POWERING CAMPUS GROWTH

WINDEMULLER
Partners in your success

CLIENT
Western Michigan University

PROJECT
Valley Dining Facility

PROJECT SIZE
$3.1 million

LOCATION
Kalamazoo, Michigan

PARTNERS
SmithGroup & The Christman Company

CHALLENGE

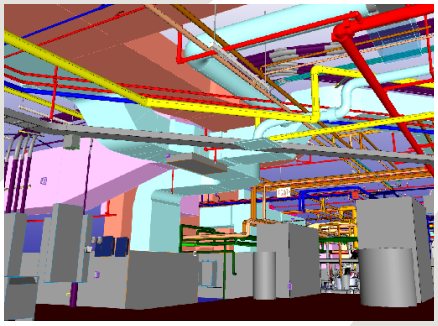
To accommodate unprecedented growth, the Kalamazoo campus of Western Michigan University developed plans for Valley Dining Center – a 61,000 square foot, two-story facility that would not only serve as a destination to grab a meal, but also to act as a gathering place for students to meet, greet, and study together.

Plans for the Center featured nine micro restaurants, lots of comfortable seating, a unique food pantry for students with food allergies, and a ground level convenience store. The facility placed a high priority on sustainability and was designed to achieve at least a silver-level LEED certification.

In order to bring the project concept to reality, WMU and their general contractor needed a technically innovative electrical services partner. Windemuller proved to have the capabilities and talented staff and was selected above four other competing organizations.

SOLUTION

Constructing a building of this magnitude requires careful pre-planning to ensure that on-site coordination among a wide variety of sub-contractors goes smoothly. Windemuller worked with other partners to develop a BIM (Building Information Modeling) Level 5 3D model of all the mechanical systems that would be incorporated into the new dining center.



The BIM model displays the actual size, shape, orientation and location of every system and material that was installed in the building – from lighting fixtures to electrical outlets and mechanical equipment.

SOLUTION *continued*

The 3D model serves a dual purpose. Not only does it help reduce trade congestion during the construction process, but when construction is completed, WMU can coordinate the model with their maintenance software, providing information such as an inventory of ballast and lamps needed for each light fixture and their locations throughout the building. This system is an ultra-efficient tool to save staff time and money.

Once the BIM model was finalized and construction was underway, it was time to bring power on-site. Windemuller installed two substations – a 2,500 amp and 3,000 amp service that are powered off the university's loop-fed distribution system. Concrete-encased duct bank and conduit was then run into the dining center to supply power and data cable to the building.

In order to make sure that the bank and conduit were installed in accordance with the BIM model, Windemuller utilized a Trimble 3D layout tool. Those spots are then marked ensure the installation is completed quickly and accurately!

Upon completion of conduit installation, Windemuller focused on installation of the Lutron lighting control system. The control system features occupancy sensors which turn off lights in a particular area if movement isn't detected for a period of time. The daylight harvesting feature adjusts the brightness of the lights depending on the level of natural light coming in from outside. This high-end system reduces lighting energy consumption by 60% or more.

Custom decorative LED lighting fixtures were installed throughout the two-story dining center. As with the power cabling, Windemuller also implemented the Trimble tool to ensure each fixture was installed in accordance with the BIM model.

To complete the electrical work, Windemuller installed a fire alarm system, lightning protection and a 350KW backup generator to supply emergency power during an outage.

The Windemuller Communications department wired the facility with fiber optic cabling and low voltage Cat6 and Cat6A wire. This facilitated building-wide WiFi and provided power for WMU's card access and video surveillance system. Audio speakers were placed throughout the facility; projectors and screens were installed in two large conference rooms to accommodate group presentations and video conferencing.

Our experienced Windemuller staff utilized innovative technology like BIM and the Trimble 3D layout tool to deliver top-notch electrical services to Western Michigan University.

- Accurate
- Efficient
- Cost effective
- Environmentally sustainable

This time-saving tool brings the BIM model into the field and uses reference points within each room, resulting in a laser pointing directly to the spot needing to be laid out.

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