

Client: Mary and Kee Augustine
 Architect/Developer: Arizona State University (ASU) Stardust Center
 Development Partner: Navajo Housing Authority

Design/Build Team: Daniel Glenn, Design Director
 Ernesto Fonseca, Construction/Energy Modeling
 ASU Students of Architecture: Christopher Billy, Tanya Yellowhair, and Jason Croxton

FEB 2005 Design process begins
 MAY 2005 Design/Build begins
 AUG 2005 Substantial completion
 OCT 2005 Occupied and monitoring begins
 OCT 2005 Monitoring complete

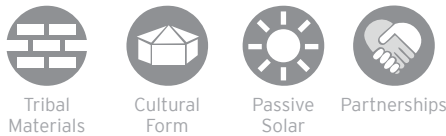


Photo: Daniel Glenn

TRIBAL ENTERPRISE

The Nageezi House is a sustainable and affordable design/build project of the Arizona State University (ASU) Stardust Center. It was the first home to be built using Navajo FlexCrete, a subsidiary of the Navajo Housing Authority. The home was designed and built with a Navajo elder family in Nageezi, NM with a team of professionals and students from ASU's department of Architecture. The project was a collaboration with the Navajo Housing Authority.

CORE PROJECT EMPHASES:

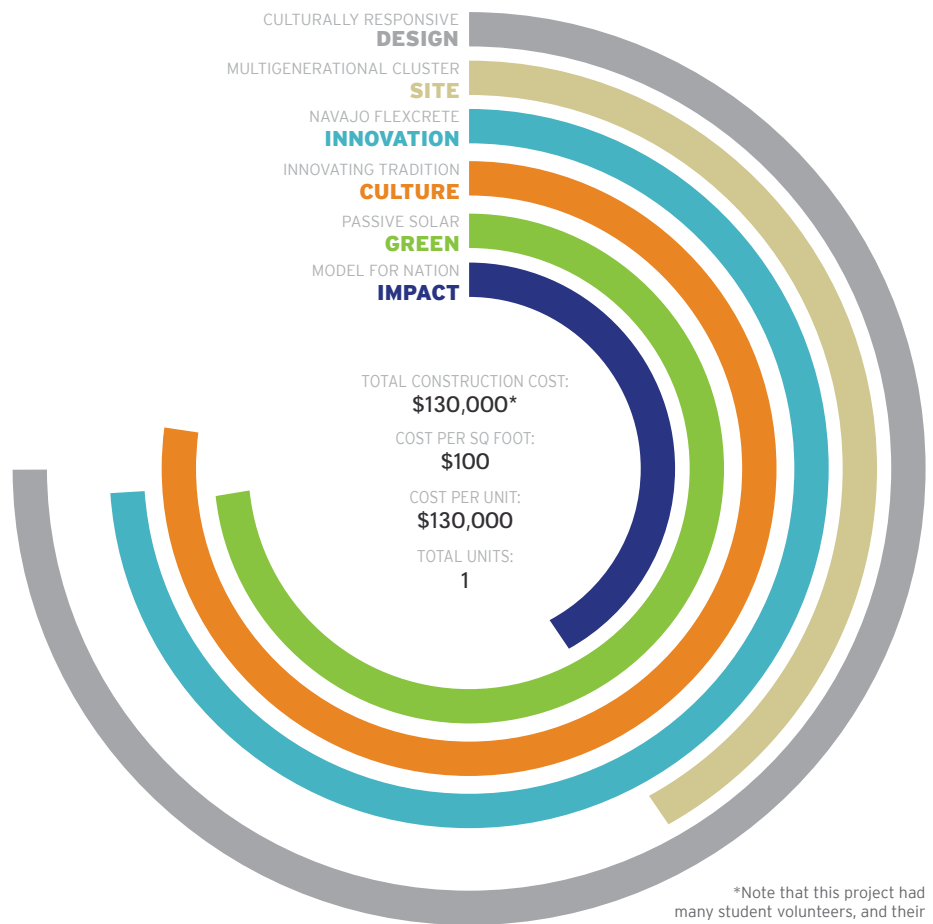


LESSONS LEARNED

- The collaboration between a tribal housing authority and a university can help to provide new models for housing.
- Culturally relevant, sustainable housing can be adopted on a larger scale for new housing developments.

BEST PRACTICES

- The project incorporated passive cooling ventilation and passive solar heating.
- Rainwater is harvested with a 1,200 gallon underground cistern.
- The house is designed to reflect and celebrate traditional Navajo culture.
- The project used tribal materials for construction –Navajo FlexCrete.



*Note that this project had many student volunteers, and their time has not been accounted for in the project costs



Photo: Daniel Glenn



Single Family



Southwest

NAGEEZI HOUSE

CULTURE

The house is designed to reflect and celebrate traditional Navajo culture. The home's innovative design reflects the traditional structures of the Navajo, including the hooghan (home) and the chahash'oh (shade structure). Both Mary and Kee Augustine grew up in traditional Navajo hooghans. For the past 40 years, however, they had been living in a conventional western home and had grown accustomed to that lifestyle. In consultation with Mary and Kee, a design was developed that honored and reflected Navajo traditions but provides the size, privacy, and compartmentalization of conventional housing. Like a hooghan, the doorway faces east, and circulation through the home is in a clockwise flow, from the more public areas (living/kitchen/dining) toward the private rooms (bathroom and bedrooms). These rooms wrap around an octagonal courtyard, designed to reflect the Navajo hooghan in form and in the materials. Living, kitchen, and dining spaces are combined into one large, south-facing room to allow for larger family gatherings and to reflect the shared space of the hooghan. A shade structure on the south face protects the southern windows and deck from the summer sun and is designed to reflect the traditional chahash'oh that the Navajo use as a summer shade structure and cooking area. At the center of the east-facing courtyard, an outdoor fire pit represents the fire at the heart of the hooghan. Windows are placed to provide views through the house to all four cardinal directions from the courtyard.



Photo: Daniel Glenn

GREEN

The Nageezi House was designed as a Leadership in Energy and Environmental Design (LEED) for Homes project during the pilot phase of the program, although it was never certified as a LEED Homes project. In the building of this affordable and sustainable demonstration home, several of the green strategies were intended to be replicable and low-cost approaches, including building orientation, passive cooling/ventilation, and passive solar heating. Following construction, the home was monitored for a full year to evaluate its performance with embedded temperature sensors in the walls and on the interior and exterior of the home, which demonstrated that overall energy use in the home is reduced 50 percent from a conventional home. The site is not irrigated; a gravelled surface surrounds the home.



Model by Daniel Glenn