



Case Study:
Somerset County Technical High School

Details

Project: Somerset County Technical School

Location: Westover, Maryland

Year of Completion: August 2019

Architect: Becker Morgan

Contractor: Oak Contracting, LLC.

Electrical Engineer & Lighting Specifier:
Gipe Engineering

Sales Representative: Federated
Lighting

Size of Building: 103,000 sq. ft.

Emergency Lighting System: Central
Battery System with MARS®

Certifications: LEED Gold



Background

Somerset County Technical High School is a 103,000 sf facility built on the grounds of the Somerset County Public Schools Complex. The facility provides an academic program for approximately 400 students in grades 8 through 12 and includes 3,000 gsf designated for cooperative use.

To promote collaboration, the building is organized around Career Clusters and is designed to be a teaching tool with exposed structure and systems, enhancing the training in building maintenance and the construction trades.

The old school offered automotive technology, business, carpentry, computer technology & networking, criminal justice, culinary arts, health occupations, HVAC and teacher academy. The new school will include five new programs: light and heavy truck with Navy diesel training, pre-engineering, bio-med, interactive media and horticulture. Welding will also be an incorporated department, as the technical school is looking to provide adult education classes as well. ([Delmarva Now](#))

Somerset County Technical High School received LEED Gold certification for its sustainable design and construction. Building materials were selected for their high durability and low-maintenance qualities. Green elements include water use reduction, utilizing low-emitting materials, green cleaning, the collection of recyclables, and protection or restoration of habitat.

Signtex Solution

Cost-efficient, environmentally friendly, and practically effortless to maintain, Signtex's central battery system with MARS® (monitoring and reporting system) was the perfect solution for Somerset County Technical High School.

Central battery panels were also supplied with the generator power option, which allows a generator to maintain battery charge during a power outage. In this configuration, following a utility power failure, central batteries provide

immediate emergency lighting during generator startup. When the generator is running at full power, lighting changes to STANDBY mode, and the generator maintains central batteries at full charge. If the generator should fail to start or shuts down for any reason during the power outage, the central batteries will immediately power emergency lighting throughout the building for the required minimum of 90 minutes.

"When the power goes out, the emergency lightings come on" said Donte Johnson, Head Custodian of Somerset County Technical High School. "It's that simple. We have experienced power outages and have had no problems with our Signtex emergency lighting systems."

Compared to inverters, Signtex central battery systems use significantly less batteries, and less complex wiring for lighting controls. Central battery systems with DC circuits throughout the building are the most energy and labor-efficient way to power emergency lighting. This helped Somsert Technical to be awarded LEED Gold certification.

"We are incredibly proud to have achieved LEED Gold certification for our new technical high school," says Somerset County Superintendent John B. Gaddis. "This building is one of fewer than 50 schools in Maryland to be LEED Gold certified and the only one in Somerset County." ([American School and University Magazine](#)). LEED, Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world. LEED certification is a globally recognized symbol of sustainability and leadership.



Signtex Edge Lit Exit Sign in entrance

The Design

Designed by Becker Morgan Group, Somerset County Technical High School is truly a work of art. Sigtex designed ELC installations for very long linear strip lights up to 40ft in length supplied by Finelite, up to 40ft or more in length, for use in workshop areas. Emergency lighting was limited to 4ft sections at various points along the length (see photo A). The locations for emergency operation were based on careful photometric analysis, to create the best possible lighting distribution along the path of egress. Photos B and C show the excellent emergency lighting performance achieved with this design layout.

"Because of the technically driven curriculum, this school's structural, mechanical, electrical, and plumbing systems were left on display throughout the facility to be used as teaching tools. Architectural elements were designed with clean and efficient lines and a minimal material palette to project a simple, industrial and modern ascetic. With their slim, refined, minimal construction, the Sigtex emergency lighting and exit signage complemented this philosophy perfectly. Whether through an edgeless glass face or a thin aluminum plane, the lighting looks as though it was custom-designed to match the surrounding architecture. We have used Sigtex in many of our projects throughout the years, a decision we plan to continue long into the future."

Craig Williams, AIA, Senior Associate at Becker Morgan Group, said:

Photo A: Hallway with emergency lighting active.



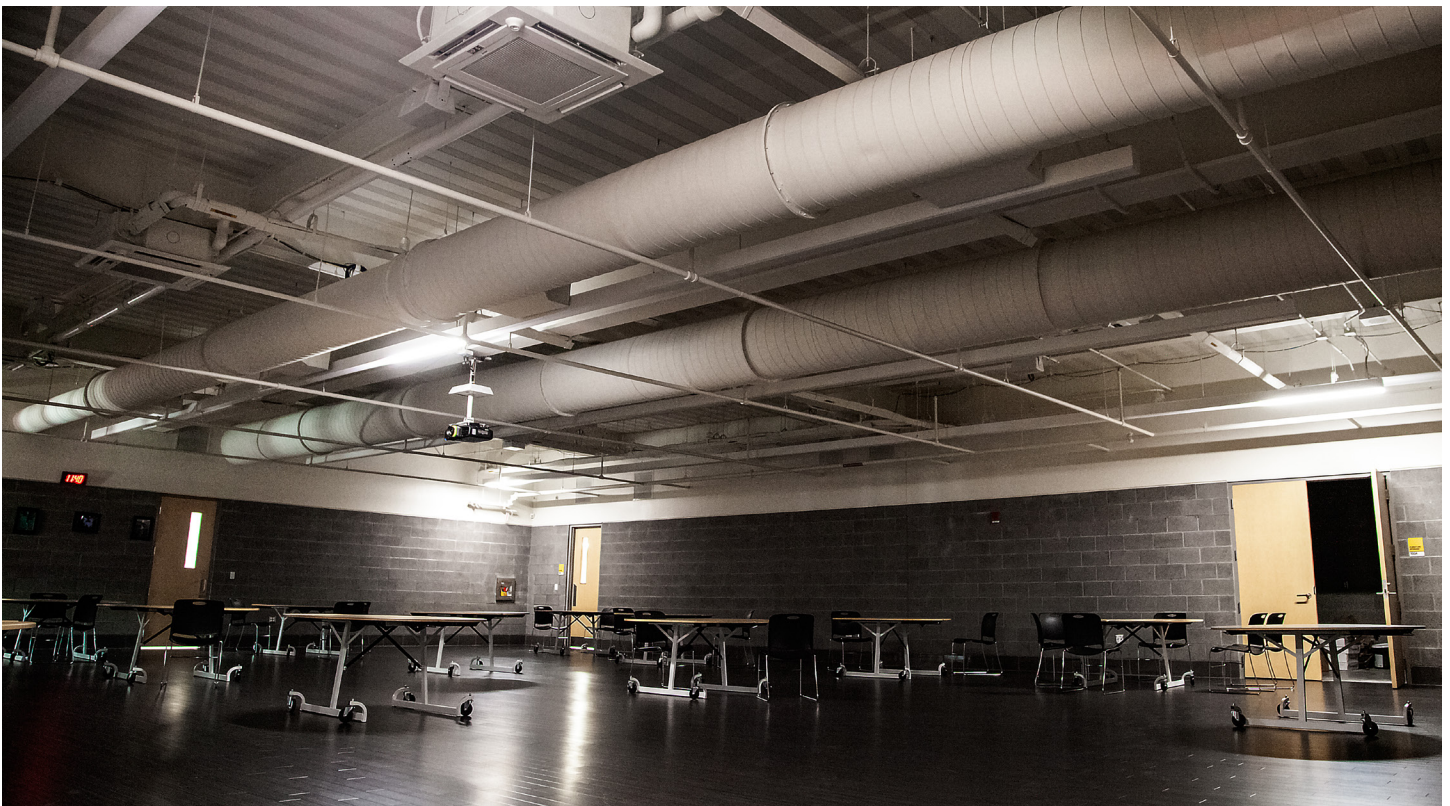


Photo B (TOP): Workshop space, normal Lighting with 40ft continuous linear sections by Finelite.
Photo C (BOTTOM): Emergency Lighting showing activated 4ft emergency sections, fitted with
Emergency Lighting Control modules.

Signtex installed ELC units in all the luminaires specified for emergency lighting (see list below), shipping the modified fixtures direct to the job site, where they were installed by Oak Contracting LLC with no issues, and perfect results on initial testing. In addition, Signtex supplied Moonlite LED™ Series MOE exterior wall packs, which were inset into ribbed exterior wall panels, using custom recessed trays shown in Photo D. As well as edge-lit and die cast exit signs. All emergency equipment throughout the building operates from only two central battery locations.



Photo D: Series MOE exterior wall packs, which were inset into ribbed exterior wall panels, using custom recessed tray.



Photo E: Series MOE exterior wall packs mounted outside shop classroom door.



Photo F: Sigtex Die Cast Exit Sign shown in hallway.

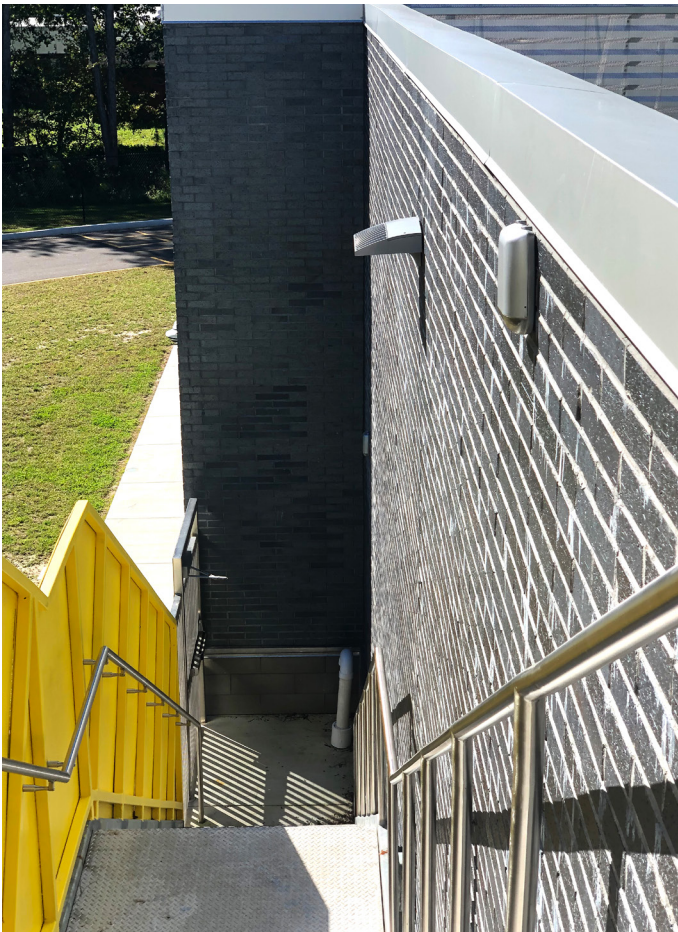
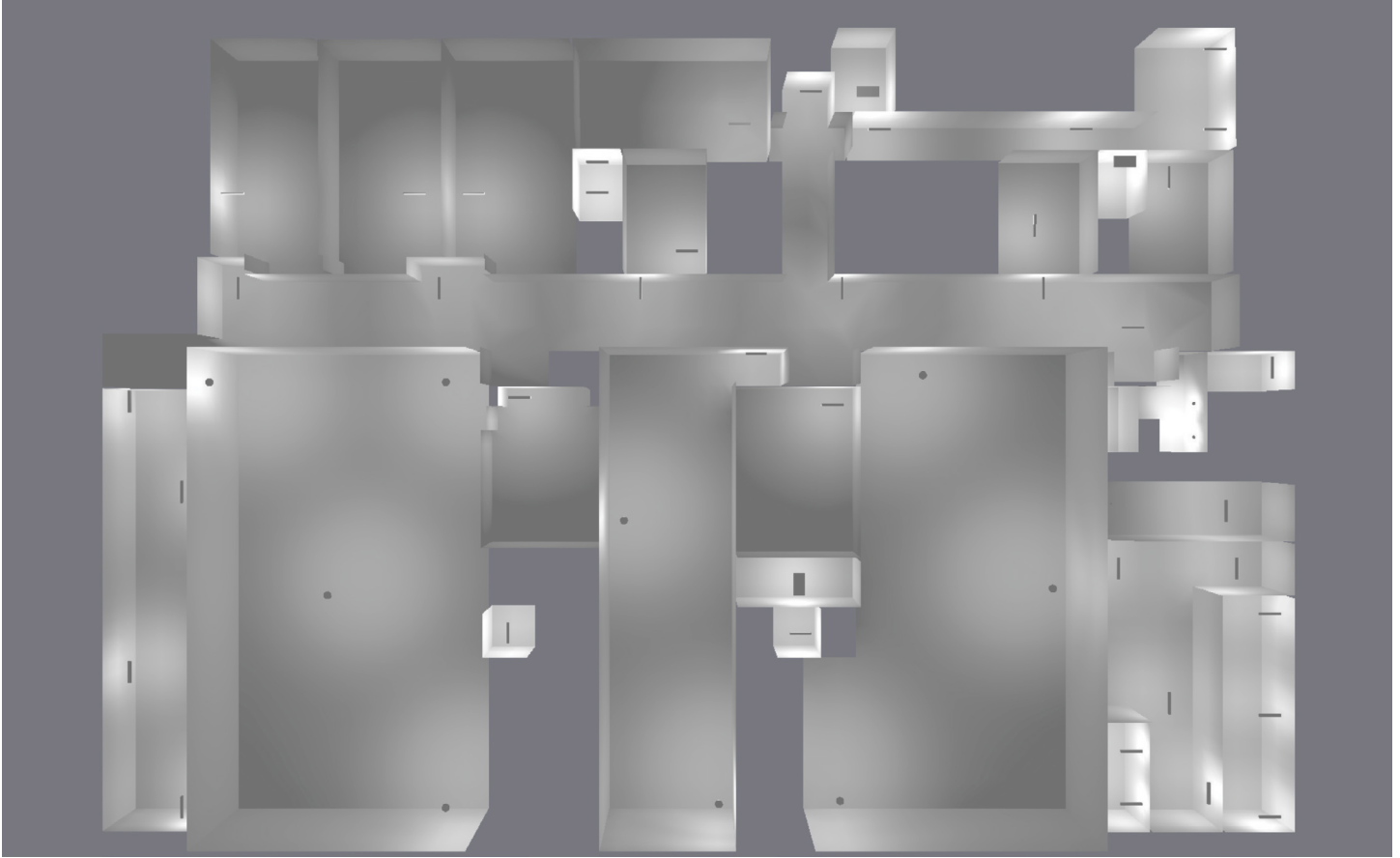


Photo G: Series MOE exterior wall pack mounted in exterior stairwell

Photometrics

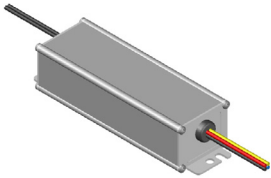
Emergency lighting exceeds 1 Fc average in all areas:



Signtex Products Used



**Central Battery System
with MARS®**



ELC



Moonlite LED™ MOE



Edge-Lit Exit Sign



Die Cast