

## Parchment School District

<b>Project:</b>	Parchment School District
<b>Size</b>	\$2,000,000
<b>Type of Project:</b>	Guaranteed Energy Savings Performance Project
<b>Location:</b>	Parchment, MI
<b>No of Bldgs:</b>	6
<b># of Students:</b>	1,750
<b>Project Description:</b>	Honeywell's role: General Contractor for Energy Performance Contract work, Energy Auditing, Design Engineering, Project Management, Commissioning, Performance Measurement & Verification, Warranty Services, Maintenance Agreements.
<b>List of Improvements:</b>	<ul style="list-style-type: none"><li>• Energy Management System Upgrade</li><li>• Condensing Boiler Installation</li><li>• Boiler System Replacement</li><li>• Energy Efficient Motor Installation</li><li>• Variable Speed Drives</li><li>• Temperature Control Retrofits</li><li>• Mechanical System Retrofits</li><li>• Lighting Retrofits</li><li>• Building Envelope: Foaming / Caulking / Weather</li><li>• Exterior Door Repairs / Replacement</li><li>• Water Conservation Retrofits</li><li>• Ceiling Replacement</li></ul>



### Project Implementation

February 2015 – January 2016

### Source of Funds

Qualified Zone Academy Bond

### Annual Energy Savings

\$113,625

### Annual Operational Savings

\$40,597

### One Time Gas & Electric Utility Rebate

\$40,915

### Total Honeywell Energy Project Amount

\$2,000,000

### Total Roof Amount

\$650,000

### Client Contact

Mr. Matt Miller – Superintendent  
(269) 488-1050

## BACKGROUND

The Parchment School District is located in Kalamazoo County and serves roughly 1,750 students in the District. This energy project was developed to assist the District in repairing and replacing roofs in the District that lacked the necessary funding. The strategy entailed developing an energy project that would not only pay for itself with savings from the existing budget but also generate surplus savings, above and beyond the cost of the energy project, that could be redirected to help pay for the roof. The strategy also included utilizing Qualified Zone Academy Bonds as a financing tool that allowed the District to borrow money for the energy project and the roof at 0% for fifteen (15) years.

## SOLUTIONS

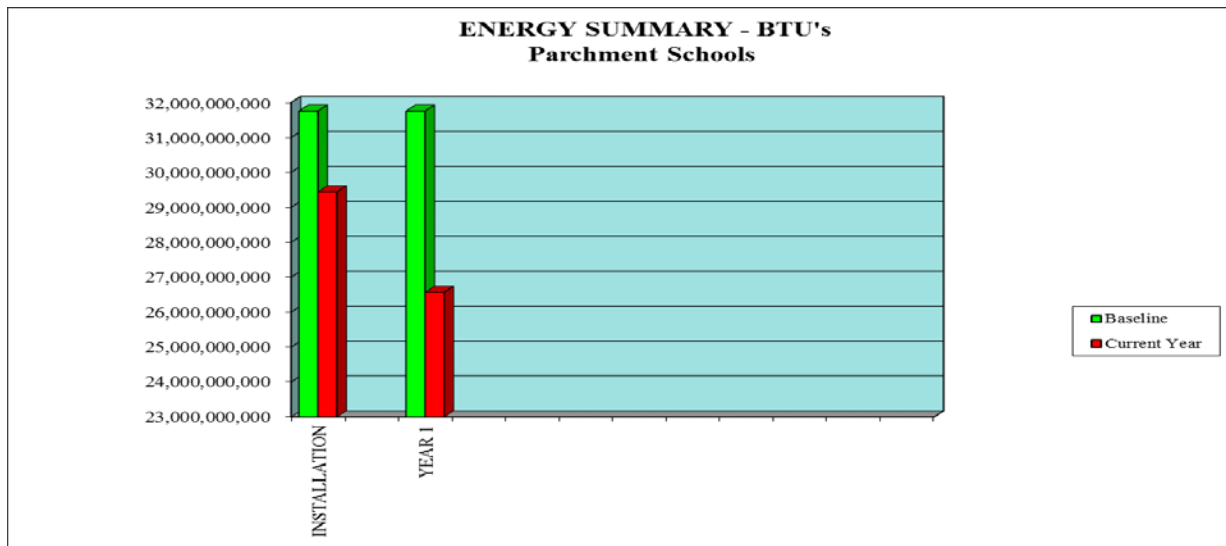
The facility upgrade program was designed to generate savings to pay for energy retrofits and replace aging infrastructure.

The biggest contributor of savings was the lighting retrofits and replacement. This included a mixture of low wattage T8 lamps, hybrid ballasts and reflector systems. There were also T5 systems installed in gymnasiums and LED systems on the exterior of the buildings. The energy efficiency and utility rebates made this a solid opportunity. Other key contributors were: district wide web-based energy management system, modified control sequences, energy efficient motors, water conservation retrofits, building envelope – caulking, sealing and foaming.

There were also capital projects with energy efficiency benefits. Condensing boilers were installed at the Middle School and North Elementary. Boiler control panels throughout the District were installed and set up to sequence boilers (existing and new) based on heating requirements. These control panels are accessible from the web-based energy management system. The sequencing control panel determines which boiler to operate to maximize energy efficiency. This increases energy efficiency and decreases maintenance costs, as the older existing boilers will see decreased run times, while prolonging existing boiler life.

**OTHER BENEFITS**

- Reduced greenhouse gas (GHG) emissions
- Improved learning environment for students and faculty to assist the district with Student Achievement goals



BTUs	INSTALLATION	YEAR 1
<b>Baseline</b>		
BTU's	31,754,987,501	31,754,987,501
<b>Current Year</b>		
BTU's	29,443,424,322	26,571,419,021
<b>Usage %</b>	-7%	-16%

DOLLARS	INSTALLATION	YEAR 1
<b>Baseline</b>		
Dollars	\$457,878	\$457,878
<b>Current Year</b>		
Dollars	\$383,226	\$344,253
<b>Usage %</b>	-16%	-25%