

Project Profile:

Client: United States Navy
Portfolio: Federal / Military
Location: NAES Lakehurst, Lakehurst, NJ

Services: Mainstay Engineering Group provided structural investigation of timber truss arches for structural load capacity for Hangar 5 and 6 located onboard Naval Air Engineering Station, Lakehurst, NJ. As part of this investigation Mainstay performed site observations in order to gather information pertaining to the condition of the timber truss joints. Mainstay also directed radiograph and ultrasonic technicians during the field investigation to determine the extent of corrosion of the steel connection hardware at critical truss joint locations.

Description: Hangars 5 and 6 are timber truss arch structures which date back to 1942. Their original purpose was to house U.S. Navy dirigibles. These massive structures are approximately 200 feet tall, 240 feet wide, and 1000 feet long. The hangars have been investigated over the years for structural deterioration resulting from age and water infiltration. Mainstay created two structural models of the truss arch in the structural modeling software, Risa-3D using code prescribed loads. Loads, including dead load, snow load, and wind load, were applied to the model per IBC 2006 code criteria for magnitude, direction, and configuration.

Photos & Graphics:

