



www.dome-tech.com

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PORTFOLIO MANAGER / ENERGY STAR



STATEMENT OF ENERGY PERFORMANCE

Great Meadows - Central School

Building ID: 3024773

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: April 04, 2012

Facility

Great Meadows - Central School
281 Route 46
Great Meadows, NJ 07823

Facility Owner

N/A

Primary Contact for this Facility

N/A

Year Built: 1918**Gross Floor Area (ft²):** 38,000**Energy Performance Rating²** (1-100) 25**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	957,949
Natural Gas - (kBtu) ⁴	0
Total Energy (kBtu)	957,949

Energy Intensity⁴

Site (kBtu/ft ² /yr)	126
Source (kBtu/ft ² /yr)	186

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	417
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	101
National Median Source EUI	149
% Difference from National Median Source EUI	25%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Certifying Professional

N/A

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility

Great Meadows - Central School
281 Route 46
Great Meadows, NJ 07823

Facility Owner

N/A

Primary Contact for this Facility

N/A

General Information

Great Meadows - Central School	
Gross Floor Area Excluding Parking: (ft ²)	38,000
Year Built	1918
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Great Meadows - Central School	
Space Type	K-12 School
Gross Floor Area (ft ²)	38,000
Open Weekends?	No
Number of PCs	91
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	100
Months °	N/A
High School?	No
School District °	N/A

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	25	25	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	126	126	79	N/A	101
Source (kBtu/ft ²)	186	186	116	N/A	149
Energy Cost					
\$/year	N/A	N/A	N/A	N/A	N/A
\$/ft ² /year	N/A	N/A	N/A	N/A	N/A
Greenhouse Gas Emissions					
MtCO ₂ e/year	417	417	261	N/A	334
kgCO ₂ e/ft ² /year	11	11	7	N/A	9

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

o - This attribute is optional.

d - A default value has been supplied by Portfolio Manager.



STATEMENT OF ENERGY PERFORMANCE

Great Meadows - Liberty School

Building ID: 3024755

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: April 04, 2012

Facility

Great Meadows - Liberty School
334 Mountain Lake Road
Great Meadows, NJ 07838

Facility Owner

N/A

Primary Contact for this Facility

N/A

Year Built: 1973**Gross Floor Area (ft²):** 44,500**Energy Performance Rating² (1-100)** 44**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	1,355,973
Natural Gas - (kBtu) ⁴	0
Total Energy (kBtu)	1,355,973

Energy Intensity⁴

Site (kBtu/ft ² /yr)	77
Source (kBtu/ft ² /yr)	149

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	345
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	73
National Median Source EUI	142
% Difference from National Median Source EUI	5%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Certifying Professional

N/A

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

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Facility

Great Meadows - Liberty School
334 Mountain Lake Road
Great Meadows, NJ 07838

Facility Owner

N/A

Primary Contact for this Facility

N/A

General Information

Great Meadows - Liberty School	
Gross Floor Area Excluding Parking: (ft ²)	44,500
Year Built	1973
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Great Meadows - Liberty School	
Space Type	K-12 School
Gross Floor Area (ft ²)	44,500
Open Weekends?	No
Number of PCs	96
Number of walk-in refrigeration/freezer units	1
Presence of cooking facilities	Yes
Percent Cooled	30
Percent Heated	100
Months °	N/A
High School?	No
School District °	N/A

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	44	44	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	77	77	57	N/A	73
Source (kBtu/ft ²)	149	149	111	N/A	142
Energy Cost					
\$/year	N/A	N/A	N/A	N/A	N/A
\$/ft ² /year	N/A	N/A	N/A	N/A	N/A
Greenhouse Gas Emissions					
MtCO ₂ e/year	345	345	256	N/A	328
kgCO ₂ e/ft ² /year	8	8	6	N/A	8

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STATEMENT OF ENERGY PERFORMANCE

Great Meadows - Middle School

Building ID: 3024756

For 12-month Period Ending: December 31, 2011¹

Date SEP becomes ineligible: N/A

Date SEP Generated: April 04, 2012

Facility

Great Meadows - Middle School
273 Route 46
Great Meadows, NJ 07838

Facility Owner

N/A

Primary Contact for this Facility

N/A

Year Built: 1998**Gross Floor Area (ft²):** 64,500**Energy Performance Rating²** (1-100) 91**Site Energy Use Summary³**

Electricity - Grid Purchase(kBtu)	1,563,919
Natural Gas - (kBtu) ⁴	0
Total Energy (kBtu)	1,563,919

Energy Intensity⁴

Site (kBtu/ft ² /yr)	48
Source (kBtu/ft ² /yr)	105

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	332
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Electric Distribution Utility

Jersey Central Power & Light Co [FirstEnergy Corp]

National Median Comparison

National Median Site EUI	79
National Median Source EUI	174
% Difference from National Median Source EUI	-40%
Building Type	K-12 School

Stamp of Certifying Professional

Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Meets Industry Standards⁵ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Certifying Professional

N/A

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Values represent energy intensity, annualized to a 12-month period.
5. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

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Facility

Great Meadows - Middle School
273 Route 46
Great Meadows, NJ 07838

Facility Owner

N/A

Primary Contact for this Facility

N/A

General Information

Great Meadows - Middle School	
Gross Floor Area Excluding Parking: (ft ²)	64,500
Year Built	1998
For 12-month Evaluation Period Ending Date:	December 31, 2011

Facility Space Use Summary

Great Meadows - Middle School	
Space Type	K-12 School
Gross Floor Area (ft ²)	64,500
Open Weekends?	No
Number of PCs	170
Number of walk-in refrigeration/freezer units	2
Presence of cooking facilities	Yes
Percent Cooled	100
Percent Heated	100
Months °	N/A
High School?	No
School District °	N/A

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 12/31/2011)	Baseline (Ending Date 12/31/2011)	Rating of 75	Target	National Median
Energy Performance Rating	91	91	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	48	48	62	N/A	79
Source (kBtu/ft ²)	105	105	136	N/A	174
Energy Cost					
\$/year	N/A	N/A	N/A	N/A	N/A
\$/ft ² /year	N/A	N/A	N/A	N/A	N/A
Greenhouse Gas Emissions					
MtCO ₂ e/year	332	332	432	N/A	553
kgCO ₂ e/ft ² /year	5	5	7	N/A	8

More than 50% of your building is defined as K-12 School. Please note that your rating accounts for all of the spaces listed. The National Median column presents energy performance data your building would have if your building had a median rating of 50.

Notes:

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FACILITIES TOTAL ANNUAL ENERGY USAGE

GREAT MEADOWS SCHOOL DISTRICT

FACILITIES TOTAL
ANNUAL ENERGY USE

Buildings	Electric - Jersey Central Power & Light			
	Account Number	Annual Consumption	Annual Cost	\$ / kWh
		kWh		
Central Elementary	10 00 03 6106 96	276,360	\$40,402.00	\$0.146
GM Middle School	10 00 03 6109 93	458,720	\$66,156.19	\$0.144
Central Elementary	10 00 03 6110 82	2,040	\$401.32	\$0.197
Liberty Elementary	10 00 03 8933 75	4,235	\$774.03	\$0.183
Liberty Elementary	10 00 03 8934 58	391,800	\$56,924.59	\$0.145
	TOTAL	1,133,155	\$164,658.13	\$0.145

Buildings	Fuel Oil - Allied Oil, LLC			
	Account Number	Annual Consumption Gallons	Annual Cost	\$ / Gallon
Central Elementary	433228	27,556	\$76,947.92	\$2.792
Liberty Elementary	433229	15,000	\$41,150.71	\$2.743
GM Middle School	433227	9,852	\$27,208.27	\$2.762
	TOTAL	52,408	\$145,306.90	\$2.773

\$309,965.03

FACILITY	ELECTRIC (\$/kWh)	NATURAL GAS (\$/therm)	FUEL OIL (\$/gal)	ELECTRIC (kWh/Year)	NAT. GAS (therm/yr)	FUEL OIL (gal/yr)
Central Elementary	0.146	NA	2.792	278,400	NA	27,556
Liberty Elementary	0.145	NA	2.743	396,035	NA	15,000
GM Middle School	0.144	NA	2.762	458,720	NA	9,852

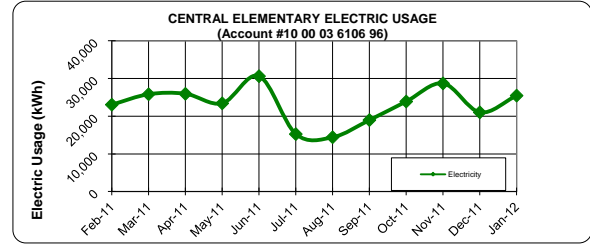
Bldg	E.U.I.						Site EUI kbtu/sqft
	Bldg Size SqFt	Electric kWh/yr	Electric kbtu	Fuel Oil gal/yr	Fuel Oil kbtu	Total kbtu	
Central Elementary	38,000	278,400	949,901	27,556	3,821,756	4,771,656	126
Liberty Elementary	44,500	396,035	1,351,271	15,000	2,080,405	3,431,677	77
GM Middle School	64,500	458,720	1,565,153	9,852	1,366,318	2,931,471	45
			3.412		138.69		

GREAT MEADOWS SCHOOL DISTRICT

FACILITIES TOTAL
ANNUAL ENERGY USE

Facility Name Central Elementary
Company 281 Rt 46 Great Meadows
Account# 10 00 03 6106 96
Bill #1

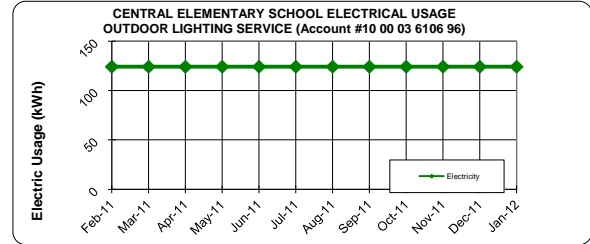
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		23,040	\$2,532.10	\$1,345.63	\$0.168	\$0.110	\$0.05840
Electricity	kWh	2/8/2011	3/8/2011		25,800	\$2,835.42	\$1,293.13	\$0.160	\$0.110	\$0.05012
Electricity	kWh	3/9/2011	4/6/2011		25,920	\$2,720.30	\$1,140.91	\$0.149	\$0.105	\$0.04402
Electricity	kWh	4/7/2011	5/6/2011		23,400	\$2,155.84	\$1,074.16	\$0.138	\$0.092	\$0.04590
Electricity	kWh	5/7/2011	6/7/2011		30,600	\$2,819.18	\$1,449.54	\$0.140	\$0.092	\$0.04737
Electricity	kWh	6/8/2011	7/6/2011		15,240	\$1,404.06	\$1,015.79	\$0.159	\$0.092	\$0.06665
Electricity	kWh	7/7/2011	8/4/2011		14,400	\$1,326.67	\$744.93	\$0.144	\$0.092	\$0.05173
Electricity	kWh	8/5/2011	9/7/2011		18,960	\$1,746.78	\$999.07	\$0.145	\$0.092	\$0.05269
Electricity	kWh	9/8/2011	10/6/2011		23,880	\$2,200.06	\$1,166.45	\$0.141	\$0.092	\$0.04885
Electricity	kWh	10/7/2011	11/7/2011		28,680	\$2,642.29	\$1,201.93	\$0.134	\$0.092	\$0.04191
Electricity	kWh	11/8/2011	12/7/2011		21,000	\$1,934.73	\$1,081.94	\$0.144	\$0.092	\$0.05152
Electricity	kWh	12/8/2011	1/6/2012		25,440	\$2,343.79	\$1,227.30	\$0.140	\$0.092	\$0.04824
TOTALS/AVERAGE					276,360	\$26,661.22	\$13,740.78	\$0.146	\$0.096	\$0.050



Facility Name Central Elementary
Company 281 Rt 46 Great Meadows
Account# 10 00 03 6106 96

Bill #1a
Outdoor Lighting Service

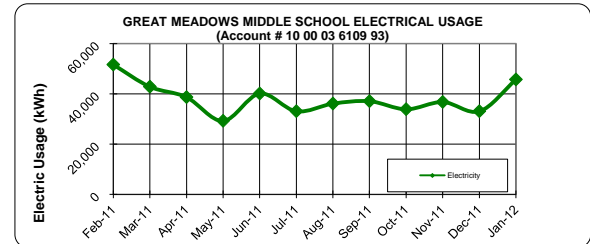
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	2/8/2011	3/8/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	3/9/2011	4/6/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	4/7/2011	5/6/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	5/7/2011	6/7/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	6/8/2011	7/6/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	7/7/2011	8/4/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	8/5/2011	9/7/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	9/8/2011	10/6/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	10/7/2011	11/7/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	11/8/2011	12/7/2011		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
Electricity	kWh	12/8/2011	1/6/2012		124	\$37.48	\$11.04	\$0.39	\$0.302	\$0.08903
TOTALS/AVERAGE					1,488	\$449.76	\$132.48	\$0.391	\$0.302	\$0.089



Facility Name GM Middle School
Company Rt 46 Great Meadows
Account# 10 00 03 6109 93

Bill #2

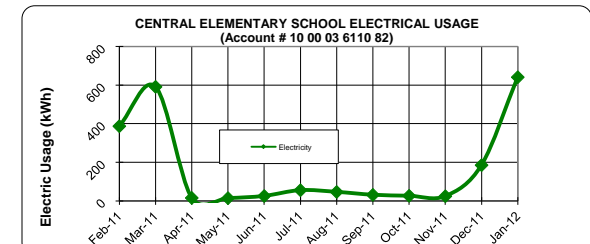
Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		51,680	\$5,679.63	\$2,753.00	\$0.16	\$0.110	\$0.0533
Electricity	kWh	2/8/2011	3/8/2011		42,880	\$4,712.51	\$2,204.99	\$0.16	\$0.110	\$0.0514
Electricity	kWh	3/9/2011	4/6/2011		38,720	\$4,063.66	\$1,798.94	\$0.15	\$0.105	\$0.0465
Electricity	kWh	4/7/2011	5/6/2011		29,280	\$2,697.57	\$1,369.90	\$0.14	\$0.092	\$0.0468
Electricity	kWh	5/7/2011	6/7/2011		40,160	\$3,699.94	\$1,816.27	\$0.14	\$0.092	\$0.0452
Electricity	kWh	6/8/2011	7/6/2011		33,120	\$3,051.35	\$1,716.57	\$0.14	\$0.092	\$0.0518
Electricity	kWh	7/7/2011	8/4/2011		36,160	\$3,331.42	\$1,477.69	\$0.13	\$0.092	\$0.0409
Electricity	kWh	8/5/2011	9/7/2011		37,120	\$3,419.87	\$1,649.54	\$0.14	\$0.092	\$0.0444
Electricity	kWh	9/8/2011	10/6/2011		33,920	\$3,125.05	\$1,565.52	\$0.14	\$0.092	\$0.0462
Electricity	kWh	10/7/2011	11/7/2011		36,800	\$3,390.38	\$1,682.25	\$0.14	\$0.092	\$0.0457
Electricity	kWh	11/8/2011	12/7/2011		33,120	\$3,051.35	\$1,602.25	\$0.14	\$0.092	\$0.0484
Electricity	kWh	12/8/2011	1/6/2012		45,760	\$4,215.87	\$2,080.67	\$0.14	\$0.092	\$0.0455
TOTALS/AVERAGE					458,720	\$44,438.60	\$21,717.59	\$0.144	\$0.097	\$0.047



Facility Name Central Elementary
Company 281 Rt 46 Great Meadows
Account# 10 00 03 6110 82

Bill #3

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		387	\$40.62	\$35.71	\$0.20	\$0.105	\$0.0923
Electricity	kWh	2/8/2011	3/8/2011		591	\$62.03	\$51.42	\$0.19	\$0.105	\$0.0870
Electricity	kWh	3/9/2011	4/6/2011		15	\$1.57	\$4.38	\$0.40	\$0.105	\$0.2920
Electricity	kWh	4/7/2011	5/6/2011		14	\$1.29	\$4.30	\$0.40	\$0.092	\$0.3071
Electricity	kWh	5/7/2011	6/7/2011		25	\$2.30	\$5.24	\$0.30	\$0.092	\$0.2096
Electricity	kWh	6/8/2011	7/6/2011		55	\$5.07	\$7.64	\$0.23	\$0.092	\$0.1389
Electricity	kWh	7/7/2011	8/4/2011		46	\$4.24	\$6.92	\$0.24	\$0.092	\$0.1504
Electricity	kWh	8/5/2011	9/7/2011		31	\$2.86	\$5.72	\$0.28	\$0.092	\$0.1845
Electricity	kWh	9/8/2011	10/6/2011		26	\$2.40	\$5.21	\$0.29	\$0.092	\$0.2004
Electricity	kWh	10/7/2011	11/7/2011		24	\$2.24	\$5.06	\$0.30	\$0.093	\$0.2108
Electricity	kWh	11/8/2011	12/7/2011		185	\$17.04	\$17.26	\$0.19	\$0.092	\$0.0933
Electricity	kWh	12/8/2011	1/6/2012		641	\$59.06	\$51.74	\$0.17	\$0.092	\$0.0807
TOTALS/AVERAGE					2,040	\$200.72	\$200.60	\$0.197	\$0.098	\$0.098

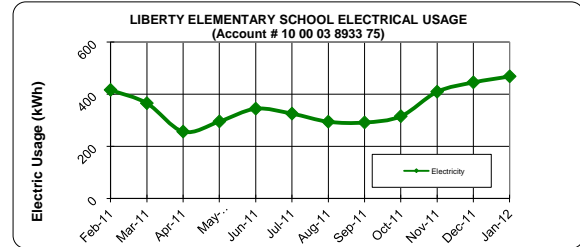


GREAT MEADOWS SCHOOL DISTRICT

FACILITIES TOTAL
ANNUAL ENERGY USE

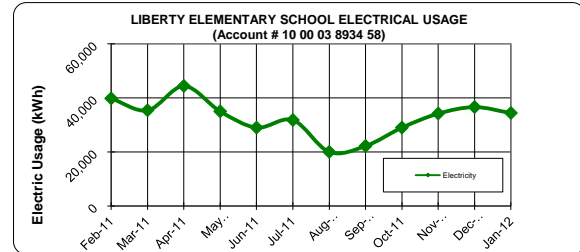
Facility Name Liberty Elementary
Company Mountain Lake Rd, Great Meadows
Account# 10 00 03 8933 75
Bill #4

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		417	\$43.76	\$38.22	\$0.20	\$0.105	\$0.0917
Electricity	kWh	2/8/2011	3/8/2011		366	\$38.41	\$33.63	\$0.20	\$0.105	\$0.0919
Electricity	kWh	3/9/2011	4/6/2011		257	\$26.97	\$22.60	\$0.19	\$0.105	\$0.0879
Electricity	kWh	4/7/2011	5/6/2011		296	\$27.27	\$25.54	\$0.18	\$0.092	\$0.0863
Electricity	kWh	5/7/2011	6/7/2011		345	\$31.78	\$30.82	\$0.18	\$0.092	\$0.0893
Electricity	kWh	6/8/2011	7/6/2011		326	\$30.03	\$29.30	\$0.18	\$0.092	\$0.0899
Electricity	kWh	7/7/2011	8/4/2011		295	\$27.18	\$26.82	\$0.18	\$0.092	\$0.0909
Electricity	kWh	8/5/2011	9/7/2011		292	\$26.90	\$26.58	\$0.18	\$0.092	\$0.0910
Electricity	kWh	9/8/2011	10/6/2011		316	\$29.11	\$27.05	\$0.18	\$0.092	\$0.0856
Electricity	kWh	10/7/2011	11/7/2011		410	\$37.77	\$34.12	\$0.18	\$0.092	\$0.0832
Electricity	kWh	11/8/2011	12/7/2011		446	\$41.09	\$37.07	\$0.18	\$0.092	\$0.0831
Electricity	kWh	12/8/2011	1/6/2012		469	\$43.21	\$38.80	\$0.17	\$0.092	\$0.0827
TOTALS/AVERAGE					4,235	\$403.48	\$370.55	\$0.183	\$0.095	\$0.087



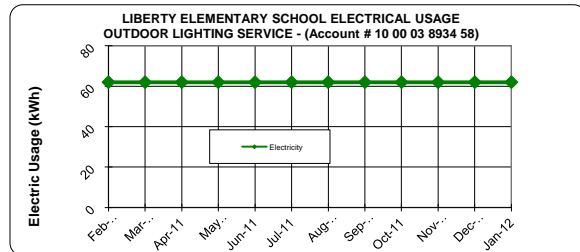
Facility Name Liberty Elementary
Company Mountain Lake Rd Board of Ed, Great Meadows
Account# 10 00 03 8934 58
Bill #5

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		39,800	\$4,374.02	\$2,029.71	\$0.16	\$0.110	\$0.0510
Electricity	kWh	2/8/2011	3/8/2011		35,400	\$3,715.23	\$1,893.58	\$0.16	\$0.105	\$0.0535
Electricity	kWh	3/9/2011	4/6/2011		44,400	\$4,659.78	\$1,885.66	\$0.15	\$0.105	\$0.0425
Electricity	kWh	4/7/2011	5/6/2011		35,000	\$3,224.55	\$1,656.17	\$0.14	\$0.092	\$0.0473
Electricity	kWh	5/7/2011	6/7/2011		29,000	\$2,671.77	\$1,468.40	\$0.14	\$0.092	\$0.0506
Electricity	kWh	6/8/2011	7/6/2011		31,800	\$2,929.73	\$1,587.44	\$0.14	\$0.092	\$0.0499
Electricity	kWh	7/7/2011	8/4/2011		20,000	\$1,842.60	\$919.06	\$0.14	\$0.092	\$0.0460
Electricity	kWh	8/5/2011	9/7/2011		22,200	\$2,045.29	\$1,243.88	\$0.15	\$0.092	\$0.0560
Electricity	kWh	9/8/2011	10/6/2011		29,000	\$2,671.77	\$1,536.85	\$0.15	\$0.092	\$0.0530
Electricity	kWh	10/7/2011	11/7/2011		34,200	\$3,150.85	\$1,595.85	\$0.14	\$0.092	\$0.0467
Electricity	kWh	11/8/2011	12/7/2011		36,600	\$3,371.96	\$1,612.46	\$0.14	\$0.092	\$0.0441
Electricity	kWh	12/8/2011	1/6/2012		34,400	\$3,169.27	\$1,669.71	\$0.14	\$0.092	\$0.0485
TOTALS/AVERAGE					391,800	\$37,826.82	\$19,097.77	\$0.145	\$0.097	\$0.049



Facility Name Liberty Elementary
Company Mountain Lake Rd Board of Ed, Great Meadows
Account# 10 00 03 8934 58
Bill #5a

Energy Type	Energy Unit	Start Date	End Date	Demand KW	KWH	Delivery Cost	Supplier Cost	\$/kWh	Delivery \$/kWh	Supplier \$/kWh
Electricity	kWh	1/8/2011	2/7/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	2/8/2011	3/8/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	3/9/2011	4/6/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	4/7/2011	5/6/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	5/7/2011	6/7/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	6/8/2011	7/6/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	7/7/2011	8/4/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	8/5/2011	9/7/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	9/8/2011	10/6/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	10/7/2011	11/7/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	11/8/2011	12/7/2011		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
Electricity	kWh	12/8/2011	1/6/2012		62	\$18.71	\$5.53	\$0.39	\$0.302	\$0.0892
TOTALS/AVERAGE					744	\$224.52	\$66.36	\$0.391	\$0.302	\$0.089

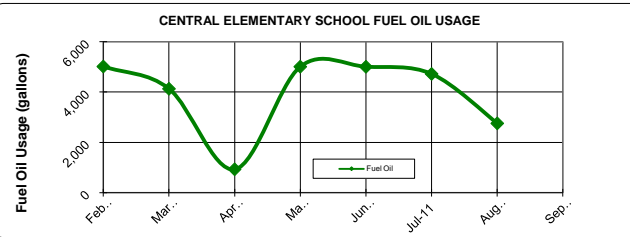


GREAT MEADOWS SCHOOL DISTRICT

FACILITIES TOTAL
ANNUAL ENERGY USE

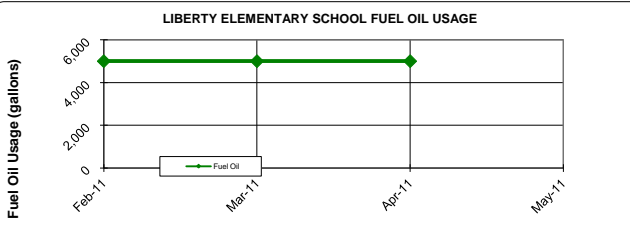
Facility Name Central Elementary
Company Allied Oil
Account# 433228
Bill #6

Energy Type	Energy Unit	End Date	Gallons	Cost	\$/gallon
Fuel Oil	Gallon	10/29/2010	5014.7	\$12,022.24	2.397
Fuel Oil	Gallon	12/8/2010	4128.3	\$10,793.03	2.614
Fuel Oil	Gallon	12/13/2010	927.4	\$2,403.36	2.592
Fuel Oil	Gallon	1/4/2011	5008.0	\$13,701.89	2.736
Fuel Oil	Gallon	1/31/2011	5003.7	\$14,413.16	2.881
Fuel Oil	Gallon	2/28/2011	4720.0	\$14,827.88	3.142
Fuel Oil	Gallon	3/29/2011	2754.0	\$8,786.36	3.190
TOTALS/AVERAGE			27,556	\$76,947.92	\$2.792



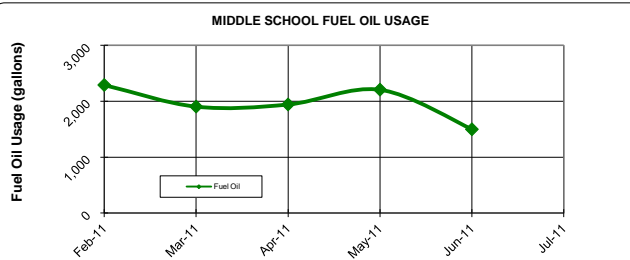
Facility Name Liberty Elementary
Company Allied Oil
Account# 433229
Bill #7

Energy Type	Energy Unit	End Date	Gallons	Cost	\$/gallon
Fuel Oil	Gallon	11/4/2010	5000.0	\$12,330.00	2.466
Fuel Oil	Gallon	1/4/2011	5000.0	\$13,680.00	2.736
Fuel Oil	Gallon	2/15/2011	5000.4	\$15,140.71	3.028
TOTALS/AVERAGE			15,000	\$41,150.71	\$2.743



Facility Name GM Middle School
Company Allied Oil
Account# 433227
Bill #8

Energy Type	Energy Unit	End Date	Gallons	Cost	\$/gallon
Fuel Oil	Gallon	9/10/2010	2292.6	\$5,088.20	2.219
Fuel Oil	Gallon	12/14/2010	1905.9	\$4,967.73	2.607
Fuel Oil	Gallon	1/14/2011	1944.3	\$5,446.96	2.802
Fuel Oil	Gallon	2/15/2011	2208.8	\$6,688.03	3.028
Fuel Oil	Gallon	4/6/2011	1500.0	\$5,017.35	3.345
TOTALS/AVERAGE			9,852	\$27,208.27	\$2.762





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EQUIPMENT & LIGHTING INVENTORY LIST

CENTRAL ELEMENTARY SCHOOL

EQUIPMENT LIST

Air Handling Units - AHUs														
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Fan HP	Cooling Capacity (Tons)	Heating Technology	Age	Estimated Service Life
Central School	UV-Steam	Classrooms	Orig & 1960	Unit Ventilator	NA	NA	15	None	1000	NA	NA	Steam	>25	15
Central School	UV-Steam	Gymnasium	Gymnasium	Unit Ventilator	NA	NA	2	None	NA	NA	NA	Steam	>25	15
Central School	UV-HW	Classrooms	1968 & 1988	Unit Ventilator	NA	NA	10	None	NA	NA	NA	Hot Water	24	15
Central School	UV-HW	Cafeteria	Cafeteria	Unit Ventilator	NA	NA	4	None	NA	NA	NA	Hot Water	24	15
Central School	AH-1	Mechanical Closet	Main Office	Air Handling Unit	Trane	B1V718A100E0	1	DX	NA	1/4	NA	Hot Water	25	15
Central School	AH-2	Mechanical Closet	Nurses Area	Air Handling Unit	Trane	B1V718A100E1	1	DX	NA	NA	NA	Hot Water	25	15
Central School	AC-	2nd Floor Class & Comp Rm	2nd Floor Class & Comp Rm	Ductless Split AC	Fujitsu	NA	6	DX	NA	NA	NA	NONE	NA	15
Central School	WAC-	Various	Various	Window AC Units	Various	Various	5	DX	NA	NA	NA	NONE	NA	10
Central School	EF-	Roof	Bldg Exhaust	Exhaust Fans	Various	Various	26	NA	NA	NA	NA	NONE	NA	25
Central School	ACCU-	Roof	AH-1 & AH-2	Air Cooled Condensing Unit	NA	NA	2	NA	NA	NA	2	NONE	25	20

Boilers												
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	SV Capacity (Lbs/Hr)	Object Capacity (Lbs/Hr)	Age	Estimated Service Life
Central School	B-1	MER	Bldg	Steam Boiler	Weil McLain	NA	1	Fuel Oil	4,275	3,792	51	30
Central School	B-2	MER	Bldg	Steam Boiler	HB Smith	450 Mills	1	Fuel Oil	4,350	3,490	44	30

Heat Exchangers							
Bldg	Tag#	Location	Area Serving	Equipment	Input	Output	Quantity
Central School	HX-1	MER	1968 Wing	Shell & Tube	Steam	Hot Water	1
Central School	HX-2	MER	1988 Wing	Shell & Tube	Steam	Hot Water	1

Heating Hot Water Pumps												
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	VFD?	Estimated Service Life
Central School	P-1,2	MER	1968 Wing	HW Pumps	Bell & Gossett	M98559	2	NA	NA	2	NO	20
Central School	P-3,4	MER	1988 Wing	HW Pumps	NA	NA	2	NA	NA	1	NO	10

Domestic Hot Water Heaters											
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	Recovery (GPH)	Estimated Service Life
Central School	DHW-1	MER	Bldg	DHW Heater	1	Bock Water Heaters, Inc.	71E	Fuel Oil	68	177	15

Other Mechanical Equipment												
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input Btuh	Output Btuh	Age	Notes
Central School	Comp-1	MER	Pneumatics	Air Compressor	1	Speedaire	NA	Elect	NA	NA	NA	3/4 HP Motor

Kitchen Equipment Inventory List				
Bldg	EQUIPMENT	MODEL #	MANUFACTURER	QUANTITY
Central School	Snack Machine	NA	NA	1
Central School	Soda Machine	NA	NA	1
Central School	Elect. Oven/Stove	NA	Vulcan	1
Central School	Stacked Oven	NA	Blodgett	2
Central School	3 Door Refrigerator	NA	Traulsen	1
Central School	Warming Rack	NA	Masterbilt	1
Central School	Booster Heater	NA	Hatco	1
Central School	Reach In Cooler	SM34N	Beverage Air	1
Central School	Reach In Freezer	R10S100	ATH	1
Central School	Walk-in Cooler	NA	NA	1

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

Prepared by Dome-Tech, Inc.

LIBERTY ELEMENTARY SCHOOL

EQUIPMENT LIST

Air Handling Units - AHUs												
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Cooling Technology	Supply Air CFM	Heating Technology	Age	Estimated Service Life
Liberty School	AH-1	MER	Office Areas	Air Handling Unit	NA	NA	1	DX	NA	HHW	25	15
Liberty School	UV-Ceiling	Classrooms	100 Wing	Unit Ventilator	Nesbit	NA	10	None	NA	HHW	NA	15
Liberty School	UV-Ceiling	Nurse Station	Nurse Station	Unit Ventilator	Nesbit	NA	1	DX	NA	HHW	NA	15
Liberty School	UV-Ceiling	Classrooms	Old Library	Unit Ventilator	Nesbit	NA	2	DX	NA	HHW	NA	15
Liberty School	UV-Ceiling	Multi-Purpose Room	Multi-Purpose Room	Unit Ventilator	Nesbit	NA	4	None	3500 / 1800 OA	HHW	NA	15
Liberty School	UV-Ceiling	Classrooms	200 Wing	Unit Ventilator	Nesbit	NA	6	None	NA	HHW	NA	15
Liberty School	UV-Ceiling	Classrooms	New Library	Unit Ventilator	Nesbit	NA	2	DX	NA	HHW	NA	15
Liberty School	UV-Floor	Classrooms	300 Wing	Unit Ventilator	Nesbit	NA	4	None	NA	HHW	NA	15
Liberty School	ACCU-	Roof	Library Uvs	Air Cooled Condensing Unit	Trane	BTD	4	DX	NA	NA	25	20
Liberty School	ACCU-	Roof	AH-1	Air Cooled Condensing Unit	Trane	BTD	1	DX	NA	NA	25	20
Liberty School	ACCU-	Roof	Nurse Station UV	Air Cooled Condensing Unit	Trane	BTD	1	DX	NA	NA	25	20
Liberty School	EF-	Roof	Bldg Exhaust	Exhaust Fans	Various	Various	30	NA	NA	NA	NA	25

Boilers											
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Output (MBH)	Age	Estimated Service Life
Liberty School	B-1	MER	Bldg	Hot Water Boiler	Weil McLain	H-894WF	1	Fuel Oil - 2	2,028	39	35
Liberty School	B-2	MER	Bldg	Hot Water Boiler	Weil McLain	BI-988SW	1	Fuel Oil - 2	2,900	25	35

Heating Hot Water Pumps														
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Estimated Service Life
Liberty School	P-1,2	MER	100 Wing	HW Pump	Century	SC-213-FGA-6	2	NA	NA	3	84.0%	1740	No	20
Liberty School	P-3,4	MER	200 Wing	HW Pump	Marathon	SVE56T17	2	NA	NA	3/4	NA	1725	No	10
Liberty School	P-5,6	MER	300 Wing	HW Pump	Baldor	34F12	2	NA	NA	3/4	NA	3450	No	10

Domestic Hot Water Heaters											
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Gal	Age	Estimated Service Life
Liberty School	DHW-1	MER	Bldg	DHW Heater	1	Bock	73E	Fuel Oil - 2		NA	15

Other Mechanical Equipment						
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Notes
Liberty School	Comp-1	MER	Pneumatics	Air Compressor	1	1/2 HP motor

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

Prepared by Dome-Tech, Inc.

GREAT MEADOWS MIDDLE SCHOOL

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 (MBH)	Heating Technology	Heating Capacity (MBH)	GPM	Age	Estimated Service Life	Efficiency
Middle School	UV-1	Various	Classrooms	WSHP Unit Vent	AAF	AR-24RC	8	WSHP	800	NA	1/8	26.2	Water Source/ Elect.	19	6	14	19	14 EER
Middle School	UV-2	Various	Classrooms	WSHP Unit Vent	AAF	AR-40RC	16	WSHP	1000	NA	1/8	41.3	Water Source/ Elect.	33	10	14	19	14.6 EER
Middle School	UV-3	Various	Classrooms	WSHP Unit Vent	AAF	AR-30RC	4	WSHP	800	NA	1/8	30.1	Water Source/ Elect.	23	7.5	14	19	14.3 EER
Middle School	UV-4	Various	Classrooms	WSHP Unit Vent	AAF	AR-48RC	8	WSHP	1300	NA	1/4	47.3	Water Source/ Elect.	35	12	14	19	13.8 EER
Middle School	UV-5	Various	Classrooms	WSHP Unit Vent	AAF	AR-54RC	2	WSHP	1300	NA	1/4	53.3	Water Source/ Elect.	41	10	14	19	13.4 EER
Middle School	RHP-1,2	Roof	Gym	Rooftop Unit	ClimateMaster	RE15	2	WSHP	5400	1	3	224	Water Source/ Elect.	228	36	14	19	13 EER
Middle School	RHP-3	Roof	Stage	Rooftop Unit	ClimateMaster	RE05	1	WSHP	2100	0.5	1 1/2	59	Water Source/ Elect.	72.8	12	14	19	13 EER
Middle School	HRU-1	Roof	Café	Heat Recovery Unit	HeatEx	5000-1C	1	NA	6365	0.375	5	NA	NA	NA	NA	14	19	NA
Middle School	HRU-2	Roof	Gym	Heat Recovery Unit	HeatEx	RHXC-1C-27	1	NA	22345	0.375	15	NA	NA	NA	NA	14	19	NA
Middle School	HRU-3	Roof	Child Study	Heat Recovery Unit	HeatEx	5000-1B	1	NA	2530	0.5	1 1/2	NA	NA	NA	NA	14	19	NA
Middle School	MAU-1	NA	Kitchen Hood	Make Up Air Unit	ICE	BMA-E	1	NONE	3400	1	1 1/2	NA	Electric	150	NA	14	15	NA
Middle School	EF-	Roof	Bldg Exhaust	Exhaust Fans	Various	Various	13	NA	NA	NA	NA	NA	NONE	NA	NA	14	25	NA
Middle School	HP-	Various	Café , Corridors, Offices	Water Source Heat Pump	McQuay	CCW	16	WSHP	Various	NA	NA	Various	Water Source/ Elect.	NA	NA	14	19	NA

Boilers													
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Model	Quantity	Fuel	Input (MBH)	Output (MBH)	Age	Efficiency	Estimated Service Life
Middle School	B-1	MER	Building	Water Tube Boiler	Cleaver Brooks	FLX-250	1	Fuel Oil-2	2,500	2,000	15	80%	25

Heat Exchangers							
Bldg	Tag#	Location	Area Serving	Equipment	Input	Output	Quantity
Middle School	HEX-1	MER	CT-1	Water to Water Exchanger	NA	NA	1

Cooling Tower											
Bldg	Tag#	Location	Area Serving	Equipment	Mfg	Quantity	Model	Tons	# Cells	Fan HP	VFD?
Middle School	CT-1	On Grade	HEX-1	Cooling Tower	Marley	1	NC2011	200	1	7.5	NO

Water Pumps														
Bldg	Tag#	Location	Area Serving	Equipment	Motor Mfg	Motor Model	Quantity	GPM	Head ft	HP	Efficiency	Motor RPM	VFD?	Estimated Service Life
Middle School	P-1, 2	MER	Water Source Loop	End Suction	Baldor	324T	2	630	135	40	90.2%	1760	Yes	20
Middle School	P-3,4	CLG MER	Cooling Tower	End Suction	Baldor	215T	2	500	55	10	85.5%	1725	No	20
Middle School	P-5	MER	Boiler	Circulator	Emerson	P63CJ	1	150	20	1 1/2	NA	1725	No	10

Domestic Hot Water Heaters												
Bldg	Tag#	Location	Area Serving	Equipment	Quantity	Mfg	Model	Fuel	Input (gph)	Gross Output	Age	Estimated Service Life
Middle School	DHW-1	MER	Building	Domestic HW	1	Weil McLain	A/B-WGO-9	Fuel Oil	2.55	295000	10	15

Kitchen Equipment Inventory List				
Bldg	EQUIPMENT	MODEL #	MANUFACTURER	QUANTITY
Middle School	Refrigerator	NA	TRUE	1
Middle School	Reach In Cooler	NA	AHT	1
Middle School	Reach in Refrigerator	780	Powers	1
Middle School	Double Door Refrigerator/ Warming Cabinet	NA	Victory	1
Middle School	Booster Heater	S-36	Hatco	1
Middle School	Stacked Oven	NA	Blodgett	2
Middle School	Elect. Oven/Stove	NA	Vulcan	1
Middle School	Walk-in Cooler	Duracool	Hartford	1
Middle School	Walk-in Freezer	Duracool	Hartford	1
Middle School	Snack Machine	NA	NA	2
Middle School	Soda Machine	NA	NA	2



LIGHTING RETROFIT SUMMARY FOR GREAT MEADOWS CENTRAL ELEMENTARY SCHOOL

BUILDING INFORMATION		EXISTING FIXTURES				PROPOSED FIXTURES				SAVINGS						FINANCIAL				
BUILDING	SQ. FT.	PRE TOTAL FIXT. QTY	PRE TOTAL FIXT. WATTS	PRE ANNUAL KWH CONSUMPTION	PRE WATTS / SQ. FT	POST TOTAL FIXT. QTY	POST TOTAL FIXT. WATTS	POST ANNUAL KWH CONSUMPTION	POST WATTS / SQ. FT	WATTS SAVED	ANNUAL KWH SAVED	ANNUAL KWH SAVED WITH SENSORS	ANNUAL SAVINGS \$ FIXT.	ANNUAL SAVINGS \$ SENSORS	ANNUAL SAVINGS \$ TOTAL	CO2 REDUCTION (TONS)	NJ SMART START REBATE \$	INSTALLED COST \$ (WITH MARKUP)	SIMPLE PAYBACK YEARS	SIMPLE PAYBACK YEARS (W/O REBATES)
GREAT MEADOWS CENTRAL ELEMENTARY SCHOOL	38,000	533	60,652	124,496	1.60	533	32,028	51,338.8	0.84	28,624	73,158	15,310	\$10,681	\$2,235	\$12,916	24.2	\$9,080	\$62,424	4.1	4.8

15% PERCENTAGE OF REBATES IN TOTAL INSTALLED COST

41% PERCENTAGE OF CONSUMPTION COMPARE TO EXISTING STATE

45% EXISTING PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING

18% PROPOSED PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL	CUSTOMER:	GREAT MEADOWS SCHOOLS	BLDG. CODE: GW-CENTR-ES	FACILITY SQ. FT. 38,000	DATE OF AUDIT: 2/13/2012
	FACILITY:	GREAT MEADOWS CENTRAL ELEMENTARY SCHOOL			

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT / CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUAL SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REABATE / LINE
							2000									2000								\$0.146						
1	1FL - KTN	KITCHEN	2'x4' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	7	73	511	2000	1022	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	7	42			294	2000	588	588	31	217	0	434	0	\$63.36	\$501	\$182	\$613	\$10	\$0	\$70
2	1FL - KTN	RESTROOM IN KITCHEN	Incandescent Fixture w/ (2) 60w Incandescent Lamps	1	120	120	360	43	0	Relamp w/ (2) 15 watt Compact Fluorescent Screw-In	1	30			30	360	11	11	90	90	0	32	0	\$4.73	\$13	\$9	\$22	\$0	\$0	\$0
3	1FL - KTN	KITCHEN HOODS	Incandescent Fixture w/ (1) 60w Incandescent Lamp	3	60	180	2000	360	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	3	15			45	2000	90	90	45	135	0	270	0	\$39.42	\$20	\$26	\$46	\$0	\$0	\$0
4	1FL - KTN	STORAGE IN KITCHEN	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.37	\$7	\$9	\$15	\$0	\$0	\$0
5	1FL - KTN	STORAGE IN KITCHEN	4' Strip Fluorescent w/ (1) F40T12/40w Lamp & (1) Standard Magnetic Ballast	1	57	57	360	21	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	360	8	8	35	35	0	13	0	\$1.84	\$31	\$17	\$39	\$10	\$0	\$10
6	1FL - CAF	CAFETERIA	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	21	146	3066	2000	6132	38	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	21	84	400	Ceiling	1764	1600	3528	2822	62	1302	400	3,310	706	\$586.22	\$1,472	\$572	\$1,799	\$10	\$35	\$245
7	1FL - CAF	CAFETERIA	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	2000	438	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	2000	252	252	31	93	0	186	0	\$27.16	\$117	\$78	\$165	\$10	\$0	\$30
8	1FL - BRR	BOY'S RESTROOM BY KITCHEN	1'x4' Recessed Troffer w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	2	42	84	3000	252	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	2	22			44	3000	132	132	20	40	0	120	0	\$17.52	\$62	\$52	\$94	\$10	\$0	\$20
9	1FL - BRR	BOY'S RESTROOM BY KITCHEN	1'x8' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	3000	219	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power HE Ballast, Silver Reflector Kit	1	42			42	3000	126	126	31	31	0	93	0	\$13.58	\$65	\$35	\$90	\$10	\$0	\$10
10	1FL - JC	CUSTODIAN'S STOERAGE IN BOY'S RESTROOM	Incandescent Fixture w/ (1) 75w Incandescent Lamp	1	75	75	360	27	0	Relamp w/ (1) 19 watt Compact Fluorescent Screw-In	1	19			19	360	7	7	56	56	0	20	0	\$2.94	\$10	\$9	\$19	\$0	\$0	\$0
11	1FL - BRR	BOY'S RESTROOM BY KITCHEN	4' Strip Fluorescent w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	4	42	168	3000	504	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	4	22			88	3000	264	264	20	80	0	240	0	\$35.04	\$125	\$69	\$154	\$10	\$0	\$40
12	1FL - GRR	GIRL'S RESTROOM BY KITCHEN	1'x4' Recessed Troffer w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	4	42	168	3000	504	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	4	22			88	3000	264	264	20	80	0	240	0	\$35.04	\$125	\$104	\$189	\$10	\$0	\$40
13	1FL - GRR	GIRL'S RESTROOM BY KITCHEN	4' Strip Fluorescent w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	4	42	168	3000	504	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	4	22			88	3000	264	264	20	80	0	240	0	\$35.04	\$125	\$69	\$154	\$10	\$0	\$40
14	1FL - 119	SMALL CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	146	876	2000	1752	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	104	624	0	1,248	0	\$182.21	\$429	\$156	\$465	\$20	\$0	\$120
15	1FL - 119A-RR	RESTROOM IN CLASS	Incandescent Fixture w/ (2) 60w Incandescent Lamps	1	120	120	360	43	0	Relamp w/ (2) 15 watt Compact Fluorescent Screw-In	1	30			30	360	11	11	90	90	0	32	0	\$4.73	\$13	\$9	\$22	\$0	\$0	\$0
16	1FL - 114	CLASS	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	9	146	1314	2000	2628	42	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	9	84	810	Ceiling	756	1190	1512	900	62	558	810	1,728	612	\$341.75	\$816	\$260	\$951	\$10	\$35	\$125
17	1FL - 111	CLASS	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	146	876	2000	1752	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	6	84	810	Ceiling	504	1190	1008	600	62	372	810	1,152	408	\$227.83	\$653	\$182	\$740	\$10	\$35	\$95
18	1FL - 111	CLASS	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	2000	438	40	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	2000	252	252	31	93	0	186	0	\$27.16	\$117	\$78	\$165	\$10	\$0	\$30
19	1FL - 113	CLASS	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	146	876	2000	1752	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	6	84	810	Ceiling	504	1190	1008	600	62	372	810	1,152	408	\$227.83	\$653	\$182	\$740	\$10	\$35	\$95
20	1FL - 113	CLASS	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	2000	438	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	2000	252	252	31	93	0	186	0	\$27.16	\$117	\$78	\$165	\$10	\$0	\$30
21	1FL - 112	CLASS	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	146	876	2000	1752	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	6	84	810	Ceiling	504	1190	1008	600	62	372	810	1,152	408	\$227.83	\$653	\$182	\$740	\$10	\$35	\$95
22	1FL - 112	CLASS	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	2000	438	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	2000	252	252	31	93	0	186	0	\$27.16	\$117	\$78	\$165	\$10	\$0	\$30
23	1FL - CDR-1	CORRIDOR-1	2'x2' Recessed Troffer w/ (4) F20T12 Lamps & (2) Standard Magnetic Ballasts	1	112	112	3000	336	10	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	3000	84	84	84	84	0	252	0	\$36.79	\$52	\$17	\$49	\$20	\$0	\$20
24	1FL - CDR-1	CORRIDOR-1	4' Strip Fluorescent w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	4	42	168	3000	504	0	Relamp & Reballast w/																				



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL	CUSTOMER:	GREAT MEADOWS SCHOOLS	BLDG. CODE:	FACILITY SQ. FT.	DATE OF AUDIT:
	FACILITY:	GREAT MEADOWS CENTRAL ELEMENTARY SCHOOL	GW-CENTR-ES	38,000	2/13/2012

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT / CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REABATE / LINE
							2000									2000								\$0.146						
51	1FL - 115	RESTROOM IN CLASS	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	360	20	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	360	10	10	28	28	0	10	0	\$1.47	\$31	\$26	\$47	\$10	\$0	\$10
52	1FL - 115	CLASS	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	9	105	945	2000	1890	34-38	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	9	42	810	Ceiling	378	1190	756	450	63	567	810	1,440	306	\$254.97	\$969	\$260	\$1,014	\$20	\$35	\$215
53	1FL - 116	CLASS	1'x4' Recessed Troffer w/ (2) F40T12/34w Lamps one un top of other with sylver reflector & (1) Energy	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F20T12 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	2	42			84	2000	168	168	31	62	0	124	0	\$18.10	\$78	\$52	\$110	\$10	\$0	\$20
54	1FL - 116	RESTROOM IN CLASS	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	360	20	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	360	10	10	28	28	0	10	0	\$1.47	\$31	\$26	\$47	\$10	\$0	\$10
55	1FL - 116	CLASS	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	9	105	945	2000	1890	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	9	42	810	Ceiling	378	1190	756	450	63	567	810	1,440	306	\$254.97	\$969	\$260	\$1,014	\$20	\$35	\$215
56	1FL - NURSE	NURSE	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	105	630	2000	1260	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	63	378	0	756	0	\$110.38	\$429	\$156	\$465	\$20	\$0	\$120
57	1FL - NURSE	NURSE	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	2	28			56	2000	112	112	45	90	0	180	0	\$26.28	\$104	\$35	\$99	\$20	\$0	\$40
58	1FL - NURSE	NURSE	4' Vanity Luminaire w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	2	42			84	2000	168	168	31	62	0	124	0	\$18.10	\$78	\$52	\$110	\$10	\$0	\$20
59	1FL - NURSE	STORAGE IN NURSE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	2	60	120	360	43	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	2	15			30	360	11	11	45	90	0	32	0	\$4.73	\$13	\$17	\$30	\$0	\$0	\$0
60	1FL - WRR	WOMEN'S RESTROOM	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	3000	168	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	3000	84	84	28	28	0	84	0	\$12.26	\$31	\$26	\$47	\$10	\$0	\$10
61	1FL - MRR	MEN'S RESTROOM	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	3000	168	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	3000	84	84	28	28	0	84	0	\$12.26	\$31	\$26	\$47	\$10	\$0	\$10
62	1FL - SRG	STORAGE	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	360	26	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	360	15	15	31	31	0	11	0	\$1.63	\$39	\$26	\$55	\$10	\$0	\$10
63	1FL - MO	MAIN OFFICE	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	105	630	2000	1260	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	63	378	0	756	0	\$110.38	\$429	\$156	\$465	\$20	\$0	\$120
64	1FL - MO	KITCHEN IN MAIN OFFICE	1'x4' Recessed Troffer w/ (2) F40T12/34w Lamps one un top of other with sylver reflector & (1) Energy	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	2000	84	84	31	31	0	62	0	\$9.05	\$39	\$26	\$55	\$10	\$0	\$10
65	1FL - MO	CONFERENCE ROOM	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	2	105	210	2000	420	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	63	126	0	252	0	\$36.79	\$143	\$52	\$155	\$20	\$0	\$40
66	1FL - MO	PRINCIPAL'S OFFCIE	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	2	105	210	2000	420	32	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	63	126	0	252	0	\$36.79	\$143	\$52	\$155	\$20	\$0	\$40
67	1FL - CDR-4	CORRIDOR-4	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	3000	438	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	2	42			84	3000	252	252	31	62	0	186	0	\$27.16	\$78	\$52	\$110	\$10	\$0	\$20
68	1FL - CDR-4	CORRIDOR-4	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	5	88	440	3000	1320	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	5	42			210	3000	630	630	46	230	0	690	0	\$100.74	\$358	\$130	\$413	\$15	\$0	\$75
69	1FL - STAGE	STAGE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	2000	120	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	2000	30	30	45	45	0	90	0	\$13.14	\$7	\$9	\$15	\$0	\$0	\$0
70	1FL - 101	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$280.39	\$1,183	\$338	\$1,306	\$15	\$35	\$215
71	1FL - 102	CLASS	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	8	146	1168	2000	2336	44	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	8	84	810	Ceiling	672	1190	1344	800	62	496	810	1,536	544	\$303.77	\$762	\$234	\$881	\$10	\$35	\$115
72	1FL - 102	CLASS STORAGE	Incandescent Fixture w/ 9w Screw-In Compact Fluorescent Lamp	1	9	9	360	3	0	None	1	9			9	360	3	3	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
73	1FL - BRR	BOY'S RESTROOM	2'x4' Recessed Troffer w/ (4) FO32T8 Lamps & (2) Electronic Ballasts	2	112	224	3000	672	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	3000	252	252	70	140	0	420	0	\$61.32	\$143	\$52	\$165	\$15	\$0	\$30
74	1FL - JC	CUSTODIAN'S CLOSET	Incandescent Fixture w/ (1) 100w Incandescent Lamp	1	100	100	360	36	0	Relamp w/ (1) 27 watt Compact Fluorescent Screw-In, Rewire Existing HID fixtre	1	27			27	360	10	10	73	73	0	26	0	\$3.84	\$7	\$9	\$15	\$0	\$0	\$0
75	1FL - GRR	GIRL'S RESTROOM	2'x4' Recessed Troffer w/ (4) FO32T8 Lamps & (2) Electronic Ballasts	2	112	224	3000	672	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	3000	252	252	70	140	0									



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL	CUSTOMER:	GREAT MEADOWS SCHOOLS	BLDG. CODE: GW-CENTR-ES	FACILITY SQ. FT. 38,000	DATE OF AUDIT: 2/13/2012
	FACILITY:	GREAT MEADOWS CENTRAL ELEMENTARY SCHOOL			

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT - CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUAL SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REBATE / LINE
							2000									2000														
101	1FL - WRR	WOMEN'S RESTROOM	Incandescent Fixture w/ (2) 60w Incandescent Lamps	1	120	120	3000	360	0	Relamp w/ (2) 15 watt Compact Fluorescent Screw-In	1	30			30	3000	90	90	90	90	0	270	0	\$39.42	\$13	\$9	\$22	\$0	\$0	\$0
102	1FL - 110	CLASS	8' Wrap Fluorescent w/ (8) F40T12/34w Lamps & (4) Energy Efficient Magnetic Ballasts	6	292	1752	2000	3504	52	Relamp & Reballast w/ (8) F28T8 Lamps & (2) 4/32 Elec. Low-Power High Efficiency Ballasts	6	186	810	Ceiling	1116	1190	2232	1328	106	636	810	2,176	904	\$449.67	\$980	\$338	\$1,223	\$10	\$35	\$95
103	1FL - 105	CLASS	8' Wrap Fluorescent w/ (8) F032T8 Lamps & (2) Electronic Ballasts	3	224	672	2000	1344	0	Relamp & Reballast w/ (8) F28T8 Lamps & (2) 4/32 Elec. Low-Power High Efficiency Ballasts	3	186	810	Ceiling	558	1190	1116	664	38	114	810	680	452	\$165.27	\$653	\$182	\$770	\$10	\$35	\$65
104	1FL - 105	CLASS	8' Wrap Fluorescent w/ (8) F40T12/34w Lamps & (4) Energy Efficient Magnetic Ballasts	3	292	876	2000	1752	0	Relamp & Reballast w/ (8) F28T8 Lamps & (2) 4/32 Elec. Low-Power High Efficiency Ballasts	3	186	810	Ceiling	558	1190	1116	664	106	318	810	1,088	452	\$224.83	\$653	\$182	\$770	\$10	\$35	\$65
105	1.5FL - CUST. OFFICE	CUSTODIAN'S OFFICE -LEVEL 1.5	4' Strip Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	3000	219	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	3000	126	126	31	31	0	93	0	\$13.58	\$39	\$26	\$55	\$10	\$0	\$10
106	1.5FL - CUST. OFFICE	CUSTODIAN'S OFFICE -LEVEL 1.5	8' Strip Fluorescent w/ (2) F96T12/65w Lamps & (1) Energy Efficient Magnetic Ballast	2	123	246	3000	738	0	New 8' Strip Fixture w/ (2) F28T8 Lamps & (1) 2/32 Elec. High-Power High Efficiency Ballast	2	65			130	3000	390	390	58	116	0	348	0	\$50.81	\$148	\$104	\$232	\$10	\$0	\$20
107	1.5FL - SW	STAIRS TO CUSTODIAN'S OFFICE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	3000	180	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	3000	45	45	45	45	0	135	0	\$19.71	\$7	\$9	\$15	\$0	\$0	\$0
108	2FL - SW	STARIWELL	8' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	1	146	146	3000	438	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	1	84			84	3000	252	252	62	62	0	186	0	\$27.16	\$55	\$26	\$71	\$10	\$0	\$10
109	2FL - CDR	CORRIDOR ON 2ND FLOOR	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	5	88	440	3000	1320	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	5	42			210	3000	630	630	46	230	0	690	0	\$100.74	\$358	\$130	\$413	\$15	\$0	\$75
110	2FL - CDR	CORRIDOR ON 2ND FLOOR	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	3000	657	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	3000	378	378	31	93	0	279	0	\$40.73	\$117	\$78	\$165	\$10	\$0	\$30
111	2.5FL - SRG	STORAGE ON 2.5 LEVEL	4' Wrap Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	2	146	292	360	105	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	2	84			168	360	60	60	62	124	0	45	0	\$6.52	\$109	\$52	\$141	\$10	\$0	\$20
112	2FL - 201	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$280.39	\$1,183	\$338	\$1,306	\$15	\$35	\$215
113	2FL - 202	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$280.39	\$1,183	\$338	\$1,306	\$15	\$35	\$215
114	2FL - 203	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	8	88	704	2000	1408	60-61	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	46	368	0	736	0	\$107.46	\$572	\$208	\$660	\$15	\$0	\$120
115	2FL - 203	STORAGE IN CLASS	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.37	\$7	\$9	\$15	\$0	\$0	\$0
116	2FL - 204	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$280.39	\$1,183	\$338	\$1,306	\$15	\$35	\$215
117	2FL - 205	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	30-31	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$280.39	\$1,183	\$338	\$1,306	\$15	\$35	\$215
118	2FL - SW	STAIRWELL	4' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	3000	219	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	3000	126	126	31	31	0	93	0	\$13.58	\$39	\$26	\$55	\$10	\$0	\$10
119	B - BSMT	VESTIBULE BEFORE BOILER ROOM	4' Wrap Fluorescent w/ (1) F40T12/34w Lamp & (1) Energy Efficient Magnetic Ballast	1	42	42	8760	368	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	8760	193	193	20	20	0	175	0	\$25.58	\$31	\$26	\$47	\$10	\$0	\$10
120	B - OFC	RUSSELL'S OFFICE	2'x4' Recessed Troffer w/ (4) F032T8 Lamps & (2) Electronic Ballasts	2	112	224	2000	448	58	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	70	140	0	280	0	\$40.88	\$143	\$52	\$165	\$15	\$0	\$30
121	B - OFC	RUSSELL'S OFFICE	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	2000	232	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	16	32	0	64	0	\$9.34	\$143	\$52	\$175	\$10	\$0	\$20
122	B - RR-OFc	RESTROOM IN RUSSELL'S OFFICE	4' Strip Fluorescent w/ (1) F32T8 Lamp & (1) Electronic Ballast	1	32	32	360	12	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	360	8	8	10	10	0	4	0	\$0.53	\$31	\$17	\$39	\$10	\$0	\$10
123	B - BOE	BOE OFFICE - NEXT ROOM TO RUSSELL'S OFC.	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	9	146	1314	2000	2628	77-111	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	9	42	810	Ceiling	378	1190	756	450	104	936	810	2,178	306	\$362.72	\$969	\$260	\$1,014	\$20	\$35	\$215
124	B - BOE	BOE OFFICE # 2 - ACROSS THE CORRIDOR	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	10	146	1460	2000	2920	41-110	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	10	42	810	Ceiling	420	1190	840	500	104	1040	810	2,420	340	\$403.02	\$1,040					



LIGHTING RETROFIT SUMMARY FOR GREAT MEADOWS LIBERTY ELEMENTARY SCHOOL

BUILDING INFORMATION		EXISTING FIXTURES				PROPOSED FIXTURES				SAVINGS						FINANCIAL				
BUILDING	SQ. FT.	PRE TOTAL FIXT. QTY	PRE TOTAL FIXT. WATTS	PRE ANNUAL KWH CONSUMPTION	PRE WATTS / SQ. FT	POST TOTAL FIXT. QTY	POST TOTAL FIXT. WATTS	POST ANNUAL KWH CONSUMPTION	POST WATTS / SQ. FT	WATTS SAVED	ANNUAL KWH SAVED	ANNUAL KWH SAVED WITH SENSORS	ANNUAL SAVINGS \$ FIXT.	ANNUAL SAVINGS \$ SENSORS	ANNUAL SAVINGS \$ TOTAL	CO2 REDUCTION (TONS)	NJ SMART START REBATE \$	INSTALLED COST \$ (WITH MARKUP)	SIMPLE PAYBACK YEARS	SIMPLE PAYBACK YEARS (W/O REBATES)
GREAT MEADOWS LIBERTY ELEMENTARY SCHOOL	44,500	668	93,412	189,624	2.10	668	37,676	57,753.8	0.85	55,736	131,870	20,304	\$19,121	\$2,944	\$22,065	43.6	\$15,238	\$82,179	3.0	3.7

19% PERCENTAGE OF REBATES IN TOTAL INSTALLED COST

30% PERCENTAGE OF CONSUMPTION COMPARE TO EXISTING STATE

48% EXISTING PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING

15% PROPOSED PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING



LIGHTING UPGRADE PROJECT	CUSTOMER:		GREAT MEADOWS SCHOOLS	BLDG. CODE:	FACILITY SQ. FT.	DATE OF AUDIT:
	FACILITY:		GREAT MEADOWS LIBERTY ELEMENTARY SCHOOL			
LINE x LINE DETAIL				GM-LIBER-ES	44,500	2/13/2012

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES								ENERGY ANALYSIS						COST ANALYSIS			REBATES			
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REBATE / LINE
							2000									2000								2000						
1	CDR-1	CORRIDOR-1	2'x4' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	12	73	876	3000	2628	18-21	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42			504	3000	1512	1512	31	372	0	1,116	0	\$161.82	\$858	\$312	\$1,050	\$10	\$0	\$120
2	301	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	12	146	1752	2000	3504	94-95	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	104	1248	810	2,904	408	\$480.31	\$1,183	\$338	\$1,246	\$20	\$35	\$275
3	302	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	8	146	1168	2000	2336	75	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	104	832	0	1,664	0	\$241.28	\$572	\$208	\$620	\$20	\$0	\$160
4	303	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	8	146	1168	2000	2336	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	104	832	0	1,664	0	\$241.28	\$572	\$208	\$620	\$20	\$0	\$160
5	304	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	12	146	1752	2000	3504	45	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	104	1248	810	2,904	408	\$480.31	\$1,183	\$338	\$1,246	\$20	\$35	\$275
6	CDR-1	CORRIDOR-1	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	3000	438	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	2	28			56	3000	168	168	45	90	0	270	0	\$39.15	\$104	\$35	\$99	\$20	\$0	\$40
7	MC	MEDIA CENTER	8' Strip Fluorescent w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	11	146	1606	2000	3212	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	11	84	400	Ceiling	924	1600	1848	1478	62	682	400	1,734	370	\$304.96	\$926	\$598	\$1,379	\$10	\$35	\$145
8	MC	MEDIA CENTER	2'x4' Recessed Troffer w/ (4) F032T8 Lamps & (2) Electronic Ballasts	8	112	896	2000	1792	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	70	560	0	1,120	0	\$162.40	\$572	\$208	\$660	\$15	\$0	\$120
9	MC	MEDIA CENTER	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	19	146	2774	2000	5548	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	19	42	400	Ceiling	798	1600	1596	1277	104	1976	400	4,271	319	\$665.61	\$1,684	\$520	\$1,789	\$20	\$35	\$415
10	MC	MEDIA CENTER	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
11	MC	MEDIA CENTER	Incandescent Fixture w/ (1) 60w Incandescent PAR 38 Lamp	13	60	780	2000	1560	0	Relamp w/ (1) 20 watt Compact Fluorescent Screw-In, w/ PAR38 Reflector	13	18			234	2000	468	468	42	546	0	1,092	0	\$158.34	\$203	\$113	\$224	\$7	\$0	\$91
12	CDR-2	CORRIDOR-2	2'x2' Recessed Troffer w/ (2) F40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	20	73	1460	3000	4380	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	20	28			560	3000	1680	1680	45	900	0	2,700	0	\$391.50	\$1,040	\$347	\$987	\$20	\$0	\$400
13	209	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	11	146	1606	2000	3212	34	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	11	42	810	Ceiling	462	1190	924	550	104	1144	810	2,662	374	\$440.28	\$1,112	\$312	\$1,169	\$20	\$35	\$255
14	209	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
15	210	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	11	146	1606	2000	3212	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	11	42	810	Ceiling	462	1190	924	550	104	1144	810	2,662	374	\$440.28	\$1,112	\$312	\$1,169	\$20	\$35	\$255
16	210	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
17	208	CLASS	2'x4' Recessed Troffer w/ (4) F032T8 Lamps & (2) Electronic Ballasts	1	112	112	2000	224	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	2000	84	84	70	70	0	140	0	\$20.30	\$72	\$26	\$83	\$15	\$0	\$15
18	208	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	2	28			56	2000	112	112	45	90	0	180	0	\$26.10	\$104	\$35	\$99	\$20	\$0	\$40
19	208	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	13	146	1898	2000	3796	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	13	42	810	Ceiling	546	1190	1092	650	104	1352	810	3,146	442	\$520.34	\$1,255	\$364	\$1,324	\$20	\$35	\$295
20	211/212	CLASS (COMBINED 211+212)	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	14	146	2044	2000	4088	43	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	14	42	810	Ceiling	588	1190	1176	700	104	1456	810	3,388	476	\$560.36	\$1,326	\$390	\$1,401	\$20	\$35	\$315
21	211/212	CLASS (COMBINED 211+212)	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	2	28			56	2000	112	112	45	90	0	180	0	\$26.10	\$104	\$35	\$99	\$20	\$0	\$40
22	207	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	14	146	2044	2000	4088	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	14	42	810	Ceiling	588	1190	1176	700	104	1456	810	3,388	476	\$560.36	\$1,326	\$390	\$1,401	\$20	\$35	\$315
23	207	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45										



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL	CUSTOMER:	GREAT MEADOWS SCHOOLS	BLDG. CODE:	FACILITY SQ. FT.	DATE OF AUDIT:
	FACILITY:	GREAT MEADOWS LIBERTY ELEMENTARY SCHOOL	GM-LIBER-ES	44,500	2/13/2012

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT / CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUAL SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REABATE / LINE
							2000									2000								\$0.145						
51	KTN	KITCHEN	Incandescent Fixture w/ (1) 60w Incandescent PAR 38 Lamp	5	60	300	2000	600	0	Relamp w/ (1) 20 watt Compact Fluorescent Screw-In, w/ PAR38 Reflector	5	18			90	2000	180	180	42	210	0	420	0	\$60.90	\$78	\$43	\$86	\$7	\$0	\$35
52	KTN	KITCHEN	8' Vapor-Tight Wrap w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	6	146	876	2000	1752	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	6	84			504	2000	1008	1008	62	372	0	744	0	\$107.88	\$328	\$312	\$580	\$10	\$0	\$60
53	KTN	KITCHEN	4' Vapor-Tight Wrap w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	3	73	219	2000	438	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	2000	252	252	31	93	0	186	0	\$26.97	\$117	\$78	\$165	\$10	\$0	\$30
54	KTN	STORAGE	Incandescent Fixture w/ (2) 60w Incandescent Lamps	1	120	120	360	43	0	Relamp w/ (2) 15 watt Compact Fluorescent Screw-In	1	30			30	360	11	11	90	90	0	32	0	\$4.70	\$13	\$9	\$22	\$0	\$0	\$0
55	KTN	HOODS	Incandescent Fixture w/ (1) 60w Incandescent Lamp	4	60	240	2000	480	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	4	15			60	2000	120	120	45	180	0	360	0	\$52.20	\$26	\$35	\$61	\$0	\$0	\$0
56	KTN	OFFCIE	2'x4' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	2	73	146	2000	292	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	31	62	0	124	0	\$17.98	\$143	\$52	\$175	\$10	\$0	\$20
57	KTN	DISHWASH	8' Vapor-Tight Wrap w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	2	146	292	2000	584	0	Relamp & Reballast w/ (4) F28T8 Lamps & (1) 4/32 Elec. Low-Power High Efficiency Ballast	2	84			168	2000	336	336	62	124	0	248	0	\$35.96	\$109	\$104	\$193	\$10	\$0	\$20
58	CDR-5	CORRIDOR-5	2'x4' Recessed Troffer w/ (3) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	10	105	1050	3000	3150	27	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	10	42			420	3000	1260	1260	63	630	0	1,890	0	\$274.05	\$715	\$260	\$775	\$20	\$0	\$200
59	CDR-5	CORRIDOR-5	Relamp w/ (1) 20 watt Compact Fluorescent Screw-In, w/ PAR38 Reflector	20	18	360	3000	1080	0	None	20	18			360	3000	1080	1080	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
60	114	READING ROOM	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	8	146	1168	2000	2336	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	104	832	0	1,664	0	\$241.28	\$572	\$208	\$620	\$20	\$0	\$160
61	115	OFFICE	2'x4' Recessed Troffer w/ (4) F032T8 Lamps & (2) Electronic Ballasts	1	112	112	2000	224	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	2000	84	84	70	70	0	140	0	\$20.30	\$72	\$26	\$83	\$15	\$0	\$15
62	115	OFFICE	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	1	146	146	2000	292	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	2000	84	84	104	104	0	208	0	\$30.16	\$72	\$26	\$78	\$20	\$0	\$20
63	CDR-5	DISPLAY IN CORRIDOR-5	Incandescent Fixture w/ (1) 60w Incandescent Lamp	3	60	180	3000	540	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	3	15			45	3000	135	135	45	135	0	405	0	\$58.73	\$20	\$26	\$46	\$0	\$0	\$0
64	CDR-5	CORRIDOR-5	2'x4' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	4	73	292	3000	876	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	4	42			168	3000	504	504	31	124	0	372	0	\$53.94	\$286	\$104	\$350	\$10	\$0	\$40
65	JC	CUSTODIAN'S CLOSET IN CORRIDOR-5	8' Strip Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	4	73	292	3000	876	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	4	42			168	3000	504	504	31	124	0	372	0	\$53.94	\$156	\$104	\$220	\$10	\$0	\$40
66	BORM	BOILER ROOM	8' Strip Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	6	73	438	8760	3837	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	6	42			252	8760	2208	2208	31	186	0	1,629	0	\$236.26	\$234	\$156	\$330	\$10	\$0	\$60
67	MO	PRINCIPAL'S OFFICE	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	12	146	1752	2000	3504	78	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	104	1248	810	2,904	408	\$480.31	\$1,183	\$338	\$1,246	\$20	\$35	\$275
68	CDR	CDR IN OFFICE (NORMAL OFFICE HOURS)	Incandescent Fixture w/ (1) 60w Incandescent Lamp	3	60	180	2000	360	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	3	15			45	2000	90	90	45	135	0	270	0	\$39.15	\$20	\$26	\$46	\$0	\$0	\$0
69	MO	RESTROOM IN MAIN OFFICE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.35	\$7	\$9	\$15	\$0	\$0	\$0
70	MO	RESTROOM IN MAIN OFFICE	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	360	20	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	360	10	10	28	28	0	10	0	\$1.46	\$31	\$26	\$47	\$10	\$0	\$10
71	MO	STORAGE IN MAIN OFFICE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.35	\$7	\$9	\$15	\$0	\$0	\$0
72	MO	STORAGE IN MAIN OFFICE	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	9	146	1314	360	473	97-98	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	9	42			378	360	136	136	104	936	0	337	0	\$48.86	\$644	\$234	\$698	\$20	\$0	\$180
73	N	NURSE	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	8	146	1168	2000	2336	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	8	42			336	2000	672	672	104	832	0	1,664	0	\$241.28	\$572	\$208	\$620	\$20	\$0	\$160
74	N-RR	RESTROOM IN NURSE	2' Vanity Fixture w/ (2) F20T12 Lamps & (1) Standard Magnetic Ballast	1	56	56	360	20	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	1	28			28	360	10	10	28	28	0	10	0	\$1.46	\$31	\$26	\$47	\$10	\$0	\$10
75	N-RR	RESTROOM IN NURSE	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.35	\$7	\$9	\$15	\$0	\$0	\$0
76	SRG	STORAGE IN CORRIDOR-4	8' Wrap Fluorescent w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	4	73	292	360	105	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	4	42			168	360	60	60	31	124	0	45	0	\$6.47						



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL	CUSTOMER:		GREAT MEADOWS SCHOOLS	BLDG. CODE: GM-LIBER-ES	FACILITY SQ. FT. 44,500	DATE OF AUDIT: 2/13/2012
	FACILITY:		GREAT MEADOWS LIBERTY ELEMENTARY SCHOOL			

SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT - CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST / PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REABATE / LINE
							2000									2000								\$0.145						
100	111	RESTROOM IN 111	Incandescent Fixture w/ (1) 60w Incandescent Lamp	1	60	60	360	22	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	1	15			15	360	5	5	45	45	0	16	0	\$2.35	\$7	\$9	\$15	\$0	\$0	\$0
101	107	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	17	146	2482	2000	4964	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	17	42	810	Ceiling	714	1190	1428	850	104	1768	810	4,114	578	\$680.44	\$1,541	\$468	\$1,634	\$20	\$35	\$375
102	107	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
103	110	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	17	146	2482	2000	4964	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	17	42	810	Ceiling	714	1190	1428	850	104	1768	810	4,114	578	\$680.44	\$1,541	\$468	\$1,634	\$20	\$35	\$375
104	110	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
105	108	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	17	146	2482	2000	4964	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	17	42	810	Ceiling	714	1190	1428	850	104	1768	810	4,114	578	\$680.44	\$1,541	\$468	\$1,634	\$20	\$35	\$375
106	108	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
107	109	CLASS	2'x4' Recessed Troffer w/ (4) F40T12/34w Lamps & (2) Energy Efficient Magnetic Ballasts	17	146	2482	2000	4964	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	17	42	810	Ceiling	714	1190	1428	850	104	1768	810	4,114	578	\$680.44	\$1,541	\$468	\$1,634	\$20	\$35	\$375
108	109	CLASS	2'x2' Recessed Troffer w/ (2) FB40T12/34w 6"-U Lamps & (1) Energy Efficient Magnetic Ballast	1	73	73	2000	146	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	1	28			28	2000	56	56	45	45	0	90	0	\$13.05	\$52	\$17	\$49	\$20	\$0	\$20
109	CDR-4	CORRIDOR-4	2'x4' Recessed Troffer w/ (2) F40T12/34w Lamps & (1) Energy Efficient Magnetic Ballast	20	73	1460	3000	4380	16	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	20	42			840	3000	2520	2520	31	620	0	1,860	0	\$269.70	\$1,430	\$520	\$1,750	\$10	\$0	\$200
110	EXT	EXTERIOR	Relamp w/ (1) 20 watt Compact Fluorescent Screw-In, w/ PAR38 Reflector	2	18	36	900	32	0	None	2	18			36	900	32	32	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
111	EXT	EXTERIOR	Incandescent Fixture w/ (1) 60w Incandescent PAR 38 Lamp	1	60	60	900	54	0	Relamp w/ (1) 20 watt Compact Fluorescent Screw-In, w/ PAR38 Reflector	1	18			18	900	16	16	42	42	0	38	0	\$5.48	\$16	\$9	\$17	\$7	\$0	\$7
112	EXT	EXTERIOR	HID Wall Mounted Fixture w/ (1) 100w High Pressure Sodium	13	130	1690	900	1521	0	New Wall Pack Fixture w/ (1) 70w ICETRON Induction Lamp & Induction Ballast, Universal Voltage	13	70			910	900	819	819	60	780	0	702	0	\$101.79	\$4,225	\$676	\$3,991	\$70	\$0	\$910
113	EXT	EXTERIOR	Incandescent Fixture w/ (1) 60w Incandescent Lamp	10	60	600	900	540	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	10	15			150	900	135	135	45	450	0	405	0	\$58.73	\$65	\$87	\$152	\$0	\$0	\$0
				668		93,412		189,624			668				37,676		78,058	57,754		55,736	17,810	131,870	20,304	\$22,065	\$61,077	\$19,881	\$65,720			\$15,238



LIGHTING RETROFIT SUMMARY FOR GREAT MEADOWS MIDDLE SCHOOL

BUILDING INFORMATION		EXISTING FIXTURES				PROPOSED FIXTURES				SAVINGS						FINANCIAL				
BUILDING	SQ. FT.	PRE TOTAL FIXT. QTY	PRE TOTAL FIXT. WATTS	PRE ANNUAL KWH CONSUM PTION	PRE WATTS / SQ. FT	POST TOTAL FIXT. QTY	POST TOTAL FIXT. WATTS	POST ANNUAL KWH CONSUMPTION	POST WATTS / SQ. FT	WATTS SAVED	ANNUAL KWH SAVED	ANNUAL KWH SAVED WITH SENSORS	ANNUAL SAVINGS \$ FIXT.	ANNUAL SAVINGS \$ SENSORS	ANNUAL SAVINGS \$ TOTAL	CO2 REDUCTION (TONS)	NJ SMART START REBATE \$	INSTALLED COST \$ (WITH MARKUP)	SIMPLE PAYBACK YEARS	SIMPLE PAYBACK YEARS (W/O REBATES)
GREAT MEADOWS MIDDLE SCHOOL	64,500	946	98,981	185,041	1.53	946	57,887	90,298.2	0.90	41,094	94,743	19,810	\$13,643	\$2,853	\$16,496	31.3	\$20,440	\$142,097	7.4	8.6

14% PERCENTAGE OF REBATES IN TOTAL INSTALLED COST

49% PERCENTAGE OF CONSUMPTION COMPARE TO EXISTING STATE

40% EXISTING PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING

20% PROPOSED PERCENTAGE OF LIGHTING ENERGY CONSUMPTION OF THE WHOLE BUILDING



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL			CUSTOMER: FACILITY:			GREAT MEADOWS SCHOOLS GREAT MEADOWS MIDDLE SCHOOL			BLDG. CODE: GM-MS		FACILITY SQ. FT. 64,500		DATE OF AUDIT: 2/13/2012		
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SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT - CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REBATE / LINE
							2000									2000								\$0.144						
1	CDR-1	CORRIDOR-1 (407-401)	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	29	58	1682	3000	5046	24-25	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	29	42			1218	3000	3654	3654	16	464	0	1,392	0	\$200.45	\$2,074	\$754	\$2,538	\$10	\$0	\$290
2	CDR-1	CORRIDOR-1 (BETWEEN RESTROOMS)	New Downlight Fixture w/ (2) 26w Compact Fluorescent Lamps & Electronic Ballast	3	54	162	3000	486	0	None	3	54			162	3000	486	486	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
3	408	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
4	409	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
5	407	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
6	406	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
7	MRR	MEN'S RESTROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	3000	522	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	3	42			126	3000	378	378	16	48	0	144	0	\$20.74	\$215	\$78	\$263	\$10	\$0	\$30
8	WRR	WOMEN'S RESTROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	3000	522	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	3	42			126	3000	378	378	16	48	0	144	0	\$20.74	\$215	\$78	\$263	\$10	\$0	\$30
9	405	S.G.I.	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	5	88	440	2000	880	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	5	42			210	2000	420	420	46	230	0	460	0	\$66.24	\$358	\$130	\$413	\$15	\$0	\$75
10	405-SRG	TYPICAL STORAGE IN S.G.I.	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	360	21	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	360	15	15	16	16	0	6	0	\$0.83	\$39	\$26	\$55	\$10	\$0	\$10
11	SRG	LARGE STORAGE	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	360	42	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	2	42			84	360	30	30	16	32	0	12	0	\$1.66	\$78	\$52	\$110	\$10	\$0	\$20
12	410	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
13	411	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
14	404	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
15	403	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
16	412	412-COMBINED CLASS 412A + 412B	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
17	402	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	56-62	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
18	401	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	15	88	1320	2000	2640	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	15	42	810	Ceiling	630	1190	1260	750	46	690	810	1,890	510	\$345.69	\$1,398	\$416	\$1,554	\$15	\$35	\$260
19	401-SRG	TYPICAL STORAGE IN CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	5	88	440	360	158	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	5	42			210	360	76	76	46	230	0	83	0	\$11.92	\$358	\$130	\$413	\$15	\$0	\$75
20	413	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	14	88	1232	2000	2464	55-56	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	14	42	810	Ceiling	588	1190	1176	700	46	644	810	1,764	476	\$322.64	\$1,326	\$390	\$1,471	\$15	\$35	\$245
21	PREP.	PREPARATION ROOM	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	6	88	528	2000	1056	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	46	276	0	552	0	\$79.49	\$429	\$156	\$495	\$15	\$0	\$90
22	CDR-2	CORRIDOR-2	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	30	58	1740	3000	5220	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	30	42			1260	3000	3780	3780	16	480	0	1,440	0	\$207.36	\$2,145	\$780	\$2,625	\$10	\$0	\$300
23	CDR-2	CORRIDOR-2	New Downlight Fixture w/ (2) 26w Compact Fluorescent Lamps & Electronic Ballast	3	54	162	3000	486	0	None	3	54			162	3000	486	486	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
24	308	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector																				



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL				CUSTOMER: FACILITY:			GREAT MEADOWS SCHOOLS GREAT MEADOWS MIDDLE SCHOOL			BLDG. CODE: GM-MS		FACILITY SQ. FT. 64,500			DATE OF AUDIT: 2/13/2012		
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SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT - CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REBATE / LINE
							2000									2000								\$0.144						
51	GYM	SMALL STAIRCASE TO STAGE	4' Strip Fluorescent w/ (1) F32T8 Lamp & (1) Electronic Ballast	1	32	32	3000	96	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	3000	66	66	10	10	0	30	0	\$4.32	\$31	\$17	\$39	\$10	\$0	\$10
52	STAGE	STAGE	HID High Bay Fixture w/ (1) 400w Metal Halide Lamp & Ballast	10	455	4550	2000	9100	21-33	New 2'x4' Singlepoint-Mount High Bay w/ (6) F54T5HO Lamps & (3) 2/54 T5 Elec. HO Ballasts, Wire Guard, Occupancy Sensor	10	351			3510	2000	7020	7020	104	1040	0	2,080	0	\$299.52	\$3,900	\$1,040	\$3,940	\$100	\$0	\$1,000
53	GYM	GYM	HID High Bay Fixture w/ (1) 400w Metal Halide Lamp & Ballast	20	455	9100	2000	18200	0	New 2'x4' Singlepoint-Mount High Bay w/ (6) F54T5HO Lamps & (3) 2/54 T5 Elec. HO Ballasts, Wire Guard, Occupancy Sensor	20	351	810	Ceiling	7020	1190	14040	8354	104	2080	810	9,846	5686	\$2,236.67	\$7,800	\$2,080	\$7,845	\$100	\$35	\$2,035
54	0	WEIGHT ROOM	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	4	58	232	2000	464	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	4	42			168	2000	336	336	16	64	0	128	0	\$18.43	\$156	\$104	\$220	\$10	\$0	\$40
55	GLR	GIRL'S LOCKER ROOM - VESTIBULE	4' Strip Fluorescent w/ (1) F32T8 Lamp & (1) Electronic Ballast	1	32	32	2000	64	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	2000	44	44	10	10	0	20	0	\$2.88	\$31	\$17	\$39	\$10	\$0	\$10
56	GLR	GIRL'S LOCKER ROOM - MAIN AREA	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	6	58	348	2000	696	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	16	96	0	192	0	\$27.65	\$429	\$156	\$525	\$10	\$0	\$60
57	GLR	GIRL'S LOCKER ROOM	Incandescent Fixture w/ (1) 60w Incandescent Lamp	3	60	180	2000	360	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	3	15			45	2000	90	90	45	135	0	270	0	\$38.88	\$20	\$26	\$46	\$0	\$0	\$0
58	GLR-OFC	OFFICE IN GIRL'S LOCKER ROOM	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	2	88	176	2000	352	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	46	92	0	184	0	\$26.50	\$143	\$52	\$165	\$15	\$0	\$30
59	BLR	BOY'S LOCKER ROOM - VESTIBULE	4' Strip Fluorescent w/ (1) F32T8 Lamp & (1) Electronic Ballast	1	32	32	2000	64	0	Relamp & Reballast w/ (1) F28T8 Lamp & (1) 1/32 Elec. Low-Power High Efficiency Ballast	1	22			22	2000	44	44	10	10	0	20	0	\$2.88	\$31	\$17	\$39	\$10	\$0	\$10
60	BLR	BOY'S LOCKER ROOM - MAIN AREA	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	6	58	348	2000	696	31	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	6	42			252	2000	504	504	16	96	0	192	0	\$27.65	\$429	\$156	\$525	\$10	\$0	\$60
61	BLR	BOY'S LOCKER ROOM	Incandescent Fixture w/ (1) 60w Incandescent Lamp	3	60	180	2000	360	0	Incandescent Fixture w/ 15w Screw-In Compact Fluorescent Lamp	3	15			45	2000	90	90	45	135	0	270	0	\$38.88	\$20	\$26	\$46	\$0	\$0	\$0
62	BLR-OFC	OFFICE IN BOY'S LOCKER ROOM	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	2	88	176	2000	352	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	46	92	0	184	0	\$26.50	\$143	\$52	\$165	\$15	\$0	\$30
63	GYM SRG # 2	GYM STORAGE # 2	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	360	63	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	360	45	45	16	48	0	17	0	\$2.49	\$117	\$78	\$165	\$10	\$0	\$30
64	STAGE SRG	STAGE STORAGE # 1	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	5	58	290	360	104	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	5	42			210	360	76	76	16	80	0	29	0	\$4.15	\$195	\$130	\$275	\$10	\$0	\$50
65	STAGE SRG	STAGE STORAGE # 2	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	360	63	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	3	42			126	360	45	45	16	48	0	17	0	\$2.49	\$215	\$78	\$263	\$10	\$0	\$30
66	WRR	WOMEN'S RESTROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	3000	522	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	3	42			126	3000	378	378	16	48	0	144	0	\$20.74	\$215	\$78	\$263	\$10	\$0	\$30
67	JC	CUSTODIAN'S CLOSET	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	360	21	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	1	42			42	360	15	15	16	16	0	6	0	\$0.83	\$39	\$26	\$55	\$10	\$0	\$10
68	MRR	MEN'S RESTROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	3000	348	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	3000	252	252	16	32	0	96	0	\$13.82	\$143	\$52	\$175	\$10	\$0	\$20
69	206	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	18	88	1584	2000	3168	38-48	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	18	42	810	Ceiling	756	1190	1512	900	46	828	810	2,268	612	\$414.82	\$1,612	\$494	\$1,801	\$15	\$35	\$305
70	207	CLASS	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	12	88	1056	2000	2112	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	12	42	810	Ceiling	504	1190	1008	600	46	552	810	1,512	408	\$276.55	\$1,183	\$338	\$1,306	\$15	\$35	\$215
71	209	STORAGE / BAND ROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	4	58	232	360	84	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	4	42			168	360	60	60	16	64	0	23	0	\$3.32	\$286	\$104	\$350	\$10	\$0	\$40
72	209	OFFICE ON STAGE	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	2000	232	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	16	32	0	64	0	\$9.22	\$143	\$52	\$175	\$10	\$0	\$20
73	REC/MECHAN	RECEIVING / MECHANICAL ROOM	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	9	58	522	8760	4573	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	9	42			378	8760	3311	3311	16	144	0	1,261	0	\$181.65	\$351	\$234	\$495	\$10	\$0	\$90
74	WAR	MINI-WAREHOUSE	4' Industrial Hood w/ (2) F32T8 Lamps & (1) Electronic Ballast	3	58	174	3000	522	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast	3	42			126	3000	378	378	16	48	0	144	0	\$20.74	\$117	\$78	\$165	\$10	\$0	\$30
75	WRR-FCY	WOMEN'S RESTROOM	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) (



LIGHTING UPGRADE PROJECT LINE x LINE DETAIL			CUSTOMER: FACILITY:			GREAT MEADOWS SCHOOLS GREAT MEADOWS MIDDLE SCHOOL			BLDG. CODE: GM-MS		FACILITY SQ. FT. 64,500		DATE OF AUDIT: 2/13/2012		
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SPACE DESCRIPTION			EXISTING FIXTURES							REPLACEMENT FIXTURES									ENERGY ANALYSIS						COST ANALYSIS			REBATES		
LINE	PRINT NUMBER	SPACE DESCRIPTION	PRE FIXTURE DESCRIPTION	PRE FIXT. QTY	PRE WATTS / FIXT.	PRE TOTAL WATTS / LINE	DEFAULT ANNUAL HOURS	PRE ANNUAL KWH	PRE AVERAGE FOOT / CANDELS	PROPOSED FIXTURE DESCRIPTION	POST FIXT. QTY	POST WATTS / FIXT.	ANNUAL HOURS SAVED	SENSOR TYPE	POST TOTAL WATTS / LINE	ANNUAL HOURS	POST ANNUAL KWH	POST ANNUAL KWH WITH OCC SENSOR	WATTS SAVED / FIXT.	TOTAL WATTS SAVED / LINE	ANNUAL HOURS SAVED	ANNUAL KWH SAVED FROM FIXT.	ANNUAL KWH SAVED WITH OCC	TOTAL ANNUALS SAVINGS / LINE (INCLUDING SENSORS)	MATERIAL COST PER LINE	TOTAL LABOR COST PER LINE	TOTAL COST AFTER REBATES	REBATE / FIXT.	REBATE / SENSOR	TOTAL REBATE / LINE
							2000									2000								\$0.144						
101	X-HALL	MAIN HALL BETWEEN GYM AND DINNING	New 2'x2' Recessed Troffer w/ (2) FB031T8 Lamps & (1) 2/32 Elec. Normal-Power High Efficiency Ballast	21	58	1218	3000	3654	36-43	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast, 2'x2' Silver Reflector Kit	21	28			588	3000	1764	1764	30	630	0	1,890	0	\$272.16	\$1,092	\$364	\$1,141	\$15	\$0	\$315
102	X-VEST.	MAIN HALL - VETIBULE (DOOR # 13)	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	3000	348	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	3000	252	252	16	32	0	96	0	\$13.82	\$143	\$52	\$175	\$10	\$0	\$20
103	DR	DINNING AREA/CAFFETERIA	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	33	88	2904	2000	5808	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	33	42	400	Ceiling	1386	1600	2772	2218	46	1518	400	3,590	554	\$596.85	\$2,685	\$884	\$3,039	\$15	\$35	\$530
104	KTN	KITCHEN	2'x4' Recessed Troffer w/ (3) F32T8 Lamps & (1) Electronic Ballast	14	88	1232	2000	2464	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	14	42			588	2000	1176	1176	46	644	0	1,288	0	\$185.47	\$1,001	\$364	\$1,155	\$15	\$0	\$210
105	KTN	HOODS	2' Vapor-Tight Wrapw/ (2) FO17T8 Lamps & (1) Electronic Ballast	4	34	136	2000	272	0	Relamp & Reballast w/ (2) F17T8 Lamps & (1) 2/17 Elec. Low-Power High Efficiency Ballast	4	28			112	2000	224	224	6	24	0	48	0	\$6.91	\$125	\$69	\$154	\$10	\$0	\$40
106	KTN-RR	RESTROOM IN KITCHEN	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	360	21	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	360	15	15	16	16	0	6	0	\$0.83	\$72	\$26	\$88	\$10	\$0	\$10
107	KTN	LOCKER ROOM IN KITCHEN	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	360	21	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	360	15	15	16	16	0	6	0	\$0.83	\$72	\$26	\$88	\$10	\$0	\$10
108	KTN	KITCHEN CORRIDOR	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	2000	232	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	2000	168	168	16	32	0	64	0	\$9.22	\$143	\$52	\$175	\$10	\$0	\$20
109	KTN SRG	STORAGE # 1 IN KITCHEN	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	360	21	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	360	15	15	16	16	0	6	0	\$0.83	\$72	\$26	\$88	\$10	\$0	\$10
110	KTN SRG	STORAGE # 2 IN KITCHEN	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	2	58	116	360	42	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	2	42			84	360	30	30	16	32	0	12	0	\$1.66	\$143	\$52	\$175	\$10	\$0	\$20
111	KTN-OFC	OFFICE IN KITCHEN	2'x4' Recessed Troffer w/ (2) F32T8 Lamps & (1) Electronic Ballast	1	58	58	2000	116	0	Relamp & Reballast w/ (2) F28T8 Lamps & (1) 2/32 Elec. Low-Power High Efficiency Ballast, 2'x4' Silver Reflector Kit	1	42			42	2000	84	84	16	16	0	32	0	\$4.61	\$72	\$26	\$88	\$10	\$0	\$10
112	EXT	EXTERNAL LIGHTING	HID Fixture w/ (1) 100W High Pressure Sodium Wallpack	46	130	5980	900	5382	0	New Wall Pack Fixture w/ (1) 70w ICETRON Induction Lamp & Induction Ballast, Universal Voltage	46	70			3220	900	2898	2898	60	2760	0	2,484	0	\$357.70	\$14,950	\$2,392	\$14,122	\$70	\$0	\$3,220
113	EXT	PHOTO-CELL WITH LIGHT	Compact Fluorescent Wall Pack Fixture w/ (2) 13w Compact Fluorescent Lamps & Magnetic Ballast	14	30	420	900	378	0	None	14	30			420	900	378	378	0	0	0	0	0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0
114	EXT	PARKING LIGHTS	HID Pole Mounted Box Fixture w/ (1) 250w High Pressure Sodium	11	295	3245	900	2921	0	New Fixture w/ (1) 165w ICETRON Induction Lamp & Induction Ballast, Universal Voltage	11	165			1815	900	1634	1634	130	1430	0	1,287	0	\$185.33	\$3,861	\$1,144	\$4,235	\$70	\$0	\$770
115	EXT	PARKING LIGHTS	HID Pole Mounted "Shoe Box" Style Fixture w/ (2) 250w High Pressure Sodium	22	590	12980	900	11682	0	New Fixture w/ (2) 165w ICETRON Induction Lamp & Induction Ballast, Universal Voltage	22	330			7260	900	6534	6534	260	5720	0	5,148	0	\$741.31	\$14,300	\$3,432	\$16,192	\$70	\$0	\$1,540
				946		98,981		185,041			946				57,887		110,109	90,298		41,094	27,530	94,743	19,810	\$16,496	\$109,079	\$30,836	\$119,475			\$20,440



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ECM LIST

ECM Measures by Payback

	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*	Total Annual Cost Savings	Measure Life	Gross Implementation Costs			Net Implementation Costs			CO2 Savings	
			kWh	kW	Gallons										Pay Back (Gross)	Rate of Return (IRR) (Gross)	Lifecycle Savings (NPV) (Gross)	Pay Back (Net)	Rate of Return (IRR) (Net)	Lifecycle Savings (NPV) (Net)		
														Yrs	Yrs					Tons		
1.0	Loop Water Pump TOD Optimization	Great Meadows Middle School	20,600	0	0	\$ 600	\$0	\$0	\$ 600	\$ 2,970	\$0	\$ 2,970	\$ 2,970	25	0.2	495%	\$51,117	0.2	495%	\$51,117	7	
2.0	Heat Pump Time of Day Optimization	Great Meadows Middle School	38,900	0	0	\$ 2,180	\$0	\$0	\$ 2,180	\$ 5,600	\$0	\$ 5,600	\$ 5,600	25	0.4	257%	\$95,334	0.4	257%	\$95,334	13	
3.0	SEER Upgrade	Central Elementary	2,180	0	0	\$ 4,020	\$370	\$2,820	\$ 830	\$ 320	\$0	\$ 320	\$ 320	25	12.6	6%	\$1,552	2.6	39%	\$4,742	1	
	SEER Upgrade	Liberty Elementary	16,200	0	0	\$ 38,900	\$2,800	\$34,400	\$ 1,700	\$ 2,350	\$0	\$ 2,350	\$ 2,350	25	16.6	3%	\$2,021	0.7	138%	\$39,221	5	
4.0	UV Time of Day Optimization	Central Elementary	11,300	0	0	\$ 2,120	\$0	\$0	\$ 2,120	\$ 1,640	\$0	\$ 1,640	\$ 1,640	25	1.3	77%	\$26,438	1.3	77%	\$26,438	4	
5.0	Insulate DHW Piping	Central Elementary	0	20	0	\$ 100	\$0	\$0	\$ 100	\$ 60	\$0	\$ 60	\$ 60	25	1.7	60%	\$945	1.7	60%	\$945	0	
	Insulate DHW Piping	Liberty Elementary	0	220	0	\$ 980	\$0	\$0	\$ 980	\$ 650	\$0	\$ 650	\$ 650	25	1.5	66%	\$10,339	1.5	66%	\$10,339	1	
6.0	Steam Trap Survey and Replacement	Central Elementary	0	420	0	\$ 2,900	\$0	\$0	\$ 2,900	\$ 1,210	\$0	\$ 1,210	\$ 1,210	25	2.4	42%	\$18,170	2.4	42%	\$18,170	2	
7.0	Winterize Window A/C's	Central Elementary	0	60	0	\$ 410	\$0	\$0	\$ 410	\$ 170	\$0	\$ 170	\$ 170	25	2.4	41%	\$2,550	2.4	41%	\$2,550	0	
8.0	Vending Machine Power Management	Central Elementary	3,470	0	0	\$ 1,360	\$0	\$0	\$ 1,360	\$ 510	\$0	\$ 510	\$ 510	25	2.7	37%	\$7,521	2.7	37%	\$7,521	1	
	Vending Machine Power Management	Great Meadows Middle School	6,950	0	0	\$ 2,720	\$0	\$0	\$ 2,720	\$ 1,000	\$0	\$ 1,000	\$ 1,000	25	2.7	37%	\$14,693	2.7	37%	\$14,693	2	
	Vending Machine Power Management	Liberty Elementary	3,470	0	0	\$ 1,360	\$0	\$0	\$ 1,360	\$ 500	\$0	\$ 500	\$ 500	25	2.7	37%	\$7,347	2.7	37%	\$7,347	1	
9.0	Repair/Replace Loop Pump VFD	Great Meadows Middle School	21,700	0	0	\$ 10,500	\$0	\$0	\$ 10,500	\$ 3,130	\$0	\$ 3,130	\$ 3,130	25	3.4	30%	\$44,003	3.4	30%	\$44,003	7	
10.0	Lighting Fixture Upgrade	Liberty Elementary	152,000	0	0	\$ 82,200	\$15,200	\$0	\$ 67,000	\$22,100	\$0	\$ 22,100	\$ 22,100	25	3.7	27%	\$470,300	3.0	33%	\$485,500	0	
	Lighting Upgrade	GM Middle School	94,700	0	0	\$ 142,000	\$20,400	\$0	\$ 122,000	\$16,500	\$0	\$ 16,500	\$ 16,500	25	8.6	11%	\$270,500	7.4	13%	\$290,500	0	
	Lighting Upgrade	Central Elementary	73,200	0	0	\$ 62,400	\$9,080	\$0	\$ 53,300	\$12,900	\$0	\$ 12,900	\$ 12,900	25	4.8	20%	\$260,100	4.1	24%	\$269,200	0	
11.0	Computer Monitor Upgrade	Central Elementary	6,170	0	0	\$ 4,380	\$0	\$0	\$ 4,380	\$ 900	\$0	\$ 900	\$ 900	25	4.9	20%	\$11,292	4.9	20%	\$11,292	2	
	Computer Monitor Upgrade	Great Meadows Middle School	13,100	0	0	\$ 9,280	\$0	\$0	\$ 9,280	\$ 1,880	\$0	\$ 1,880	\$ 1,880	25	4.9	20%	\$23,457	4.9	20%	\$23,457	4	
	Computer Monitor Upgrade	Liberty Elementary	6,910	0	0	\$ 4,900	\$0	\$0	\$ 4,900	\$ 1,000	\$0	\$ 1,000	\$ 1,000	25	4.9	20%	\$12,513	4.9	20%	\$12,513	2	
12.0	Cooling Tower Fan VFD	Great Meadows Middle School	9,740	0	0	\$ 7,230	\$0	\$0	\$ 7,230	\$ 1,400	\$0	\$ 1,400	\$ 1,400	25	5.2	19%	\$17,148	5.2	19%	\$17,148	3	
13.0	Water Conservation Measures	Central Elementary	0	20	0	\$ 390	\$0	\$0	\$ 390	\$ 60	\$0	\$ 60	\$ 60	25	6.5	15%	\$655	6.5	15%	\$655	0	
	Water Conservation Measures	Great Meadows Middle School	0	30	0	\$ 520	\$0	\$0	\$ 520	\$ 80	\$0	\$ 80	\$ 80	25	6.5	15%	\$873	6.5	15%	\$873	0	
	Water Conservation Measures	Liberty Elementary	0	30	0	\$ 260	\$0	\$0	\$ 260	\$ 80	\$0	\$ 80	\$ 80	25	3.3	31%	\$1,133	3.3	31%	\$1,133	0	
14.0	Replace Garage Doors	Central Elementary	0	170	0	\$ 2,800	\$0	\$0	\$ 2,800	\$ 480	\$0	\$ 480	\$ 480	25	5.8	17%	\$5,558	5.8	17%	\$5,558	1	
15.0	Computer Power Management	Central Elementary	2,700	0	0	\$ 2,280	\$0	\$0	\$ 2,280	\$ 390	\$0	\$ 390	\$ 390	25	5.8	17%	\$4,511	5.8	17%	\$4,511	1	
	Computer Power Management	Great Meadows Middle School	2,910	0	0	\$ 2,450	\$0	\$0	\$ 2,450	\$ 420	\$0	\$ 420	\$ 420	25	5.8	17%	\$4,864	5.8	17%	\$4,864	1	
	Computer Power Management	Liberty Elementary	1,480	0	0	\$ 1,250	\$0	\$0	\$ 1,250	\$ 210	\$0	\$ 210	\$ 210	25	6.0	16%	\$2,407	6.0	16%	\$2,407	0	
16.0	Premium Efficiency Motors	Great Meadows Middle School	1,010	0	0	\$ 2,640	\$180	\$1,460	\$ 1,000	\$ 150	\$0	\$ 150	\$ 150	25	17.6	3%	-\$28	6.7	14%	\$1,612	0	
17.0	Replace Boilers	Liberty Elementary	0	1,960	0	\$ 192,000	\$0	\$140,000	\$ 52,000	\$ 5,640	\$0	\$ 5,640	\$ 5,640	25	34.0	-2%	-\$93,790	9.2	10%	\$46,210	11	
18.0	Upgrade Window Air Conditioner Unit	Central Elementary	840	0	0	\$ 1,200	\$0	\$0	\$ 1,200	\$ 120	\$0	\$ 120	\$ 120	25	10.0	9%	\$890	10.0	9%	\$890	0	
19.0	Walk-In Controllers	Central Elementary	320	0	0	\$ 680	\$80	\$0	\$ 600	\$ 50	\$0	\$ 50	\$ 50	25	13.6	5%	\$191	12.0	7%	\$271	0	
	Walk-In Controllers	Great Meadows Middle School	630	0	0	\$ 1,370	\$150	\$0	\$ 1,220	\$ 90	\$0	\$ 90	\$ 90	25	15.2	4%	\$197	13.6	5%	\$347	0	
	Walk-In Controllers	Liberty Elementary	630	0	0	\$ 1,370	\$150	\$0	\$ 1,220	\$ 90	\$0	\$ 90	\$ 90	25	15.2	4%	\$197	13.6	5%	\$347	0	
20.0	Weatherstripping Perimeter Doors	Central Elementary	0	10	0	\$ 570	\$0	\$0	\$ 570	\$ 30	\$0	\$ 30	\$ 30	25	19.0	2%	-\$48	19.0	2%	-\$48	0	
21.0	Upgrade Boilers and Convert to HHW	Central Elementary	0	3,910	0	\$ 455,000	\$0	\$197,000	\$ 258,000	\$11,200	\$0	\$ 11,200	\$ 11,200	25	40.6	-3%	-\$259,973	23.0	1%	-\$62,973	23	
	Replace Boilers	Central Elementary	0	1,430	0	\$ 197,000	\$0	\$0	\$ 197,000	\$ 4,100	\$0	\$ 4,100	\$ 4,100	25	48.0	-5%	-\$125,606	48.0	-5%	-\$125,606	8	
			0		0	\$ -	\$0	\$0	\$ -	\$ -	\$0	\$ -	\$ -	25	#DIV/0!	0%	\$0	#DIV/0!	0%	\$0	0	
Totals			TOTALS	491,110	0	6,850	\$1,045,320	\$ 48,410	\$375,680	\$ 621,610	\$95,880	\$0	\$ 95,880	\$ 95,880	25	10.9	0.1	\$624,253	6.5	15%	\$1,047,963	202



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ECM COSTS & CALCULATION

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Water Conservation - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	ULF Toilet	EA	0	220	-	75	-	-
2	ULF Urinal	EA	0	350	-	125	-	-
3	Waterless Urinals	EA	0	500	-	125	-	-
4	Aerators	EA	30	8	240	5	150	390
5	Automatic Faucet w/ IR Sensors	EA	0	280	-	50	-	-
6	Showerheads	EA	0	21	-	10	-	-
Other Estimated Implementation Costs								
TOTAL								\$ 390
SUB-TOTAL								390
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								390
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								390
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								390
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								390
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 390

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Increase Pipe Insulation - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Install Pipe Insulation - Cellular Glass, 1" Wall 1-1/2" Pipe	lf	10	3.07	31	4.04	40	71
2	Install Pipe Insulation - Cellular Glass, 1" Wall 2" Pipe	lf		5.15	-	5.40	-	-
3	Install Pipe Insulation - Cellular Glass, 1" Wall 3" Pipe	lf	-	5.25	-	5.70	-	-
4	Install Pipe Insulation - Cellular Glass, 1" Wall 5" Pipe	lf	-	8.00	-	7.45	-	-
5					-		-	-
Other Estimated Implementation Costs								27
TOTAL								\$ 98
SUB-TOTAL								71
O&P								15%
ASBESTOS ABATEMENT								-
DIRECT COST								82
PAYMENT & PERFORMANCE BOND								0%
SUB-TOTAL								82
CONTINGENCY								20%
ASBESTOS CONTINGENCY								0%
SUB-TOTAL								98
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0%
SUB-TOTAL								98
INTEREST DURING CONSTRUCTION								0%
TOTAL								\$ 98

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Boiler Upgrade - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2,500 MBH Oil Steam Boiler	ea	2	48,000	96,000	10,000	20,000	116,000
2	Demo Existing Boilers	ea	2	0	-	2,776	5,552	5,552
3	Piping Modifications	ls	2	4,000	8,000	6,000	12,000	20,000
Other Estimated Implementation Costs								55,418
TOTAL								\$ 196,970
SUB-TOTAL								141,552
O&P								21,233
ASBESTOS ABATEMENT								-
DIRECT COST								162,785
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								162,785
CONTINGENCY								16,278
ASBESTOS CONTINGENCY								-
SUB-TOTAL								179,063
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								17,906
SUB-TOTAL								196,970
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 196,970
Total SmartStart Rebate								
Avoided Cost								

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Boiler Upgrade and Steam to HHW Conversion - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2,500 MBH Condensing Boiler -Oil	EA	2	46,250	92,500	10,000	20,000	112,500
2	Demo Existing Boilers	EA	2	0	-	2,776	5,552	5,552
3	Boiler Room Piping Modifications	LS	2	4,000	8,000	6,000	12,000	20,000
4	Copper Distribution HWS & HWR Piping (avg 1")	LF	4,250	12.8	54,400	6.2	26,350	80,750
5	New Unit Ventilators	EA	17	3,450	58,650	603	10,251	68,901
6	New HHW Distribution Pumps (2x 10HP)	EA	2	4,250	8,500	460	920	9,420
7	10% Misc	LS	1		-		-	29,712
Other Estimated Implementation Costs								127,956
TOTAL								\$ 454,790
SUB-TOTAL								326,835
O&P								15% 49,025
ASBESTOS ABATEMENT								-
DIRECT COST								375,861
PAYMENT & PERFORMANCE BOND								0% -
SUB-TOTAL								375,861
CONTINGENCY								10% 37,586
ASBESTOS CONTINGENCY								0% -
SUB-TOTAL								413,447
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								10.0% 41,345
SUB-TOTAL								454,791
INTEREST DURING CONSTRUCTION								0% -
TOTAL								\$ 454,791
Total SmartStart Rebate								
Avoided Cost								\$ 196,970

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Winterize Window A/C Units - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Install Insulated Cover	each	5	40.37	202	28.00	140	342
2		each			-		-	-
Other Estimated Implementation Costs								68
TOTAL								\$ 410
SUB-TOTAL								342
O&P								20% 68
ASBESTOS ABATEMENT								-
DIRECT COST								410
PAYMENT & PERFORMANCE BOND								0% -
SUB-TOTAL								410
CONTINGENCY								0% -
ASBESTOS CONTINGENCY								10% -
SUB-TOTAL								410
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0% -
SUB-TOTAL								410
INTEREST DURING CONSTRUCTION								0% -
TOTAL								\$ 410
NJ SmartStart Rebate								\$ -

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Window AC Upgrade - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	New Window AC Units	EA	5	220	1,100	20	100	1,200
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 1,200
SUB-TOTAL								1,200
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								1,200
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								1,200
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								1,200
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								1,200
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 1,200

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Walk-In Power Management - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Walk In Cooler Power Management	EA	1	604	604	80	80	684
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 684
SUB-TOTAL								684
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								684
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								684
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								684
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								684
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 684
NJSS Rebate								\$ 75
TOTAL								\$ 609

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Vending Machine Power Mgmt - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Soda VendMiser	EA	1	179	179	500	500	679
2	Snack VendMiser	EA	1	179	179	500	500	679
3		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 1,358
SUB-TOTAL								1,358
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								1,358
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								1,358
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								1,358
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								1,358
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 1,358

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Door Weatherization - Central								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Door Weatherstripping	Ea	3	\$ 22	\$ 65	\$ 170	\$ 510	\$ 575
	Other Estimated Implementation Costs							-
	TOTAL							\$ 575
	SUB-TOTAL							575
	O&P						0%	-
	ASBESTOS ABATEMENT					SF		-
	DIRECT COST							575
	PAYMENT & PERFORMANCE BOND						0%	-
	SUB-TOTAL							575
	CONTINGENCY						0%	-
	Engineering Fees						0%	-
	Architectural fees for Renovation						0%	-
	ASBESTOS CONTINGENCY						0%	-
	SUB-TOTAL							575
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE						0.0%	-
	SUB-TOTAL							575
	INTEREST DURING CONSTRUCTION						0%	-
	TOTAL							\$ 575

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Replace CRT Monitors with Flat Screens - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	17" Flat Screen Monitors	EA	25	175	4,375	-	-	4,375
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 4,375
SUB-TOTAL								4,375
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								4,375
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								4,375
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								4,375
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								4,375
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 4,375

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Computer Power Management System - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer Programmng	EA	91	25	2,275	-	-	2,275
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 2,275
SUB-TOTAL								2,275
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								2,275
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								2,275
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								2,275
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								2,275
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 2,275

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Steam Trap Maintenance Program - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Survey	BLDG	1	0	0	1694	1694	1,694
2	Replace Steam Trap	EA	1	180	180	38.5	38.5	219
	Other Estimated Implementation Costs							991
	TOTAL							\$ 2,903
	SUB-TOTAL							1,913
	O&P					15%		287
	ASBESTOS ABATEMENT							-
	DIRECT COST							2,199
	PAYMENT & PERFORMANCE BOND					0%		-
	SUB-TOTAL							2,199
	CONTINGENCY					20%		440
	ASBESTOS CONTINGENCY					10%		-
	SUB-TOTAL							2,639
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE					10.0%		264
	SUB-TOTAL							2,903
	INTEREST DURING CONSTRUCTION					0%		-
	TOTAL							\$ 2,903

1. No information was available regarding exact quantity of steam traps throughout the facility
2. Cost/savings are based off an estimated 5 steam traps
3. Cost/savings assume a 10% trap failure rate
4. Steam plant operates 2271 hours per year

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

UV TOD Optimization - Central								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	7 Day Timeclock	UNIT	2	300	600	135	270	870
2	1" Electrical Conduit	LF	100	5	500	4	400	900
4	20% Mics.		-		-		-	354
TOTAL								\$ 2,124
SUB-TOTAL								2,124
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								2,124
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								2,124
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								2,124
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								2,124
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 2,124

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COST ESTIMATE

Garage Door Replacement - Central								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Commercial Garage Door	each	1	2306.25	2,306	129.75	130	2,436
Other Estimated Implementation Costs								365
TOTAL								\$ 2,801
NJ SmartStart Rebate								\$ -

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

SEER Upgrade - Central

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL			LABOR		TOTAL
				PER UNIT	High Eff Inc.	TOTAL	PER UNIT	TOTAL	
1	DX Cooling and Heat Pump (2 ton)	EA	2	830	200	2,060	240	480	2,540
2	Ref. Piping, Etc	LS	2		150	300		-	508
Other Estimated Implementation Costs									975
TOTAL									\$ 4,023
SUB-TOTAL									3,048
O&P									610
ASBESTOS ABATEMENT									-
DIRECT COST									3,658
PAYMENT & PERFORMANCE BOND									-
SUB-TOTAL									3,658
CONTINGENCY									366
ASBESTOS CONTINGENCY									-
SUB-TOTAL									4,023
ASBESTOS DESIGN & AIR MONITORING, TESTING									-
IC FEE									-
SUB-TOTAL									4,023
INTEREST DURING CONSTRUCTION									-
TOTAL									\$ 4,023
Total SmartStart Rebate									\$ 368
Avoided Cost									\$ 2,825

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

SEER Upgrade

Central Elementary

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

\$2.870
\$0.000
\$0.146
\$0.000
NA

	Proposed Standard Condition	Proposed High Eff. System	Savings
Total Tons	4	4	
SEER	8.0	14.3	
Annual Run Hours	1,031	1,031	
Annual Peak Demand Reduction (kW)	0.8	0.5	0.36
Annual kWh	4,949	2,769	2,180
Annual Cost and Savings, \$	\$ 723	\$ 404	\$ 318

1. Cost per kWh and therm prices taken from "# Constants" sheet.
2. Run hours based on bin data and time of day factor.
3. See Sample Calculations below

Tag	Mfg	Model	Tons	Run Hrs	Cooling Load Factor	Standard SEER Btu / Wh	Standard Unit kWh	Hi Eff SEER Btu / Wh	Hi Eff Unit kWh	kWh Saved	\$/kWh	Annual Savings \$\$
ACCU-1	NA	NA	2	1,031	80%	8.0	2,474	14.3	1,384	1,090	\$0.146	\$ 159
ACCU-2	NA	NA	2	1,031	80%	8.0	2,474	14.3	1,384	1,090	\$0.146	\$ 159
Total			4				4,949		2,769	2,180		\$ 318

Factor Study

4.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER

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

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

UV TIMECLOCKS

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Run Hours	6,257	2,086	4,171
Annual Electric Use (kWh)	16,882	5,627	11,255
Annual Cost and Savings, \$	\$ 2,465	\$ 822	\$ 1,643

1. Daily run hours are reduced from 24 hours to 8 hours.
2. Assumed Fans are equipped with Motors of HP listed in calculation table
3. See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
UV-1-31	CLASSROOMS	1/6	0.7	6257	2086	\$ 11,255

Hours of Operation	On	Off	Hrs/Day
Existing	0	24	24
Proposed	8	16	8

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

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Increase insulation on DHW piping

Central Elementary

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

\$2.870
\$0.000
\$0.146
\$0.000
NA

	Existing Condition	Proposed Condition	Savings
Annual Energy Consumption (gals)	28	5	22
Annual Op Cost	\$ 79	\$ 15	\$ 64

1. Assume DHW temperature of 120F
2. Assume average ambient boiler room temperature of 75F.
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure
5. See Sample Calculation Below

		Existing			Proposed			Total	Savings
		Pipe or Tube Size			Pipe or Tube Size				
		2"	1-1/2"	4"	2"	1-1/2"	4"		
Length of Uninsulated DHW Pipe (Ft)		0	10	0	0	10	0	10	
Inches of insulation		0	0	0	1	1	1		
Btu losses, per foot, per hour		46	37		8	7			
Annual Btu losses		0	3,241,200	0	0	613,200	0		
Annual Fuel losses (gals)		0	28	0	0	5	0		22
Annual Operating Cost, \$		\$0	\$79	\$0	\$0	\$15	\$0		\$64
Total Cost and Savings, \$		\$0	\$79	\$0	\$0	\$15	\$0		\$64

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Steam Trap Survey and Replacement

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual steam trap loss, gals	422	0	422
Annual Natural Gas Cost and Savings, \$	\$ 1,211	\$ -	\$ 1,211

Replace Leaking Steam Traps

Number of Steam Traps	5
Failure Rate	10%
Number of Leaking Traps	1
Size of Orifice (inches diameter)	0.253
Steam Flow Reduction Through Orifice (based on condensate flow)	33%
Average Steam Pressure (psig)	6
Latent Heat of Steam at Avg Pressure (Btu/lbm)	953
Annual Steam Plant Operating Hours	2,271
Heating Plant Efficiency	80%
Natural Gas Cost, \$/gal	\$2.87
Steam Loss Through Trap(s) (lbs/hr)	21.52
Annual Steam Loss (lbs)	48,869
Annual Fuel Savings (gals)	422
Annual Fuel Savings	\$1,210.78

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Winterize Window AC Units

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
R-Value of Window A/C Uncovered and Covered	0.9	3.4	
Air Leakage of Window A/C Uncovered and Covered (CFM)	294.1	250.0	44
Annual heating loss, gal	297	238	59
Annual Natural Gas Cost and Savings, \$	\$ 853	\$ 684	\$ 168
Annual Electric Cost and Savings, \$	\$ -	\$ -	\$ -
Annual Cost and Savings, \$	\$ 853	\$ 684	\$ 168

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

VENDING MACHINE POWER MANAGEMENT SYSTEM
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Central Elementary

Price of #2 Fuel Oil, \$/gal	\$2.870
Price of City Water, \$/1000 gallons	\$0.000
Price of Electricity, \$/kWh (blended rate)	\$0.146
Price of the Demand of Electricity, \$/kW/month	\$0.000
Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	44%
Soda Machine Annual Op Cost	\$ 844	\$ 371	473
Run Hours	5,256	5,256	
Soda Annual Energy Consumption (kWh)	5,782	2,544	3,238
Snack Machine Power Consumption	100%	56%	44%
Annual Op Cost	\$ 61	\$ 27	34
Run Hours	5,256	5,256	
Annual Energy Consumption (kWh)	420	185	235
Total Annual Energy Consumption (kWh)	6,202	2,729	3,473
Annual Cost and Savings, \$	\$ 906	\$ 398	\$ 507

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

Utility Unit Costs

Electrical Unit Cost, \$/kwh	\$0.146
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Soda Machine Count	1
Snack Machine Count	1
Annual Run-Time Factor	60%

VendMiser Installation Savings

Soda Machine Power Consumption, kw	1.10	0.616
Annual Savings %	56%	
Electrical Unit Cost, \$ per kilowatt-hour	\$0.146	
Annual Energy Savings	\$473	

VendMiser Installation Savings

Snack Machine Power Consumption, kw	0.08
Annual Savings %	56%
Electrical Unit Cost, \$ per kilowatt-hour	\$0.146
Annual Energy Savings	\$34

Economics Summary

kWh Savings	3,473
Estimated Annual Savings	\$507
Vendmiser Unit Cost	\$179
Total Installation Cost (\$500/unit)	\$1,000
Total Vendmiser Cost (ECM)	\$1,358
Simple Payback, Years	2.68

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Lighting Upgrade

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed Condition	Savings
Total # Fixtures	533	533	-
Total Fixture Watts	60,652	32,028	28,624
Annual Lighting kWh	124,496	51,339	73,158
Additional Sensor Savings	-	15,310	15,310
Annual Operating Cost and Savings, \$	\$ 18,176	\$ 5,260	\$ 12,916

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace CRT Monitors with Flat Screens

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	25	25	
Annual Electric Usage and Savings (kWh)	8,640	2,471	6,170
Annual Cost and Savings, \$	\$ 1,261	\$ 361	\$ 901

1. Estimated 25 workstations in the computer lab
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Usage	CRT	Flat Screen
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$50.46	\$14.43
Savings/year		\$36.03
# computers	25	25
Total kWh/ year	8640	2470.5
Cost/ year	\$1,261.44	\$360.69
Savings/year		\$900.75

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Water Conservation

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Consumption (gals)	54,000	43,200	10,800
Annual Hot Water Consumption (gals)	26,561	21,249	5,312
Annual Fuel Oil Consumption (gal)	107	86	21
Annual Water Cost and Savings (\$)	\$ -	\$ -	\$ -
Annual Fuel Oil Cost and Savings (\$)	\$ 307	\$ 246	\$ 61
Annual Cost and Savings, \$	\$ 307	\$ 246	\$ 61

	Full Time Occupants	Transient Visitors	Total Students
Estimated Male Occupants	124	0	247
Estimated Female Occupants	124	0	
Estimated Toilets	30		
Estimated Urinals	10		
Estimated Lavatory Sinks	30		
Estimated Showers	0		
Estimated Applicable Days (Total Work days assumed)	180		

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace Garage Door

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
R-Value of Door	0.9	3.9	
Annual heating loss, gals	214	47	166
Annual cooling energy loss, kWh			0
Annual Natural Gas Cost and Savings, \$	\$ 613	\$ 135	\$ 478
Annual Electric Cost and Savings, \$	\$ -	\$ -	\$ -
Annual Cost and Savings, \$	\$ 613	\$ 135	\$ 478

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Computer Power Management

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	91	91	
Annual Electric Usage and Savings (kWh)	8,993	6,295	2,698
Annual Cost and Savings, \$	\$ 1,313	\$ 919	\$ 394

1. Estimated 91 workstations throughout the building (Comp Rooms and Classrooms)
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Usage	CRT	Flat Screen
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$50.46	\$14.43
Savings/year		\$36.03
# computers	91	91
Total kWh/ year	31449.6	8992.62
Cost/ year	\$4,591.64	\$1,312.92
Savings/year		\$3,278.72
Existing Elec. Use per PC (kWh)	98.82	
Existing Elec. Use (kWh)	8992.62	\$1,312.92
% Savings	30%	
Proposed Elec. Use (kWh)	6,295	
Savings		
Estimated Savings Per Unit (kWh)	29.6	
Total Usage Savings	2,698	
Cost per Unit (\$/kWh)	\$0.146	
Total Cost Savings	\$394	
Unit Equipment Cost	\$25	
Equipment Cost	\$2,275	
Simple Payback (years)	5.78	

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace Boilers with Higher Efficiency Boilers

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Heating Boiler Fuel Consumption, gal	30,013	28,583	1,429
Heating Boiler Fuel Cost	\$ 86,141	\$ 82,039	\$ 4,102

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

SAVINGS FROM REPLACING WINDOW AC UNITS

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Total Number of Units	5	5	
Number of Inefficient Units	5	5	
Capacity per Unit, Tons	1.50	1.50	
Total Capacity, Tons	7.5	7.5	
Assumed Efficiency, SEER	9.1	10.8	
Total Hours of Normal Operation, hrs	1,147	1,147	
Cooling Load Factor	47%	47%	
Annual Cooling Production, ton-hours	4,043	4,043	
Annual Cooling Load, kBTU	48,518	48,518	
Annual Peak Demand Reduction (kW)	0.8	0.7	0.12
Annual Electrical Consumption, kWh	5,332	4,492	839
Annual Cost and Savings, \$	\$ 778	\$ 656	\$ 123

1. Assume existing systems runs when outside air temperature (OAT) is above 65F during building occupied hours.
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 9.1 SEER.
5. Assume the new units have an efficiency of 10.8 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

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

WALK-IN FREEZER & COOLER EVAPORATOR FAN CONTROL

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Savings
Evaporator Fan Savings (kWh)	222
Compressor Operations Savings (kWh)	95
Annual Peak Demand Reduction (kW)	-
Annual Energy Consumption Savings (kWh)	317
Annual Cost and Savings, \$	\$ 46

1. Run hours based on continuous operation.
2. See Sample Calculation Below
3. No Demand Savings Calculated For This ECO.

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

SAVINGS FROM WEATHERSTRIPPING DOORS

Central Elementary

Price of #2 Fuel Oil, \$/gal	\$2.870
Price of City Water, \$/1000 gallons	\$0.000
Price of Electricity, \$/kWh (blended rate)	\$0.146
Price of the Demand of Electricity, \$/kW/month	\$0.000
Price of Natural Gas, \$/therm	NA

Double Doors

	Existing Condition	Proposed System	Savings
Number of Doors	3	3	
Estimated Infiltration Rate per Door, CFM	39	10	
Annual Cooling Infiltration Hours, OAT > 80F	207	207	
Annual Heating Infiltration Hours, OAT < 65F	1,157	1,157	
Annual Cooling Electrical Consumption, kWh	-	-	0
Annual Heating Load, kBTU	1,623	406	
Annual Heating Oil Consumption, gals	16	4	12
Annual Cost and Savings, \$	\$ 45	\$ 11	34

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 65F for the region.
3. It is assumed that each door has a leakage area of 31.5 square inches (7 linear feet by 0.125 in). Vestibule doors are not included.
4. A 60% load factor was used when calculating the existing leakage rate.
5. Assume all AHUs have an supply air temperature of 55F in the summer and 80F in the winter.
6. The average outside air temperature below 55F is 38.3F.
7. Assume the heating system has an efficiency of 75%
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

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace Boilers with Higher Efficiency Boilers

Central Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.870
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.146
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Heating Boiler Fuel Consumption, gal	30,013	26,098	3,915
Heating Boiler Fuel Cost	\$ 86,141	\$ 74,905	\$ 11,236

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Water Conservation - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	ULF Toilet	EA	0	220	-	75	-	-
2	ULF Urinal	EA	0	350	-	125	-	-
3	Waterless Urinals	EA	0	500	-	125	-	-
4	Aerators	EA	20	8	160	5	100	260
5	Automatic Faucet w/ IR Sensors	EA	0	280	-	50	-	-
6	Showerheads	EA	0	21	-	10	-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 260
SUB-TOTAL								260
O&P								0%
ASBESTOS ABATEMENT								-
DIRECT COST								260
PAYMENT & PERFORMANCE BOND								0%
SUB-TOTAL								260
CONTINGENCY								0%
ASBESTOS CONTINGENCY								0%
SUB-TOTAL								260
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0%
SUB-TOTAL								260
INTEREST DURING CONSTRUCTION								0%
TOTAL								\$ 260

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Increase Pipe Insulation - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Install Pipe Insulation - Cellular Glass, 1" Wall 1-1/2" Pipe	lf	100	3.07	307	4.04	404	711
2	Install Pipe Insulation - Cellular Glass, 1" Wall 2" Pipe	lf		5.15	-	5.40	-	-
3	Install Pipe Insulation - Cellular Glass, 1" Wall 3" Pipe	lf	-	5.25	-	5.70	-	-
4	Install Pipe Insulation - Cellular Glass, 1" Wall 5" Pipe	lf	-	8.00	-	7.45	-	-
5					-		-	-
Other Estimated Implementation Costs								270
TOTAL								\$ 981
SUB-TOTAL								711
O&P								15% 107
ASBESTOS ABATEMENT								-
DIRECT COST								818
PAYMENT & PERFORMANCE BOND								0% -
SUB-TOTAL								818
CONTINGENCY								20% 164
ASBESTOS CONTINGENCY								0% -
SUB-TOTAL								981
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0% -
SUB-TOTAL								981
INTEREST DURING CONSTRUCTION								0% -
TOTAL								\$ 981

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Boiler Upgrade - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	2,500 MBH Condensing Boiler -Oil	ea	2	46,250	92,500	10,000	20,000	112,500
2	Demo Existing Boilers	ea	2	0	-	2,776	5,552	5,552
3	Piping Modifications	ls	2	4,000	8,000	6,000	12,000	20,000
Other Estimated Implementation Costs								54,047
TOTAL								\$ 192,100
SUB-TOTAL								138,052
O&P								15% 20,708
ASBESTOS ABATEMENT								-
DIRECT COST								158,760
PAYMENT & PERFORMANCE BOND								0% -
SUB-TOTAL								158,760
CONTINGENCY								10% 15,876
ASBESTOS CONTINGENCY								0% -
SUB-TOTAL								174,636
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								10.0% 17,464
SUB-TOTAL								192,099
INTEREST DURING CONSTRUCTION								0% -
TOTAL								\$ 192,099
Total SmartStart Rebate								
Avoided Cost								\$ 140,130

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Walk-In Power Management - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Walk In Cooler Power Management	EA	2	604	1,208	80	160	1,368
2		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 1,368
SUB-TOTAL								1,368
O&P								0%
ASBESTOS ABATEMENT								-
DIRECT COST								1,368
PAYMENT & PERFORMANCE BOND								0%
SUB-TOTAL								1,368
CONTINGENCY								0%
ASBESTOS CONTINGENCY								0%
SUB-TOTAL								1,368
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0%
SUB-TOTAL								1,368
INTEREST DURING CONSTRUCTION								0%
TOTAL								\$ 1,368
NJSS Rebate								\$ 150
TOTAL								\$ 1,218

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Vending Machine Power Mgmt - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Soda VendMiser	EA	1	179	179	500	500	679
2	Snack VendMiser	EA	1	179	179	500	500	679
3		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 1,358
SUB-TOTAL								1,358
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								1,358
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								1,358
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								1,358
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								1,358
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 1,358

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Computer Power Management

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer Programmng	EA	50	25	1,250	-	-	1,250
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 1,250
SUB-TOTAL								1,250
O&P								0% -
ASBESTOS ABATEMENT								-
DIRECT COST								1,250
PAYMENT & PERFORMANCE BOND								0% -
SUB-TOTAL								1,250
Computer Power Management								0% -
ASBESTOS CONTINGENCY								0% -
SUB-TOTAL								1,250
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0% -
SUB-TOTAL								1,250
INTEREST DURING CONSTRUCTION								0% -
TOTAL								\$ 1,250

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

Replace CRT Monitors with Flat Screens - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	17" Flat Screen Monitors	EA	28	175	4,900	-	-	4,900
2		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 4,900
SUB-TOTAL								4,900
O&P								0%
ASBESTOS ABATEMENT								-
DIRECT COST								4,900
PAYMENT & PERFORMANCE BOND								0%
SUB-TOTAL								4,900
CONTINGENCY								0%
ASBESTOS CONTINGENCY								0%
SUB-TOTAL								4,900
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0%
SUB-TOTAL								4,900
INTEREST DURING CONSTRUCTION								0%
TOTAL								\$ 4,900

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATE

SEER Upgrade - Liberty

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL			LABOR	
				PER UNIT	High Eff Inc.	TOTAL	PER UNIT	TOTAL
1	DX Cooling and Heat Pump (2 ton)	EA	2	830	200	2,060	240	480
2	DX Cooling and Heat Pump (2.5 ton)	EA	2	865	250	2,230	282	564
3	DX Cooling and Heat Pump (25 ton)	EA	1	14,300	2,500	16,800	2,432	2,432
4	Ref. Piping, Etc	LS	1		150	150		-
Other Estimated Implementation Costs								

TOTAL**SUB-TOTAL**

O&P

20%

ASBESTOS ABATEMENT

DIRECT COST

PAYMENT & PERFORMANCE BOND

0%

SUB-TOTAL

CONTINGENCY

10%

ASBESTOS CONTINGENCY

0%

SUB-TOTAL

ASBESTOS DESIGN & AIR MONITORING, TESTING

IC FEE

0.0%

SUB-TOTAL

INTEREST DURING CONSTRUCTION

0%

TOTAL

Total SmartStart Rebate

Avoided Cost

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

SEER Upgrade

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Proposed Standard Condition	Proposed High Eff. System	Savings
Total Tons	34	34	
SEER	8.0	14.0	
Annual Run Hours	1,031	1,031	
Annual Peak Demand Reduction (kW)	7.0	4.3	2.68
Annual kWh	42,065	25,867	16,197
Annual Cost and Savings, \$	\$ 6,099	\$ 3,751	\$ 2,349

1. Cost per kWh and therm prices taken from "# Constants" sheet.
2. Run hours based on bin data and time of day factor.
3. See Sample Calculations below

Tag	Mfg	Model	Tons	Run Hrs	Cooling Load Factor	Standard SEER Btu / Wh	Standard Unit kWh	Hi Eff SEER Btu / Wh	Hi Eff Unit kWh	kWh Saved	\$/kWh	Annual Savings \$\$
ACCU-1	Trane	BTD730A	2.5	1,031	80%	8.0	3,093	14.3	1,730	1,363	\$0.145	\$ 198
ACCU-2	Trane	BTD730A	2.5	1,031	80%	8.0	3,093	14.3	1,730	1,363	\$0.145	\$ 198
Total			34				42,065		25,867	16,197		\$ 2,349

Factor Study

- 4.. ASHRAE 90.1-1989 Referenced for baseline SEER/EER
5. Proposed SEER/EER Ratings taken from Lennox Strategos Series

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Increase insulation on DHW piping

Liberty Elementary

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

\$2.882
\$0.000
\$0.145
\$0.000
NA

	Existing Condition	Proposed Condition	Savings
Annual Energy Consumption (gals)	276	52	224
Annual Op Cost	\$ 796	\$ 151	\$ 646

1. Assume DHW temperature of 120F
2. Assume average ambient boiler room temperature of 75F.
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

		Existing			Proposed			Total	Savings
		Pipe or Tube Size			Pipe or Tube Size				
		2"	1-1/2"	4"	2"	1-1/2"	4"		
Length of Uninsulated DHW Pipe (Ft)		0	100	0	0	100	0	100	
Inches of insulation		0	0	0	1	1	1		
Btu losses, per foot, per hour		46	37		8	7			
Annual Btu losses		0	32,412,000	0	0	6,132,000	0		
Annual Fuel losses (gals)		0	276	0	0	52	0		224
Annual Operating Cost, \$		\$0	\$796	\$0	\$0	\$151	\$0		\$646
Total Cost and Savings, \$		\$0	\$796	\$0	\$0	\$151	\$0		\$646

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

VENDING MACHINE POWER MANAGEMENT SYSTEM
--

Liberty Elementary

Price of #2 Fuel Oil, \$/gal	\$2.882
Price of City Water, \$/1000 gallons	\$0.000
Price of Electricity, \$/kWh (blended rate)	\$0.145
Price of the Demand of Electricity, \$/kW/month	\$0.000
Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	44%
Soda Machine Annual Op Cost	\$ 838	\$ 369	469
Run Hours	5,256	5,256	
Soda Annual Energy Consumption (kWh)	5,782	2,544	3,238
Snack Machine Power Consumption	100%	56%	44%
Annual Op Cost	\$ 61	\$ 27	34
Run Hours	5,256	5,256	
Annual Energy Consumption (kWh)	420	185	235
Total Annual Energy Consumption (kWh)	6,202	2,729	3,473
Annual Cost and Savings, \$	\$ 899	\$ 396	\$ 504

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

Utility Unit Costs

Electrical Unit Cost, \$/kwh

\$0.145

Soda Machine Count

1

Snack Machine Count

1

Annual Run-Time Factor

60%

VendMiser Installation Savings

Soda Machine Power Consumption, kw

1.10

0.616

Annual Savings %

56%

Electrical Unit Cost, \$ per kilowatt-hour

\$0.145

Annual Energy Savings

\$469

VendMiser Installation Savings

Snack Machine Power Consumption, kw

0.08

Annual Savings %

56%

Electrical Unit Cost, \$ per kilowatt-hour

\$0.145

Annual Energy Savings

\$34

Economics Summary

kWh Savings

3,473

Estimated Annual Savings

\$504

Vendmiser Unit Cost

\$179

Total Installation Cost (\$500/unit)

\$1,000

Total Vendmiser Cost (ECM)

\$1,358

Simple Payback, Years

2.70

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Lighting Upgrade

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed Condition	Savings
Total # Fixtures	668	668	-
Total Fixture Watts	93,412	37,676	55,736
Annual Lighting kWh	189,624	57,754	131,870
Additional Sensor Savings	-	20,304	20,304
Annual Operating Cost and Savings, \$	\$ 27,495	\$ 5,430	\$ 22,065

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace CRT Monitors with Flat Screens

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	28	28	
Annual Electric Usage and Savings (kWh)	9,677	2,767	6,910
Annual Cost and Savings, \$	\$ 1,403	\$ 401	\$ 1,002

1. Estimated 28 workstations in the computer lab
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

<u>Usage</u>	<u>CRT</u>	<u>Flat Screen</u>
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$50.11	\$14.33
Savings/year		\$35.78
# computers	28	28
Total kWh/ year	9676.8	2766.96
Cost/ year	\$1,403.14	\$401.21
Savings/year		\$1,001.93

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Water Conservation

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Consumption (gals)	66,600	54,000	12,600
Annual Hot Water Consumption (gals)	33,629	26,904	6,726
Annual Fuel Oil Consumption (gal)	136	108	27
Annual Water Cost and Savings (\$)	\$ -	\$ -	\$ -
Annual Fuel Oil Cost and Savings (\$)	\$ 391	\$ 313	\$ 78
Annual Cost and Savings, \$	\$ 391	\$ 313	\$ 78

	Full Time Occupants	Transient Visitors	Total Students
Estimated Male Occupants	157	0	313
Estimated Female Occupants	157	0	
Estimated Toilets	20		
Estimated Urinals	7		
Estimated Lavatory Sinks	20		
Estimated Showers	0		
Estimated Applicable Days (Total Work days assumed)	180		

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Computer Power Management

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	50	50	
Annual Electric Usage and Savings (kWh)	4,941	3,459	1,482
Annual Cost and Savings, \$	\$ 716	\$ 502	\$ 215

1. Estimated 50 workstations throughout the building (Comp Rooms and Classrooms)
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Usage	CRT	Flat Screen
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$50.11	\$14.33
Savings/year		\$35.78
# computers	50	50
Total kWh/ year	17280	4941
Cost/ year	\$2,505.60	\$716.45
Savings/year		\$1,789.16
Existing Elec. Use per PC (kWh)	98.82	
Existing Elec. Use (kWh)	4941	\$716.45
% Savings	30%	
Proposed Elec. Use (kWh)	3,459	
Savings		
Estimated Savings Per Unit (kWh)	29.6	
Total Usage Savings	1,482	
Cost per Unit (\$/kWh)	\$0.145	
Total Cost Savings	\$215	
Unit Equipment Cost	\$25	
Equipment Cost	\$1,250	
Simple Payback (years)	5.82	

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace Boilers with Higher Efficiency Boilers

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Heating Boiler Fuel Consumption, gal	15,014	13,056	1,958
Heating Boiler Fuel Cost	\$ 43,274	\$ 37,629	\$ 5,644

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

WALK-IN FREEZER & COOLER EVAPORATOR FAN CONTROL

Liberty Elementary

1. Price of #2 Fuel Oil, \$/gal	\$2.882
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.145
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Savings
Evaporator Fan Savings (kWh)	444
Compressor Operations Savings (kWh)	190
Annual Peak Demand Reduction (kW)	-
Annual Energy Consumption Savings (kWh)	634
Annual Cost and Savings, \$	\$ 92

1. Run hours based on continuous operation.
2. See Sample Calculation Below
3. No Demand Savings Calculated For This ECO.

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Water Conservation - GMMS

N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	ULF Toilet	EA	0	220	-	75	-	-
2	ULF Urinal	EA	0	350	-	125	-	-
3	Waterless Urinals	EA	0	500	-	125	-	-
4	Aerators	EA	40	8	320	5	200	520
5	Automatic Faucet w/ IR Sensors	EA	0	280	-	50	-	-
6	Showerheads	EA	0	21	-	10	-	-
Other Estimated Implementation Costs								
TOTAL								\$ 520
SUB-TOTAL								520
O&P								0%
ASBESTOS ABATEMENT								-
DIRECT COST								520
PAYMENT & PERFORMANCE BOND								0%
SUB-TOTAL								520
CONTINGENCY								0%
ASBESTOS CONTINGENCY								0%
SUB-TOTAL								520
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								0.0%
SUB-TOTAL								520
INTEREST DURING CONSTRUCTION								0%
TOTAL								\$ 520

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Walk-In Power Management - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Walk In Cooler Power Management	EA	2	604	1,208	80	160	1,368
2		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 1,368
SUB-TOTAL								1,368
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								1,368
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								1,368
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								1,368
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								1,368
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 1,368

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Vending Machine Power Mgmt - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Soda VendMiser	EA	2	179	358	500	1,000	1,358
2	Snack VendMiser	EA	2	179	358	500	1,000	1,358
3		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 2,716
SUB-TOTAL								2,716
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								2,716
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								2,716
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								2,716
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								2,716
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 2,716
NJSS Rebate								\$ 150
TOTAL								\$ 2,566

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Replace CRT Monitors with Flat Screens - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	17" Flat Screen Monitors	EA	53	175	9,275	-	-	9,275
2		EA			-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 9,275
SUB-TOTAL								9,275
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								9,275
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								9,275
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								9,275
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								9,275
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 9,275

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Replace Loop Water VFD - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VFD, 40 Hp	EA	1	4,879	4,879	1,350	1,350	6,229
2	Commissioning VFD	HR	8	-	-	200	1,600	1,600
2	BMS Programming	HR	8	-	-	120	960	960
Other Estimated Implementation Costs								1,758
TOTAL								\$ 10,547
SUB-TOTAL								8,789
O&P								1,758
ASBESTOS ABATEMENT								-
DIRECT COST								10,547
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								10,547
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								10,547
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								10,547
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 10,547

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Install VFDs on Cooling Tower Fans - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	VFD, 7.5 Hp	EA	2	1,875	3,750	670	1,340	5,090
2	Electrical, #10 wiring	Ft	60	2	107	2	118	225
3	Electrical, conduit galvanized metal 1"	Ft	60	3	172	4	238	409
4	Commissioning, vavles & VFD	LS	2		-	150	300	300
Other Estimated Implementation Costs								1,205
TOTAL								\$ 7,229
SUB-TOTAL								6,024
O&P								1,205
ASBESTOS ABATEMENT								-
DIRECT COST								7,229
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								7,229
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								7,229
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								7,229
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 7,229
NJSS Rebate								
TOTAL								\$ 7,229

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Premium Efficiency Motor Upgrade -GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	10 HP Premium Efficiency Motor	EA	2	984	1,968	115	230	2,198
	Other Estimated Implementation Costs							440
	TOTAL							\$ 2,638
	SUB-TOTAL							2,198
	O&P					20%		440
	ASBESTOS ABATEMENT							-
	DIRECT COST							2,638
	PAYMENT & PERFORMANCE BOND					0%		-
	SUB-TOTAL							2,638
	CONTINGENCY					0%		-
	ASBESTOS CONTINGENCY					0%		-
	SUB-TOTAL							2,638
	ASBESTOS DESIGN & AIR MONITORING, TESTING							-
	IC FEE					0.0%		-
	SUB-TOTAL							2,638
	INTEREST DURING CONSTRUCTION					0%		-
	TOTAL							\$ 2,638
						NJSS Rebate	\$	180
						TOTAL	\$	2,458

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Pump TOD - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming	HR	4	0	-	150	600	600
2					-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 600
SUB-TOTAL								600
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								600
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								600
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								600
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								600
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 600

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Heat Pump TOD Scheduling - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Programming	Ea	29	0	-	75	2,175	2,175
2					-		-	-
Other Estimated Implementation Costs								
TOTAL								\$ 2,175
SUB-TOTAL								2,175
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								2,175
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								2,175
CONTINGENCY								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								2,175
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								2,175
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 2,175

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

COST ESTIMATES

Computer Power Management - GMMS								
N/N	DESCRIPTION OF WORK	UNIT	QTY	MATERIAL		LABOR		TOTAL
				PER UNIT	TOTAL	PER UNIT	TOTAL	
1	Computer Programming	EA	98	25	2,450	-	-	2,450
2		EA			-		-	-
Other Estimated Implementation Costs								-
TOTAL								\$ 2,450
SUB-TOTAL								2,450
O&P								-
ASBESTOS ABATEMENT								-
DIRECT COST								2,450
PAYMENT & PERFORMANCE BOND								-
SUB-TOTAL								2,450
Computer Power Management								-
ASBESTOS CONTINGENCY								-
SUB-TOTAL								2,450
ASBESTOS DESIGN & AIR MONITORING, TESTING								-
IC FEE								-
SUB-TOTAL								2,450
INTEREST DURING CONSTRUCTION								-
TOTAL								\$ 2,450

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

HP SCHEDULES

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Average Annual Run Hours	3,965	2,600	1,365
Annual Electric Use (kWh)	202,244	163,363	38,882
Annual Cost and Savings, \$	\$ 29,123	\$ 23,524	\$ 5,599

- Daily run hours are reduced from typically 15 hours to 10 hours.
- Assumed Fans are equipped with Motors of HP listed in calculation table
- See Sample Calculations Below

Unit	Area Served	CFM	Load Factor	Existing TOD Factor	Proposed TOD Factor	Estimated Savings
HP-1	B Hall	1/6	0.7	3965	2600	\$ 119
HP-2	C Hall	1/6	0.7	3965	2600	\$ 119
Hours of Operation	On	Off	Hrs/Day			
Existing	7.25	22.25	15			
Proposed	7	17	10			

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

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Loop Water Pump TOD Optimization

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Steam, \$/mlbs	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Run Hours	3,120	2,340	780
Annual Electric Use (kWh)	82,573	61,930	20,643
Annual Cost and Savings, \$	\$ 11,890	\$ 8,918	\$ 2,973

						ESTIMATED RUN TIME		LOAD FACTOR (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		Peak Demand Reduction	
TAG	LOCATION	SERVICES	HP	RPM	EFF (%)	EXIST. HRS	PROP. HRS	EXISTING	PROPOSED	EXISTING	PROPOSED	kWh	\$	kW	
P-1	MER	Loop Pumps	40	1,750	90.2%	1,560	1,170	100.0%	100.0%	41,286	30,965	10,322	\$ 1,486	4.6	
P-2	MER	Loop Pumps	40	1,750	90.2%	1,560	1,170	100.0%	100.0%	41,286	30,965	10,322	\$ 1,486	4.6	
												TOTAL	20,643	\$ 2,973	9.3

1. Daily run hours are reduced from typically hours to hours.
2. Assumed Fans are equipped with Motors of HP listed in calculation table
3. See Sample Calculations Below

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Repair/Replace Loop Pump VFD

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Steam, \$/mlbs	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Electric Use (kWh)	61,930	40,224	21,705
Annual Cost and Savings, \$	\$ 8,918	\$ 5,792	\$ 3,126

						ESTIMATED RUN TIME		LOAD FACTOR (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		Peak Demand Reduction
TAG	LOCATION	SERVICES	HP	RPM	EFF (%)	EXIST. HRS	PROP. HRS	EXISTING	PROPOSED	EXISTING	PROPOSED	kWh	\$	kW
P-1	MER	Loop Pumps	40	1,750	90.2%	1,170	1,170	100.0%	75.0%	30,965	20,112	10,853	\$1,563	6.5
P-2	MER	Loop Pumps	40	1,750	90.2%	1,170	1,170	100.0%	75.0%	30,965	20,112	10,853	\$1,563	6.5
											TOTAL	21,705	\$3,126	13.0

CALCULATIONS

VENDING MACHINE POWER MANAGEMENT SYSTEM

GM Middle School

Price of #2 Fuel Oil, \$/gal	\$2.788
Price of City Water, \$/1000 gallons	\$0.000
Price of Electricity, \$/kWh (blended rate)	\$0.144
Price of the Demand of Electricity, \$/kW/month	\$0.000
Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Soda Machine Power Consumption	100%	56%	44%
Soda Machine Annual Op Cost	\$ 1,665	\$ 733	932
Run Hours	5,256	5,256	
Soda Annual Energy Consumption (kWh)	11,563	5,088	6,475
Snack Machine Power Consumption	100%	56%	44%
Annual Op Cost	\$ 121	\$ 53	68
Run Hours	5,256	5,256	
Annual Energy Consumption (kWh)	841	370	471
Total Annual Energy Consumption (kWh)	12,404	5,458	6,946
Annual Cost and Savings, \$	\$ 1,786	\$ 786	\$ 1,000

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

Utility Unit Costs

Electrical Unit Cost, \$/kwh	\$0.144
------------------------------	---------

Soda Machine Count	2
Snack Machine Count	2
Annual Run-Time Factor	60%

VendMiser Installation Savings

Soda Machine Power Consumption, kw	1.10	0.616
Annual Savings %	56%	
Electrical Unit Cost, \$ per kilowatt-hour	\$0.144	
Annual Energy Savings	\$932	

VendMiser Installation Savings

Snack Machine Power Consumption, kw	0.08
Annual Savings %	56%
Electrical Unit Cost, \$ per kilowatt-hour	\$0.144
Annual Energy Savings	\$68

Economics Summary

kWh Savings	6,946
Estimated Annual Savings	\$1,000
Vendmiser Unit Cost	\$179
Total Installation Cost (\$500/unit)	\$2,000
Total Vendmiser Cost (ECM)	\$2,716
Simple Payback, Years	2.72

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Lighting Upgrade

GM Middle School

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

\$2.788
\$0.000
\$0.144
\$0.000
NA

	Existing Condition	Proposed Condition	Savings
Total # Fixtures	946	946	-
Total Fixture Watts	98,981	57,887	41,094
Annual Lighting kWh	185,041	90,298	94,743
Additional Sensor Savings	-	19,810	19,810
Annual Operating Cost and Savings, \$	\$ 26,646	\$ 10,150	\$ 16,496

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Replace CRT Monitors with Flat Screens

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	53	53	
Annual Electric Usage and Savings (kWh)	18,317	5,237	13,079
Annual Cost and Savings, \$	\$ 2,638	\$ 754	\$ 1,883

1. Estimated 53 workstations in the computer lab
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Usage	CRT	Flat Screen
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$49.77	\$14.23
Savings/year		\$35.54
# computers	53	53
Total kWh/ year	18316.8	5237.46
Cost/ year	\$2,637.62	\$754.19
Savings/year		\$1,883.42

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Water Conservation

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Consumption (gals)	66,600	54,000	12,600
Annual Hot Water Consumption (gals)	33,415	26,732	6,683
Annual Fuel Oil Consumption (gal)	135	108	27
Annual Water Cost and Savings (\$)	\$ -	\$ -	\$ -
Annual Fuel Oil Cost and Savings (\$)	\$ 376	\$ 301	\$ 75
Annual Cost and Savings, \$	\$ 376	\$ 301	\$ 75

	Full Time Occupants	Transient Visitors	Total Students
Estimated Male Occupants	156	0	312
Estimated Female Occupants	156	0	
Estimated Toilets	40		
Estimated Urinals	13		
Estimated Lavatory Sinks	40		
Estimated Showers	0		
Estimated Applicable Days (Total Work days assumed)	180		

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

Computer Power Management	
GM Middle School	
1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Number of WS/PCs	98	98	
Annual Electric Usage and Savings (kWh)	9,684	6,779	2,905
Annual Cost and Savings, \$	\$ 1,395	\$ 976	\$ 418

1. Estimated 98 workstations throughout the building (Comp Rooms and Classrooms)
2. Estimated 30% savings per workstation / PC
3. There is no demand reduction for this measure
4. No rebates or other financial incentives were available for this measure

Usage	CRT	Flat Screen
Hours awake/day	10	10
Days per year	180	180
Awake kWh consumption	270	90
Hours asleep/day	14	14
Days per year	180	180
Asleep kWh consumption	75.6	8.82
Total kWh/ year	345.6	98.82
Cost/ year	\$49.77	\$14.23
Savings/year		\$35.54
# computers	98	98
Total kWh/ year	33868.8	9684.36
Cost/ year	\$4,877.11	\$1,394.55
Savings/year		\$3,482.56
Existing Elec. Use per PC (kWh)	98.82	
Existing Elec. Use (kWh)	9684.36	\$1,394.55
% Savings	30%	
Proposed Elec. Use (kWh)	6,779	
Savings		
Estimated Savings Per Unit (kWh)	29.6	
Total Usage Savings	2,905	
Cost per Unit (\$/kWh)	\$0.144	
Total Cost Savings	\$418	
Unit Equipment Cost	\$25	
Equipment Cost	\$2,450	
Simple Payback (years)	5.86	

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

WALK-IN FREEZER & COOLER EVAPORATOR FAN CONTROL

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Demand of Electricity, \$/kW/month	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Savings
Evaporator Fan Savings (kWh)	444
Compressor Operations Savings (kWh)	190
Annual Peak Demand Reduction (kW)	-
Annual Energy Consumption Savings (kWh)	634
Annual Cost and Savings, \$	\$ 91

1. Run hours based on continuous operation.
2. See Sample Calculation Below
3. No Demand Savings Calculated For This ECO.

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

SAVINGS FROM PREMIUM EFFICIENCY MOTORS

GM Middle School

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

\$2.788
\$0.000
\$0.144
\$0.000
NA

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	EXISTING	PROPOSED	EXISTING	PROPOSED	kWh	\$	\$	kW
CT-1	COOLING MER	COOLING TOWER	10	1,800	2,135	50%	85.5%	91.7%	7,451	6,947	504	\$ 73	\$ 90	0.2
CT-2	COOLING MER	COOLING TOWER	10	1,800	2,135	50%	85.5%	91.7%	7,451	6,947	504	\$ 73	\$ 90	0.2
TOTAL											1,008	\$ 145	\$ 180	0.3

1. Existing equipment data listed in italics were estimated due to unavailable information.
2. The Load Factor takes into consideration multiple pump operation
3. Only the major motors were sampled for this calculations.
4. Run hours base on combined summer and winter bin hours
5. Coincidence Factor for peak kW reduction taken from United Illuminated Company: 2005 Coincidence Factor Study
6. Load factors are estimated

CALCULATIONS

Cooling Tower Fan VFD

GM Middle School

1. Price of #2 Fuel Oil, \$/gal	\$2.788
2. Price of City Water, \$/1000 gallons	\$0.000
3. Price of Electricity, \$/kWh (blended rate)	\$0.144
4. Price of the Steam, \$/mlbs	\$0.000
5. Price of Natural Gas, \$/therm	NA

	Existing Condition	Proposed System	Savings
Annual Electric Use (kWh)	13,895	9,025	4,870
Annual Cost and Savings, \$	\$ 2,001	\$ 1,300	\$ 701

						ESTIMATED RUN TIME		LOAD FACTOR (%)		ELECTRIC CONSUMPTION (kWh)		SAVINGS		Peak Demand Reduction
TAG	LOCATION	SERVICES	HP	RPM	EFF (%)	EXIST. HRS	PROP. HRS	EXISTING	PROPOSED	EXISTING	PROPOSED	kWh	\$	kW
CT-1	COOLING MER	COOLING TOWER	10	1,800	91.7%	2,135	2,135	100.0%	75.0%	13,895	9,025	4,870	\$ 701	1.6
CT-2	COOLING MER	COOLING TOWER	10	1,800	91.7%	2,135	2,135	100.0%	75.0%	13,895	9,025	4,870	\$ 701	1.6
											TOTAL	9,740	\$1,403	3.2



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RENEWABLES CALCULATIONS

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

PV System Summary for Central Elementary	
System Capacity, kW-dc (maximum utilization of roof space)	93 kW dc
Annual Electric Generation, kWh of AC electricity produced	98,010 kWh
Total Annual Facility Electric Use, kWh	278,400 kWh
% of Total Annual Usage	35%
All-In Cost of Electric Year 1	\$0.146 / kWh
Annual Electric Cost Savings	\$14,310
Estimated SREC Value (Year 1):	\$200 / SREC
Estimated Year 1 SREC Revenue:	\$19,595
System Installed Cost	\$511,440
Simple Payback	23.9
IRR (25 Years)	0%
Equivalent Annual CO2 Emission Reduction (tons per year) ¹	32 tons/yr
Equivalent Cars Removed From Road Annually ²	6
Equivalent Acres of Trees Planted Annually ³	9

1. Estimated CO2 Emissions Rate: 0.66 lbs/kWh

2. EPA Estimate: 11,560 lbs CO2 per car

3. EPA Estimate: 7,333 lbs CO2 per acre of trees planted

emission factor (lbs/kWh)

0.661

Site Energy Use, kWh

278,400

roof

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

PV System Summary for Liberty Elementary	
System Capacity, kW-dc (maximum utilization of roof space)	130 kW dc
Annual Electric Generation, kWh of AC electricity produced	136,737 kWh
Total Annual Facility Electric Use, kWh	396,035 kWh
% of Total Annual Usage	35%
All-In Cost of Electric Year 1	\$0.145 / kWh
Annual Electric Cost Savings	\$19,827
Estimated SREC Value (Year 1):	\$200 / SREC
Estimated Year 1 SREC Revenue:	\$27,338
System Installed Cost	\$713,523
Simple Payback	24.1
IRR (25 Years)	0%
Equivalent Annual CO2 Emission Reduction (tons per year) ¹	45 tons/yr
Equivalent Cars Removed From Road Annually ²	8
Equivalent Acres of Trees Planted Annually ³	12

1. Estimated CO2 Emissions Rate: 0.66 lbs/kWh

2. EPA Estimate: 11,560 lbs CO2 per car

3. EPA Estimate: 7,333 lbs CO2 per acre of trees planted

emission factor (lbs/kWh)

0.661

Site Energy Use, kWh

396,035

roof

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

PV System Summary for GM Middle School	
System Capacity, kW-dc (maximum utilization of roof space)	197 kW dc
Annual Electric Generation, kWh of AC electricity produced	207,996 kWh
Total Annual Facility Electric Use, kWh	458,720 kWh
% of Total Annual Usage	45%
All-In Cost of Electric Year 1	\$0.144 / kWh
Annual Electric Cost Savings	\$29,951
Estimated SREC Value (Year 1):	\$200 / SREC
Estimated Year 1 SREC Revenue:	\$41,585
System Installed Cost	\$1,085,370
Simple Payback	24.2
IRR (25 Years)	0%
Equivalent Annual CO2 Emission Reduction (tons per year) ¹	69 tons/yr
Equivalent Cars Removed From Road Annually ²	12
Equivalent Acres of Trees Planted Annually ³	19

1. Estimated CO2 Emissions Rate: 0.66 lbs/kWh

2. EPA Estimate: 11,560 lbs CO2 per car

3. EPA Estimate: 7,333 lbs CO2 per acre of trees planted

emission factor (lbs/kWh)

0.661

Site Energy Use, kWh

458,720

roof

PV System Summary for the Great Meadows School District

	Central	Liberty	Middle	TOTAL
System Capacity, kW-dc (maximum utilization of roof space)	93 kW dc	130 kW dc	197 kW dc	420 kW dc
Annual Electric Generation, kWh of AC electricity produced	98,010 kWh	136,737 kWh	207,996 kWh	442,744 kWh
Total Annual Facility Electric Use, kWh	278,400 kWh	396,035 kWh	458,720 kWh	1,133,155 kWh
% of Total Annual Usage	35%	35%	45%	39%
All-In Cost of Electric Year 1	\$0.146 / kWh	\$0.145 / kWh	\$0.144 / kWh	\$0.145 / kWh
Annual Electric Cost Savings	\$14,310	\$19,827	\$29,951	\$64,198
Estimated SREC Value (Year 1):	\$200 / SREC	\$200 / SREC	\$200 / SREC	\$200 / SREC
Estimated Year 1 SREC Revenue:	\$19,595	\$27,338	\$41,585	\$88,518
System Installed Cost	\$511,440	\$713,523	\$1,085,370	\$2,310,333
Simple Payback	23.9	24.1	24.2	24.1
IRR (25 Years)	0%	0%	0%	0%
Equivalent Annual CO2 Emission Reduction (tons per year) ¹	32 tons/yr	45 tons/yr	69 tons/yr	146 tons/yr
Equivalent Cars Removed From Road Annually ²	6	8	12	25
Equivalent Acres of Trees Planted Annually ³	9	12	19	40

1. Estimated CO2 Emissions Rate: 0.66 lbs/kWh

2. EPA Estimate: 11,560 lbs CO2 per car

3. EPA Estimate: 7,333 lbs CO2 per acre of trees planted

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

<u>Central Elementary: Wind Turbine Economics</u>			
	Building Integrated	Ground Mount 5 kW	Ground Mount 50 kW
Gross Installation Cost Estimate	\$325,000	\$312,000	\$250,000
Annual Energy Savings	\$5,418	\$8,551	\$16,129
Simple Payback	60.0 yrs.	36.5 yrs.	15.5 yrs.
System Capacity	20 kW	52 kW	50 kW
Annual Avoided Energy Use	37,108 kWh	58,567 kWh	110,472 kWh
Annual Avoided CO2 Emissions, Tons	13	20	39
% of Annual Electric Use*	13.3%	21.0%	39.7%
*Central Elementary: 278400 kWh/Year.			

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

<u>Liberty Elementary: Wind Turbine Economics</u>			
	Building Integrated	Ground Mount 5 kW	Ground Mount 50 kW
Gross Installation Cost Estimate	\$325,000	\$312,000	\$250,000
Annual Energy Savings	\$5,381	\$8,492	\$16,018
Simple Payback	60.4 yrs.	36.7 yrs.	15.6 yrs.
System Capacity	20 kW	52 kW	50 kW
Annual Avoided Energy Use	37,108 kWh	58,567 kWh	110,472 kWh
Annual Avoided CO2 Emissions, Tons	13	20	39
% of Annual Electric Use*	9.4%	14.8%	27.9%
*Liberty Elementary: 396035 kWh/Year.			

GREAT MEADOWS REGIONAL SCHOOL DISTRICT

CALCULATIONS

GM Middle School: Wind Turbine Economics			
	Building Integrated	Ground Mount 5 kW	Ground Mount 50 kW
Gross Installation Cost Estimate	\$325,000	\$312,000	\$250,000
Annual Energy Savings	\$5,344	\$8,434	\$15,908
Simple Payback	60.8 yrs.	37.0 yrs.	15.7 yrs.
System Capacity	20 kW	52 kW	50 kW
Annual Avoided Energy Use	37,108 kWh	58,567 kWh	110,472 kWh
Annual Avoided CO2 Emissions, Tons	13	20	39
% of Annual Electric Use*	8.1%	12.8%	24.1%
*GM Middle School: 458720 kWh/Year.			