

CASESTUDY

# Johnson County Conservation Board HQ

## A Smart Building Solution for Energy Conservation



Managing and maintaining over 1,437 acres of land including several native prairies, small community parks and river access areas, the Johnson County Conservation Board provides a variety of services in natural resources, recreation and conservation.

01 Johnson County Conservation Board HQ

### Project Overview

The Headquarters Building and the Maintenance Facility, two separate projects designed for the Johnson County Conservation Board, and located in the County's flagship public park, were first occupied March 25, 2010.

The Conservation Board, in concert with its mission, recognized the importance of constructing highly sustainable facilities. Their direction to the design team was "give us two LEED certified buildings within the existing project budget." In July 2011, both projects were awarded The United States Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold Certification, giving these two buildings the highest sustainability rating among County owned facilities

### The Challenge

This 12,000+ sq. ft facility is in the county's flagship park, F.W. Kent Park. A main need of this facility was to have a solution in place to monitor energy usage and calculate the cost per kWh.

The Mechanical Engineer of the project only allowed a select group of control contractors to bid on the project, based upon the products they represented and their abilities to meet the needs of their customers.

### Project at a Glance

Firm	Control Systems Specialists
Location	Oxford, IA
Date of completion	2010
Owner	Johnson County Conservation Board
Certification	LEED & LEED Gold Certification
Delivery method	Design & Build
Project size	12,000+ SQ. FT.
Project type	HVACR
ABB Cylon® Solution	ASPECTFT-MATRIX, NB-ASC, NB-GPC-1, NB-GPC-2, NB-GPC-3, SBC-STAT2, SSB-IOX-1, NB-SD
Points	353

### The Solution

After reviewing the requirements of the board, Control Systems Specialists, LC determined that ASPECTFT paired with ABB Cylon® BACnet® controllers would be the perfect solution to meet the needs of the board; providing required trend data and control for various pumps and ventilators.

The facility consists of three buildings and relies on a geothermal heat pump system with a combination of energy recovery ventilators, radiant ceiling panels, as well as various water-to-air and water-to-water heat pumps to provide the backbone for the HVAC system.



01

01 Johnson County  
Conservation Board HQ

An ASPECTFT-MATRIX was installed as the front-end solution for the facility, serving the graphics, alarms and trend data to the facility manager as well as providing centralized access to the system and its controllers via BACnet MS/TP. Energy recovery ventilators in the main building and maintenance facility are controlled by NB-GPC1s with IOX1 module, while the water-to-air heat pumps are controlled via NB-GPC2s.

Once completed, the project consisted of more than 350 points and 65 ABB Cylon® Auto-Matrix controllers & interface devices. The ASPECTFT-MATRIX along with the installed BACnet controllers provided the resources the Johnson County Conservation Board needed to reduce energy consumption, control the HVAC system, and provide access to vital building data, so continued savings can be achieved.



02

**Project Highlights**

- 65 AAM Controllers
- ASPECT-Matrix
- NB-ASC
- NB-GPC1
- NB-GPC2
- NB-GPC3
- SBC-STAT3
- SSB-IOX-1
- NB-SD

**Future**

Both projects were awarded The United States Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold Certification, giving these two buildings the highest sustainability rating among County owned facilities.

ABB Cylon® Smart Building Solutions' comprehensive Building Automation and Controls portfolio integrates key building systems such as energy, HVAC, HVAC drives, lighting, fire safety, security, and workplace management. Serving industries including commercial buildings, workplaces, hospitals, schools, campuses, stadiums, enterprises, and more. Our holistic offering creates value for our customers and provides connected

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