



PROJECT PROFILE

Port San Antonio Building 1610

Structural Assessment, Analysis, and Connection Design | San Antonio, TX



CLIENT

Port San Antonio

BACKGROUND

Port San Antonio's Building 1610 hangar was built in 1940 and is supported by three-hinged steel truss arches spanning 275 feet. The truss elements are hot-rolled, wide-flange, angle, and channel shaped with riveted connections.

The client retained WJE to provide professional consulting services for a structural assessment and structural support design for the Port San Antonio Building 1610 fire protection retrofit. To service modern aircraft, the hangar needed to be equipped with modern wet and foam fire suppression systems.

SOLUTION

The initial phase of our investigation involved reviewing the original 1940 drawings and field work to verify the drawing accuracy. Computational models of the trusses and selected secondary structural members were then created to assess the current loads on the members and determine their ability to support additional loads. We worked with the fire protection consultant to position the new fire suppression systems in locations that allowed the structure to support the additional loads with minimal structural strengthening. We also designed the structural connections for the fire protection systems to minimize additional load effects on the members.

In the construction management phase, we worked closely with other involved design consultants and the contractor to produce an efficient and effective solution for Port San Antonio.

