



Capstone Projects in Civil Engineering



Base Elizabeth City Emergency Management Center

1/c Jordan Bogden, 1/c Jason Lassiter, 1/c Michael Klakring, 1/c Kevin Noll
 Advisors: Dr. Kassim Tarhini, LT Nathan Rumsey
 Sponsor: USCG Base Elizabeth City

Project Background

The existing fire station no longer meets the needs of the base and can no longer support the mission. Current staffing does not meet minimum personnel/response standards of the National Fire Protection Agency, Department of Defense, or Federal Aviation Administration. Currently the medical, fire response, security, and dispatch services are scattered around the base.

Existing location

Proposed location



Objectives

- Design a facility to meet NFPA, DOD, and FAA standards.
- Allow for all services to meet standard response times for structural fires, airfield and medical emergencies, hazardous material spills and security calls.
- Meet space requirements for firefighting apparatus and a larger duty section.
- Co-locate Fire, Security, Medical and Dispatch Services to increase efficiency.

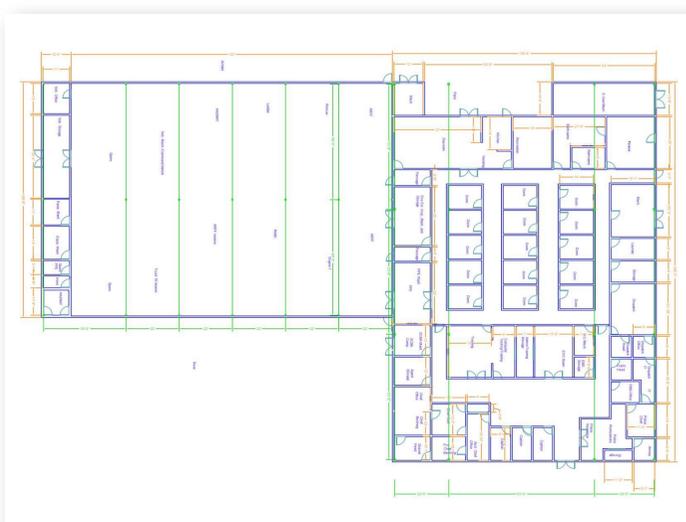
Final Design



Timeline

- 22 January- Site Visit
- 12 March- Finalized Layout Design
- 23 March- Load Analysis
- 05 April- Reinforced Concrete Wall Design
- 06 April- Roof & Truss Design
- 18 April- Foundation Design

Floor Plan



Results

- 32,000ft² facility that meets standards and requirements set forth for this project.
- \$1.6 million construction and materials cost
- New facility adheres to code, size, personnel, functionality and location requirements.

Truss Design

