

CORNELL UNIVERSITY EXPANDS INTO LIFE SAFETY

Honeywell Gamewell-FCI E3 Series,
and VESDA Air Sampling

Case Study

**TIMOTHY MCGEE,
VICE PRESIDENT/COO,
WEST FIRE SYSTEMS:**

“Cornell University is an excellent customer to work with. They are highly educated on our products, have been factory trained and sublicensed, and take life safety very seriously. The University has very high standards and expects best-in-breed when it comes to their life safety infrastructure and products making them a pleasure to work with.”

Honeywell



OVERVIEW

In 2013, Cornell University College of Veterinary Medicine underwent a massive 5-year expansion and modernization project to increase its student enrollment capacity, update teaching spaces, improve navigation throughout the college, and shape a stronger visual identity. Cornell partnered with private and state investors for this \$91.5 million project which would, in turn, propel the college's veterinary medicine program into the 21st century, improve the local economy and help strengthen New York's diverse academic opportunities.

THE CHALLENGE

New construction for this project focused on a 250,000 SF, 3-floor structure sandwiched between the existing Schurman Hall and the Veterinary Research Tower (VRT). The latter were also in need of renovation, including the notable Takoda's Run Atrium, a sprawling space inside Schurman Hall used for informal meetings, gatherings and open-concept study spots. Takoda's Atrium features an exquisite architecturally unique wooden beam ceiling, a visual centerpiece for the Cornell Veterinary School.

The campus required a comprehensive fire alarm life safety system that would keep students and staff safe throughout the 4-year construction period, network existing and new buildings into one fire alarm life safety system and create as little visual disruption in order to preserve the design team's complex architectural features.

To accomplish such an endeavor the University and design team chose West Fire Systems Inc. (WFS), a 30+ year Cornell University vendor-of-choice and authorized Honeywell "Elite" Engineered Systems Distributor (ESD) to supply and commission a comprehensive Honeywell Gamewell-FCI network E3 Series® life safety fire detection system.

The design team and West Fire Systems, Inc. faced several critical challenges. Two chief challenges being project phasing and aesthetics. First, the veterinary school



campus had to continue its operations while construction was ongoing. Both Schurman Hall and the VRT featured older Gamewell-FCI standalone systems that needed to be upgraded and networked into a single system solution, yet remain active during the transition to ensure student and staff safety. Phasing and blending the existing occupied spaces and new construction access and paths of egress together required routine complex phased programming changes to meet the design team's goals.

Secondly, since enhancing the school's visual identity was a key design team goal, the fire alarm life safety solution had to be as architecturally friendly as possible. It had to blend into numerous artfully designed architectural elements, such as the Takoda's Run Atrium space & lecture

Halls. The carefully sculpted wood ceiling structures could not be disrupted visually, nor damaged during the installation process.

THE SOLUTION

The design team and West Fire Systems chose the Gamewell-FCI E3 Series® platform as the solution for its ability to integrate seamlessly with older legacy systems and non-Honeywell technologies.

Unlike competing brands, the Gamewell-FCI E3 Series® brings true Boolean Logic programming to the table making it arguably the most flexible and robust life safety programming platform on the market today.

The E3 Series® infrastructure using a simple building block approach offered the greatest overall system build flexibility

QUICK FACTS

Needs

- Code compliant and discreet detection for wide, open halls
- Must integrate with the existing/upgraded fire detection system
- Must preserve aesthetics of key architectural elements
- Must provide continuous coverage throughout 4-year phasing

Benefits

- Xtralis® VESDA® capillary air sampling installation provided an unobtrusive and virtually invisible solution in challenging ceiling applications.
- Students and staff were protected during phased construction.
- The Gamewell-FCI E3 Series® life safety system can be maintained by factory trained and sublicensed Cornell University personnel.
- The Gamewell-FCI E3 Series® life safety system can grow and adjust for future expansions as needed.



with the least amount of parts ultimately insuring a lower cost of long-term ownership.

The E3 Series® can be used and is listed for use as a standalone, networked, voice evacuation and mass notification system. Since the system is easy to reconfigure, West Fire Systems Project Manager/Senior Technician Michael Torres was able to reprogram the infrastructure as necessary on the fly to accommodate milestone goals as the project progressed.

“The Gamewell-FCI E3 Series® was the only choice for this project. The project phasing required that we integrate seamlessly with adjacent building spaces, which the E3 Series® could deliver on,” states Les Sherman, Chief of Engineering, West Fire Systems Inc. He continues, “Gamewell-FCI’s E3 Series® is easy to deploy and modify on fluid sometimes fast-moving projects. The platform and versatile Boolean Logic programming capabilities make it particularly well suited for complex phased projects of this nature.”

The design team specified, and West Fire Systems integrated the E3 Series® fire control infrastructure with Xtralis® VESDA® air aspirating detectors throughout the new construction spaces. The Xtralis®

VESDA® air aspirating detectors and sampling points were ideal for spaces where maintaining aesthetics is particularly important, such as the Takoda Atrium.

West Fire Systems deployed a combination of three different model Xtralis® VESDA® air aspirating smoke detectors to meet the project’s needs: The Xtralis® VESDA® VLS, VEP, and VEU.

The Xtralis Vesda VEP Series aspirating smoke detector monitored one zone, and has a sensitivity range of 0.005%–20% obscuration/m.

The Xtralis® VESDA® VLS Series detectors were installed in areas that required detection of four unique zones. The VLS Series modules feature a valve mechanism in the inlet manifold that control airflow from four sectors, through four different pipes. The VLS Series locates the origin of smoke by identifying the first sector (pipe) with the highest level of smoke and then continues to sample from the other sectors to monitor fire growth. Finally, West Fire Systems chose a 4-pipe VEU Series aspirating smoke detector, which featured a more robust fan for some of the more challenging air sampling pipe networks.

The VESDA® capillary air sampling tubing was ran throughout many of the more challenging ceiling areas such as the Takoda Run Atrium and Lecture Halls , as well as other corridor and support areas creating a comprehensive network of tiny air sampling points. Air sampling points were flush mounted into the ceilings and in some instances were painted to match architectural finishes which rendered them virtually invisible.

The design team and West Fire Systems placed numerous Gamewell-FCI E3 Series® network control panels, network distributed amplifiers transponders, and local operator centers (LOC) throughout the complex ensuring overall system survivability, flexibility, and end user/emergency response team ease of use.

The completed Gamewell-FCI E3 Series® life safety system was finally connected to Cornell’s own proprietary central station for code compliant 24-hour monitoring.

Since Cornell University maintains its own Police Department and code compliant central station, all first responders originate from within the Cornell campus. West Fire Systems works closely with Cornell University’s life safety personnel to maintain the Gamewell-FCI systems throughout the 300+ buildings on and off Campus.

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