

Eastland School District 308

Project Highlights and Results

- Lead Engineer for all District projects since 2015
- Elementary School HVAC upgrades including a new Geothermal Heat Pump System with 36, 450-foot deep vertical wells
- Incremental cost of less than 10% to install an energy efficient geothermal system in lieu of a conventional heating and cooling system (i.e. boilers, chillers, unit ventilators, etc.)

Project Background

Owner:	Eastland School District 308
Location:	Lanark/Shannon, IL
Team/Team Lead:	Robert St. Mary, Claudine Harig
Elara Role:	MEP Engineer, Lead Engineer (all District Projects)
Type:	HVAC Upgrade
Construction Cost:	\$1,220,000

Project Overview

Building Type:	K-12 School
Building Attributes:	2 Stories; 66,000 SF
Initial Construction:	1927 w/ Additions in 1950, 1957 and 1999
MEPPFIT Systems:	Geothermal Heat Pumps (Classrooms, Offices and Gymnasium), DDC

Innovation

- Geothermal heat pumps system utilizes ground temperature in lieu of chiller or boilers to maintain building temperatures resulting in reduced operating costs.
- Single pipe geothermal condenser water loop was utilized to serve the classroom heat pumps, to save material and labor costs of pipes routed through an existing utility tunnel.
- Re-used two existing mezzanines above the stage area serving the 1957 gymnasium to house new heat pump air handling equipment. Design included pressurization control for both gymnasiums spaces which did not exist previously.
- New direct digital control system was installed to maximize controllability and energy savings associated with the new equipment

