



# Utility Management Report Full-Year Audit July 2014 – June 2015



# Summary of Utility Cost and Usage

Base Year Fiscal Year (2005-2006 )	Fiscal Year 2010 -2011	Fiscal Year 2011-2012	Fiscal Year 2012-2013	Fiscal Year 2013-2014	Fiscal Year 2014-2015
<b>Total Utility Cost \$6,957,534</b>	\$6,993,558	\$7,114,894	\$6,806,387	\$7,282,720	\$7,440,670
<b>Total Energy Mmbtu (Gas &amp; Elect) 213,131</b>	237,958	235,792	235,623	253,248	239,547
<b>Total District SqFt 3,553,417</b>	4,648,225	4,660,667	4,761,856	4,943,330	5,032,004
<b>Total Cost/SqFt \$1.96</b>	<b>\$1.50</b>	<b>\$1.53</b>	<b>\$1.43</b>	<b>\$1.46</b>	<b>\$1.48</b>
<b>Energy Use Index kBtu/SF (Gas &amp; Elect) 60.0</b>	<b>50.9</b>	<b>50.3</b>	<b>49.5</b>	<b>51.2</b>	<b>47.6</b>

# Analysis By Utility Type

## Electricity

- Unit cost (rate) increased 10.6%
- Consumption decreased by -2.1%
- 6.1% less cooling degree days
- Net increase in dollars of \$404,432

## Natural Gas

- Unit cost (rate) decreased by -12.9%
- Consumption decreased by -23.6%
- 14.2% less heating degree days
- Net decrease in dollars of -\$147,827



# Analysis By Utility Type

## Water

- Domestic Unit cost (rate) increased 3.1%
- Domestic consumption decreased -2.5%
- Domestic net increase in dollars of \$2,884
- Irrigation Unit cost (rate) increased 15.0%
- Irrigation consumption decreased -41.3%
- Irrigation net decrease in dollars of -\$176,134
- **Rainfall** increased by 67.8% / up 16.3 inches

## Refuse

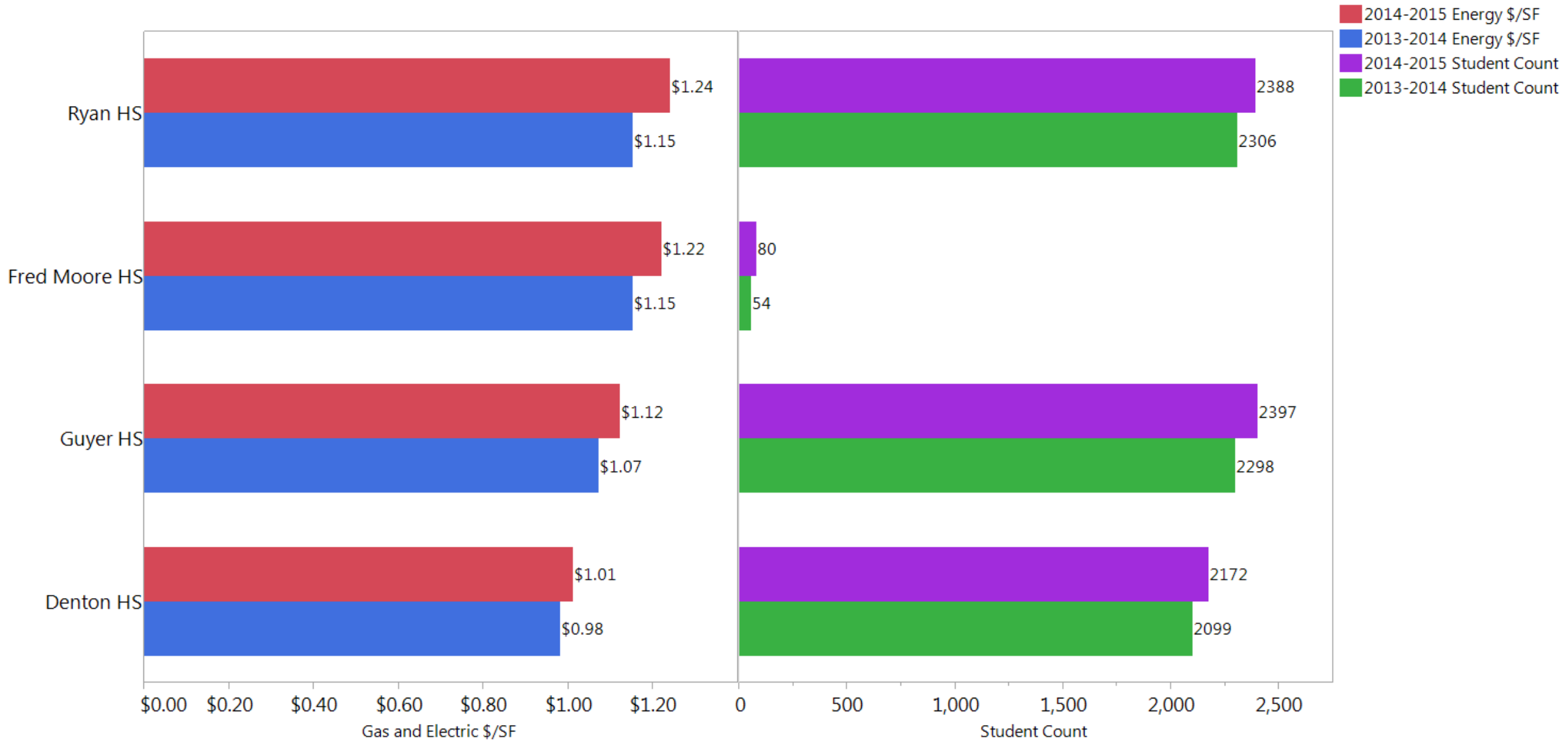
- Net increase in dollars of \$74,595



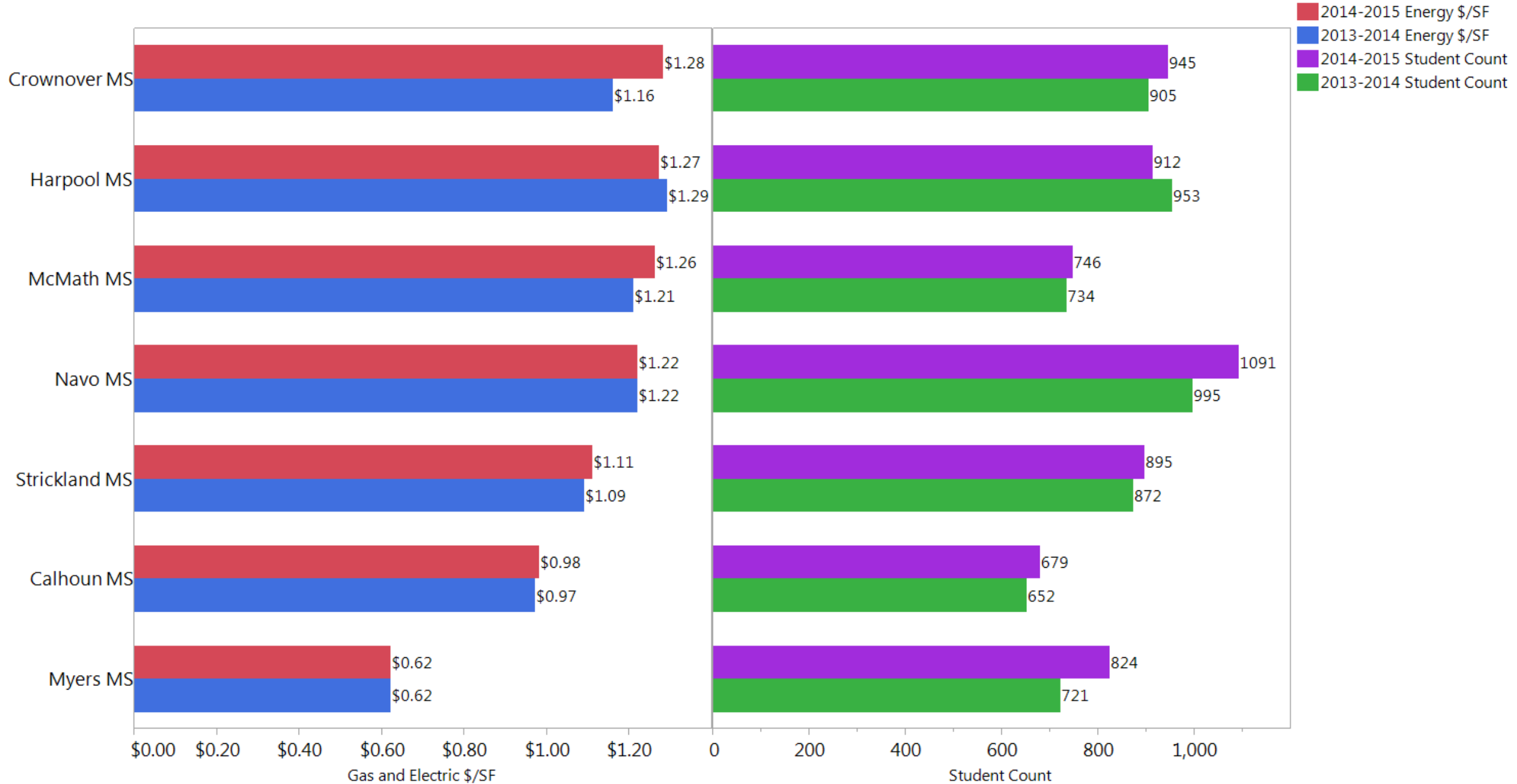
# Total Cost Comparison By Utility

Category	12 Months	12 Months	% change	Cost Change
	Jul 2013-Jun 2014	Jul 2014-Jun 2015		
Electric	\$4,870,445	\$5,274,877	8.3%	\$404,432
Gas	\$625,551	\$477,724	-23.6%	-\$147,827
Domestic Water	\$539,141	\$542,025	0.5%	\$2,884
Irrigation	\$542,526	\$366,392	-32.5%	-\$176,134
Refuse	\$705,057	\$779,652	10.6%	\$74,595
<b>TOTAL</b>	<b>\$7,282,720</b>	<b>\$7,440,670</b>	<b>2.2%</b>	<b>\$157,950</b>

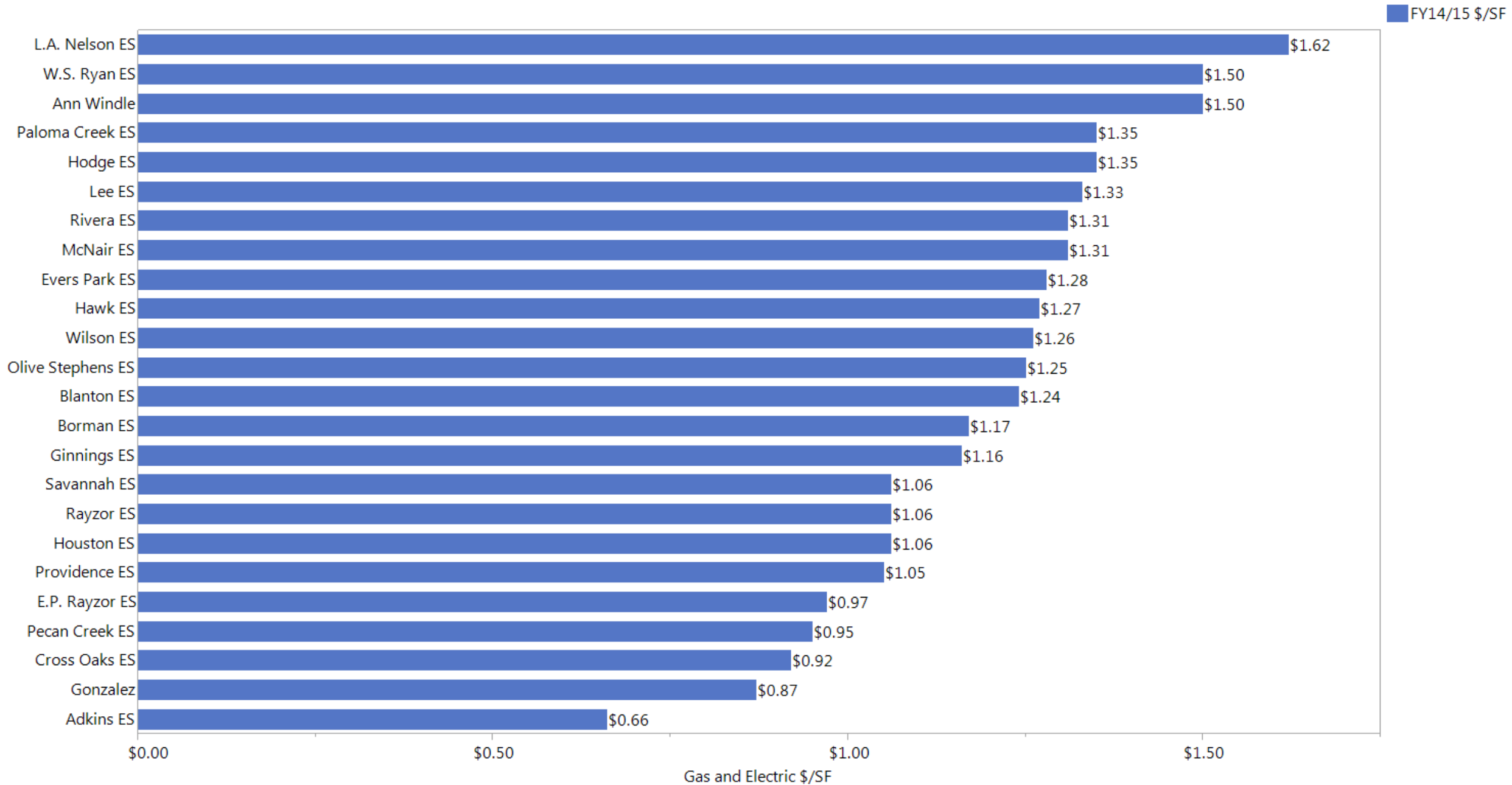
# High School Gas-Elect Cost/Sf & Student Count



# Middle School Gas-Elect Cost/Sf & Student Count



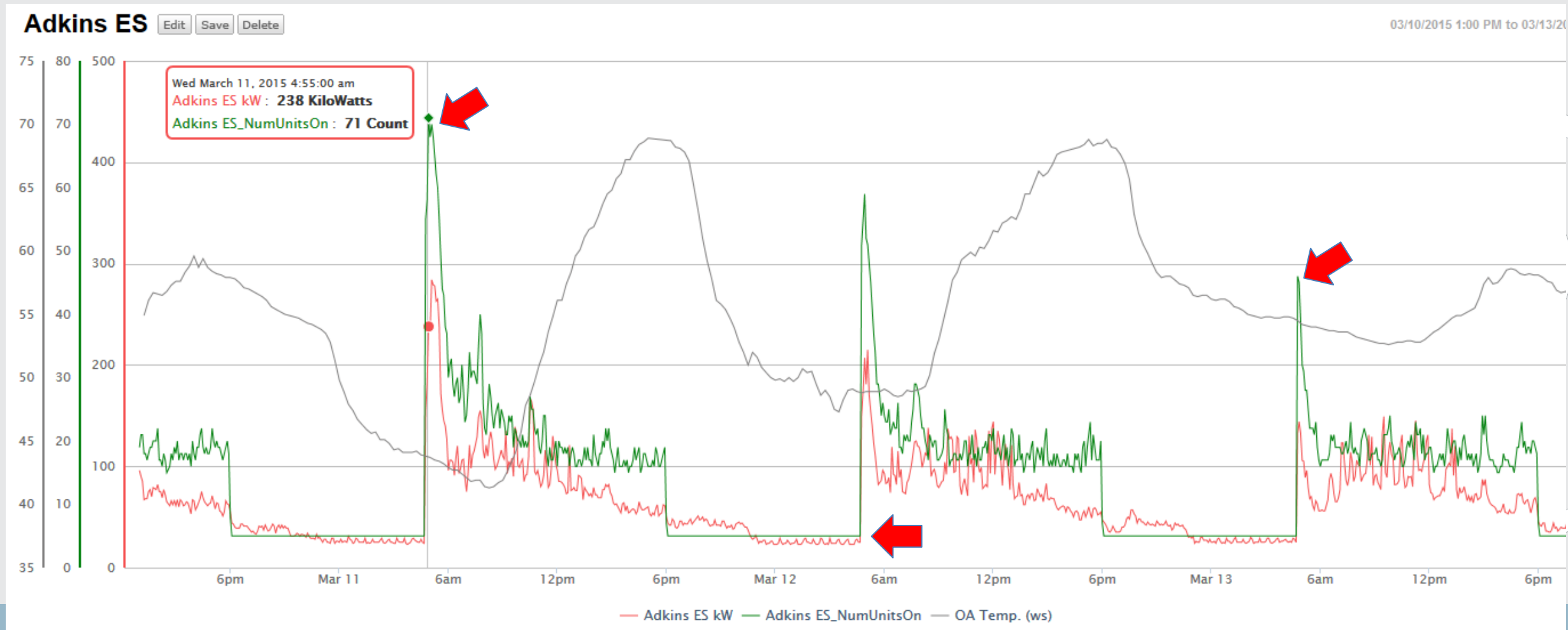
# Elem. School Gas-Elect Cost/Sf & Student Count





# Building Performance Management Pilot Project

- Five Schools – Adkins & Cross Oaks ES, Myers MS, Denton and Guyer HS
- Implemented Graduated Morning Startup at each school to reduce peak kW.
- Identified/Quantified unnecessary afterhours electric usage at Cross Oaks ES.
- Developed Electrical Load profiles for each school

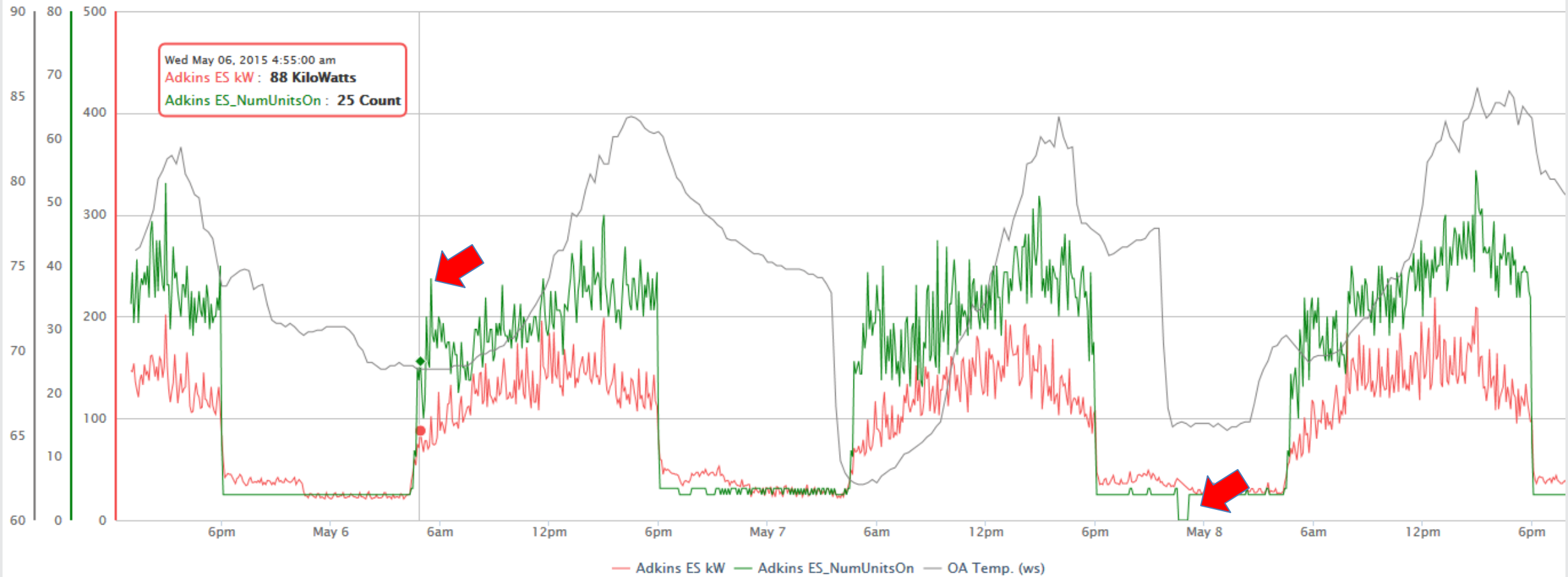


# After - Morning AC Unit Scheduling

Adkins ES

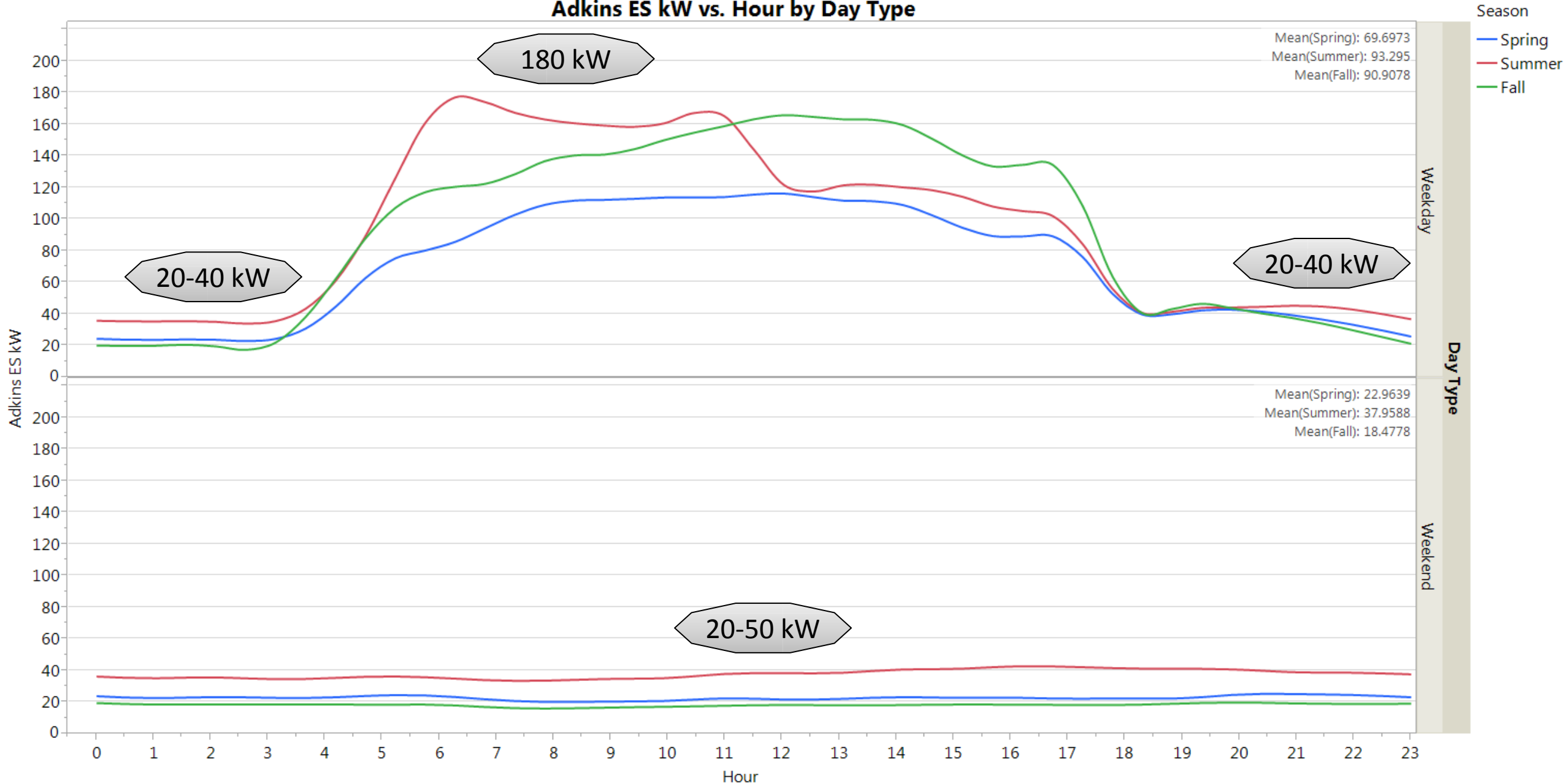
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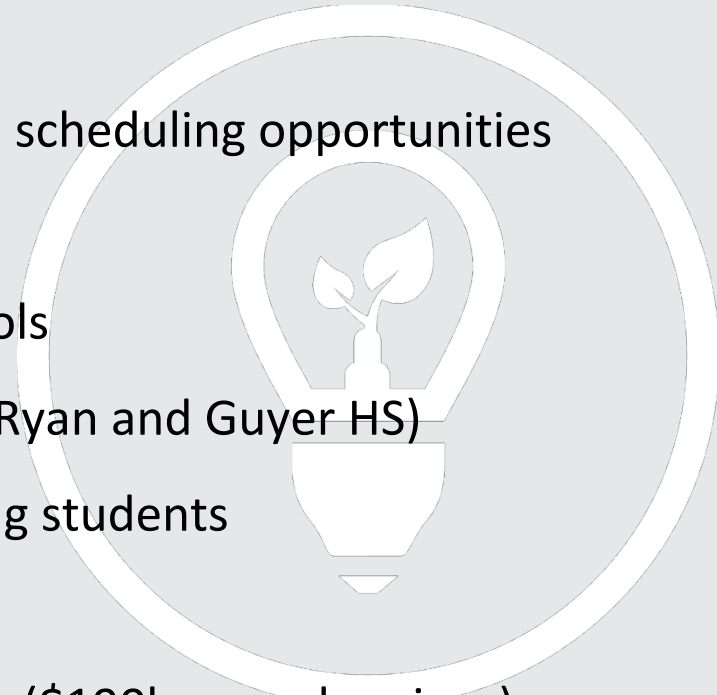
# Adkins ES Electric Load Profile

## Adkins ES kW vs. Hour by Day Type



# Recent Activities

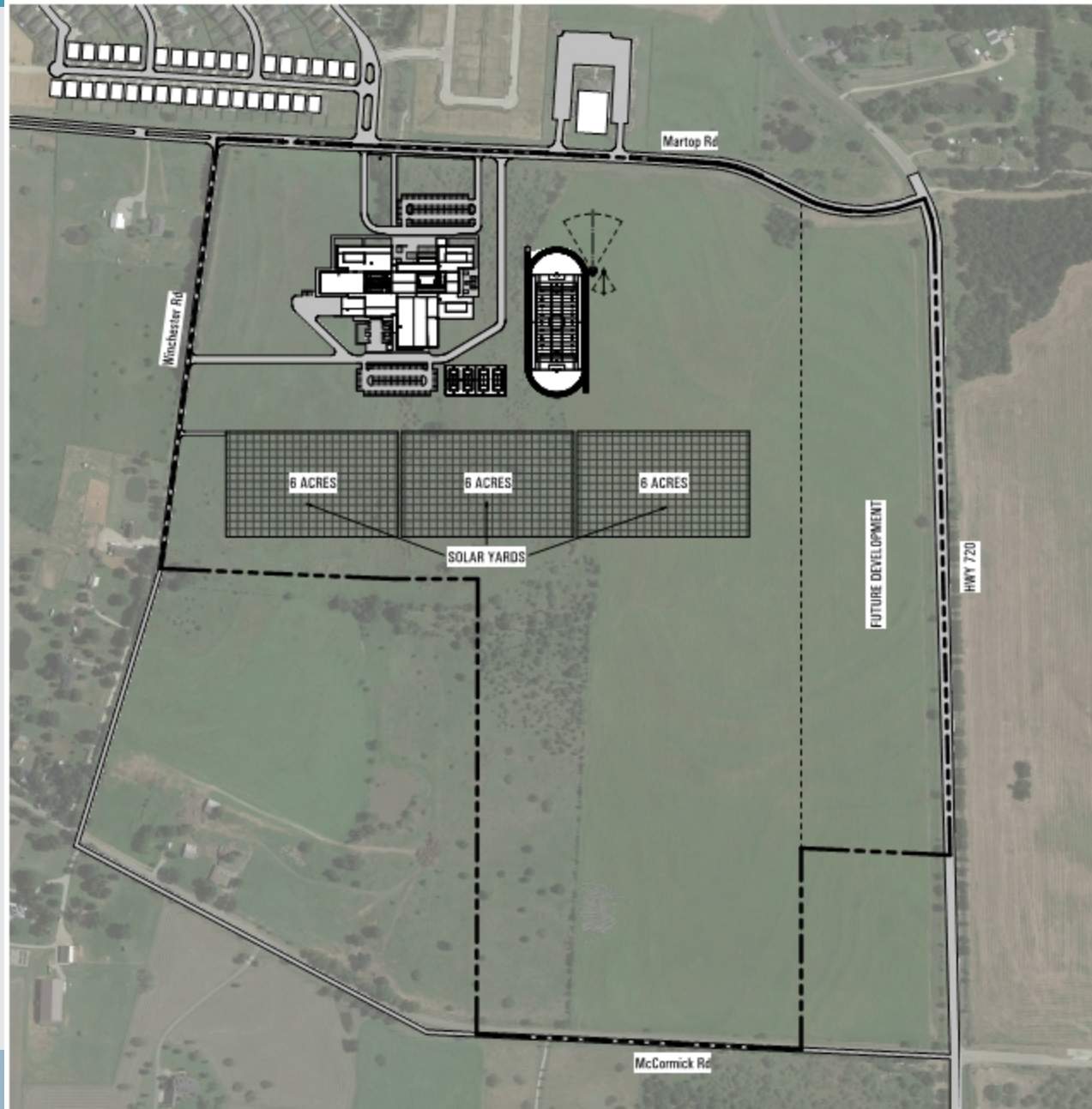
- Continuing Building Performance Management Pilot Project
- Compared Cross Oaks vs Gonzalez
  - Uncovered Cross Oaks Lighting Control and Irrigation scheduling opportunities
  - Gonzalez cost less despite new Pre K program
- Evaluating Power Factor Correction projects for key schools
- Working with DME to receive Water Evaporation Credit (Ryan and Guyer HS)
- TDIndustries presented to ATC 1<sup>st</sup> and 3<sup>rd</sup> Year Engineering students
- Evaluating Solar Project with CoServ at Middle School #8
- Moving forward with 2013 Bond Program Energy Projects (\$190k annual savings)
  - Smart Irrigation, Exterior Lighting Retrofit & Auxiliary Cooling at Guyer HS



# Solar Yard Example



# Middle School #8 Preliminary Site Plan



# Recommendations

- Continue BPM Pilot Project
- Budget Energy Retrofits at Cross Oaks Elementary
- Real Time Energy Accounting System

