

THE OKLAHOMA AVIATION ACADEMY

The Oklahoma Aviation Academy (OAA) in Norman is a new \$60 million, 700-student “college & careers” campus designed to prepare students for technical and aviation-related fields while also serving as a hardened refuge from severe storms. The roughly 99,000-square-foot campus — combining a high school building and a companion college-and-careers building — broke ground in October 2024 at the University of Oklahoma’s Max Westheimer Airport and is scheduled to open to students in January 2027.

The academy is developed in partnership with Norman Public Schools, the University of Oklahoma, and industry leaders including Boeing, positioning it as a statewide workforce development engine for Oklahoma’s booming aerospace and defense sector — now the state’s second-largest industry.

Located in the heart of tornado country, the district needed a school that combined 21st-century learning spaces with robust life-safety performance. Insulated Concrete Forms (ICFs) were selected for the main structural envelope and integrated storm shelter components, giving the project a highly durable, energy-efficient shell with the ability to protect occupants during high-wind events.

ABOUT

LOCATION: Norman, Oklahoma at the University of Oklahoma’s Max Westheimer Airport

USE: Aviation/ “College & Careers” building, a 31-ft aviation hangar, and a companion OU-owned ICF building

SIZE: ~99,000 sq ft across the main high school/college & careers building

BUDGET/CAPACITY: \$60 million; designed for 700 students

GROUNDBREAKING/OPENING:

October 2024/January 2027

PARTNERS: Norman Public Schools, University of Oklahoma, Moore Norman Technology Center, Boeing, MA+ Architecture, Manhattan Construction, KB Walker, Red Prairie Construction

SYSTEM: BuildBlock ICF, structural steel (two-story building), BuildBlock hard wall panels (hangar)

OWNER PRIORITIES: Integrated tornado-resistant safe spaces, long-term operating cost control, and a modern learning environment



RENDER COURTESY OF MA+ ARCHITECTURE

PROJECT BACKGROUND & WORKFORCE MISSION

OAA was founded in 2022 through a partnership between Norman Public Schools, community leaders, and aviation industry partners, giving students hands-on pathways into aviation and aerospace careers. The program launched with its inaugural freshman class that fall and now serves approximately 300 students, with the new facility built to accommodate growth to 700.

Students remain fully enrolled at Norman High School or Norman North High School — continuing athletics, fine arts, and other activities — while completing aviation-based coursework and applied learning at OAA. Career pathways include engineering and aerospace coursework supported by Boeing and other industry partners; Airframe and Powerplant maintenance certification through Moore Norman Technology Center; drone pilot certification; the opportunity to pursue a private pilot's license; concurrent college credit through the University of Oklahoma and Rose State College; a Civil Air Patrol cadet squadron; and Tango Flight, a multi-year program in which students build an FAA-certified aircraft.

In the spring of 2026, OAA celebrated its first-ever graduating class — 59 students in the academy's inaugural four-year cohort — a milestone the district has pointed to as proof of the program's rapid growth and long-term potential.

"This milestone reflects the tireless work of so many dedicated partners. When schools, higher education, government, industry, and the community unite around a shared vision for students, the results can be transformative. The Oklahoma Aviation Academy stands as a powerful example of what collaboration can achieve."

— **Dr. Nick Migliorino, Superintendent,**
Norman Public Schools



OWNER GOALS & DESIGN CHALLENGES

A Safe, Code-Compliant Learning Environment

The district's top priorities included:

- **Storm safety** - Provide students and staff with reliable protection from tornadoes and severe weather as part of day-to-day school operations.
- **Long-term durability** - Use a wall system that would stand up to decades of use with minimal maintenance compared to conventional framed construction.
- **Operational efficiency** - Lower energy use and stabilize interior temperatures in Oklahoma's hot-summer, storm-prone climate.



RENDER COURTESY OF MA+ ARCHITECTURE

A MODERN "COLLEGE & CAREERS" CAMPUS

At the same time, the Aviation Academy needed to function as a contemporary instructional space — more than a simple box of classrooms. That meant flexible lab, shop, and classroom layouts; higher ceiling volumes in select spaces; and storm shelter design integrated into normal daily-use areas, rather than isolated bunker-style rooms.



NAVIGATING BUDGET AND DESIGN COMPLEXITY

Like many public school projects, OAA came with real constraints: a fixed public-education budget, added coordination with the project's structural engineer, and a technically demanding site and program mix. Those pressures made the project harder to deliver — but they're also what make it a uniquely valuable reference: a real-world example of ICF and storm shelter construction succeeding on a public project with the same budget and schedule pressure other districts face.



A STANDOUT FEATURE: THE OPEN-BAY AVIATION HANGAR

What sets the Norman Aviation Academy apart from a typical school building is the hangar anchoring one end of the campus. Built to support the aviation program's hands-on curriculum, the hangar is an open bay rising 31 feet — far taller than a standard classroom or shop space — designed to accommodate aircraft and aviation training equipment as part of daily instruction.

That height and open-span requirement meant the hangar could not be built like the rest of the school. Achieving a clear, unobstructed interior while still meeting the project's storm-resistance and ICF-integration goals required a distinct structural and construction approach for this portion of the building.

The hangar walls are built using BuildBlock HardWall block system, left as an exposed, finished concrete surface rather than covered over — meaning every pour, joint, and connection had to be executed with the same care as a finished architectural wall. That level of exposed-finish precision, at full hangar height, is one of the more technically demanding pieces of the entire project.

The result is a single campus that moves seamlessly from conventional classrooms and labs to a full-height aviation hangar, all built on the same durable, storm-resistant ICF platform — a detail that makes Norman a particularly compelling reference for other districts with specialized program spaces.



RENDER COURTESY OF MA+ ARCHITECTURE

DESIGN INSPIRATION

The facility's architecture is designed to read as a modern version of a historic World War II-era airplane hangar — a nod to the golden age of aviation that fits the academy's mission. Viewed from the main entrance, the building's massing and design elements evoke the silhouette of a biplane, and the paving in front of the entrance is patterned to mimic runway markings, carrying the aviation theme from the building itself out into the site.

A CAMPUS OF DISTINCT STRUCTURES

OAA is not a single, uniform building — it's a roughly 120,000-square-foot campus made up of several structures working together, each built to a different technical requirement:

- **The main high school / college & careers building.** A two-story structure combining ICF walls with structural steel framing — steel crews erect the frame, set metal deck, and pour concrete floors to create the multi-story classroom and lab space.
- **The aviation hangar.** A full-height, 31-foot open bay built with exposed the BuildBlock HardWall system, described above.
- **A companion ICF building.** A smaller building on the same site, also built with ICF, owned by the University of Oklahoma and used for college-and-career training tied to OU's programs.

Nationally, dedicated aviation-focused high schools like OAA are rare, which — combined with the hangar, the multi-building site, and the mixed ICF/structural-steel approach — makes Norman one of the more distinctive school projects in BuildBlock's portfolio.



WHY ICF WAS CHOSEN

The Aviation Academy has quickly become a flagship example of why ICF is a smart fit for school construction:

- **Disaster resistance.** Reinforced concrete cores with continuous foam insulation provide impact resistance and a robust storm-resistant envelope — ideal for combining school and safe-room functions in a single structure.
- **Energy performance.** The ICF wall assembly helps the district control energy bills while improving comfort and noise control in classrooms and labs.
- **Speed and integration.** ICFs allowed the contractor to pour structure and insulation in a single operation, simplifying coordination on a complex, multi-space educational building.
- **Adaptability to unique spaces.** The same ICF system that shelters classrooms was engineered to support the hangar's open bay, showing how ICF scales from standard rooms to specialized, large-volume program spaces.



STRATEGIC IMPACT FOR THE DISTRICT

A Flagship Oklahoma Reference

The Norman Aviation Academy has become a marquee project in BuildBlock's own backyard — a go-to reference for ICF schools and storm-safe education facilities in Oklahoma, for large commercial jobs that demonstrate BuildBlock's capacity and support model, and for projects focused on safe-room integration.

A Template for Future School + Safe Room Projects

The project also helps answer a question other districts are asking: can we build one building that's a great school every day — and a reliable storm shelter when we need it?

Norman's Aviation Academy provides a working example of insulated concrete forms and HardWall panels performing together in a school environment, at a scale and level of complexity directly relevant to other Oklahoma districts and neighboring states.

