



SCHEDULE

- Completed in 2002

SERVICES

- Structural Engineer of Record
- Mat Foundation Design
- Supported Floor Design
- Structural Steel Design of Tower Working Floor
- Tilt-Up Panel Shop Drawings
- Tilt-Up Panel Reinforcing Design
- Tilt-Up Panel Lifting Engineering
- Tilt-Up Panel Erection Bracing Design
- Masonry Wall and Wood Roof Design for Support Building

OBJECTIVE:

Design and construct an air traffic control tower that is durable and resistant to hurricanes while meeting demanding time schedules and budgets.

DESCRIPTION:

The walls were divided vertically into 25-foot-by-20-foot wide panels. In addition, interior floor slabs were constructed on site and then installed during construction.

INNOVATION:

Innovation was not limited to the design process, but applied during construction as well. The first four panels were tilted into place, and then two concrete floors – constructed on the ground – were slid down into place. The next four panels were then tilted into place on top of the original four panels and braced to the second floor slab. The next two floor slabs were then dropped into place prior to setting the next tier. The benefit to this system was the use of a smaller crane and braces, as the braces never had to handle more than 20 feet of panel.

The tower was designed for maximum durability – to include a 125-mile-per-hour wind load and exposure category D with an importance factor of 1.15, meaning that this tower should not only stay intact during a hurricane, but fully operational afterwards. The control tower cab, or working floor, was designed as a space frame to allow full assembly on the ground and was then lifted into place on top of the panels.

Both the owner and contractor were pleased that this project came in ahead of schedule and under budget. This project was a 2005 Tilt-Up Concrete Association (TCA) Achievement Award Winner in the Special Projects category.