

CASE STUDY



Project:

Cape Coral Fire
Training Facility

Location:

Cape Coral, Lee
County, Florida

Architect:

Todd Sweet, AIA, LEED
AP and Karl Bernhard,
AIA

Sweet Sparkman
Architecture and
Interiors

Builder:

Wright Construction
Group

Project Cost:

\$11.6 million

FIRE TRAINING FOR A NEW ERA: DESIGNING AN ADVANCED FACILITY

Sweet Sparkman Architecture and Interiors has had a long relationship with the City of Cape Coral, designing a series of firehouses to accommodate the area's booming growth. When the community announced plans to build a Fire Training Facility, the firm knew it wanted to be part of the project.

The firm aligned itself with Elliott · LeBoeuf & McElwain (ELM), Springfield, Virginia-based experts in the field, ultimately winning the contract and embracing the opportunity.

"The facility had been a passion project of Cape Coral Fire Chief Ryan Lamb," explained Karl Bernhard, AIA, and Sweet Sparkman partner. One reason, he explained, is that the department has no one place to train. "When they find an abandoned building, they'll go over there before it's knocked down and use it as a training site. They also have spaces throughout the city that they do their best to use to train staff."

Another factor, he continued, was the area's burgeoning growth, which is bringing in many newer and different building types. For instance, he said, "They're going vertical a lot more, so firefighters need to become more familiar with that."

The facility is to be built on a 6.2-acre government-use property located adjacent to a water treatment facility, north of a school and with residential developments to the west and north, siting that did not come without challenges, according to Bernhard. These included addressing the site's environmentally sensitive wetlands and managing the expectations of residents on neighboring properties. One hurdle was dealt with through the payment of credits¹, and the latter through strategic placement of the tower closer to the water treatment plant and "not in anyone's backyard."

On July 27, 2023, ground broke for the new training complex, the focal point of which will be a five-story Class B training tower that incorporates propane-fire elements like those firefighters may encounter in configurations such as motel, hotel, retail, office, and residential spaces. "These mock environments," Bernhard said, "promote the 'muscle memory' required for quick reaction and suppression of fires."

1. When developers apply for permits to build on protected wetlands, they can comply with environmental regulations by purchasing wetland "credits" to offset the negative impacts. These credits go toward paying for the maintenance and upkeep of a wetland bank, or a nearby wetland site.

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-Karl Bernhard, AIA



The tower, which will enable stair and repelling drills, also will provide the opportunity for trainees to maneuver a structure that uses theatrical smoke to familiarize them with factors such as poor visibility and confined spaces. In addition, a separate Emergency Medical Services building is to be built in conjunction with the tower that will house offices, break rooms, and locker rooms with shower facilities for personnel, as well as a covered staging area to supply shade as training plans are laid out.

Currently in implementation is a wet retaining pond to be used for testing pump engines and training in hose utilization. Looking ahead, the master plan includes a classroom building and a Class A burn structure in which firefighters deal with real fires and real smoke.

"All in all, the training complex will bring the first responders up to date and prepared for the future," Bernhard said.

"In this era, the technologies that are available vs. what were available before are obviously greater," Bernhard noted. The technically advanced simulation props to be employed in the tower, for instance, are being designed with ELM, which also provides forensic engineering that takes into account factors such as material degradation.

"A deep level of subject expert knowledge was brought into the design of this project," Bernhard said, "so this tower will stand the test of time."

"We're proud that we're able to participate in advancing the training capabilities of our first responders," the architect concluded. "Just like our fire stations, these are meaningful projects for us because they impact the community in positive and lasting ways."

ABOUT SWEET SPARKMAN

Sweet Sparkman Architecture and Interiors is a multi-disciplinary architecture, planning, and interiors firm specializing in community-oriented projects and high-end residential. Established in 2002, the award-winning firm has based its success on actively listening to clients' goals and careful analysis of every parameter of the project, including financial, physical, social, and environmental. Based in Sarasota, Florida with a sister office in St. Petersburg, Florida, Sweet Sparkman's international team of bold, inventive, and curious designers propels collective creativity and inspires big ideas.

For more information, visit [sweetsparkman.com](https://www.sweetsparkman.com) or call 941.952.0084.