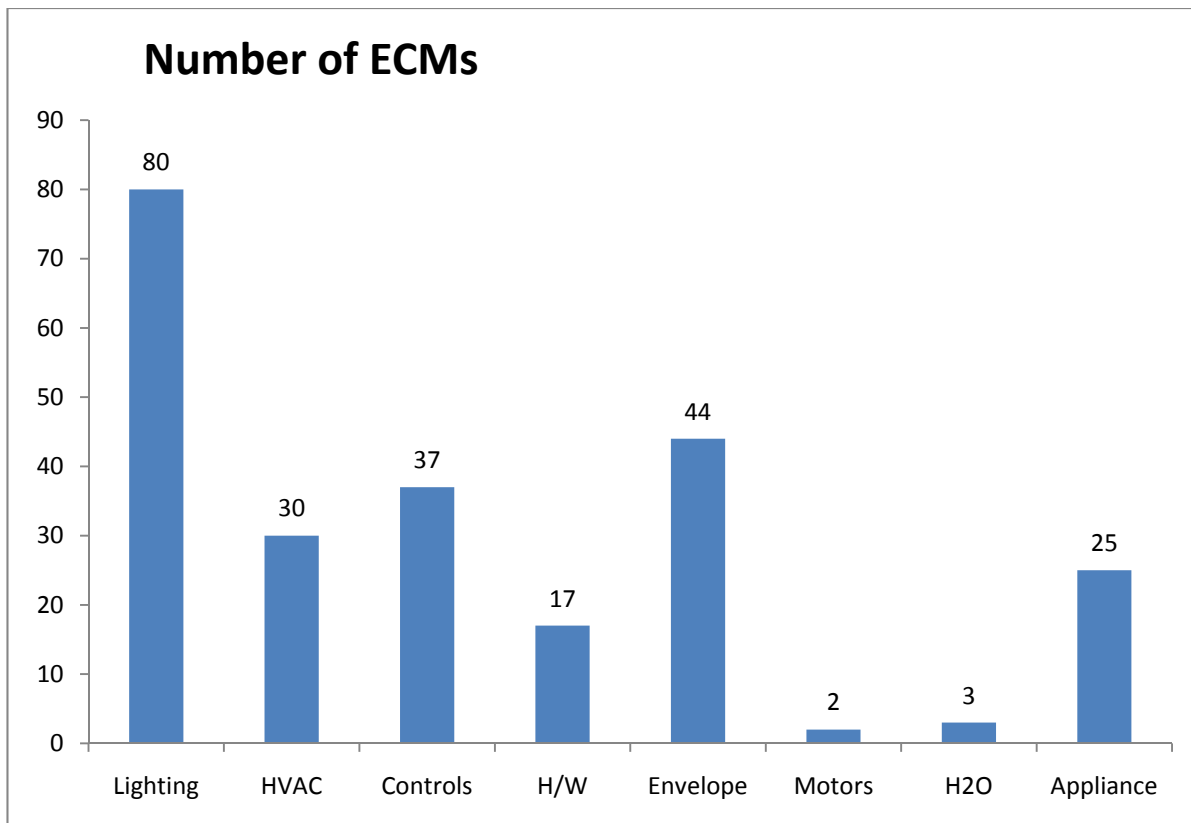
## Summary of Energy Conservation Measures (ECMs)

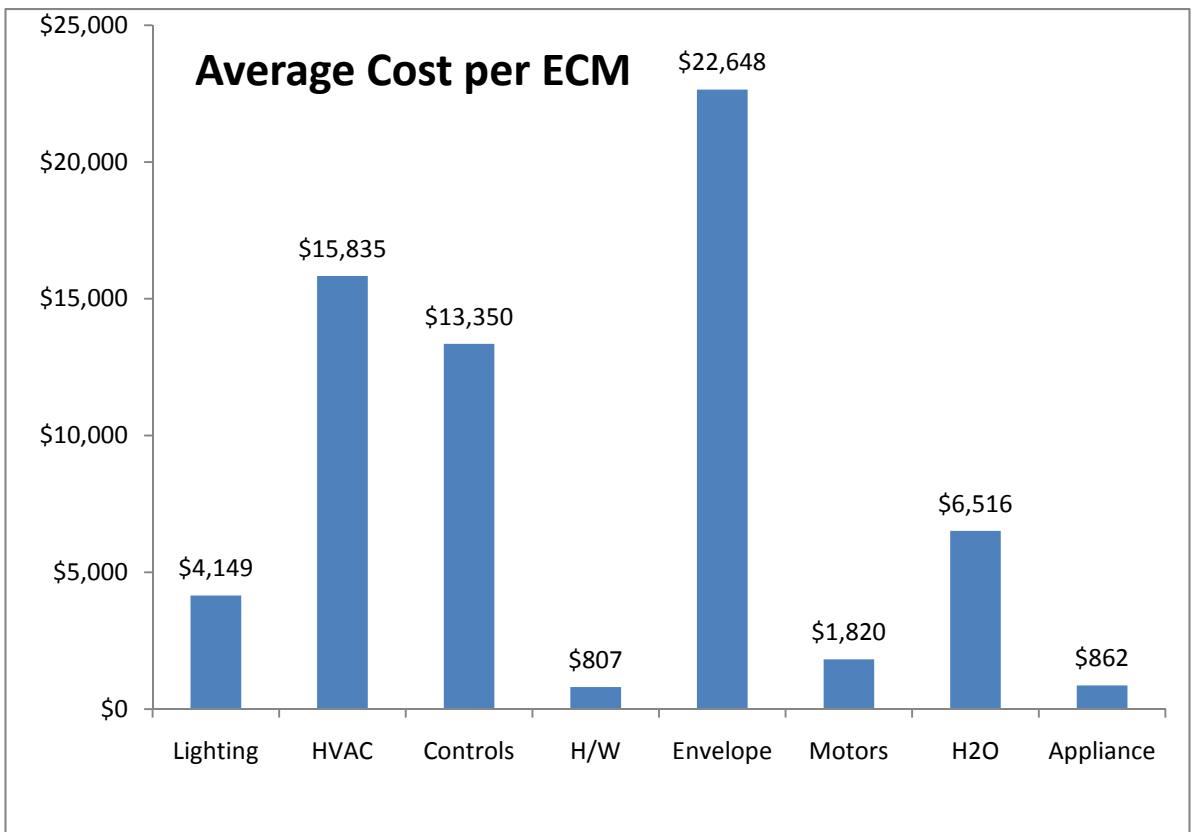
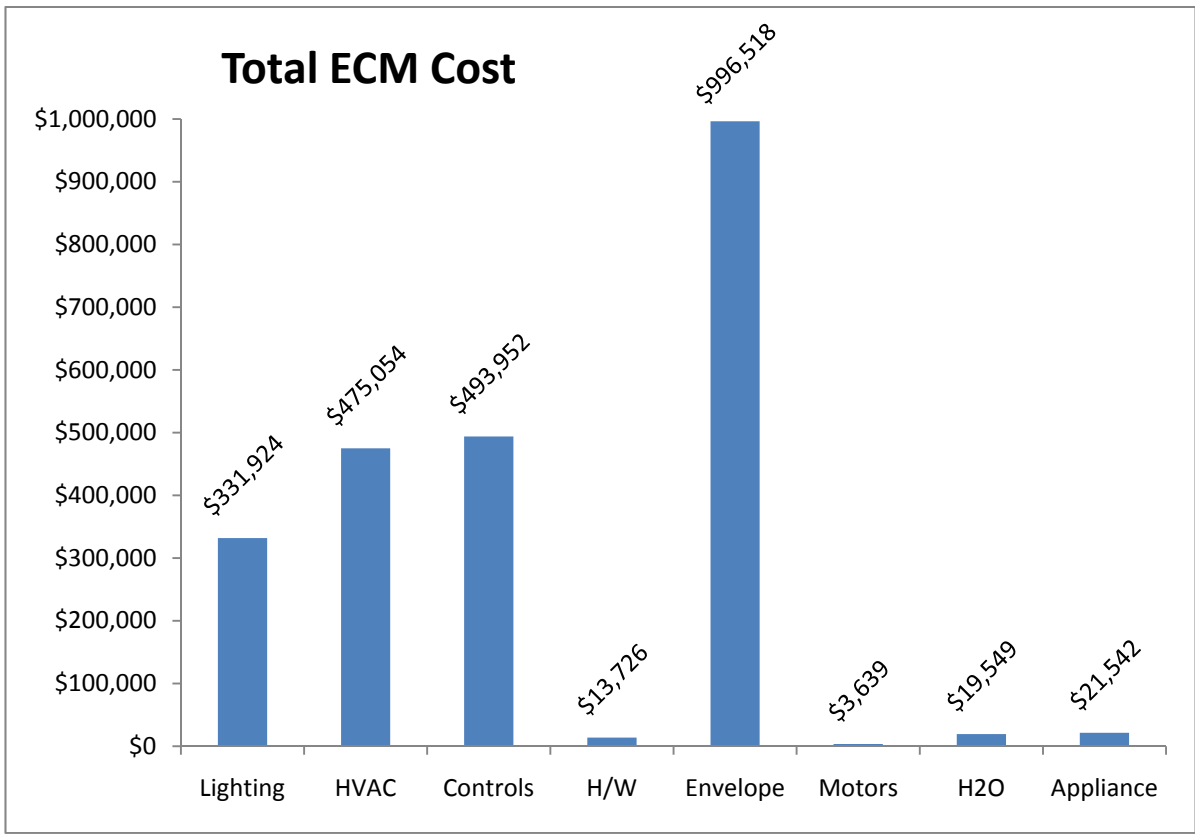
Each of the 26 energy audit reports contains standardized information for selected City owned buildings:

- Equipment inventory
- List of ECMs
- Project investment
- Energy savings
- Simple payback period (yrs)
- Savings to Investment ratio (S.I.R)

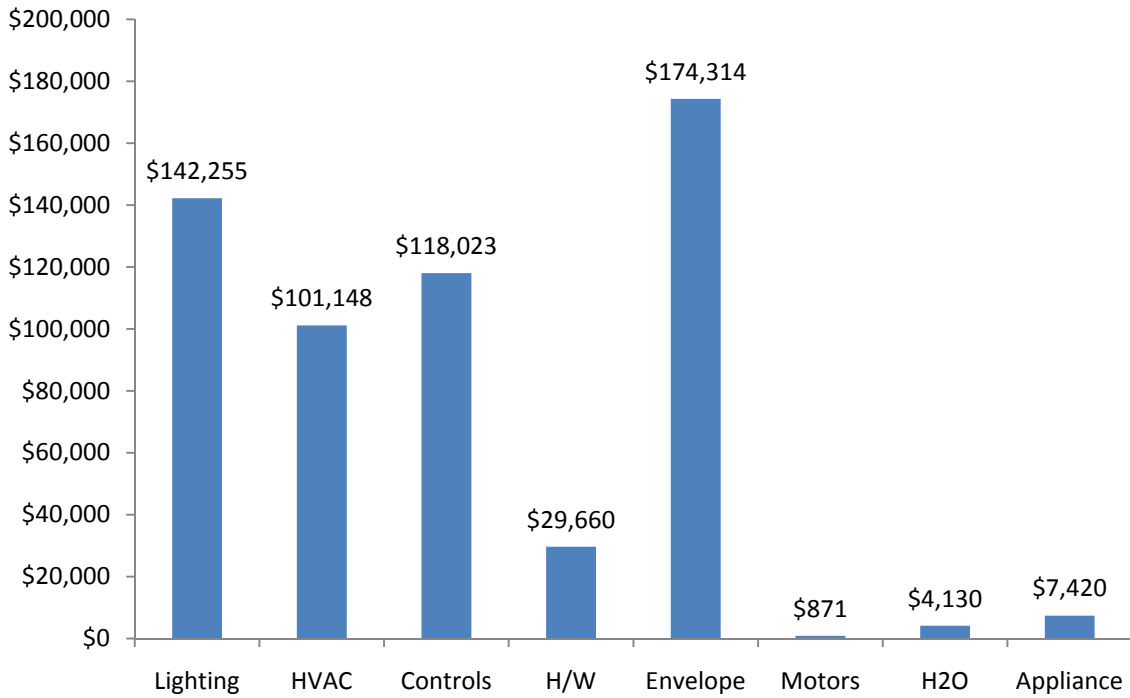
In addition, overall summaries of all ECMs by building and by type were also provided. Those data are presented graphically below (at an admittedly high level) for 8 categories of ECM:

- Lighting
- HVAC
- Controls
- Domestic Hot Water
- Building Envelope
- Motor Retrofit
- Water Conservation
- Appliances

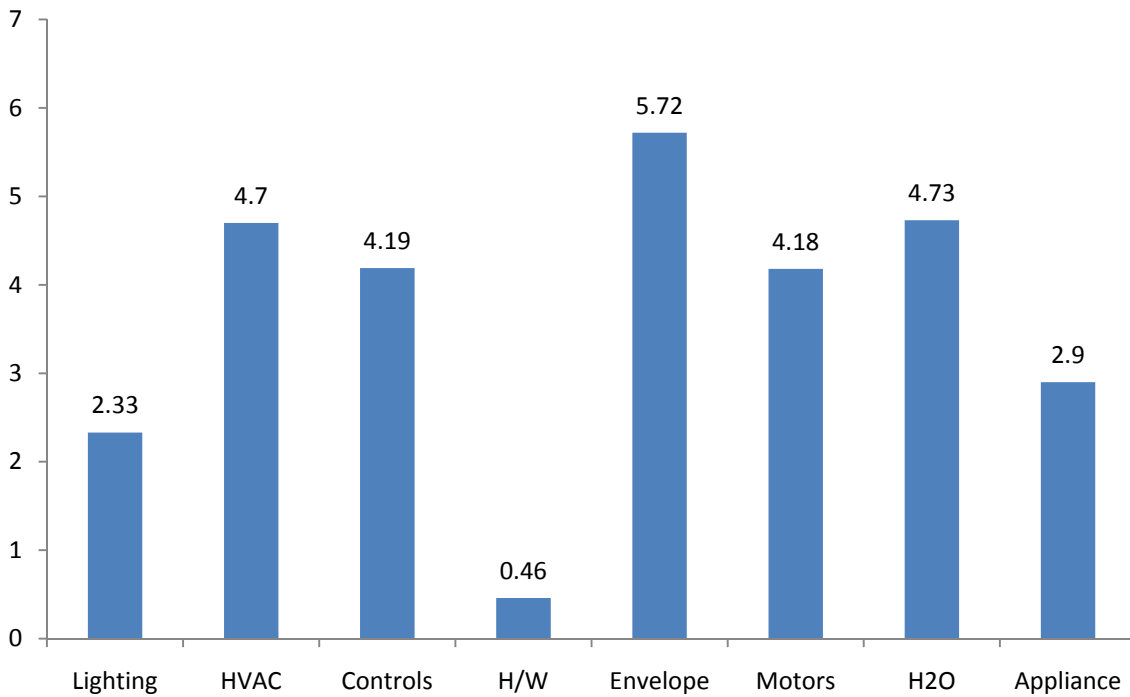




## Savings (Annual)



## Average Payback (yrs)



While not intended to be used as final decision tools, the above charts do illustrate the range of variability (except perhaps in payback periods, although the gross level of summarization does introduce some margin of error) which the City must contend with in selecting a “portfolio” of improvements.

The full ECM list appears as an appendix to this document and provides much more detail, including:

- Breakdowns of investment costs between Low/No Cost and Capital Cost;
- Estimated energy savings;
- Savings-to-investment ratios;
- Life cycle savings;
- Expected useful lives

## Action Items

In order to continue the momentum generated by the completion of the energy audit, the following items will be addressed at the next meeting of the Green Committee:

- Creation of an energy savings committee to include representatives from the Mayor's Office, City Engineering, City Architecture, Management and Budget, Administration, Division of Buildings and Streets, and the Green Committee
- Prioritization and ranking of ECMs within the framework of available funding, investment cost, ability of internal staff to implement, and energy savings/GHG reduction impacts
- Selection of "low hanging fruit", i.e., ECMs which can quickly and easily be funded and implemented prior to development of an ESCO RFP.
- Development of an ESCO RFP to prepare an energy savings plan (ESP)
- Begin dialogue on funding mechanism(s) for large scale ECMs, e.g., issuance of debt ("energy savings obligations"), lease-purchase financing, or application for grants. The final portfolio will be some combination of all three, although the issuance of debt is likely to be the smallest component.
- Outreach to the public in order to gain local support for energy initiatives and to benefit from possible volunteer expertise.

## APPENDIX – ECM SUMMARY



# ENERGY CONSERVATION MEASURES BY BUILDING & BY TYPE

Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings				O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
			\$	therms	Gal of Oil	kWh									
City Hall	Install Automatic Lighting Controls	\$648	0		4,090	13,955	\$0	0.00	\$766	0.85	20.58	\$12,687	25	1	Lighting
City Hall	Replace Exit Signs With LED Exit Signs	\$658	0		12,527	42,742	\$1,251	0.00	\$2,345	0.18	53.02	\$34,237	20	1	Lighting
City Hall	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$724	0		1,192	4,067	\$31	0.00	\$223	2.85	3.87	\$2,080	16	1	Lighting
City Hall	Replace Existing Lamps With Energy Efficient Lamps	\$770	0		14,618	49,877	\$266	0.00	\$2,737	0.26	19.27	\$14,058	6	1	Lighting
City Hall	Insulate Hot Water Tanks	\$922	131		0	13,069	\$0	0.00	\$137	6.75	2.20	\$1,109	20	1	DHW
City Hall	Install Energy Savers on Vending, Snack Machines	\$1,920	0		8,740	29,821	\$0	0.00	\$1,636	1.17	12.68	\$22,426	20	1	Appliances
City Hall	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$2,607	1,467		0	146,700	\$0	0.00	\$1,532	1.70	8.74	\$20,190	20	1	Controls
City Hall	New Natural Gas/Propane Fired Water Heater	\$3,078	-191		5,595	0	\$0	0.00	\$848	3.63	2.35	\$4,158	10	1	DHW
City Hall	Replace Defective Steam Traps	\$4,000	4,602		0	460,235	\$0	0.00	\$4,807	0.83	14.35	\$53,389	15	1	HVAC
City Hall	Replace Lamps And Install Lighting Controls	\$5,502	0		19,849	67,725	\$0	0.00	\$3,716	1.48	4.21	\$17,653	7	1	Lighting
City Hall	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$16,416	0		14,881	50,775	\$139	0	\$2,786	5.61	1.69	\$11,319	12	1	HVAC
City Hall	Improve Insulation Levels in Attic	\$25,575	5,893		13,201	634,362	\$0	0.00	\$8,627	2.96	6.61	\$143,523	30	1	Building Env
City Hall	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$42,784	0		35,202	120,109	\$0	0.00	\$6,591	6.49	1.08	\$3,484	8	1	Lighting
City Hall	Replace Non-Programmable Thermostats With New Programmable	\$344,800	19,979		0	1,997,914	\$0	0.00	\$20,869	16.52	1.19	\$64,235	30	1	Controls
City Hall	Replace External Windows	\$362,340	11,265		42,531	1,271,656	\$0	0.00	\$19,730	18.36	1.07	\$24,384	30	1	Building Env
Community Center - Bergen Ave	Add Off-Hour Timers to Existing Domestic Water Heater	\$100	0		910	3,105	\$0	0.00	\$172	0.58	29.94	\$2,894	25	1	DHW
Community Center - Bergen Ave	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$130	1.46	11.95	\$2,080	25	1	Appliances
Community Center - Bergen Ave	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$1,185	0		3,092	10,550	\$0	0.00	\$584	2.03	3.07	\$2,454	7	1	Lighting
Community Center - Bergen Ave	Replace Existing Water Heaters With New Natural Gas Fired Water Heaters	\$1,609	-124		3,640	0	\$0	0.00	\$545	2.95	2.89	\$3,039	10	1	DHW
Community Center - Bergen Ave	Replace Lamps and Install Lighting Controls	\$3,881	0		4,914	16,766	\$0	0.00	\$928	4.18	1.49	\$1,904	7	1	Lighting
Community Center - Bergen Ave	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$5,670	0		6,088	20,772	\$66	0.00	\$1,150	4.66	2.55	\$8,779	16	1	Lighting
Community Center - Bergen Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$11,599	0		5,321	18,155	\$50	0.00	\$1,005	10.99	1.03	\$403	15	1	HVAC
Community Center - MLK	Install Automatic Lighting Controls	\$259	0		2,123	7,244	\$0	0.00	\$343	0.76	23.01	\$5,705	25	1	Lighting
Community Center - MLK	Replace Incandescent Lamps With CFL's	\$321	0		2,153	7,346	\$0	0	\$347	0.92	6.75	\$1,843	7	1	Lighting
Community Center - MLK	Install Automatic Lighting Controls	\$691	0		10,366	35,369	\$0	0.00	\$1,672	0.41	42.13	\$28,432	25	1	Lighting
Community Center - MLK	Install Energy Savers on Vending, Snack Machines	\$1,036	0		4,877	16,639	\$0	0.00	\$787	1.32	14.89	\$14,386	30	1	Appliances
Community Center - MLK	Replace Existing Hot Water Heater With New Natural Gas Fired Water Heater	\$1,323	-319		9,360	0	\$0	0.00	\$1,152	1.15	7.43	\$8,506	10	1	DHW
Community Center - MLK	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$2,722	0		2,647	9,031	\$21	0.00	\$427	6.07	1.56	\$1,529	12	1	HVAC
Community Center - MLK	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$8,122	0		10,363	35,359	\$355	0.00	\$1,672	4.01	2.59	\$12,880	16	1	Lighting
Field House / Ice Rink	Replace High Flow Shower Heads to Low Flow Shower Heads	\$682	1,642		0	164,186	\$0	547.50	\$6,076	0.11	106.36	\$71,859	15	1	DHW
Field House / Ice Rink	Use the Existing Zamboni Water Heater with Programable Control	\$698	9,077		0	907,700	\$0	0.00	\$10,892	0.06	232.20	\$161,354	20	1	DHW
Field House / Ice Rink	Replace Existing Refrigerator(s) With Energy Star Certified Refrigerator(s)	\$798	0		1,194	4,074	\$0	0.00	\$155	5.14	2.32	\$1,055	15	1	Appliances

Field House / Ice Rink	Install Timers On Rooftop Exhaust Fans	\$893	0		16,918	57,724	\$0	0.00	\$2,199	0.41	21.00	\$17,867	10	1	Controls
Field House / Ice Rink	Install Energy Savers on Vending, Snack Machines	\$1,230	0		6,487	22,133	\$0	0.00	\$843	1.46	5.85	\$5,963	10	1	Appliances
Field House / Ice Rink	Replace Non-Programmable Thermostats With New Programmable	\$1,651	1,800		1,593	185,435	\$0	0.00	\$2,367	0.70	21.33	\$33,565	20	1	Controls
Field House / Ice Rink	Replace Inefficient Heating Plant	\$1,994	2,857		0	285,714	\$171	0	\$3,429	0.55	39.74	\$77,257	40	1	HVAC
Field House / Ice Rink	Install Automatic Lighting Controls	\$1,994	0		19,200	65,510	\$0	0.00	\$2,496	0.80	10.68	\$19,297	10	1	Lighting
Field House / Ice Rink	Replace Existing Motors With High Efficiency Motors	\$2,592	0		5,838	19,919	\$38	0.00	\$759	3.25	4.36	\$8,699	20	1	Motors
Field House / Ice Rink	Replace Water Heater for Pool Showers	\$3,489	5,625		0	562,500	\$0	0.00	\$6,750	0.52	28.78	\$96,934	20	1	DHW
Field House / Ice Rink	Control External Air Leakage In The Building	\$4,500	266		1,121	30,426	\$23	0.00	\$465	9.22	1.80	\$3,596	25	1	Building Env
Field House / Ice Rink	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$5,972	0		32,000	109,184	\$0	0.00	\$4,160	1.44	8.32	\$43,690	15	1	Lighting
Field House / Ice Rink	Install Low Flow Restroom Fixture For Commercial Properties	\$9,567	0		0	0	\$0	346.53	\$2,599	3.68	4.04	\$29,099	20	1	Water
Field House / Ice Rink	Recomission the Pool Dehumidifiction System	\$29,910	6,300		30,105	732,718	\$497	100.00	\$12,224	0.75	6.08	\$172,290	20	1	Controls
Field House / Ice Rink	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$41,555	0		120,893	412,487	\$646	0.00	\$15,716	2.54	4.51	\$146,063	15	1	Lighting
Field House / Ice Rink	Replace Inefficient Ice Rink Air Cooled Chiller	\$154,535	0		127,491	435,000	\$497	0.00	\$16,574	9.05	1.60	\$92,042	20	1	HVAC
Firehouse Headquarters	ECM To Calculate Energy Savings From Adding/Insulating Hot Water/	\$15	7		0	724	\$0	0.00	\$9	1.77	4.82	\$59	10	1	HVAC
Firehouse Headquarters	Replace Incandescent Lamps With CFL Lamps	\$34	0		112	382	\$0	0.00	\$15	2.32	1.22	\$7	3	1	Lighting
Firehouse Headquarters	Install Automatic Lighting Controls	\$173	0		2,223	7,585	\$0	0.00	\$289	0.60	14.27	\$2,292	10	1	Lighting
Firehouse Headquarters	Convert Gas Pilot Stoves To Electronic Ignition Stoves	\$216	34		0	3,400	\$0	0.00	\$41	5.29	1.61	\$132	10	1	Appliances
Firehouse Headquarters	Install Timers On Rooftop Exhaust Fans	\$242	0		1,292	4,408	\$0	0.00	\$168	1.44	5.92	\$1,191	10	1	Controls
Firehouse Headquarters	Install Outside Air (OA) Temperature Controls for the Boiler Plant	882	1,500		0	150,000	0.00	\$0	1,800.00	0.49	\$17	14,472	10	1	Controls
Firehouse Headquarters	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$1,728	0		1,124	3,835	\$0	0.00	\$146	11.83	1.01	\$16	15	1	Appliances
Firehouse Headquarters	Control External Air Leakage In The Building	\$2,800	780		1,463	82,947	\$56	0.00	\$1,126	2.37	3.00	\$6,802	10	1	Building Env
Firehouse Headquarters	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$9,590	0		14,367	49,020	\$0	0.00	\$1,868	5.13	1.66	\$6,342	10	1	Lighting
Firehouse Headquarters	Details: Replace T-12 lighting with T-8 lighting and install motion sensors	\$16,848	0		25,330	86,426	\$0	0.00	\$3,293	5.12	1.67	\$11,241	10	1	Lighting
Firehouse Halladay	Install Energy Controllers on Vending, Snack Machines & Water Fountains in	\$200	0		1,610	5,493	\$0	0	\$209	0.96	8.93	\$1,585	10	1	Appliances
Firehouse Halladay	]Calculate Energy Savings From Adding Insulation to Steam Condensate Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	1.93	\$238	15	1	HVAC
Firehouse Halladay	Control External Air Leakage In The Front and Rear Entrance	\$500	355		781	38,211	\$26	0.00	\$528	0.90	9.01	\$4,005	10	1	Building Env
Firehouse Halladay	Install Outside Air (OA) Temperature Controls for the Boiler Plant	\$882	1,200		0	120,000	\$0	0.00	\$1,440	0.61	24.28	\$20,541	20	1	Controls
Firehouse Halladay	Replace Existing Air Conditioners with Energy Star Air Conditioners in Lounge &	\$1,620	0		2,507	8,553	\$16	0	\$326	4.73	2.40	\$2,270	15	1	HVAC
Firehouse Halladay	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$2,376	0		2,112	7,206	\$0	0.00	\$275	8.65	1.38	\$902	15	1	Appliances
Firehouse Halladay	Details: Replace T-12 lighting with T-8 Lighting and Replace Incand. Bulbs	\$3,467	0		24,107	82,253	\$0	0.00	\$3,134	1.11	2.56	\$5,398	3	1	Lighting
Firehouse Halladay	Replace External Windows	\$5,400	414		1,117	45,194	\$0	0.00	\$642	8.41	2.33	\$7,180	30	1	Building Env
Firehouse Halladay	Add Insulation To External Walls/Roofs	\$7,500	756		1,660	81,232	\$0	0.00	\$1,123	6.68	2.61	\$12,048	25	1	Building Env
Firehouse Halladay	Add Insulation To External Walls/Roofs	\$8,330	678		1,490	72,894	\$0	0	\$1,007	8.27	2.11	\$9,212	25	1	Building Env
Firehouse- SIP Ave	Replace Incandescent Lamps With CFL Lamps	\$31	0		1,259	4,296	\$0	0.00	\$164	0.19	10.17	\$282	2	1	Lighting
Firehouse- SIP Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	12.49	\$2,299	15	1	Appliances
Firehouse- SIP Ave	Add Insulation Boiler Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	2.40	\$359	20	1	HVAC
Firehouse- SIP Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$540	0		418	1,426	\$3	0.00	\$54	9.47	1.20	\$108	15	1	HVAC

Firehouse- SIP Ave	Install Outside Air (OA) Temperature Controls for the Boiler Plant	882	1,200		\$0	120,000	\$0	0.00	1,440.00	\$1	24	20,541	20	1	Controls
Firehouse- SIP Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	1,080	0		\$1,671	5,702	\$11	0.00	217.00	\$5	2	1,514	15	1	HVAC
Firehouse- SIP Ave	Control External Air Leakage Around Exterior Doors and Garage Entrance	1,350	578		\$1,270	62,166	\$43	0.00	859.00	\$1	5	5,979	10	1	Building Env
Firehouse- SIP Ave	Replace T-12 Lighting with T-8 Lighting and Motion Sensors	\$1,764	0		7,373	25,157	\$0	0.00	\$958	2.00	2.00	\$947	3	1	Lighting
Firehouse- SIP Ave	Replace High Bay Unit Heaters	\$3,156	226		0	22,581	\$14	0.00	\$271	11.00	1.00	\$79	15	1	HVAC
Firehouse- SIP Ave	Add Insulation To Attic and Crawlspace	\$7,500	922		2,025	99,117	\$0	0.00	\$1,370	5.48	2.72	\$12,879	20	1	Building Env
Firehouse- SIP Ave	Add Insulation To 2nd Floor External Walls/Roofs	\$9,310	832		1,828	89,435	\$0	0.00	\$1,236	7.53	1.98	\$9,078	20	1	Building Env
Firehouse- SIP Ave	Replace External Windows on 2nd Floor Units and Office Area	\$16,848	503		1,359	54,957	\$0	0.00	\$781	21.58	0.91	-\$1,549	30	1	Building Env
Firehouse - Bergen Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains in Garage	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	12.49	\$2,299	15	1	Appliances
Firehouse - Bergen Ave	Control External Air Leakage In The Building	\$850	143		286	15,314	\$10	0.00	\$209	3.87	2.10	\$934	10	1	Building Env
Firehouse - Bergen Ave	Install Motion Sensors Throughout Fire Station	\$1,296	0		4,502	15,361	\$0	0.00	\$585	2.21	3.85	\$3,696	10	1	Lighting
Firehouse - Bergen Ave	Install On-Demand Ventilation on Rooftop Make-up Air Unit	\$1,900	207		39	20,858	\$13	0.00	\$254	7.13	1.59	\$1,130	15	1	Controls
Firehouse - Ocean Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains in	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	8.93	\$1,585	10	1	Appliances
Firehouse - Ocean Ave	Add Weatherstripping to Front and Rear Entrances	\$200	78		171	8,380	\$6	0.00	\$116	1.64	6.91	\$1,182	15	1	Building Env
Firehouse - Ocean Ave	Insulate Steam Return Piping for Steam Boiler	\$256	34		0	3,446	\$0	0.00	\$41	6.19	2.40	\$359	20	1	HVAC
Firehouse - Ocean Ave	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$594	0		528	1,802	\$0	0.00	\$69	8.65	1.38	\$225	15	1	Appliances
Firehouse - Ocean Ave	Install Outside Air (OA) Temperature Controls for Steam Boiler	\$882	1,200		0	120,000	\$0	0.00	\$1,440	0.61	13.92	\$11,401	10	1	Controls
Firehouse - Ocean Ave	Replace Existing Air Conditioners with Energy Star Units in Lounge and	\$1,620	0		2,507	8,553	\$16	0.00	\$326	4.73	3.50	\$4,055	25	1	HVAC
Firehouse - Ocean Ave	Replace T-12 lighting with T-8 Lighting and Replace Incand. Bulbs	\$2,925	0		14,781	50,433	\$0	0	\$1,922	1.52	1.86	\$2,510	3	1	Lighting
Firehouse - Ocean Ave	Replace External Windows in Fire Station	\$10,800	624		1,712	68,206	\$0	0	\$971	11.12	1.34	\$3,646	20	1	Building Env
Firehouse - Ocean Ave	Add Insulation to Attic Crawlspace Area	\$7,500	1,559		4,844	172,428	\$0	0.00	\$2,501	3.00	4.96	\$29,701	20	1	Building Env
Firehouse - Ocean Ave	Add Stucco to External Southwest wall	\$25,000	1,471		4,572	162,700	\$16	0.00	\$2,360	10.52	1.64	\$16,088	25	1	Building Env
Firehouse - Ocean Ave	Add Insulation to Interior Walls on 2nd Floor	\$30,000	1,471		4,572	162,700	\$16	0	\$2,360	12.63	1.37	\$11,088	25	1	Building Env
Fire House-Linden Ave.	Add Insulation to Steam Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	1.38	\$97	10	1	HVAC
Fire House-Linden Ave.	Add Weatherstripping to Front and Rear Entrances	\$500	39		86	4,190	\$3	0	\$58	8.22	1.38	\$191	15	1	Building Env
Fire House-Linden Ave.	Install Outside Air (OA) Temperature Controls for Steam Boiler	\$882	1,200		0	120,000	\$0	0	\$1,440	0.61	13.92	\$11,401	10	1	Controls
Fire House-Linden Ave.	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$2,376	0		2,536	8,653	\$0	0.00	\$330	7.21	2.06	\$2,529	20	1	Appliances
Fire House-Linden Ave.	Replace T-12 lighting with T-8 Lighting and Replace Incandescent Bulbs	\$3,549	0		4,880	16,651	\$0	0.00	\$634	5.59	1.52	\$1,863	10	1	Lighting
Fire House-Linden Ave.	Add Insulation to Attic Crawlspace Area	\$7,500	1,559		4,844	172,428	\$0	0.00	\$2,501	3.00	5.81	\$36,042	25	1	Building Env
Fire House-Linden Ave.	Replace External Windows in Fire Station	\$10,800	390		1,070	42,629	\$0	0.00	\$607	17.80	1.10	\$1,095	30	1	Building Env
Fire House-Linden Ave.	Add Insulation To Interior 2nd Floor Walls	30,000	1,471		4,572	162,700	0.00	\$0	2,360.00	12.71	\$1	11,087	25	1	Building Env
Fire House-2 Bergen	Install Energy Controllers on Vending Machine in Garage Area	200	0		1,610	5,493	0.00	\$0	209.00	0.96	\$9	1,585	10	1	Appliances
Fire House-2 Bergen	Replace 32 watt T8 bulbs with 25 watt T8 bulbs	909	0		4,286	14,624	0.00	\$0	557.00	1.63	\$4	2,562	7	1	Lighting
Fire House-2 Bergen	Install Motion Sensors throughout Building	1,037	0		9,198	31,384	0.00	\$0	1,196.00	0.87	\$14	13,238	15	1	Lighting
Fire House-2 Bergen	Replace Unit Heaters in Truck Bay	6,312	452		0	45,151	27.00	\$0	542.00	11.09	\$1	157	15	1	HVAC
Fire House-Lincoln St.	Insulate Steam Return Piping for Steam Boiler	256	34		0	3,446	0.00	\$0	41.00	6.19	\$1	97	10	1	HVAC
Fire House-Lincoln St.	Add Weatherstripping to Front and Rear Entrances	500	39		86	4,190	3	\$0	58.00	8.22	\$1	191	15	1	Building Env

Fire House-Lincoln St.	Replace Existing Refrigerators With Energy Star Certified Refrigerator	594	0		634	2,163	0	\$0	82.00	7.21	\$2	841	25	1	Appliances
Fire House-Lincoln St.	Install Outside Air Temp Control on Steam Boiler	882	1,200		0	120,000	0.00	\$0	1,440.00	0.61	\$14	11,401	10	1	Controls
Fire House-Lincoln St.	Replace T-12 lighting with T-8 Lighting and Replace Incandescent Bulbs	2,684	0		3,696	12,611	0.00	\$0	480.00	5.59	\$1	689	8	1	Lighting
Fire House-Lincoln St.	Add Insulation to Attic Crawlspace Area	7,500	795		1,747	85,461	0	\$0	1,181.00	6.35	\$2	10,072	20	1	Building Env
Fire House-Lincoln St.	Replace Windows in Fire Station	8,500	390		1,070	42,629	0.00	0.00	\$607	14.01	1.00	\$528	20	1	Building Env
Fire House-Lincoln St.	Add Stucco to Southwest Exterior Wall	\$15,000	938		2,061	100,832	\$0	0.00	\$1,394	10.76	2.00	\$9,266	25	1	Building Env
Fire House-Lincoln St.	Add Insulation to Interior Walls on 2nd Floor	\$20,000	938		2,061	100,832	\$0	0	\$1,394	14.35	1.21	\$4,266	25	1	Building Env
Fire House-Summit Ave.	Replace Incandescent Lamps With CFL Lamps	\$46	0		939	3,204	\$0	0.00	\$122	0.38	7.48	\$299	3	1	Lighting
Fire House-Summit Ave.	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$209	0		1,610	5,493	\$0	0.00	\$209	1.00	8.53	\$1,576	10	1	Appliances
Fire House-Summit Ave.	Install Timers On 6 Rooftop Exhaust Fans	\$726	0		1,997	6,815	\$0	0.00	\$260	2.80	3.05	\$1,489	10	1	Controls
Fire House-Summit Ave.	Replace Existing Refrigerators With Energy Star Certified Units in Kitchen	\$1,404	0		1,302	4,442	\$0	0.00	\$169	8.29	1.44	\$617	15	1	Appliances
Fire House-Summit Ave.	Replace Inefficient Unit Heater	\$2,052	129		0	12,903	\$8	0.00	\$155	12.62	0.90	-\$204	15	1	HVAC
Fire House-Summit Ave.	Install On-Demand Ventilation on Rooftop Make-up Air Units	\$2,850	746		142	75,090	\$46	0.00	\$914	2.97	3.83	\$8,058	15	1	Controls
Fire House-Summit Ave.	Install Motion Sensors in Building	\$3,888	0		15,544	53,036	\$0	0.00	\$2,021	1.92	4.43	\$13,349	10	1	Lighting
Fire House-Summit Ave.	Control External Air Leakage In The Building	\$4,536	1,118		2,225	119,346	\$82	0.00	\$1,630	2.65	4.29	\$14,927	15	1	Building Env
Fire House-Summit Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting in Engine	\$8,392	0		37,233	127,039	\$126	0.00	\$4,840	1.69	3.59	\$21,765	7	1	Lighting
Library-Newark Ave.	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators	\$70	0		41,462	141,468	\$0	42.12	\$5,706	0.01	303.91	\$21,140	4	1	DHW
Library-Newark Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$320	0		7,106	24,246	\$3	0.00	\$924	0.35	24.60	\$7,560	10	1	Lighting
Library-Newark Ave.	Replace Exit Signs With LED Exit Signs	\$157	0		473	1,614	\$241	0.00	\$61	0.52	4.68	\$577	15	1	Lighting
Library-Newark Ave.	Install Timers On Rooftop Exhaust Fans	\$223	0		1,664	5,678	\$0	0.00	\$216	1.03	8.26	\$1,622	10	1	Controls
Library-Newark Ave.	Install Dubble Bubble Reflective Insulation Between Radiators And	\$418	235		0	23,489	\$0	0.00	\$282	1.48	5.75	\$1,986	10	1	Building Env
Library-Newark Ave.	Install On-Demand Ventilation on Air Handlers	\$950	423		321	43,347	\$27	0	\$549	1.65	6.90	\$5,601	15	1	Controls
Library-Newark Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$4,985	1,365		0	136,500	\$0	0	\$1,638	3.04	2.80	\$8,987	10	1	Controls
Library-Newark Ave.	Replace Inefficient Cooling Plant	\$13,400	0		31,818	108,563	\$207	0	\$4,136	3.09	3.69	\$35,979	15	1	HVAC
Library-Newark Ave.	Control External Air Leakage In The Building	\$3,000	376		1,714	43,405	\$34	0	\$673	4.24	2.68	\$5,040	15	1	Building Env
Library-Newark Ave.	Install Low Flow Restroom Fixture For Commercial Properties	\$4,582	0		0	0	\$0	84.56448	\$634	7.22	1.65	\$2,989	15	1	Water
Library-Newark Ave.	Replace Existing Motors With High Efficiency Motors	\$1,047	0		864	2,947	\$6	0	\$112	8.88	1.28	\$294	15	1	Motors
Library-Eighth St.	Replace Existing Lamps With Energy Efficient Lamps	\$38	0		1,244	4,245	\$29	0	\$187	0.18	30.32	\$1,124	7	1	Lighting
Library-Eighth St.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,170	3,992	\$0	0	\$176	0.28	61.12	\$3,006	25	1	DHW
Library-Eighth St.	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0	\$104	1.84	9.49	\$1,612	25	1	Appliances
Library-Eighth St.	Replace Exit Signs With LED Exit Signs	\$284	0		2,102	7,172	\$394	0	\$315	0.40	11.07	\$2,856	12	1	Lighting
Library-Eighth St.	Replace Existing Hot Water Heater With New Natural Gas Fired Water Heater	\$805	160		4,680	31,936	\$0	0	\$886	0.91	4.09	\$2,487	4	1	DHW
Library-Eighth St.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$1,233	0		2,467	8,416	\$0	0.00	\$370	3.33	2.11	\$1,364	8	1	Lighting
Library-Eighth St.	Replace Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$10,774	0		10,453	35,664	\$0	0.00	\$1,568	6.87	1.02	\$232	8	1	Lighting
Library-Bergen Ave.	Replace Exit Signs With LED Exit Signs	\$61	894	0	894	92,402	\$120	0.00	\$143	0.23	46.13	\$2,741	30	1	Lighting
Library-Bergen Ave.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	166	0	0	16,640	\$0	0.00	\$191	0.26	75.01	\$3,701	30	1	DHW
Library-Bergen Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$173	0	0	97	331	\$0	0.00	\$16	11.09	1.08	\$13	15	1	Lighting

Library-Bergen Ave.	Install Dubble Bubble Reflective Insulation Between Radiators And	\$174	0	4	0	556	\$0	0.00	\$11	16.34	1.20	\$35	30	1	Building Env
Library-Bergen Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$601	0	0	4,124	14,071	\$224	0.00	\$660	0.68	6.84	\$3,510	7	1	Lighting
Library-Bergen Ave.	Install Automatic Lighting Controls	\$648	0	0	2,871	9,796	\$0	0.00	\$459	1.41	10.55	\$6,187	20	1	Lighting
Library-Bergen Ave.	Replace Defective Steam Traps	\$1,200	0	1,028	0	142,741	\$0	0.00	\$2,727	0.44	27.13	\$31,355	15	1	HVAC
Library-Bergen Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$14,580	0	1,921	0	266,842	\$0	0.00	\$5,098	2.86	6.09	\$74,191	25	1	Controls
Library-Bergen Ave.	Replace External Windows	\$116,640	0	14,310	46,503	2,146,266	\$0	0.00	\$45,413	2.57	7.63	\$773,468	30	1	Building Env
Library-Bergen Ave.	Replace Inefficient Heating Plant	\$30,240	-10,419	8,735	0	171,349	\$478	0.00	\$11,197	2.59	7.26	\$189,228	30	1	HVAC
Library-Bergen Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$2,398	0	0	3,504	11,956	\$79	0.00	\$561	3.75	1.99	\$2,385	10	1	Lighting
Library-MLK Dr.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,872	6,387	\$0	0.00	\$300	0.17	89.12	\$4,406	20	1	DHW
Library-MLK Dr.	Adjust Temperature Setpoints On Existing Programmable Thermostats	\$108	1,347		17,948	195,964	\$0	0.00	\$4,421	0.02	187.47	\$20,139	5	1	Controls
Library-MLK Dr.	Replace Incandescent Lamps With CFL's	\$116	0		4,617	15,753	\$0	0.00	\$739	0.16	39.73	\$4,487	7	1	Lighting
Library-MLK Dr.	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$110	1.72	8.64	\$1,452	20	1	Appliances
Library-MLK Dr.	Install Automatic Lighting Controls	\$432	0		1,888	6,442	\$0	0.00	\$302	1.43	10.40	\$4,062	20	1	Lighting
Library-MLK Dr.	Replace Existing Hot Water Heater With New Natural Gas/Propane Fired Water	\$859	-214		4,680	-5,432	\$0	0.00	\$503	1.71	6.99	\$5,143	15	1	DHW
Library-MLK Dr.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$2,824	0		3,723	12,703	\$59	0.00	\$596	4.31	2.10	\$3,105	12	1	Lighting
Library-Zabriskie	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,170	3,992	\$0	0.00	\$187	0.27	44.70	\$2,185	15	1	DHW
Library-Zabriskie	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$110	1.72	6.94	\$1,128	15	1	Appliances
Library-Zabriskie	Insulate Heat Distribution Piping	\$307	109		0	10,883	\$0	0.00	\$125	2.45	7.09	\$1,872	25	1	HVAC
Library-Zabriskie	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$832	0		920	3,139	\$26	0.00	\$147	4.79	2.22	\$1,017	16	1	Lighting
Library-Zabriskie	Replace Existing Water Heater With New Natural Gas Fired Water Heater	\$875	-120		3,510	0	\$0	0.00	\$424	2.06	4.13	\$2,741	10	1	DHW
Library-Zabriskie	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	1,323		0	132,327	\$0	0.00	\$1,522	0.58	25.66	\$21,758	20	1	Controls
Library-Zabriskie	Install Automatic Lighting Controls	\$907	0		4,104	14,003	\$0	0.00	\$657	1.38	8.64	\$6,932	15	1	Lighting
Library-Zabriskie	Replace Inefficient Heating Plant	\$25,309	1,613		0	161,259	\$93	0.00	\$1,854	13.00	1.44	\$11,040	30	1	HVAC
Library-Jersey Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$1,226	0	0	25,409	86,696	\$799	0.00	\$4,066	0.25	20.65	\$24,103	7	1	Lighting
Library-Jersey Ave.	Reduce Light Levels By Delamping of Lamps	\$42	0	0	961	3,279	\$0	0.00	\$154	0.27	63.57	\$2,635	25	1	Lighting
Library-Jersey Ave.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	92	0	0	9,230	\$0	0.00	\$106	0.47	36.97	\$1,798	25	1	DHW
Library-Jersey Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$174	0	0	1,935	6,602	\$0	0.00	\$310	0.56	11.09	\$1,755	7	1	Lighting
Library-Jersey Ave.	Replace Exit Signs With LED Exit Signs	\$964	0	0	508	1,733	\$1,314	0.00	\$81	0.69	1.47	\$452	25	1	Lighting
Library-Jersey Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$312	0	0	2,055	7,012	\$0	0.00	\$329	0.95	6.57	\$1,737	7	1	Lighting
Library-Jersey Ave.	Install Energy Savers on Vending, Snack Machines	\$760	0	0	2,760	9,417	\$0	0.00	\$442	1.72	10.12	\$6,930	25	1	Appliances
Library-Jersey Ave.	Install Dubble Bubble Reflective Insulation Between Radiators And	\$333	0	6	0	833	\$0	0.00	\$13	24.94	0.79	-\$71	30	1	Building Env
Library-Jersey Ave.	Replace Defective Steam Traps	\$1,200	0	3,188	0	442,815	\$0	0.00	\$7,464	0.16	108.31	\$128,769	25	1	HVAC
Library-Jersey Ave.	Replace Lamps, Ballasts, and Install Lighting Controls	\$2,677	0	0	28,166	96,101	\$0	0.00	\$4,507	0.59	11.82	\$28,958	8	1	Lighting
Library-Jersey Ave.	Add Thermostatic Radiator Valves With New Programmable Thermostats	\$20,218	0	8,807	0	1,223,277	\$0	0.00	\$20,619	0.98	17.76	\$338,823	25	1	Controls
Library-Jersey Ave.	Replace Inefficient Heating Plant	\$26,581	-36,016	27,098	0	162,315	\$661	0.00	\$22,024	1.17	12.33	\$301,086	20	1	HVAC
Library-Jersey Ave.	Upgrade External Windows	\$32,400	0	2,648	62	367,954	\$310	0.00	\$6,208	4.97	3.76	\$89,287	30	1	Building Env
Library-Jersey Ave.	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$14,904	0	0	14,288	48,749	\$114	0.00	\$2,286	6.21	1.53	\$7,851	12	1	HVAC

Library-Jersey Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$7,668	0	0	7,226	24,656	\$0	0.00	\$1,156	6.63	1.50	\$3,841	12	1	Lighting
Library-Jersey Ave.	Replace Basement Lamps And Install Lighting Controls	\$3,479	0	0	2,736	9,336	\$0	0.00	\$438	7.95	1.58	\$2,027	16	1	Lighting
Library-Jersey Ave.	Replace External Windows	\$145,152	0	2,788	10,299	422,410	\$0	0.00	\$8,175	17.75	1.10	\$15,091	30	1	Building Env
Lowes Theatre	Add Insulation to Condensate Return Steam Piping	\$154	261	0	0	26,055	\$0	0.00	\$313	0.49	17.36	\$2,513	10	1	HVAC
Lowes Theatre	Replace Incandescent Lamps With CFL Lamps	\$324	0	0	1,489	5,080	\$0	0.00	\$194	1.67	5.10	\$1,327	10	1	Lighting
Lowes Theatre	Replace Linear Fluorescent T12 Lamps With T8 Lamps in Hallways and Lower	\$633	0	0	827	2,822	\$0	0.00	\$108	5.89	1.45	\$284	10	1	Lighting
Lowes Theatre	Install Outside Air (OA) Temperature Controls for the Steam Boiler	\$882	1,500	0	0	150,000	\$0	0.00	\$1,800	0.49	17.40	\$14,472	10	1	Controls
Lowes Theatre	Install On-Demand Ventilation on Air Handlers in Mechanical Room	\$950	2,526	0	52,152	430,515	\$491	0.00	\$9,811	0.09	88.09	\$82,737	10	1	Controls
Lowes Theatre	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$1,539	0	0	3,058	10,434	\$40	0.00	\$398	3.52	1.18	\$282	5	1	Lighting
Lowes Theatre	Replace Existing 5 Refrigerators With Energy Star Certified Refrigerator	\$3,672	0	0	2,740	9,349	\$0	0.00	\$356	10.31	1.16	\$580	15	1	Appliances
Lowes Theatre	Details: Replace or Repair Lower Level Dressing Room Windows	\$4,860	3,118	0	80,482	586,421	\$0	0.00	\$14,204	0.34	34.89	\$164,711	15	1	Building Env
Lowes Theatre	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$5,400	1,364	0	0	136,364	\$0	0.00	\$1,636	3.30	2.58	\$8,559	10	1	Controls
Lowes Theatre	Control Air Leakage by Replacing/Repairing Rear Doors and	\$10,000	9,744	0	201,204	1,660,938	\$1,135	0.00	\$37,850	0.26	45.18	\$441,847	15	1	Building Env
Lowes Theatre	Details: Install VFD Drive on Air Handling Motor	\$16,200	0	0	15,140	51,658	\$0	0.00	\$1,968	8.23	1.04	\$589	10	1	Controls
Municipal Court	Control chandelier lights in front lobby & exterior parking lights	\$174	0	0	8,805	30,043	\$0	0.00	\$1,145	0.15	78.53	\$13,491	15	1	Lighting
Municipal Court	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$276	0	0	2,117	7,222	\$0	0.00	\$275	1.00	8.52	\$2,072	10	1	Appliances
Municipal Court	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators in Bathrooms	\$356	126	0	0	12,642	\$0	47.32	\$507	0.70	12.13	\$3,965	10	1	DHW
Municipal Court	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$594	0	0	800	2,730	\$0	0.00	\$104	5.71	1.36	\$216	9	1	Appliances
Municipal Court	Add Weatherstripping to Entrances	\$1,352	108	0	225	11,548	\$8	0.00	\$159	8.12	1.75	\$1,008	20	1	Building Env
Municipal Court	De-lamp T8 fluorescent fixtures throughout facility	\$1,646	0	0	49,216	167,925	\$0	0.00	\$6,398	0.26	38.69	\$62,040	12	1	Lighting
Municipal Court	Details: Replace manual RTU thermostats with digital programmable	\$5,216	998	0	6,750	122,781	\$0	0.00	\$2,075	2.51	4.75	\$19,549	15	1	Controls
Municipal Court	Install Occupancy Sensors in Offices, Court Rooms, Rest Rooms, and	\$11,664	0	0	9,645	32,909	\$0	0.00	\$1,254	9.30	1.28	\$3,304	15	1	Lighting
Municipal Court	Replace High Intensity Discharge Lamp (HID) with Induction Lighting for Exterior	\$11,794	0	0	31,672	108,065	\$72	0.00	\$4,117	2.82	7.50	\$76,677	35	1	Lighting
Police Station-Bergen Ave.	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	442	0	0	44,180	\$0	0.00	\$526	1.68	10.39	\$8,283	25	1	Controls
Police Station-Bergen Ave.	Replace Corridor Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,253	0	0	2,709	9,243	\$0	0.00	\$443	2.83	2.92	\$2,401	10	1	Lighting

Police Station-Bergen Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,516	0	0	11,069	37,767	\$0	0.00	\$1,810	1.39	4.48	\$8,762	7	1	Lighting
Police Station-Bergen Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$3,240	347	0	0	34,651	\$0	0.00	\$413	7.85	2.22	\$3,949	25	1	Controls
Police Station-Bergen Ave.	Replace Lamps And Install Lighting Controls	\$3,581	0	0	20,746	70,786	\$0	0.00	\$3,393	1.06	5.90	\$17,558	7	1	Lighting
Police Station-Bergen Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$5,443	0	0	15,847	54,069	\$248	0.00	\$2,592	1.92	5.98	\$27,111	16	1	Lighting
Police Station-Central Ave.	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	1,198	0	0	119,775	\$0	0.00	\$1,381	0.64	27.26	\$23,172	25	1	Controls
Police Station-Central Ave.	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,754	0	0	2,846	9,711	\$0	0.00	\$457	3.84	1.62	\$1,094	7	1	Lighting
Police Station-Central Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,246	0	0	9,749	33,264	\$0	0.00	\$1,566	1.43	4.34	\$7,510	7	1	Lighting
Police Station-Central Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$7,560	841	0	0	84,053	\$0	0.00	\$969	7.80	2.23	\$9,320	25	1	Controls
Police Station-Central Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$9,208	0	0	36,981	126,179	\$0	0.00	\$5,940	1.55	4.02	\$27,801	7	1	Lighting
Police Station-Seventh St.	Install Dubble Bubble Reflective Insulation Between Radiators And	\$156	11	0	0	1,146	\$0	0.00	\$13	12.24	1.42	\$66	25	1	Building Env
Police Station-Seventh St.	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	1,029	0	0	102,900	\$0	0.00	\$1,146	0.77	22.63	\$19,081	25	1	Controls
Police Station-Seventh St.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,333	0	0	5,089	17,364	\$0	0.00	\$824	2.83	2.20	\$2,801	7	1	Lighting
Police Station-Seventh St.	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$2,756	0	0	6,800	23,203	\$0	0.00	\$1,101	2.50	2.49	\$4,105	7	1	Lighting
Police Station-Seventh St.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$4,860	661	0	0	66,120	\$0	0.00	\$737	6.60	1.81	\$3,935	15	1	Controls
Police Station-Seventh St.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$10,718	0	0	33,312	113,661	\$0	0.00	\$5,394	1.99	3.14	\$22,889	7	1	Lighting
Police Station-Seventh St.	Replace External Windows	\$14,580	535	0	1,904	60,003	\$0	0.00	\$904	16.12	1.22	\$3,147	30	1	Building Env
Police HQ	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators	\$151	0	0	2,994	10,216	\$0	39.00	\$682	0.22	67.08	\$9,991	20	1	DHW
Police HQ	Replace Lamps In Individual Rooms And Install Lighting Controls in Basement	\$648	0	0	4,066	13,873	\$0	0.00	\$529	1.23	6.96	\$3,861	10	1	Lighting
Police HQ	Replace Non-Programmable Thermostats With New Programmable	\$745	677	0	17,936	128,889	\$0	0.00	\$3,144	0.24	50.37	\$36,787	15	1	Controls
Police HQ	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures in	\$1,002	0	0	1,427	4,869	\$0	0.00	\$186	5.40	1.15	\$154	7	1	Lighting
Police HQ	Install Bilevel Lighting System Along With Replacing T12 Lamps With T8's in	\$4,238	0	0	19,615	66,926	\$0	0.00	\$2,550	1.66	3.75	\$11,649	7	1	Lighting
Police HQ	Replace toilets in all bathrooms except 2nd floor	\$5,400	0	0	0	0	\$0	119.60	\$897	6.02	2.89	\$10,220	25	1	Water
Police HQ	Install Variable Frequency Drives (VFD) for 15 HP Boiler Circulation Pump	\$8,230	0	0	33,149	113,104	\$0	0.00	\$4,309	1.91	3.26	\$18,619	7	1	Controls
Police HQ	Replace Boiler With High Efficient Condensing Boiler	\$27,540	650	0	0	65,000	\$39	0.00	\$780	33.63	0.65	-\$9,510	40	1	HVAC
Police HQ	Replace T12's With T8's and Add Occupancy Sensors	\$30,740	0	0	73,300	250,100	\$0	0.00	\$9,529	3.23	1.93	\$28,628	7	1	Lighting
Police HQ	Replace Existing Rooftop Chiller	\$90,675	0	0	110,522	377,102	\$431	0.00	\$14,368	6.13	2.76	\$159,516	25	1	HVAC
Police Station-Communipaw	Replace Incandescent Lamps With CFL's	\$10	0	0	56	191	\$0	0.00	\$9	1.12	5.57	\$47	7	1	Lighting
Police Station-Communipaw	Install Dubble Bubble Reflective Insulation Between Radiators And	\$139	22	0	0	2,187	\$0	0.00	\$24	5.87	2.97	\$273	25	1	Building Env
Police Station-Communipaw	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	2,308	0	0	230,790	\$0	0.00	\$2,498	0.35	49.29	\$42,609	25	1	Controls
Police Station-Communipaw	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,503	0	0	2,556	8,721	\$0	0.00	\$419	3.59	1.74	\$1,105	7	1	Lighting
Police Station-Communipaw	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$1,771	0	0	5,416	18,478	\$0	0.00	\$887	2.00	3.12	\$3,756	7	1	Lighting
Police Station-Communipaw	Improve Insulation Levels in Attic	\$2,928	347	0	652	36,951	\$0	0.00	\$483	6.07	3.81	\$8,228	40	1	Building Env
Police Station-Communipaw	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$4,320	1,626	0	0	162,638	\$0	0.00	\$1,760	2.45	4.86	\$16,692	15	1	Controls
Police Station-Communipaw	Replace Lamps In Individual Rooms And Install Lighting Controls	\$7,371	0	0	33,636	114,767	\$0	0.00	\$5,510	1.34	4.66	\$26,959	7	1	Lighting
Police Station-Communipaw	Replace External Windows	\$32,940	1,086	0	4,906	125,354	\$0	0.00	\$1,979	16.64	1.18	\$5,851	30	1	Building Env
Police Station-Communipaw	Replace Inefficient Heating Plant	\$34,911	2,646	0	0	264,598	\$143	0.00	\$2,864	11.61	1.61	\$21,215	30	1	HVAC
		<b>\$2,358,093</b>	<b>94,086</b>	<b>70,532</b>	<b>2,081,122</b>	<b>26,306,300</b>	<b>\$12,417</b>	<b>1,327</b>	<b>\$585,168</b>	<b>4.03</b>					

Jersey City Portfolio Energy Conservation Measures per ECM Type											
Type of ECM	Projected Initial Investment	Estimated Annual Energy Savings			Total Energy Savings	# of ECMs	Estimated Annual Water Savings	Estimated Cost Savings	Average Simple Payback	# of ECMs	Average \$/ECM
		\$	therms	Gal of Fuel Oil #2							
<b>Lighting ECMs</b>											
Low/No Cost	\$12,463	894	0	102,940	440,582	32	0.0	\$16,281	0.77	32	\$389
Capital Cost	\$319,461	0	0	870,985	2,971,802	48	0.0	\$125,974	2.54	48	\$6,655
<b>Subtotal</b>	<b>\$331,924</b>	<b>894</b>	<b>0</b>	<b>973,925</b>	<b>3,412,384</b>	<b>80</b>	<b>0</b>	<b>\$142,255</b>	<b>2.33</b>	<b>80</b>	
<b>HVAC ECMs</b>											
Low/No Cost	\$1,989	440	0	418	45,436	8	0.0	\$582	3.41	8	\$249
Capital Cost	\$473,065	-33,261	40,049	313,653	1,412,537	22	0.0	\$100,566	4.70	22	\$21,503
<b>Subtotal</b>	<b>\$475,054</b>	<b>-32,821</b>	<b>40,049</b>	<b>314,071</b>	<b>1,457,973</b>	<b>30</b>	<b>0.0</b>	<b>\$101,148</b>	<b>4.70</b>	<b>30</b>	
<b>Controls ECMs</b>											
Low/No Cost	\$15,425	20,272	0	110,229	2,403,316	20	0.0	\$38,641	0.40	20	\$771
Capital Cost	\$478,527	37,700	10,728	86,918	5,049,270	17	100.0	\$79,381	6.03	17	\$28,149
<b>Subtotal</b>	<b>\$493,952</b>	<b>57,972</b>	<b>10,728</b>	<b>197,147</b>	<b>7,452,586</b>	<b>37</b>	<b>100.0</b>	<b>\$118,023</b>	<b>4.19</b>	<b>37</b>	
<b>Domestic Hot Water ECMs</b>											
Low/No Cost	\$4,226	9,633	0	57,768	1,160,378	13	128.4	\$20,364	0.21	13	\$325
Capital Cost	\$9,499	4,991	0	18,595	562,500	4	0.0	\$9,295	0.00	4	\$0
<b>Subtotal</b>	<b>\$13,726</b>	<b>14,623</b>	<b>0</b>	<b>76,363</b>	<b>1,722,878</b>	<b>17</b>	<b>128.4</b>	<b>\$29,660</b>	<b>0.46</b>	<b>17</b>	
<b>Building Envelope ECMs</b>											
Low/No Cost	\$4,077	1,032	10	1,409	108,880	11	0.0	\$1,436	2.84	11	\$371
Capital Cost	\$992,441	50,924	19,745	452,366	8,444,576	33	0.0	\$172,877	5.74	33	\$30,074
<b>Subtotal</b>	<b>\$996,518</b>	<b>51,956</b>	<b>19,755</b>	<b>453,775</b>	<b>8,553,456</b>	<b>44</b>	<b>0.0</b>	<b>\$174,314</b>	<b>5.72</b>	<b>44</b>	
<b>Motor Retrofit ECMs</b>											
Low/No Cost	\$0	0	0	0	0	0	0.0	\$0		0	\$0
Capital Cost	\$3,639	0	0	6,702	22,866	2	0.0	\$871	4.18	2	\$1,820
<b>Subtotal</b>	<b>\$3,639</b>	<b>0</b>	<b>0</b>	<b>6,702</b>	<b>22,866</b>	<b>2</b>	<b>0.0</b>	<b>\$871</b>	<b>4.18</b>	<b>2</b>	
<b>Water Conservation Measures</b>											
Low/No Cost	\$0	0	0	0	0	0	0.0	\$0	0.00	0	\$0
Capital Cost	\$19,549	0	0	0	0	3	550.7	\$4,130	0.00	3	\$0
<b>Subtotal</b>	<b>\$19,549</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>550.7</b>	<b>\$4,130</b>	<b>4.73</b>	<b>3</b>	
<b>Appliance ECMs</b>											
Low/No Cost	\$5,801	34	0	20,453	73,185	17	0.0	\$2,878	2.02	17	\$341
Capital Cost	\$15,741	0	0	29,917	102,078	8	0.0	\$4,542	0.00	8	\$1,968
<b>Subtotal</b>	<b>\$21,542</b>	<b>34</b>	<b>0</b>	<b>50,370</b>	<b>175,263</b>	<b>25</b>	<b>0.0</b>	<b>\$7,421</b>	<b>2.90</b>	<b>25</b>	
<b>Recommended ECM Portfolio Analysis</b>											
Low/No Cost ECM Grand Total	\$43,981	32,304	10	293,216	4,231,776	101	128.4	\$80,184	0.55	101	\$435
Capital Cost ECM Grand Total	\$2,311,922	60,354	70,522	1,779,137	18,565,629	137	650.7	\$497,638	4.65	137	\$16,875
<b>Grand Total ECM</b>	<b>\$2,355,904</b>	<b>92,658</b>	<b>70,532</b>	<b>2,072,353</b>	<b>22,797,404</b>	<b>238</b>	<b>779</b>	<b>\$577,822</b>	<b>5.2</b>	<b>238</b>	
<b>ECM that did not pass the financial criteria but only evaluated for consideration with other major capital projects</b>											
Low/No Cost ECM Grand Total	\$49,693	13	0	13,381	46,956	9	0	\$1,833	27.1	11	\$4,518
Capital Cost ECM Grand Total	\$1,194,431	13,667	833	308,014	2,493,947	17	0	\$63,171	18.9	17	\$70,261
<b>Grand Total ECM</b>	<b>\$1,244,124</b>	<b>13,680</b>	<b>833</b>	<b>321,395</b>	<b>2,540,903</b>	<b>26</b>	<b>0.0</b>	<b>\$65,004</b>	<b>19.14</b>	<b>28</b>	

Jersey City Energy Conservation Measures per ECM Type										
Type of ECM	Projected Initial Investment	Estimated Annual Energy Savings			Total Annual Energy Savings	# of ECMs	Estimated Annual Water Savings	Estimated Annual Cost Savings	Simple Payback	Contribution to total
		\$	therms	Gal of						
Lighting ECMs	\$331,924	894	-	973,925	3,412,384	80	-	\$142,255	2.33	<b>15.0%</b>
HVAC ECMs	\$475,054	(32,821)	40,049	314,071	1,457,973	30	-	\$101,148	4.70	<b>6.4%</b>
Controls ECMs	\$493,952	57,972	10,728	197,147	7,452,586	37	100	\$118,023	4.19	<b>32.7%</b>
Domestic Hot Water ECMs	\$13,726	14,623	-	76,363	1,722,878	17	128	\$29,660	0.46	<b>7.6%</b>
Building Envelope ECMs	\$996,518	51,956	19,755	453,775	8,553,456	44	-	\$174,314	5.72	<b>37.5%</b>
Motor Retrofit ECMs	\$3,639	-	-	6,702	22,866	2	-	\$871	4.18	<b>0.1%</b>
Water Conservation Measures	\$19,549	-	-	-	-	3	551	\$4,130	4.73	<b>0.0%</b>
Appliance ECMs	\$21,542	34	-	50,370	175,263	25	-	\$7,421	2.90	<b>0.8%</b>
<b>Totals</b>	<b>\$2,355,904</b>	<b>92,658</b>	<b>70,532</b>	<b>2,072,353</b>	<b>22,797,404</b>	<b>238</b>	<b>779</b>	<b>\$577,822</b>	<b>4.1</b>	



### HVAC ECMS

Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings				O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
			\$	therms	Gal of Oil	kWh									
City Hall	Replace Defective Steam Traps	\$4,000	4,602		0	460,235	\$0	0.00	\$4,807	0.83	14.35	\$53,389	15	1	HVAC
City Hall	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$16,416	0		14,881	50,775	\$139	0	\$2,786	5.61	1.69	\$11,319	12	1	HVAC
Community Center - Bergen Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$11,599	0		5,321	18,155	\$50	0.00	\$1,005	10.99	1.03	\$403	15	1	HVAC
Community Center - MLK	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$2,722	0		2,647	9,031	\$21	0.00	\$427	6.07	1.56	\$1,529	12	1	HVAC
Field House / Ice Rink	Replace Inefficient Heating Plant	\$1,994	2,857		0	285,714	\$171	0	\$3,429	0.55	39.74	\$77,257	40	1	HVAC
Field House / Ice Rink	Replace Inefficient Ice Rink Air Cooled Chiller	\$154,535	0		127,491	435,000	\$497	0.00	\$16,574	9.05	1.60	\$92,042	20	1	HVAC
Firehouse Headquarters	ECM To Calculate Energy Savings From Adding/Insulating Hot Water/	\$15	7		0	724	\$0	0.00	\$9	1.77	4.82	\$59	10	1	HVAC
Firehouse Halladay	Calculate Energy Savings From Adding Insulation to Steam Condensate Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	1.93	\$238	15	1	HVAC
Firehouse Halladay	Replace Existing Air Conditioners with Energy Star Air Conditioners in Lounge	\$1,620	0		2,507	8,553	\$16	0	\$326	4.73	2.40	\$2,270	15	1	HVAC
Firehouse- SIP Ave	Add Insulation Boiler Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	2.40	\$359	20	1	HVAC
Firehouse- SIP Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$540	0		418	1,426	\$3	0.00	\$54	9.47	1.20	\$108	15	1	HVAC
Firehouse- SIP Ave	Replace Existing Air Conditioners with Energy Star Air Conditioners	1,080	0		\$1,671	5,702	\$11	0.00	217.00	\$5	2	1,514	15	1	HVAC
Firehouse- SIP Ave	Replace High Bay Unit Heaters	\$3,156	226		0	22,581	\$14	0.00	\$271	11.00	1.00	\$79	15	1	HVAC
Firehouse - Ocean Ave	Insulate Steam Return Piping for Steam Boiler	\$256	34		0	3,446	\$0	0.00	\$41	6.19	2.40	\$359	20	1	HVAC
Firehouse - Ocean Ave	Replace Existing Air Conditioners with Energy Star Units in Lounge and	\$1,620	0		2,507	8,553	\$16	0.00	\$326	4.73	3.50	\$4,055	25	1	HVAC
Fire House-Linden Ave.	Add Insulation to Steam Return Piping	\$256	34		0	3,446	\$0	0.00	\$41	6.19	1.38	\$97	10	1	HVAC
Fire House-2 Bergen	Replace Unit Heaters in Truck Bay	6,312	452		0	45,151	27.00	\$0	542.00	11.09	\$1	157	15	1	HVAC
Fire House-Lincoln St.	Insulate Steam Return Piping for Steam Boiler	256	34		0	3,446	0.00	\$0	41.00	6.19	\$1	97	10	1	HVAC
Fire House-Summit Ave.	Replace Inefficient Unit Heater	\$2,052	129		0	12,903	\$8	0.00	\$155	12.62	0.90	-\$204	15	1	HVAC
Library-Newark Ave.	Replace Inefficient Cooling Plant	\$13,400	0		31,818	108,563	\$207	0	\$4,136	3.09	3.69	\$35,979	15	1	HVAC
Library-Bergen Ave.	Replace Defective Steam Traps	\$1,200	0	1,028	0	142,741	\$0	0.00	\$2,727	0.44	27.13	\$31,355	15	1	HVAC
Library-Bergen Ave.	Replace Inefficient Heating Plant	\$30,240	-10,419	8,735	0	171,349	\$478	0.00	\$11,197	2.59	7.26	\$189,228	30	1	HVAC
Library-Zabriskie	Insulate Heat Distribution Piping	\$307	109		0	10,883	\$0	0.00	\$125	2.45	7.09	\$1,872	25	1	HVAC
Library-Zabriskie	Replace Inefficient Heating Plant	\$25,309	1,613		0	161,259	\$93	0.00	\$1,854	13.00	1.44	\$11,040	30	1	HVAC
Library-Jersey Ave.	Replace Defective Steam Traps	\$1,200	0	3,188	0	442,815	\$0	0.00	\$7,464	0.16	108.31	\$128,769	25	1	HVAC
Library-Jersey Ave.	Replace Inefficient Heating Plant	\$26,581	-36,016	27,098	0	162,315	\$661	0.00	\$22,024	1.17	12.33	\$301,086	20	1	HVAC
Library-Jersey Ave.	Replace Existing Air Conditioners with Energy Star Air Conditioners	\$14,904	0	0	14,288	48,749	\$114	0.00	\$2,286	6.21	1.53	\$7,851	12	1	HVAC
Lowes Theatre	Add Insulation to Condensate Return Steam Piping	\$154	261	0	0	26,055	\$0	0.00	\$313	0.49	17.36	\$2,513	10	1	HVAC
Police HQ	Replace Boiler With High Efficient Condensing Boiler	\$27,540	650	0	0	65,000	\$39	0.00	\$780	33.63	0.65	-\$9,510	40	1	HVAC
Police HQ	Replace Existing Rooftop Chiller	\$90,675	0	0	110,522	377,102	\$431	0.00	\$14,368	6.13	2.76	\$159,516	25	1	HVAC
Police Station-Communipaw	Replace Inefficient Heating Plant	\$34,911	2,646	0	0	264,598	\$143	0.00	\$2,864	11.61	1.61	\$21,215	30	1	HVAC

LIGHTING ECMS													
Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings		O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
		\$	kWh	Kbtu Savings	\$	kgal	\$	years		\$	years		
City Hall	Install Automatic Lighting Controls	\$648	4,090	13,955	\$0	0.00	\$766	0.85	20.58	\$12,687	25	1	Lighting
City Hall	Replace Exit Signs With LED Exit Signs	\$658	12,527	42,742	\$1,251	0.00	\$2,345	0.18	53.02	\$34,237	20	1	Lighting
City Hall	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$724	1,192	4,067	\$31	0.00	\$223	2.85	3.87	\$2,080	16	1	Lighting
City Hall	Replace Existing Lamps With Energy Efficient Lamps	\$770	14,618	49,877	\$266	0.00	\$2,737	0.26	19.27	\$14,058	6	1	Lighting
City Hall	Replace Lamps And Install Lighting Controls	\$5,502	19,849	67,725	\$0	0.00	\$3,716	1.48	4.21	\$17,653	7	1	Lighting
City Hall	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$42,784	35,202	120,109	\$0	0.00	\$6,591	6.49	1.08	\$3,484	8	1	Lighting
Community Center - Bergen Ave	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$1,185	3,092	10,550	\$0	0.00	\$584	2.03	3.07	\$2,454	7	1	Lighting
Community Center - Bergen Ave	Replace Lamps and Install Lighting Controls	\$3,881	4,914	16,766	\$0	0.00	\$928	4.18	1.49	\$1,904	7	1	Lighting
Community Center - Bergen Ave	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$5,670	6,088	20,772	\$66	0.00	\$1,150	4.66	2.55	\$8,779	16	1	Lighting
Community Center - MLK	Install Automatic Lighting Controls	\$259	2,123	7,244	\$0	0.00	\$343	0.76	23.01	\$5,705	25	1	Lighting
Community Center - MLK	Replace Incandescent Lamps With CFL's	\$321	2,153	7,346	\$0	0	\$347	0.92	6.75	\$1,843	7	1	Lighting
Community Center - MLK	Install Automatic Lighting Controls	\$691	10,366	35,369	\$0	0.00	\$1,672	0.41	42.13	\$28,432	25	1	Lighting
Community Center - MLK	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$8,122	10,363	35,359	\$355	0.00	\$1,672	4.01	2.59	\$12,880	16	1	Lighting
Field House / Ice Rink	Install Automatic Lighting Controls	\$1,994	19,200	65,510	\$0	0.00	\$2,496	0.80	10.68	\$19,297	10	1	Lighting
Field House / Ice Rink	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$5,972	32,000	109,184	\$0	0.00	\$4,160	1.44	8.32	\$43,690	15	1	Lighting
Field House / Ice Rink	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$41,555	120,893	412,487	\$646	0.00	\$15,716	2.54	4.51	\$146,063	15	1	Lighting
Firehouse Headquarters	Replace Incandescent Lamps With CFL Lamps	\$34	112	382	\$0	0.00	\$15	2.32	1.22	\$7	3	1	Lighting
Firehouse Headquarters	Install Automatic Lighting Controls	\$173	2,223	7,585	\$0	0.00	\$289	0.60	14.27	\$2,292	10	1	Lighting
Firehouse Headquarters	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$9,590	14,367	49,020	\$0	0.00	\$1,868	5.13	1.66	\$6,342	10	1	Lighting
Firehouse Headquarters	Details: Replace T-12 lighting with T-8 lighting and install motion sensors	\$16,848	25,330	86,426	\$0	0.00	\$3,293	5.12	1.67	\$11,241	10	1	Lighting
Firehouse Halladay	Details: Replace T-12 lighting with T-8 Lighting and Replace Incand. Bulbs	\$3,467	24,107	82,253	\$0	0.00	\$3,134	1.11	2.56	\$5,398	3	1	Lighting
Firehouse- SIP Ave	Replace Incandescent Lamps With CFL Lamps	\$31	1,259	4,296	\$0	0.00	\$164	0.19	10.17	\$282	2	1	Lighting
Firehouse- SIP Ave	Replace T-12 Lighting with T-8 Lighting and Motion Sensors	\$1,764	7,373	25,157	\$0	0.00	\$958	2.00	2.00	\$947	3	1	Lighting
Firehouse - Bergen Ave	Install Motion Sensors Throughout Fire Station	\$1,296	4,502	15,361	\$0	0.00	\$585	2.21	3.85	\$3,696	10	1	Lighting
Firehouse - Ocean Ave	Replace T-12 lighting with T-8 Lighting and Replace Incand. Bulbs	\$2,925	14,781	50,433	\$0	0	\$1,922	1.52	1.86	\$2,510	3	1	Lighting
Fire House-Linden Ave.	Replace T-12 lighting with T-8 Lighting and Replace Incandescent Bulbs	\$3,549	4,880	16,651	\$0	0.00	\$634	5.59	1.52	\$1,863	10	1	Lighting
Fire House-2 Bergen	Replace 32 watt T8 bulbs with 25 watt T8 bulbs	909	4,286	14,624	0.00	\$0	557.00	1.63	\$4	2,562	7	1	Lighting
Fire House-2 Bergen	Install Motion Sensors throughout Building	1,037	9,198	31,384	0.00	\$0	1,196.00	0.87	\$14	13,238	15	1	Lighting
Fire House-Lincoln St.	Replace T-12 lighting with T-8 Lighting and Replace Incandescent Bulbs	2,684	3,696	12,611	0.00	\$0	480.00	5.59	\$1	689	8	1	Lighting
Fire House-Summit Ave.	Replace Incandescent Lamps With CFL Lamps	\$46	939	3,204	\$0	0.00	\$122	0.38	7.48	\$299	3	1	Lighting
Fire House-Summit Ave.	Install Motion Sensors in Building	\$3,888	15,544	53,036	\$0	0.00	\$2,021	1.92	4.43	\$13,349	10	1	Lighting
Fire House-Summit Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting in Engine	\$8,392	37,233	127,039	\$126	0.00	\$4,840	1.69	3.59	\$21,765	7	1	Lighting
Library-Newark Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$320	7,106	24,246	\$3	0.00	\$924	0.35	24.60	\$7,560	10	1	Lighting
Library-Newark Ave.	Replace Exit Signs With LED Exit Signs	\$157	473	1,614	\$241	0.00	\$61	0.52	4.68	\$577	15	1	Lighting
Library-Eighth St.	Replace Existing Lamps With Energy Efficient Lamps	\$38	1,244	4,245	\$29	0	\$187	0.18	30.32	\$1,124	7	1	Lighting
Library-Eighth St.	Replace Exit Signs With LED Exit Signs	\$284	2,102	7,172	\$394	0	\$315	0.40	11.07	\$2,856	12	1	Lighting
Library-Eighth St.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$1,233	2,467	8,416	\$0	0.00	\$370	3.33	2.11	\$1,364	8	1	Lighting
Library-Eighth St.	Replace Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$10,774	10,453	35,664	\$0	0.00	\$1,568	6.87	1.02	\$232	8	1	Lighting
Library-Bergen Ave.	Replace Exit Signs With LED Exit Signs	\$61	894	92,402	\$120	0.00	\$143	0.23	46.13	\$2,741	30	1	Lighting
Library-Bergen Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$173	97	331	\$0	0.00	\$16	11.09	1.08	\$13	15	1	Lighting
Library-Bergen Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$601	4,124	14,071	\$224	0.00	\$660	0.68	6.84	\$3,510	7	1	Lighting
Library-Bergen Ave.	Install Automatic Lighting Controls	\$648	2,871	9,796	\$0	0.00	\$459	1.41	10.55	\$6,187	20	1	Lighting
Library-Bergen Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$2,398	3,504	11,956	\$79	0.00	\$561	3.75	1.99	\$2,385	10	1	Lighting
Library-MLK Dr.	Replace Incandescent Lamps With CFL's	\$116	4,617	15,753	\$0	0.00	\$739	0.16	39.73	\$4,487	7	1	Lighting
Library-MLK Dr.	Install Automatic Lighting Controls	\$432	1,888	6,442	\$0	0.00	\$302	1.43	10.40	\$4,062	20	1	Lighting
Library-MLK Dr.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$2,824	3,723	12,703	\$59	0.00	\$596	4.31	2.10	\$3,105	12	1	Lighting
Library-Zabriskie	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$832	920	3,139	\$26	0.00	\$147	4.79	2.22	\$1,017	16	1	Lighting
Library-Zabriskie	Install Automatic Lighting Controls	\$907	4,104	14,003	\$0	0.00	\$657	1.38	8.64	\$6,932	15	1	Lighting
Library-Jersey Ave.	Replace Existing Lamps With Energy Efficient Lamps	\$1,226	25,409	86,696	\$799	0.00	\$4,066	0.25	20.65	\$24,103	7	1	Lighting
Library-Jersey Ave.	Reduce Light Levels By Delamping of Lamps	\$42	961	3,279	\$0	0.00	\$154	0.27	63.57	\$2,635	25	1	Lighting
Library-Jersey Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$174	1,935	6,602	\$0	0.00	\$310	0.56	11.09	\$1,755	7	1	Lighting
Library-Jersey Ave.	Replace Exit Signs With LED Exit Signs	\$964	508	1,733	\$1,314	0.00	\$81	0.69	1.47	\$452	25	1	Lighting
Library-Jersey Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$312	2,055	7,012	\$0	0.00	\$329	0.95	6.57	\$1,737	7	1	Lighting
Library-Jersey Ave.	Replace Lamps, Ballasts, and Install Lighting Controls	\$2,677	28,166	96,101	\$0	0.00	\$4,507	0.59	11.82	\$28,958	8	1	Lighting
Library-Jersey Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$7,668	7,226	24,656	\$0	0.00	\$1,156	6.63	1.50	\$3,841	12	1	Lighting
Library-Jersey Ave.	Replace Basement Lamps And Install Lighting Controls	\$3,479	2,736	9,336	\$0	0.00	\$438	7.95	1.58	\$2,027	16	1	Lighting
Lowes Theatre	Replace Incandescent Lamps With CFL Lamps	\$324	1,489	5,080	\$0	0.00	\$194	1.67	5.10	\$1,327	10	1	Lighting
Lowes Theatre	Replace Linear Fluorescent T12 Lamps With T8 Lamps in Hallways and Lower	\$633	827	2,822	\$0	0.00	\$108	5.89	1.45	\$284	10	1	Lighting
Lowes Theatre	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$1,539	3,058	10,434	\$40	0.00	\$398	3.52	1.18	\$282	5	1	Lighting
Municipal Court	Control chandelier lights in front lobby & exterior parking lights	\$174	8,805	30,043	\$0	0.00	\$1,145	0.15	78.53	\$13,491	15	1	Lighting
Municipal Court	De-lamp T8 fluorescent fixtures throughout facility	\$1,646	49,216	167,925	\$0	0.00	\$6,398	0.26	38.69	\$62,040	12	1	Lighting
Municipal Court	Install Occupancy Sensors in Offices, Court Rooms, Rest Rooms, and	\$11,664	9,645	32,909	\$0	0.00	\$1,254	9.30	1.28	\$3,304	15	1	Lighting

Municipal Court	Replace High Intensity Discharge Lamp (HID) with Induction Lighting for Exterior	\$11,794	31,672	108,065	\$72	0.00	\$4,117	2.82	7.50	\$76,677	35	1	Lighting
Police Station-Bergen Ave.	Replace Corridor Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,253	2,709	9,243	\$0	0.00	\$443	2.83	2.92	\$2,401	10	1	Lighting
Police Station-Bergen Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,516	11,069	37,767	\$0	0.00	\$1,810	1.39	4.48	\$8,762	7	1	Lighting
Police Station-Bergen Ave.	Replace Lamps And Install Lighting Controls	\$3,581	20,746	70,786	\$0	0.00	\$3,393	1.06	5.90	\$17,558	7	1	Lighting
Police Station-Bergen Ave.	Replace High Intensity Discharge Lamp (HID) with Induction Lighting	\$5,443	15,847	54,069	\$248	0.00	\$2,592	1.92	5.98	\$27,111	16	1	Lighting
Police Station-Central Ave.	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,754	2,846	9,711	\$0	0.00	\$457	3.84	1.62	\$1,094	7	1	Lighting
Police Station-Central Ave.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,246	9,749	33,264	\$0	0.00	\$1,566	1.43	4.34	\$7,510	7	1	Lighting
Police Station-Central Ave.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$9,208	36,981	126,179	\$0	0.00	\$5,940	1.55	4.02	\$27,801	7	1	Lighting
Police Station-Seventh St.	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$2,333	5,089	17,364	\$0	0.00	\$824	2.83	2.20	\$2,801	7	1	Lighting
Police Station-Seventh St.	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$2,756	6,800	23,203	\$0	0.00	\$1,101	2.50	2.49	\$4,105	7	1	Lighting
Police Station-Seventh St.	Replace Lamps In Individual Rooms And Install Lighting Controls	\$10,718	33,312	113,661	\$0	0.00	\$5,394	1.99	3.14	\$22,889	7	1	Lighting
Police HQ	Replace Lamps In Individual Rooms And Install Lighting Controls in Basement	\$648	4,066	13,873	\$0	0.00	\$529	1.23	6.96	\$3,861	10	1	Lighting
Police HQ	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures in	\$1,002	1,427	4,869	\$0	0.00	\$186	5.40	1.15	\$154	7	1	Lighting
Police HQ	Install Bilevel Lighting System Along With Replacing T12 Lamps With T8's in	\$4,238	19,615	66,926	\$0	0.00	\$2,550	1.66	3.75	\$11,649	7	1	Lighting
Police HQ	Replace T12's With T8's and Add Occupancy Sensors	\$30,740	73,300	250,100	\$0	0.00	\$9,529	3.23	1.93	\$28,628	7	1	Lighting
Police Station-Communipaw	Replace Incandescent Lamps With CFL's	\$10	56	191	\$0	0.00	\$9	1.12	5.57	\$47	7	1	Lighting
Police Station-Communipaw	Replace Stairwell Lighting with Motion Sensor Integrated Bilevel T8 Fixtures	\$1,503	2,556	8,721	\$0	0.00	\$419	3.59	1.74	\$1,105	7	1	Lighting
Police Station-Communipaw	Replace Linear Fluorescent T12 Lamps With T8 Lamps	\$1,771	5,416	18,478	\$0	0.00	\$887	2.00	3.12	\$3,756	7	1	Lighting
Police Station-Communipaw	Replace Lamps In Individual Rooms And Install Lighting Controls	\$7,371	33,636	114,767	\$0	0.00	\$5,510	1.34	4.66	\$26,959	7	1	Lighting

Police Station-Bergen Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$3,240	347	0	0	34,651	\$0	0.00	\$413	7.85	2.22	\$3,949	25	1	Controls
Police Station-Central Ave.	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	1,198	0	0	119,775	\$0	0.00	\$1,381	0.64	27.26	\$23,172	25	1	Controls
Police Station-Central Ave.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$7,560	841	0	0	84,053	\$0	0.00	\$969	7.80	2.23	\$9,320	25	1	Controls
Police Station-Seventh St.	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	1,029	0	0	102,900	\$0	0.00	\$1,146	0.77	22.63	\$19,081	25	1	Controls
Police Station-Seventh St.	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$4,860	661	0	0	66,120	\$0	0.00	\$737	6.60	1.81	\$3,935	15	1	Controls
Police HQ	Replace Non-Programmable Thermostats With New Programmable	\$745	677	0	17,936	128,889	\$0	0.00	\$3,144	0.24	50.37	\$36,787	15	1	Controls
Police HQ	Install Variable Frequency Drives (VFD) for 15 HP Boiler Circulation Pump	\$8,230	0	0	33,149	113,104	\$0	0.00	\$4,309	1.91	3.26	\$18,619	7	1	Controls
Police Station-Communipaw	Install Outside Air (OA) Temperature Reset Controls for Hot Water Boilers	\$882	2,308	0	0	230,790	\$0	0.00	\$2,498	0.35	49.29	\$42,609	25	1	Controls
Police Station-Communipaw	Install Thermostatic Radiator Valve (TRV) controls for Steam or Hot Water	\$4,320	1,626	0	0	162,638	\$0	0.00	\$1,760	2.45	4.86	\$16,692	15	1	Controls

**APPLIANCE REPLACEMENT**

Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings			Kbtu Savings	O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
			\$	therms	Gal of Oil										
City Hall	Install Energy Savers on Vending, Snack Machines	\$1,920	0		8,740	29,821	\$0	0.00	\$1,636	1.17	12.68	\$22,426	20	1	Appliances
Community Center - Bergen Ave	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$130	1.46	11.95	\$2,080	25	1	Appliances
Community Center - MLK	Install Energy Savers on Vending, Snack Machines	\$1,036	0		4,877	16,639	\$0	0.00	\$787	1.32	14.89	\$14,386	30	1	Appliances
Field House / Ice Rink	Replace Existing Refrigerator(s) With Energy Star Certified Refrigerator(s)	\$798	0		1,194	4,074	\$0	0.00	\$155	5.14	2.32	\$1,055	15	1	Appliances
Field House / Ice Rink	Install Energy Savers on Vending, Snack Machines	\$1,230	0		6,487	22,133	\$0	0.00	\$843	1.46	5.85	\$5,963	10	1	Appliances
Firehouse Headquarters	Convert Gas Pilot Stoves To Electronic Ignition Stoves	\$216	34		0	3,400	\$0	0.00	\$41	5.29	1.61	\$132	10	1	Appliances
Firehouse Headquarters	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$1,728	0		1,124	3,835	\$0	0.00	\$146	11.83	1.01	\$16	15	1	Appliances
Firehouse Halladay	Install Energy Controllers on Vending, Snack Machines & Water Fountains in	\$200	0		1,610	5,493	\$0	0	\$209	0.96	8.93	\$1,585	10	1	Appliances
Firehouse Halladay	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$2,376	0		2,112	7,206	\$0	0.00	\$275	8.65	1.38	\$902	15	1	Appliances
Firehouse- SIP Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	12.49	\$2,299	15	1	Appliances
Firehouse - Bergen Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains in Garage	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	12.49	\$2,299	15	1	Appliances
Firehouse - Ocean Ave	Install Energy Controllers on Vending, Snack Machines & Water Fountains in	\$200	0		1,610	5,493	\$0	0.00	\$209	0.96	8.93	\$1,585	10	1	Appliances
Firehouse - Ocean Ave	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$594	0		528	1,802	\$0	0.00	\$69	8.65	1.38	\$225	15	1	Appliances
Fire House-Linden Ave.	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$2,376	0		2,536	8,653	\$0	0.00	\$330	7.21	2.06	\$2,529	20	1	Appliances
Fire House-2 Bergen	Install Energy Controllers on Vending Machine in Garage Area	200	0		1,610	5,493	0.00	\$0	209.00	0.96	\$9	1,585	10	1	Appliances
Fire House-Lincoln St.	Replace Existing Refrigerators With Energy Star Certified Refrigerator	594	0		634	2,163	0	\$0	82.00	7.21	\$2	841	25	1	Appliances
Fire House-Summit Ave.	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$209	0		1,610	5,493	\$0	0.00	\$209	1.00	8.53	\$1,576	10	1	Appliances
Fire House-Summit Ave.	Replace Existing Refrigerators With Energy Star Certified Units in Kitchen	\$1,404	0		1,302	4,442	\$0	0.00	\$169	8.29	1.44	\$617	15	1	Appliances
Library-Eighth St.	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0	\$104	1.84	9.49	\$1,612	25	1	Appliances
Library-MLK Dr.	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$110	1.72	8.64	\$1,452	20	1	Appliances
Library-Zabriskie	Install Energy Savers on Vending, Snack Machines	\$190	0		690	2,354	\$0	0.00	\$110	1.72	6.94	\$1,128	15	1	Appliances
Library-Jersey Ave.	Install Energy Savers on Vending, Snack Machines	\$760	0	0	2,760	9,417	\$0	0.00	\$442	1.72	10.12	\$6,930	25	1	Appliances
Lowe's Theatre	Replace Existing 5 Refrigerators With Energy Star Certified Refrigerator	\$3,672	0	0	2,740	9,349	\$0	0.00	\$356	10.31	1.16	\$580	15	1	Appliances
Municipal Court	Install Energy Controllers on Vending, Snack Machines & Water Fountains	\$276	0	0	2,117	7,222	\$0	0.00	\$275	1.00	8.52	\$2,072	10	1	Appliances
Municipal Court	Replace Existing Refrigerators With Energy Star Certified Refrigerator	\$594	0	0	800	2,730	\$0	0.00	\$104	5.71	1.36	\$216	9	1	Appliances



**DOMESTIC HOT WATER RELATED ECMS**

Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings			Kbtu Savings	O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
			\$	therms	Gal of Oil										
City Hall	Insulate Hot Water Tanks	\$922	131		0	13,069	\$0	0.00	\$137	6.75	2.20	\$1,109	20	1	DHW
City Hall	New Natural Gas/Propane Fired Water Heater	\$3,078	-191		5,595	0	\$0	0.00	\$848	3.63	2.35	\$4,158	10	1	DHW
Community Center - Bergen Ave	Add Off-Hour Timers to Existing Domestic Water Heater	\$100	0		910	3,105	\$0	0.00	\$172	0.58	29.94	\$2,894	25	1	DHW
Community Center - Bergen Ave	Replace Existing Water Heaters With New Natural Gas Fired Water Heaters	\$1,609	-124		3,640	0	\$0	0.00	\$545	2.95	2.89	\$3,039	10	1	DHW
Community Center - MLK	Replace Existing Hot Water Heater With New Natural Gas Fired Water Heater	\$1,323	-319		9,360	0	\$0	0.00	\$1,152	1.15	7.43	\$8,506	10	1	DHW
Field House / Ice Rink	Replace High Flow Shower Heads to Low Flow Shower Heads	\$682	1,642		0	164,186	\$0	547.50	\$6,076	0.11	106.36	\$71,859	15	1	DHW
Field House / Ice Rink	Use the Existing Zamboni Water Heater with Programable Control	\$698	9,077		0	907,700	\$0	0.00	\$10,892	0.06	232.20	\$161,354	20	1	DHW
Field House / Ice Rink	Replace Water Heater for Pool Showers	\$3,489	5,625		0	562,500	\$0	0.00	\$6,750	0.52	28.78	\$96,934	20	1	DHW
Library-Newark Ave.	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators	\$70	0		41,462	141,468	\$0	42.12	\$5,706	0.01	303.91	\$21,140	4	1	DHW
Library-Eighth St.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,170	3,992	\$0	0	\$176	0.28	61.12	\$3,006	25	1	DHW
Library-Eighth St.	Replace Existing Hot Water Heater With New Natural Gas Fired Water Heater	\$805	160		4,680	31,936	\$0	0	\$886	0.91	4.09	\$2,487	4	1	DHW
Library-Bergen Ave.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	166	0	0	16,640	\$0	0.00	\$191	0.26	75.01	\$3,701	30	1	DHW
Library-MLK Dr.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,872	6,387	\$0	0.00	\$300	0.17	89.12	\$4,406	20	1	DHW
Library-MLK Dr.	Replace Existing Hot Water Heater With New Natural Gas/Propane Fired Water	\$859	-214		4,680	-5,432	\$0	0.00	\$503	1.71	6.99	\$5,143	15	1	DHW
Library-Zabriskie	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	0		1,170	3,992	\$0	0.00	\$187	0.27	44.70	\$2,185	15	1	DHW
Library-Zabriskie	Replace Existing Water Heater With New Natural Gas Fired Water Heater	\$875	-120		3,510	0	\$0	0.00	\$424	2.06	4.13	\$2,741	10	1	DHW
Library-Jersey Ave.	Add Off-Hour Timers to Existing Domestic Water Heater	\$50	92	0	0	9,230	\$0	0.00	\$106	0.47	36.97	\$1,798	25	1	DHW
Municipal Court	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators in Bathrooms	\$356	126	0	0	12,642	\$0	47.32	\$507	0.70	12.13	\$3,965	10	1	DHW
Police HQ	Replace High Flow Faucet Aerators To Low Flow Faucet Aerators	\$151	0	0	2,994	10,216	\$0	39.00	\$682	0.22	67.08	\$9,991	20	1	DHW

**WATER CONSERVATION MEASURES**

Location	Description of ECM	Projected Initial Investment	Estimated Annual Energy Savings			Kbtu Savings	O&M Savings	Estimated Annual Water Savings	Estimated Cost Savings	Simple Payback	S.I.R.	Life Cycle Savings	Expected Useful Life (EUL)	Occurrences	ECM Type
			\$	therms	Gal of Oil										
Field House / Ice Rink	Install Low Flow Restroom Fixture For Commercial Properties	\$9,567	0		0	0	\$0	346.53	\$2,599	3.68	4.04	\$29,099	20	1	Water
Library-Newark Ave.	Install Low Flow Restroom Fixture For Commercial Properties	\$4,582	0		0	0	\$0	84.56448	\$634	7.22	1.65	\$2,989	15	1	Water
Police HQ	Replace toilets in all bathrooms except 2nd floor	\$5,400	0	0	0	0	\$0	119.60	\$897	6.02	2.89	\$10,220	25	1	Water