

## HARVEY COUNTY COURTHOUSE, KANSAS

# Energy Efficiency HVAC

### Summary

Innovative engineering solutions to aging infrastructure problems created a better environment for workers and visitors. Willdan's holistic approach to facility renovation brought comfort and reliability back to the Harvey County Courthouse.

### Goals and Challenges

Officials from Harvey County approached Willdan because their Courthouse was plagued by comfort and maintenance problems and the original HVAC system allowed limited temperature control and required near-constant maintenance staff oversight. Further, the windows were unattractive and largely nonfunctional.

### Solutions and Results

The Willdan Team worked alongside Harvey County administrators to develop a holistic solution to address the maintenance, comfort, and energy savings needs of their facilities.

This solution combined capital-intensive system upgrades with quick energy savings renovations so that Harvey County could offset the cost of their core needs over the longterm.

The most capital intensive components of the project were replacing the outdated facility windows and HVAC system with a new high-efficiency geothermal heat pump with associated controls.

To get the most out of this project, Willdan also looked at improvements that would provide more immediate paybacks in energy savings. These "quick payback" improvements included upgrading fluorescent lighting to high efficiency LEDs and replacing antiquated plumbing fixtures with newer models that consume significantly less water.

### Improvement Details

- Enhanced comfort for employees and visitors
- The improvements resulted in annual operational and maintenance savings which offset the overall project cost
- New windows and LED lights enhanced the Courthouse aesthetics and provided a more pleasant business environment

#### Project Value:

 \$3,639,841

#### Annual Savings:

 \$111,533

#### Annual Energy Savings:

 \$74,864

#### Annual Maintenance Savings:

 \$36,669



*"Everyone on the (Willdan) team put a great deal of effort into our project and was easy to work with. Their engineers and construction management team welcomed input by our staff, which we believe lead to an enhanced final result."*

- Anthony Swartzendruber,  
Assistant County Administrator/  
Financial Director

### Featured Solutions

- Engineering Design
- Construction Management
- Energy Efficiency