

North Island's New Look

**U.S. Naval Air Station North Island
near San Diego has a tight bond
with the history of flight.**



The Navy's first aviator, Lieutenant Theodore Ellyson, trained at North Island starting in 1911, just eight years after Orville and Wilbur Wright made Kitty Hawk, N.C., famous. And although his most noteworthy trip was from New York to Paris, Charles Lindbergh first had to fly his "Spirit of St. Louis" from North Island, where the plane was built, to Long Island.

The island has traveled as far as Lindbergh since its early days as an uninhabited sand flat. Now Burns & McDonnell is helping give it an updated look. The firm is the design-build contractor for a \$24.2 million job to build a new aircraft maintenance hangar, air traffic control tower and renovate existing taxiways on the island.

The project is important because it enhances North Island's reputation as the birthplace of naval aviation. The job also demonstrates the design-build and construction services expertise of the Burns & McDonnell San Diego office.

The island's airfield has more than 230 aircraft and is home to major aircraft carriers. It also is home to the Navy's only Deep Submergence Rescue Vehicles, and headquarters of six major military flag staffs. With all ships in port, the base's population is over 30,000 active duty, selected reserve military and civilian personnel.

"In addition to its history and reputation, North Island frequently hosts dignitaries from the military and government," says Ross Pritchard, Burns & McDonnell associate vice president and San Diego office manager. "In July 2004, North Island hosted a former first lady, members of Congress and state officials for the home port ceremony of the USS Ronald Reagan."



Maintenance Hangar

North Island is upgrading its flagship aircraft from the C-9 to the larger C-40. The new 45,000-square-foot maintenance hangar with a 135-foot clear span will be large enough to house the C-40 for washing, refurbishing and engine maintenance. The C-40 is essentially the militarized version of Boeing's 737-700 and is used for transporting personnel and cargo.

The hangar includes numerous ancillary facilities, including office space, parts, seat storage (for converting the C-40 from a passenger configuration to cargo plane) and training facilities. The design by Burns & McDonnell includes a fire protection system with a unique feature: fire-retardant aqueous film forming foam (AFFF) is sprayed from nozzles installed in floor trenches instead of from cannons above the plane. This system is designed to minimize the potential of damage to the aircraft.

Air Traffic Control Tower and Taxiway

The existing 90-foot air traffic control tower on North Island will be replaced with a new 150-foot tower. The existing tower will be demolished to a height of 25 feet and then fitted with a new roof. The radar and all infrastructure in the existing tower will remain intact and will be interconnected with the new tower over a weekend to minimize downtime. Burns & McDonnell performed 3-D shadow studies to show Navy air traffic controllers computer-generated views of exactly what they would see from the new tower.

The larger C-40 aircraft will require a new, sturdier taxiway. The existing 8-inch portland cement concrete (PCC) taxiway in use since the 1940s will be replaced by 14 inches of PCC with 6 inches of compacted subgrade beneath. In all, more than 500,000 square feet of pavement will be replaced.

Looking Forward

"With a new hangar, control tower and taxiway, Naval Air Station North Island has a new look that will help carry the base into the future of aviation," says BMcD program manager Bill McCully.

For more information, contact Ross Pritchard, 858-547-9869.

The hangar and air traffic control tower at Naval Air Station North Island will be eligible for LEED™ certification when complete.

LEED™ (Leadership in Energy and Environmental Design) certification is becoming increasingly popular for federal government facilities. Buildings achieve certification by scoring points in five categories: sustainable site planning, water efficiency and safeguards, energy efficiency and renewable energy use, conservation of materials and resources, and indoor environmental quality.

LEED™ is a program developed by the U.S. Green Buildings Council, a nonprofit coalition of industrial, governmental and environmental groups. LEED™ is designed to define, measure and certify buildings that are environmentally responsible, economically efficient and healthy places to live and work.