

PROJECT PROFILE / **KC-46A HANGAR AND BEDDOWN**

# NEW AIRCRAFT CREATES ENORMOUS NEED FOR UPDATED FACILITIES

Creating a new home for the military's newest refueling aircraft is no small feat. The Air Force Reserve Command's first KC-46A beddown began with a large hangar to support operations and maintenance of the new mission at Seymour Johnson Air Force Base.



# BIG SPACES DESIGNED TO SUPPORT A MUCH BIGGER MISSION

Supporting an ongoing mission as it transitions from one aircraft to the next means taking a comprehensive approach to the beddown.

## PROJECT STATS

### CLIENT

U.S. Air Force Reserve Command

### LOCATION

Seymour Johnson Air Force Base, North Carolina

### ANTICIPATED COMPLETION

Summer 2020

# 177K+

SQUARE FEET OF HANGAR AND MAINTENANCE SPACE



# 119K+

SQUARE FEET OF APRON



DESIGNED FOR  
**LEED  
SILVER**  
CERTIFICATION

The new Boeing KC-46A is designed to replace the KC-135, the Air Force's longtime aerial refueling and transport aircraft. The KC-46A, larger in every way, requires a variety of operational adjustments on Air Force bases, including updated maintenance procedures, and new facilities and equipment to support the evolving mission.

At Seymour Johnson Air Force Base in North Carolina, the Air Force Reserve Command (AFRC) is phasing out its KC-135 fleet in anticipation of the KC-46A. This is the first KC-46A beddown program for the AFRC and requires an overall look at existing facilities and operations to understand the current state of the base, the needs moving forward and how to effectively transition from the KC-135 to the KC-46A while still meeting an ongoing mission.

Having been involved in the first Air Force beddown of the KC-46A at McConnell Air Force Base and the depot maintenance facility beddown at Tinker Air Force Base, the Louisville District of the U.S. Army Corps of Engineers and AFRC turned to our team to coordinate the beddown effort and design a new hangar facility for maintenance operations at Seymour Johnson AFB.

Our team conducted design charrettes to first develop a program-level master plan for the beddown as a whole. Information gathered during the charrette helped determine which base operations would be required to relocate, into what buildings they would move, and how and when the moves would take place. This, alongside the understanding that a continued mission to maintain the existing fleet of KC-135s would be required, helped inform the overall project approach.

Further design charrettes resulted in final design and construction documents for a 177,945-square-foot hangar, to be completed before an aircraft had been delivered to the base. Therefore, since maintenance aspects of the aircraft are unknown until the aircraft are in the Department of Defense fleet, designing flexibility within the hangar and shops was very important. The new facility will provide corrosion control and fuel maintenance spaces for the KC-46A, offering a single facility for both maintenance functions.

The complex will be divided into three separate areas, including two hangar bays — a 42,880-square-foot corrosion control hangar bay and a 45,965-square-foot fuel cell maintenance hangar bay — and



89,825 square feet of attached shops. Shop areas include spaces for administrative offices, bathrooms, locker rooms, storage, aerospace ground equipment, hydraulics and brakes, corrosion control, fuel cells, and nondestructive inspections.

Specialty systems include a large ventilation system in the corrosion control hangar bay. This system will pull air across the aircraft through a louvered hangar door, venting the air through stacks on the roof to remove harmful fumes from the space through a three-stage filtration system. On the

fuel cell maintenance side, personal ventilation systems will allow workers to safely enter the fuel cells of the aircraft to perform maintenance duties. X-ray technology will be installed in the nondestructive inspection shop for detailed part inspection.

Two flightline buildings, 180,000 square feet of existing asphalt pavement and 60,000 square feet of airfield concrete apron needed to be demolished to begin the construction phase of the project. Phased construction for the beddown is ongoing, an approach that allows AFRC to maintain its mission

while the base transitions to the new aircraft. Our team is providing shop drawing reviews, site visits and other on-call services in a supportive role to the Army Corps of Engineers during construction.

Once completed, the new hangar and surrounding apron will give AFRC the foundation for performing maintenance and operations for the KC-46A while continuing to support the KC-135 until final phaseout can be completed.



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