Corps restores historical gem at Wright-Patterson Air Force Base

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Building 23 at Wright-Patterson Air Force Base was recently renovated inside and out. The three-story facility is state-of-the-art, but maintains its historical appearance on the exterior.

Everything ages with time—even the beautifully constructed buildings of the bygone days that scatter across Wright Patterson Air Force Base. The Corps of Engineers Louisville District is working to change that, by partnering with Wright-Patterson Air Force Base, to undertake renovation projects of several historical facilities.

In June, doors will open on the latest restored facility—Building 23 in the Wright Field Historic District. The historic Static Test Facility, which was originally built in 1934 to house structural tests for aircraft and parts has had a 22.5 million overhaul over the past 20 months.

"We took an old hanger that was seen as a disaster inside, and it has turned out to be one the most industrial looking labs at Wright-Patt used for research and development," said John Hearn, Louisville District Corps of Engineers Construction Representative.

The historic district was established in 1927 as the experimental engineering arm of the U.S. Army Signal Corps and was the site of some of the most advanced aeronautical engineering work in the history of aviation. The building is eligible for listing on the National Register of Historic Places. "It's an honor to work on the team to help bring the facilty back to life," said Hearn.

The Corps worked alongside Messer Construction, 88th Civil Engineer Group at Wright-Patterson and the Propulsion Directorate to transform the dilapidated building into the new state-of-the-art Advanced Power Thermal Research Lab.

The 52,000 sq. ft. facility is completely new on the inside, but maintains the same historical feel and aesthetic of the World War II-era buildings on base. The rehabilitation included two main areas: exterior repair, stabilization and restoration of the enormous amount of copper fascia, and construction of an interior that was structurally independent and up-to-date.

"Essentially the team had to design and construct a building within a building," said Hearn.

The team took careful consideration to match new features to the originals while still making sure that current security and force protection requirements were met. The team focused on matching colors and textures of the exterior copper, bricks, concrete, and even the obscure glass window panes so that the restoration was flawless and matched the historic nature of the building.

Additionally, a skywalk was built connecting Building 23 to the adjacent Building 18 that had to be compatible with both buildings and match the Wright Field architectural style.

The three-story building is packed full of modern test labs including: physics laboratory, electro laser laboratory, thermal laboratory, test cell lab, high power test cell lab, and a turbogenerator lab for research. There is also a high-bay space for radio frequency shielded experiments, a fabrication shop, and several other hazmat rooms, clean rooms and storage facilities.

"The improved space provides a working environment to serve vital functions in the ever changing research missions at Wright-Patterson," said Hearn.

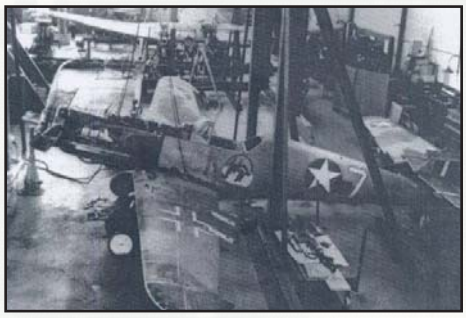
Among the many great successes of the project, like not having any lost-time accidents with more than 100,000 man hours worked, also came the challenge of achieving a U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) gold rating.

"This was challenging," said Hearn, "but the project team excelled, by restoring the exterior fabric of the facility and exceeding the original goal of a silver LEED rating at the same time."

This rating is achieved through brand new mechanical systems that produce a 31 percent energy savings, decrease water use by 45 percent and other environmentally friendly measures that were incorporated throughout the building. Those processes include: 20 percent of the materials used were local, 78 percent of the construction debris was recycled or reused offsite instead of going into a landfill and a parking lot offers preferred parking for fuel-efficient vehicles.

"Currently the building is slated to be the first LEED gold building on Wright-Patterson Air Force Base," said Hearn. "That is a huge accomplishment and credit should be given to the entire construction team for their efforts."

The completed renovation of Building 23 is one of three renovation projects completed by the Corps in recent years. The Corps also worked to preserve Building 12 and Building 17—both of which received LEED silver ratings for their efficiency. "The rehabilitation highlight's Wright-Patt's commitment to preserving historic architecture for years to come," said Hearn.



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Static load tests were conducted on this captured Messerschmidt Me-109 at Wright Field during World War II.