

Indian Trails Public Library

Project Highlights and Results

- Renovated building and added new addition to use approximately 40-50% less energy than typical library building
- New energy efficient mechanical systems and infrastructure incorporated a geothermal heating and cooling system utilizing water source heat pumps
- \$100,000 EBSCO grant awarded for solar array installation costs
 - Selected from 90 grant submissions from 15 countries

Project Background

Owner:	Indian Trails Public Library
Location:	Wheeling, IL
Team/Team Lead:	Steve Maze, Bob St. Mary, Claudine Harig, Dustin Langille, Chris Carter
Elara Role:	MEPFPIT Design
Type:	Renovation & Addition
Construction Cost:	\$14,500,000

Project Overview

Building Type:	Municipal Library
Building Attributes:	2 Stories, 56,285 SF
Initial Construction:	1980s, 1990s
MEPFPIT Systems:	Geothermal Heat Pump System, FCUs, VAVs, DOAS, DDC

Innovation

- Because the original 41,085 SF, two-story building incurred substantial energy costs, outside ventilation air was only fully provided during summer months, and much of the building's equipment was approaching or had already exceeded its anticipated useful service life, Elara improved the mechanical, electrical, plumbing, fire protection, and information technology needs of the building through the renovation of spaces and a new 15,200 SF, two-story addition.
- Given the type and condition of the existing systems, the design team conceptualized new energy efficient mechanical systems and infrastructure (including digital controls) throughout the existing building and new addition incorporating a geothermal heating and cooling system utilizing water source heat pumps.
- New power, lighting, emergency / egress lighting and information technology infrastructure was designed for all renovated and new spaces.
- Existing fire alarm, plumbing and fire protection systems were modified and expanded to support the renovated and new spaces.

FIRST PLACE

ASHRAE Excellence in Engineering Award
Chapter Level

