

CASE STUDY

GYM EQUIPMENT

PRE-PLANNING WITH DRAPER® IMPROVES FUNCTION AND SAFETY



All photos by Alan Wycheck

- The construction of a 100,000 square foot athletics, recreation, wellness and health science complex at Alvernia University in Reading, Pennsylvania, was in serious danger of suffering project delays due to gym safety concerns. Could the gym control system help?

**DISCOVER THE BENEFITS
OF EARLY COLLABORATION.**

The Tom and Helen Flynn Plex features four basketball courts circled by an 8-lane track. Draper® Fold-up and Radius-Fold gym divider curtains separate the basketball courts from each other and from the running track.

Meeting fire safety concerns.

The trouble spot: those gym dividers. With large events and multiple activities happening simultaneously, safely evacuating the facility while gym divider curtains and multi-sport practice cages are deployed was of paramount concern.

“Some of these curtains are as much as 100 feet wide, and usually the only way out is to walk to the closest end and go around,” said Neal Turner, CSI, CCPR, LEED® AP, director of gymnasium equipment sales for Draper. “The fact that this project had multiple curtains running different directions or even wrapping around the inside of the track, made the building feel like a labyrinth.”

Things came to a head when the local fire marshal required that the divider curtains and practice cages be connected to the building fire alarm. Should a fire alarm be activated, the curtains would have to automatically retract.



When first approached with such a unique request, Draper suggested the project electrician and electrical engineer create an interface to meet the requirement. However, after research and experimentation, our designers were able to develop a solution utilizing the Draper Smart Gym control system.

Smart Gym is a custom programmed system that includes relay boxes and a wall mounted ethernet graphic touch screen and a wireless tablet. A dedicated closed wireless network allows the tablet to talk with the system processor. Both the tablet and the wall touchscreen use a graphical interface program for easy-to-understand functionality.

Draper was able to assign a “Fire Alarm” command to be set off by a pulse emitted by the alarm system. When the fire alarm is activated, the alarm command is sent across the entire network. All curtains and cages are activated in the “up” direction for five minutes. This allows everyone inside the facility to quickly and safely exit.

Multi-use facility requires pre-planning.

As the only school in their conference with an NCAA-compliant indoor track and field, Alvernia will play host to conference championships and the Plex Shootout Invitational meet. The facility is also used for club sports, classes, convocations, and many other campus events.



In addition to the four basketball courts, gym dividers, and multi-sport practice cage mentioned earlier, the Plex also includes volleyball courts and tennis courts.

“In early discussions with the university, architectural and engineering team, and manufacturer, it became obvious that we would need a system that could handle the complexities that come with a multipurpose facility,” said Franklin D. Watts, vice president of Reading, Pennsylvania-based Burkey Corporation, the contractor on the project. “We needed to have a system that could interact with all of the sports equipment as well as the divider wall system to properly handle quick turnover for the various sports teams and events, the physical therapy department and their patients, campus-wide events, etc.”

The dedicated closed wireless network can only be accessed by the control system. This allows the operator to move around the gym with the wireless control tablet and keep moving equipment under observation. No other devices, or anyone outside the facility, can access the network and operate the equipment.

In addition, the control system’s graphical interface includes group buttons to simultaneously operate multiple devices to save time during equipment setup changes.

A project with such unique requirements meant early collaboration between multiple parties was essential.

“The manufacturer assisted in the contractor’s and the electrical engineer’s request for information on netting

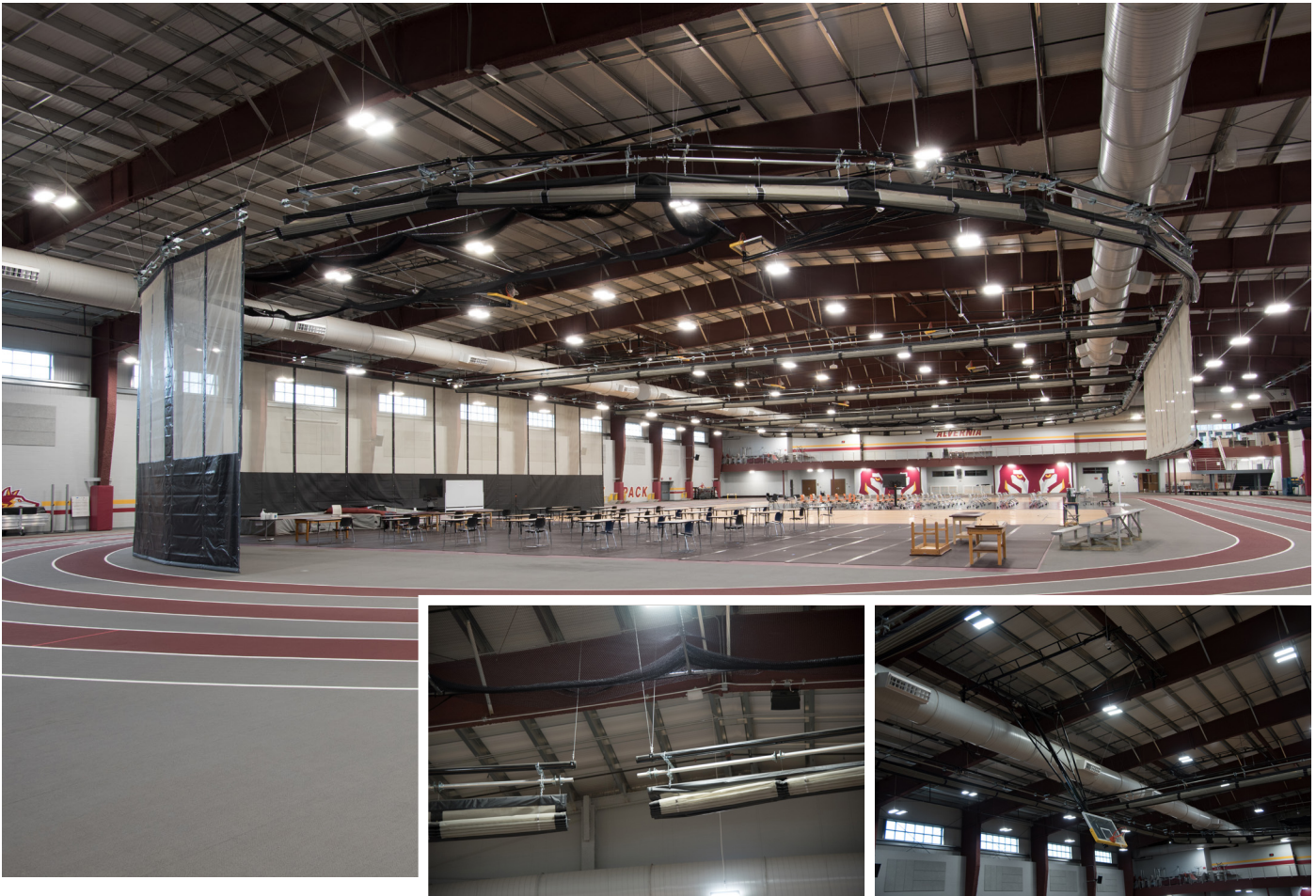
and equipment contacts, power requirements for motors, wire sizes, and voltage requirements for coordinating with the fire safety system computer,” said Joseph G. Kane III, construction administrator with Lititz, Pennsylvania-based Derck & Edson Associates, the firm that designed the PLEX facility. “They also assisted in expediting information before the equipment order was placed to assure that it met the university’s request and proper installation could be done by the contractor before it arrived on-site.”

There are also other benefits that materialized from early collaboration.

“The collaborative effort between all parties, including early input from the controls manufacturer, helped to not only deliver a system that could handle the needs of the university but also avoid potentially significant costs and delays that could have materialized otherwise,” Watts said. “Without the ability to meet the local code requirements regarding emergency egress, the completion date of the project could have been greatly impacted, and there is a very good chance that certain elements of the design, including the divider wall system, may have been eliminated from the project altogether.”

Programmable control systems allow huge amounts of flexibility to control all kinds of operable gym equipment, lighting, scoreboard, window shades, bleachers, and yes, make things happen when alarms sound. And working with the manufacturer in the early stages of the process will ensure it goes as smoothly as possible.

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