

PROJECT SUMMARY



Prairie View A&M University Urban Single-Family (USF)

Project Summary

The Independence Heights neighborhood was the first incorporated black municipality in Texas (1910). The neighborhood was subsequently incorporated into the City of Houston. Most recently, the Independence Heights neighborhood sustained significant damage from Hurricane Harvey in August of 2017. Our goal is to provide affordable, net zero, modular infill housing strategies for the neighborhood.



Relevance of Project to the Goals of the Competition

One purpose of this competition is to extend the reach of building science both in the University curriculum as well as in the profession. Our team has and will continue to take that several steps further by applying Passive House methods to a hot and humid climate, and in the process bring the Certified Passive House Consultant training to a Historically Black College and University (HBCU). Another purpose is to deliver net zero ready homes to the marketplace. Our intent is to achieve this goal in a low income neighborhood that is within the 500 year flood plain.

Design Strategy and Key Points

This year, we are approaching the project from a modular perspective as our Fabrication Lab is scheduled for completion in March 2018. Our goal is to design, energy model, and build various options to provide affordable, modular, high performance housing to a low-income community. This summer our team visited Unity Homes and VerMod for research on how modular construction is conducted.

Project Data

- Houston, TX
- Climate 2A
- 1,000-1,600 ft²
- 1 Bed, 1 Bath minimum (variations to occur)
- HERS Score before and after photovoltaic system: TBD
- Photovoltaic system pricing: TBD

Technical Specifications

- Wall Insulation = R-24c.i.
- Foundation Insulation = R-21 +R-9c.i.
- Roof Insulation = R-30c.i.
- Window Performance = U-0.15, SHGC-0.25
- HVAC specifications = TBD