

## **Palm Drive District - Shade Sail Installation - Progress Report**

### **Email**

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### **Project Manager Name**

Kevin Lansey

### **Requested Metrics**

# of Students involved - We have added 3 students to our team bringing our total to 6 students involved in our projects with 2 faculty and 2 alumni design engineers

# of estimated cumulative hours spent on this project (broken up by students/ staff)

This Palm Drive District has involved many students over many semesters. In January and February, we estimate the following number of hours. Faculty (72 hours), students 150 hours, alumni (20 hours).

Experience of students working on the project - Students continue to be highly motivated on this project due to the sustainability aspects and the concrete contributions they can make. Students continue to stay involved with only 1 earning course credit and other receiving no course credit or no financial compensation.

# of photos published - we provided several photos to our contact at a recent meeting. We will post on the CAEM department website and linkedin site.

# of articles published - none to date

# of attendees at our open 'tents' - to be scheduled

### **Project Accomplishments**

Our project will install a 20 ft x 12 ft shade sail adjacent to the ECE building and place sensors in air conditioning ducts to monitor the length of time that the air conditioning is active in offices impacted and not impacted by the shade structure. An architectural engineering student finalized the size and angle of the sail based on an assessment of sun movement using CAD software. With support from a civil engineering consulting firm, HDR, we have completed the design of foundations and posts. These plans have been submitted for final approval with Risk Management. Our new students will be responsible for (a) sail construction management (CE student) and (b) data collection and website development (ECE student). Others have been involved in site work and coordinating structural design.

An Honors student on our team submitting a proposal and was approved to purchase a weather station to be installed in the ECE/CE corridor and supplement the indoor monitoring. The equipment has arrived and our new ECE student is collaborating to prepare data collection and website presentation.

### **Next Steps**

We are scheduled to meet on March 11 with our FM project manager to plan the final construction process. Steps are: (1) blue stake for utilities and irrigation lines, (2) order materials, (3) finalize location based on recommended spacing between the ECE building foundation and shade sail foundations and existing palm trees, (4) remove Texas Ranger and Oleander plants, (5) plan for placing foundations and installing posts and shade sail, and (6) install air movement sensors in ECE offices and connect to computer and develop web software to display operation times. All steps except (1) will be completed or organized by students.

Sail construction will then be completed in early to mid-April. We are beginning planning our open houses and finalize post-construction (table installation, gravel path and signage).

## **Challenges Faced**

Our initial design team was delayed in developing designs and HDR (and UA CAEM alums) stepped in to quickly develop a design.

The structure cost is more than the shade sail company design so we are working with local contractors and suppliers to donate/discount some materials.

Our team additions that were recruited this team have filled gaps in construction and data collection/software expertise. Our team is now complete and covers all project needs.

## **Project Support**

Our publicity is limited and advice/support in identifying avenues beyond personal and departmental social media would be appreciated. Similarly, guidance on best approaches for advertising open houses would be helpful.

## **Photo Link**

## **Media/Links**