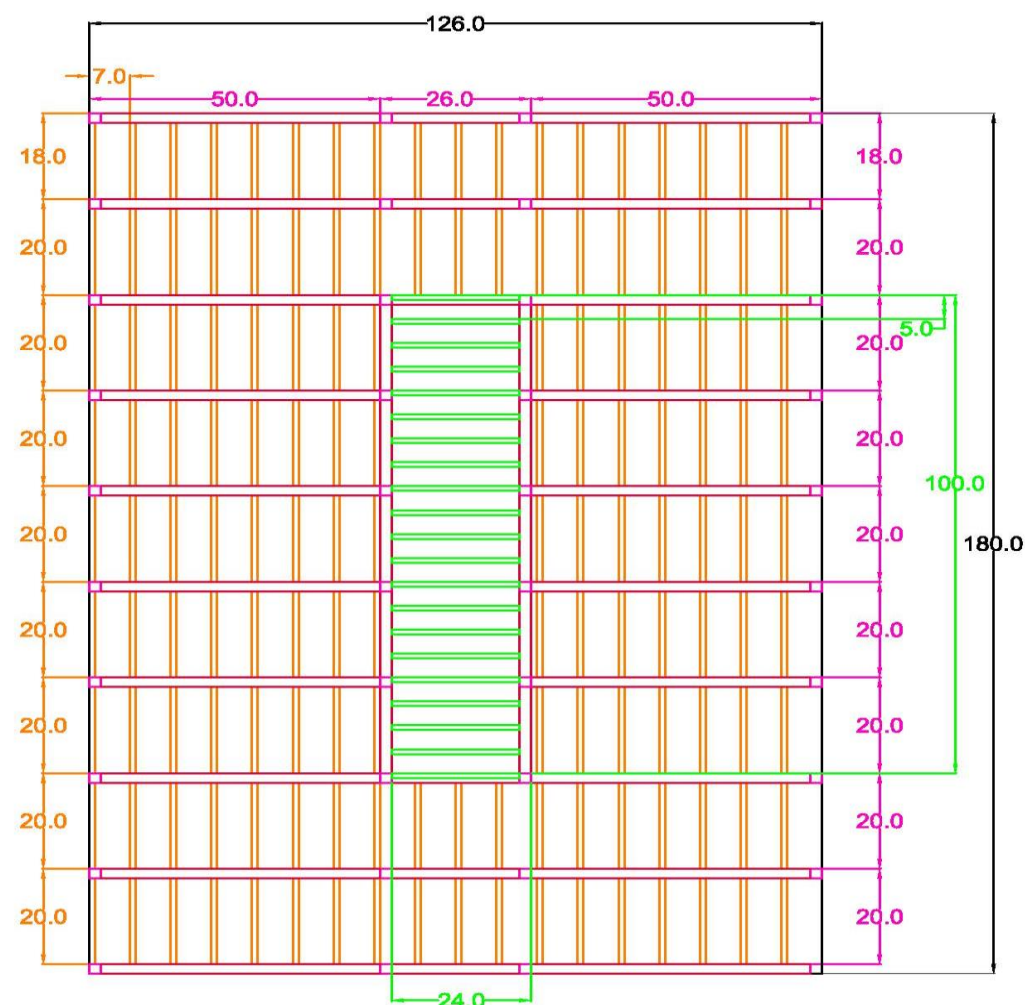


Extension of Edgewood Drive and Redesign of Columbia Village Parking Garage

FESA Engineering and Consulting; Fatemah Abbas, Emma Sandell, Sean Green, Atakan Ciftci

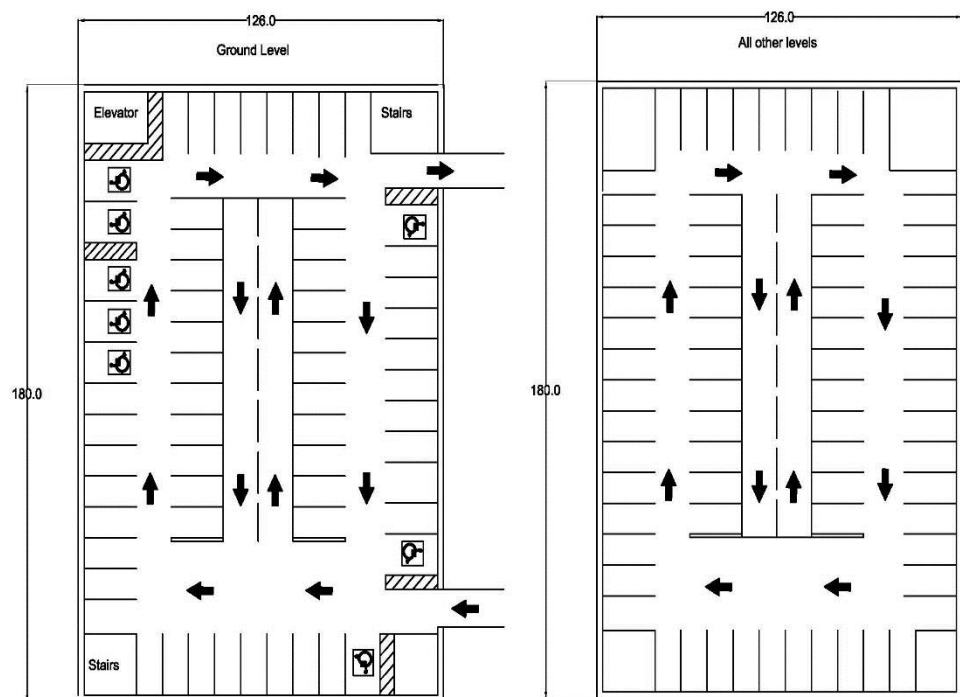
Faculty Advisors: Dr. Nakin Suksawang, Dr. Rodrigo Mesa-Arango, Dr. Howell Heck, Dept of CVE, Florida Institute of Technology

Structural



Structural Layout

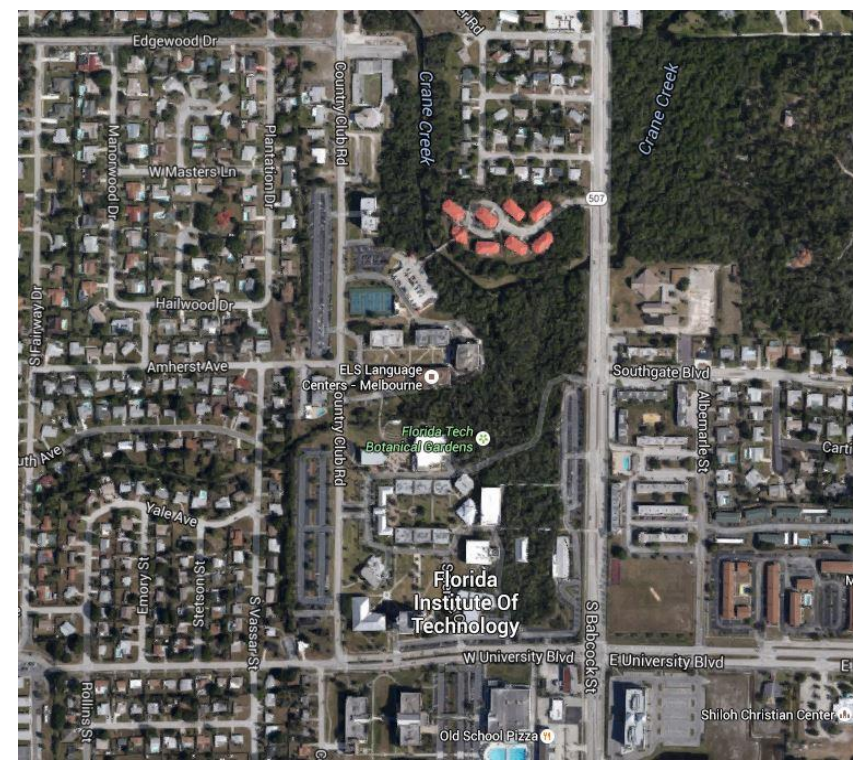
The structural component in this project is the design of the main parking structure, which will include redesigning the existing parking garage in front of Columbia Village, which will then be demolished and replaced. This building is approximately 180ft by 126ft and each additional level added would increase the height of the structure by twelve feet. The minimum extension will be four stories that will add approximately 275 spaces, including 7 handicap spaces required by the City of Melbourne.



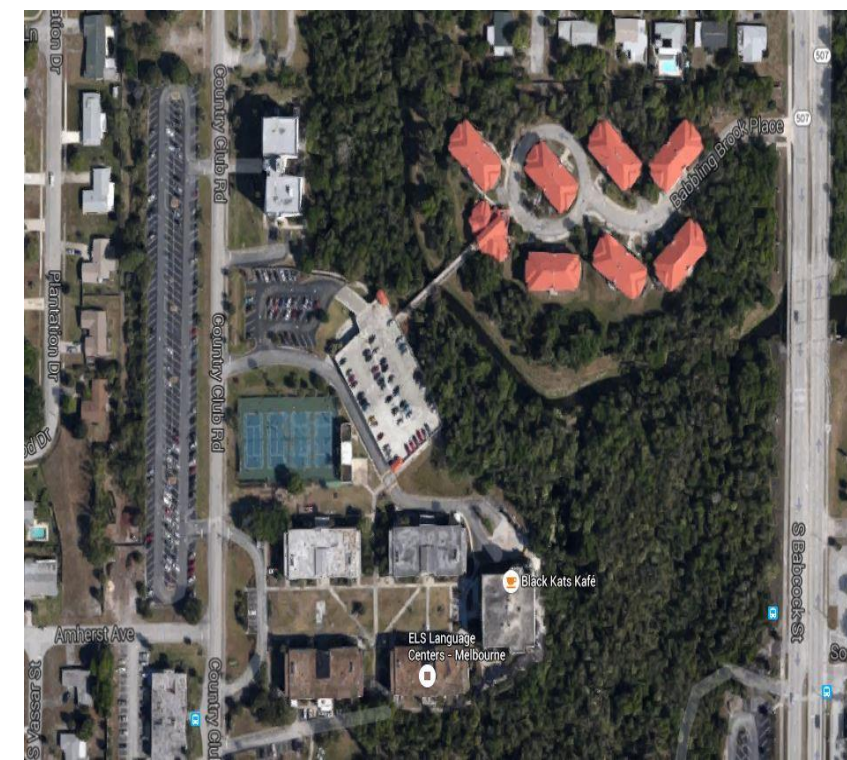
General Layout: Proposed Parking Garage

Overview

As a solution to growing safety and transportation concerns, FESA Engineering and Consulting (FESA) suggests closing W. University Boulevard to through traffic and extending Edgewood Drive from Country Club Road to Babcock Street. Additionally, a growth in Main Campus enrollment rates has decreased the amount of parking available to commuting students, faculty, and visitors. FESA has provided a new design for the Columbia Village parking garage in order to provide more parking spaces.

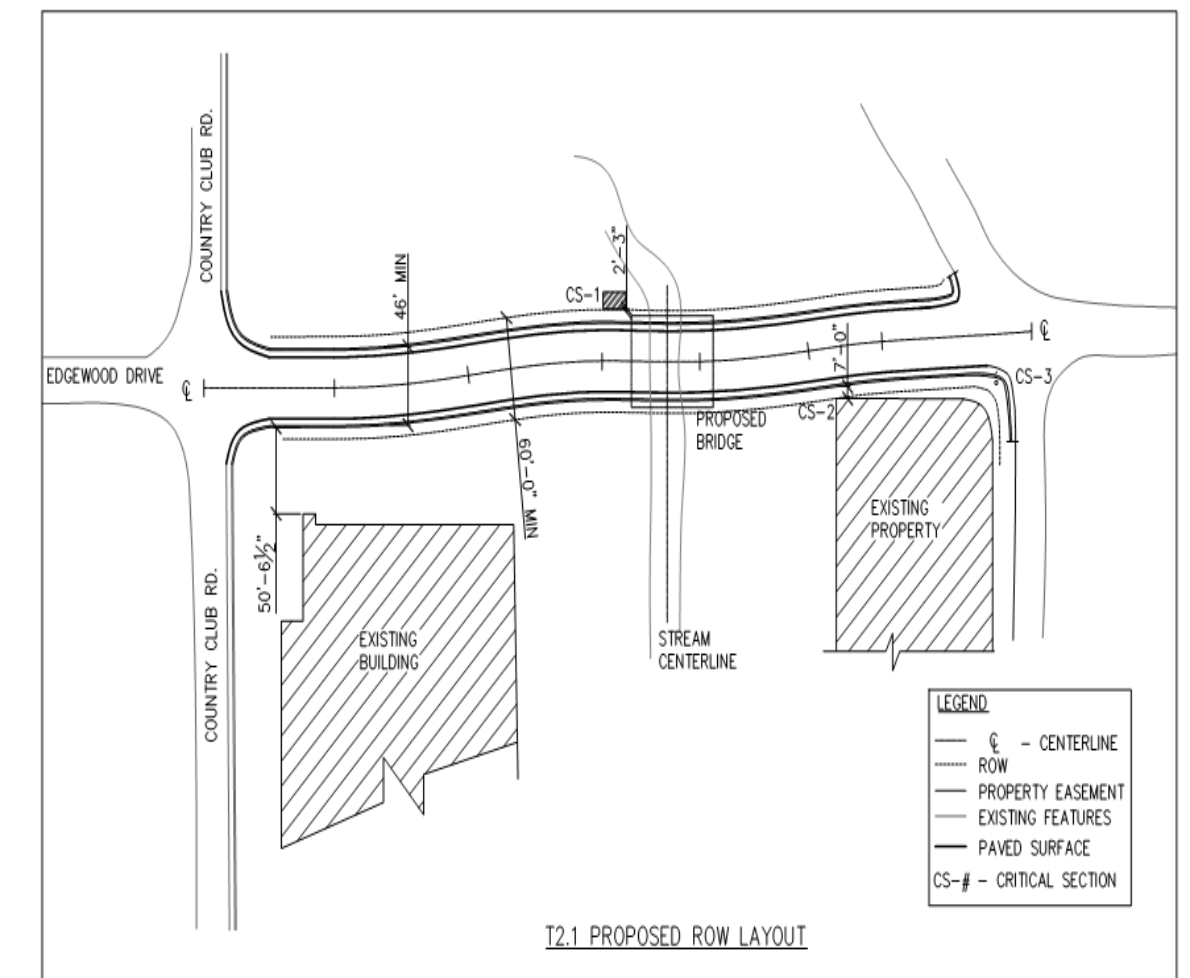


Site Map: General Overview



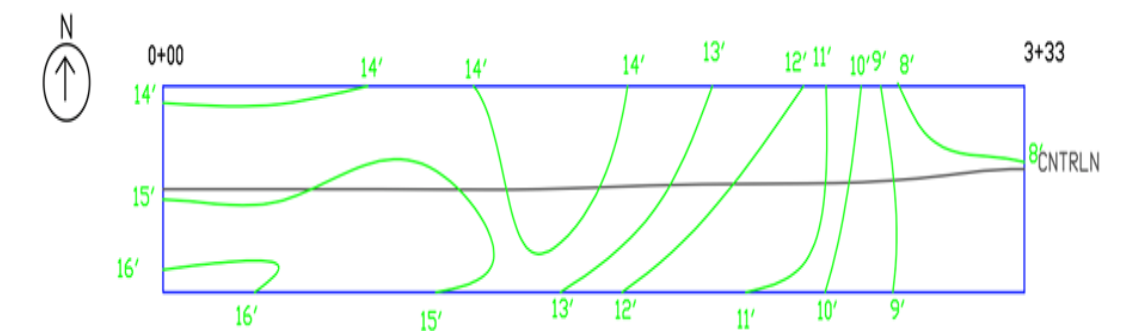
Site Map: Existing Parking Garage

Transportation: Roadway Design



Survey and Mapping

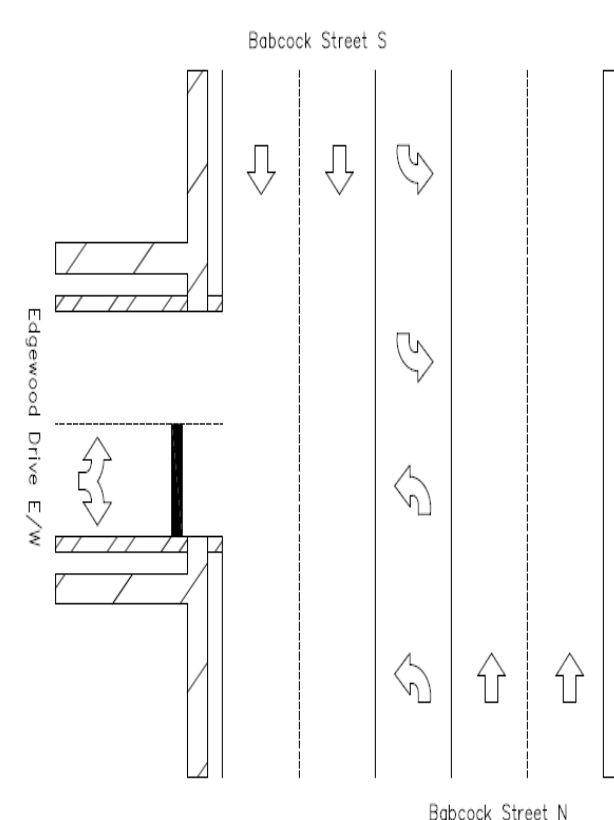
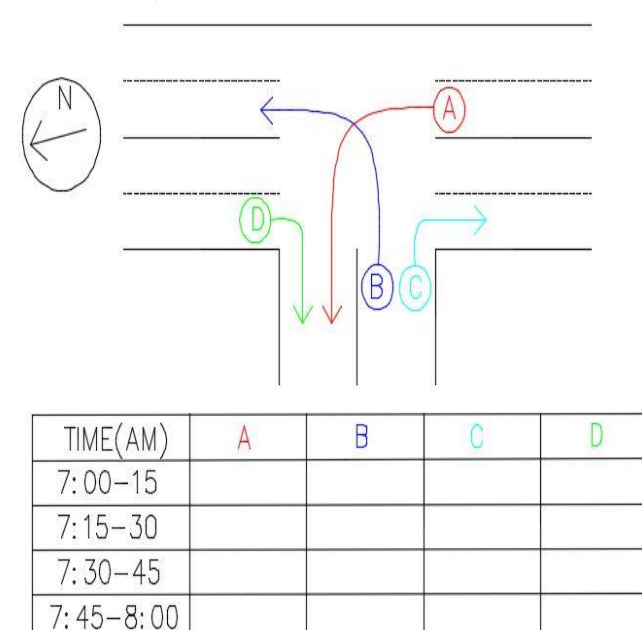
Elevations were taken 24 ft. on each side of the centerline at 6 ft. intervals starting from Country Club intersection to S Ruffner Rd.



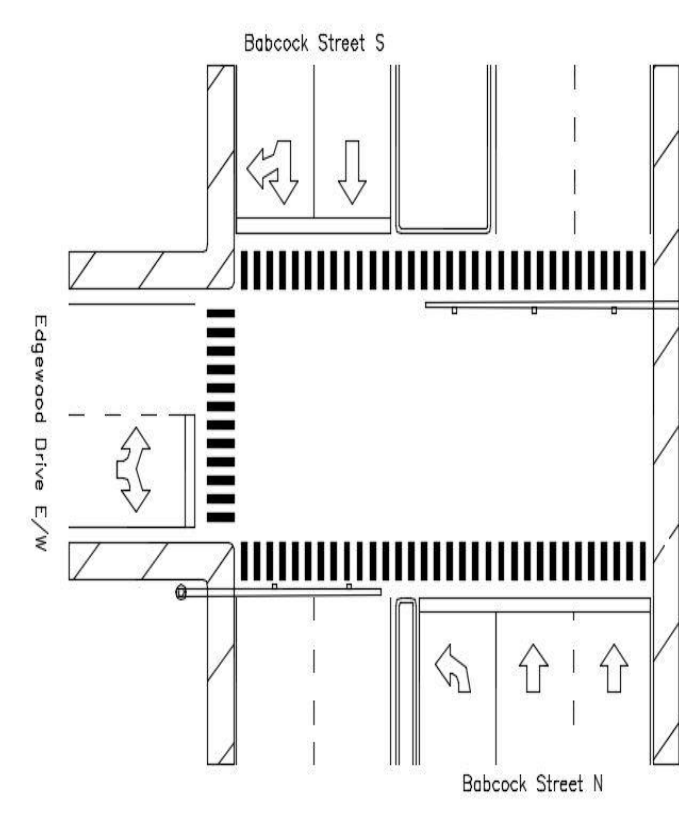
Transportation: Traffic Signal Design

Combined with a Kimley-Horn traffic count survey, data was gathered to determine peak-hour density. This density warranted a traffic signal be implemented at the proposed intersection

FESA, Inc.
Turning Movements Survey [7:00-8:00 AM]
Data Sheet -- Babcock Street and Edgewood Drive



Existing Conditions



Proposed Changes

NORTHROP GRUMMAN



Engineering & Science
Student Design Showcase
at Florida Institute of Technology

