

Abstract

Mass amounts of refugees flee from the Kasai War Region in the DRC everyday. This project is an improved design of a pre-existing UNHCR shelter in Angola. The wooden pallet design ensures safety and security, combined with reused tarps from the current UNHCR camp in Dundo, Angola. The model also provides design options for individuality. The essential aspect of community is designed through the program of the refugee camp to cultivate a unified culture.



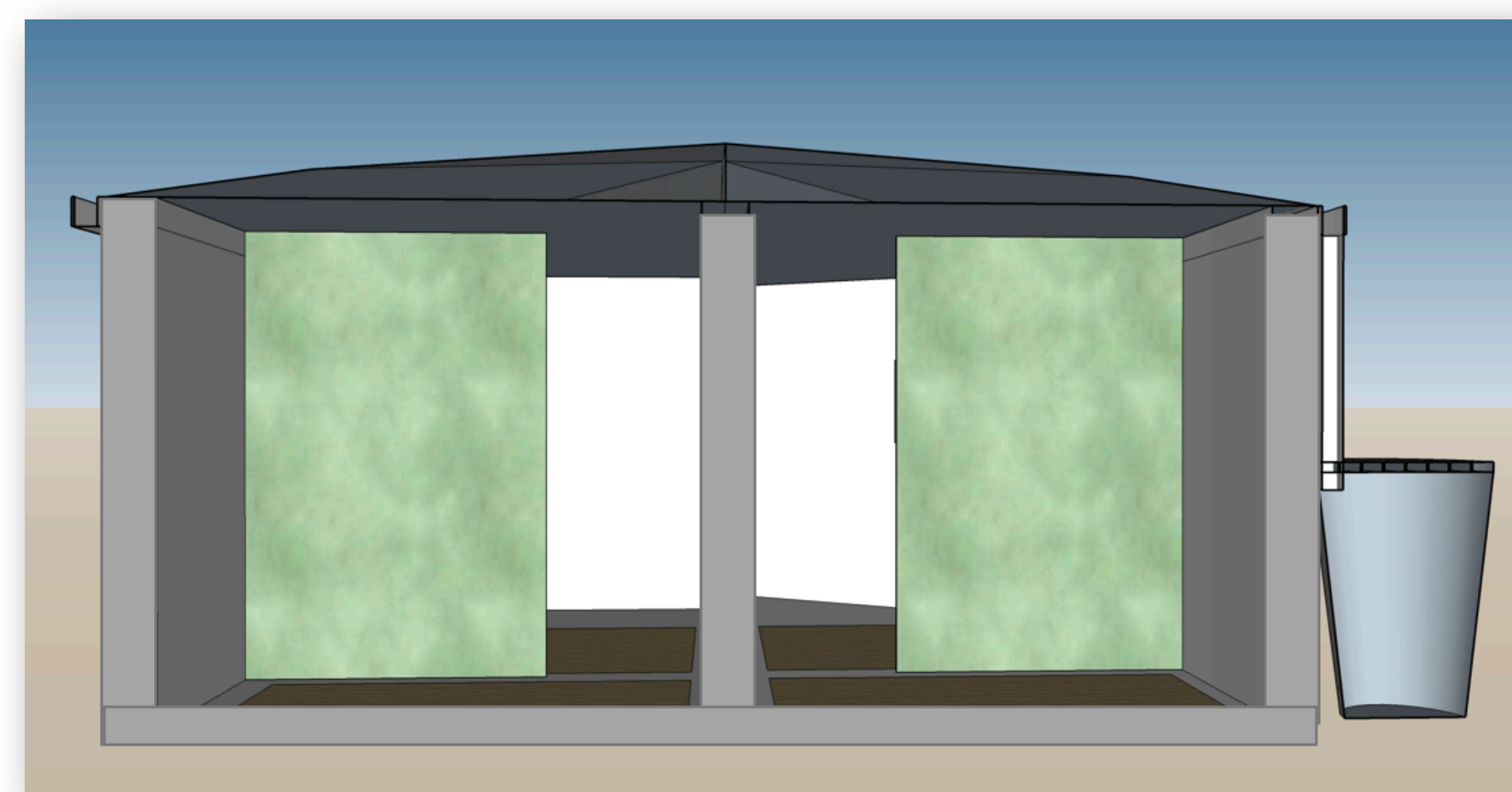
75% of refugees are women and children



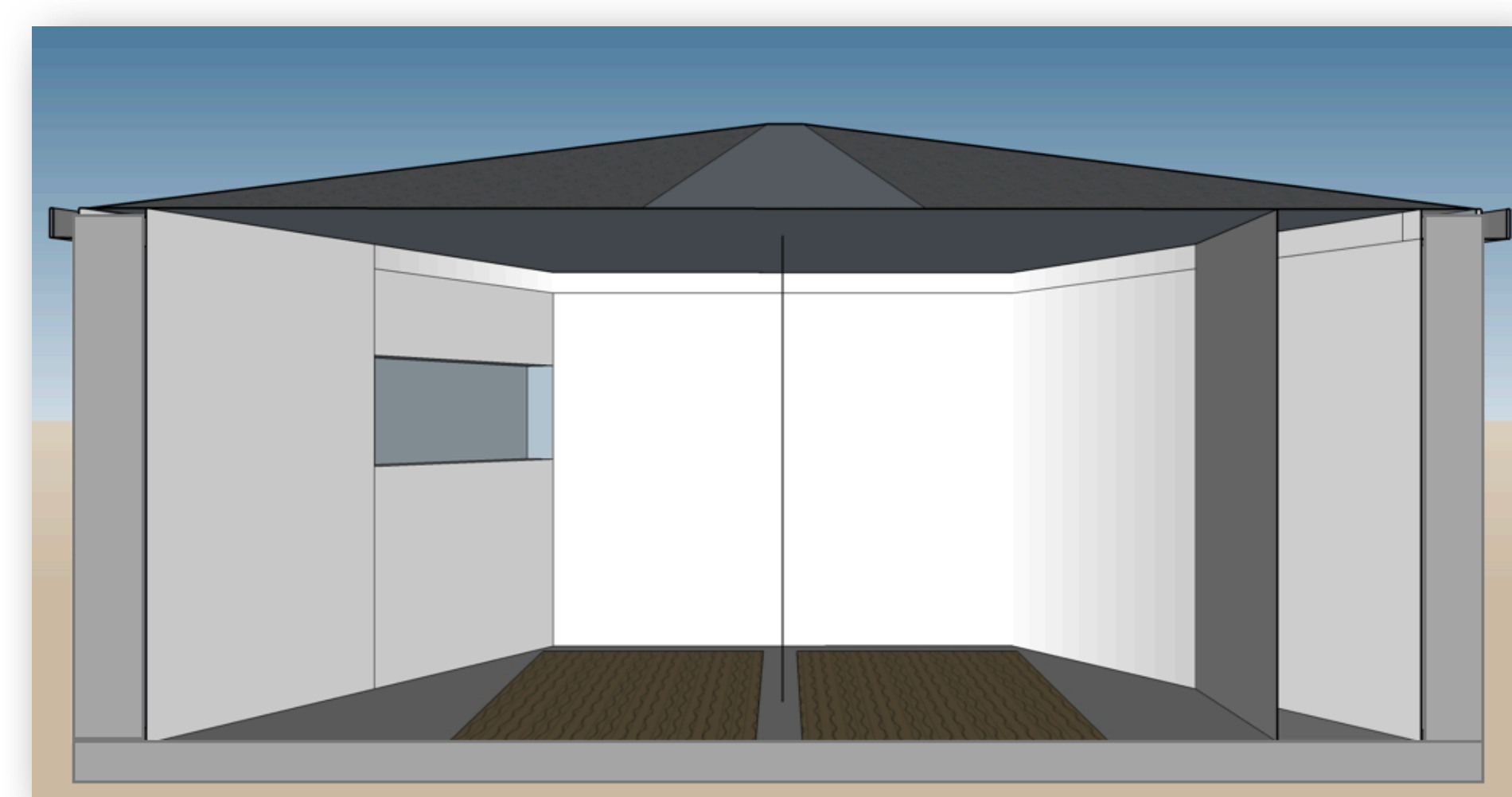
Refugees flee the Kasai Province to Angola

Design Concept

- The wooden pallets will first be constructed and then lined on the inside with tarps from the UNHCR camp.
- Refugees will play an active role in the reconstruction process.
- Zinc roof allows for water collection system.
- The pallets then will be treated with a water resistant and fire retardant coating.



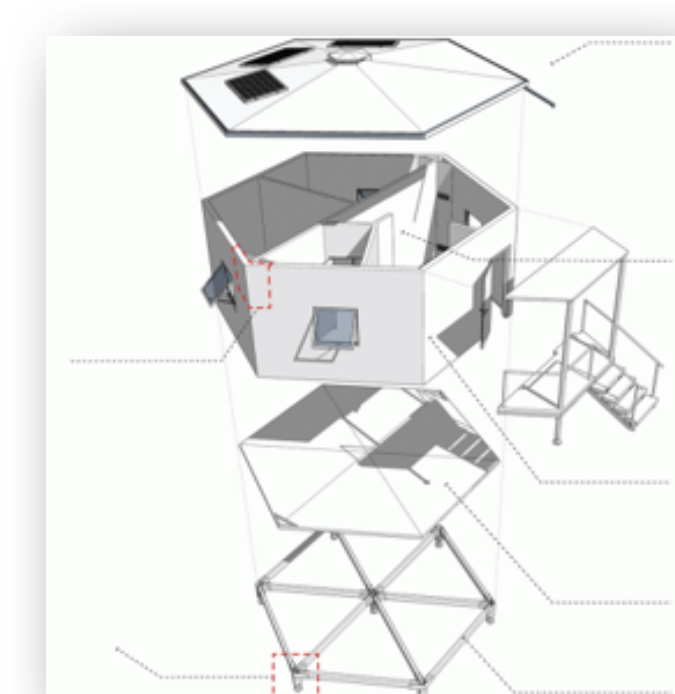
A curtain will be placed between the mats to separate boys and girls.



The windows will be covered by mosquito netting.

Hexagon Structure

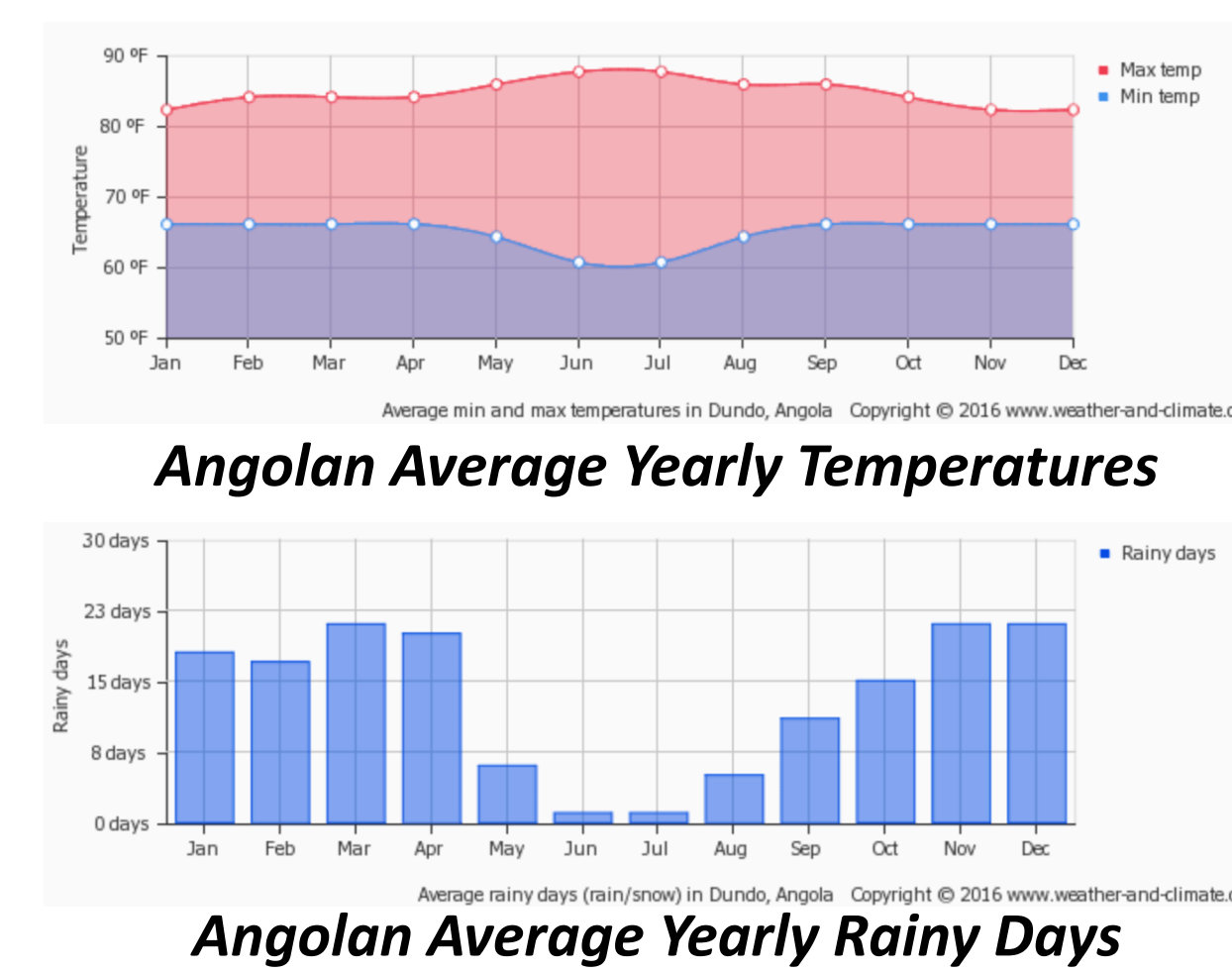
- Inspired by the Hex House designed by Architects for Society.
- Allows for unique stacking expansion like a honeycomb.
- Optional paint colors available for diversity and creating sense of ownership.



The Hex House

Background

- The overcrowded refugee camp lacks accommodations and basic shelter.
- The refugee camp will be reorganized to improve the current conditions of the camp.
- The camp lacks security with only tarps for shelter.



Case Studies



Local mud houses with grass roofs

Local Housing Research

- Walls from bamboo or trees are packed with mud.
- Metal roofs are covered with dried palm fronds.

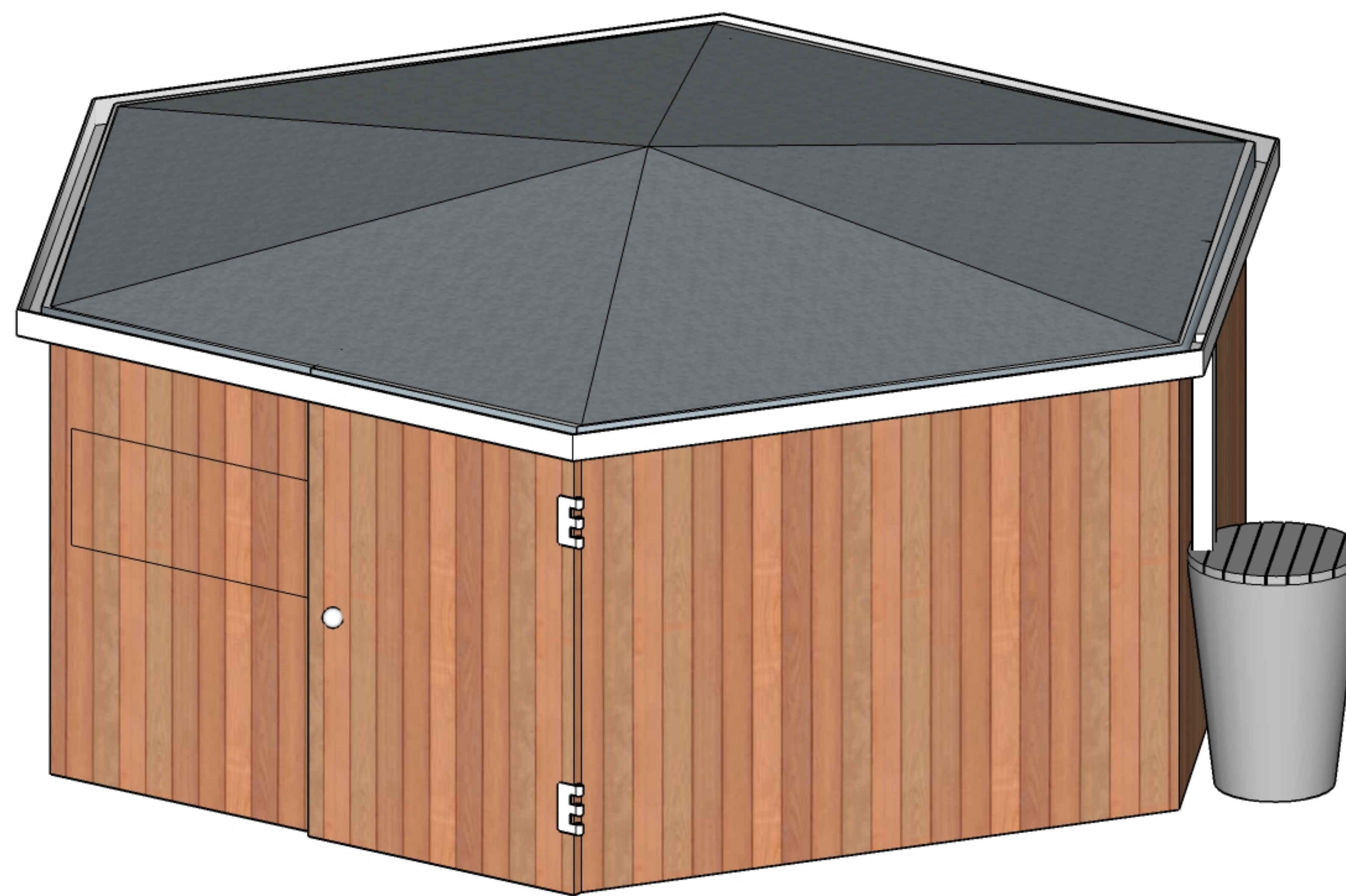
Precedent Design Research

- Only carpenters tools and wooden pallets needed.
- Pallets reused from shipments.

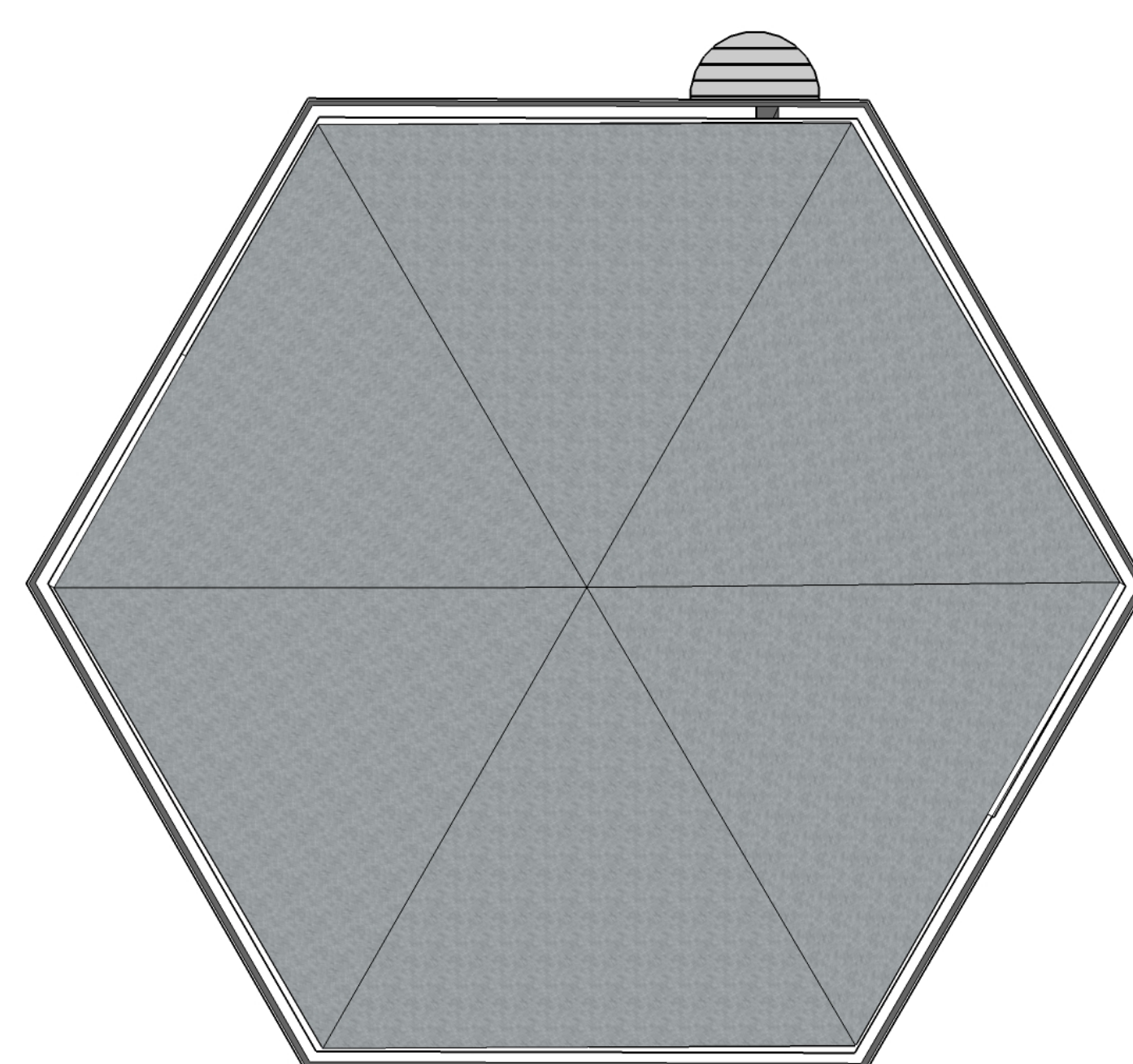


iBeam Design Pallet Housing

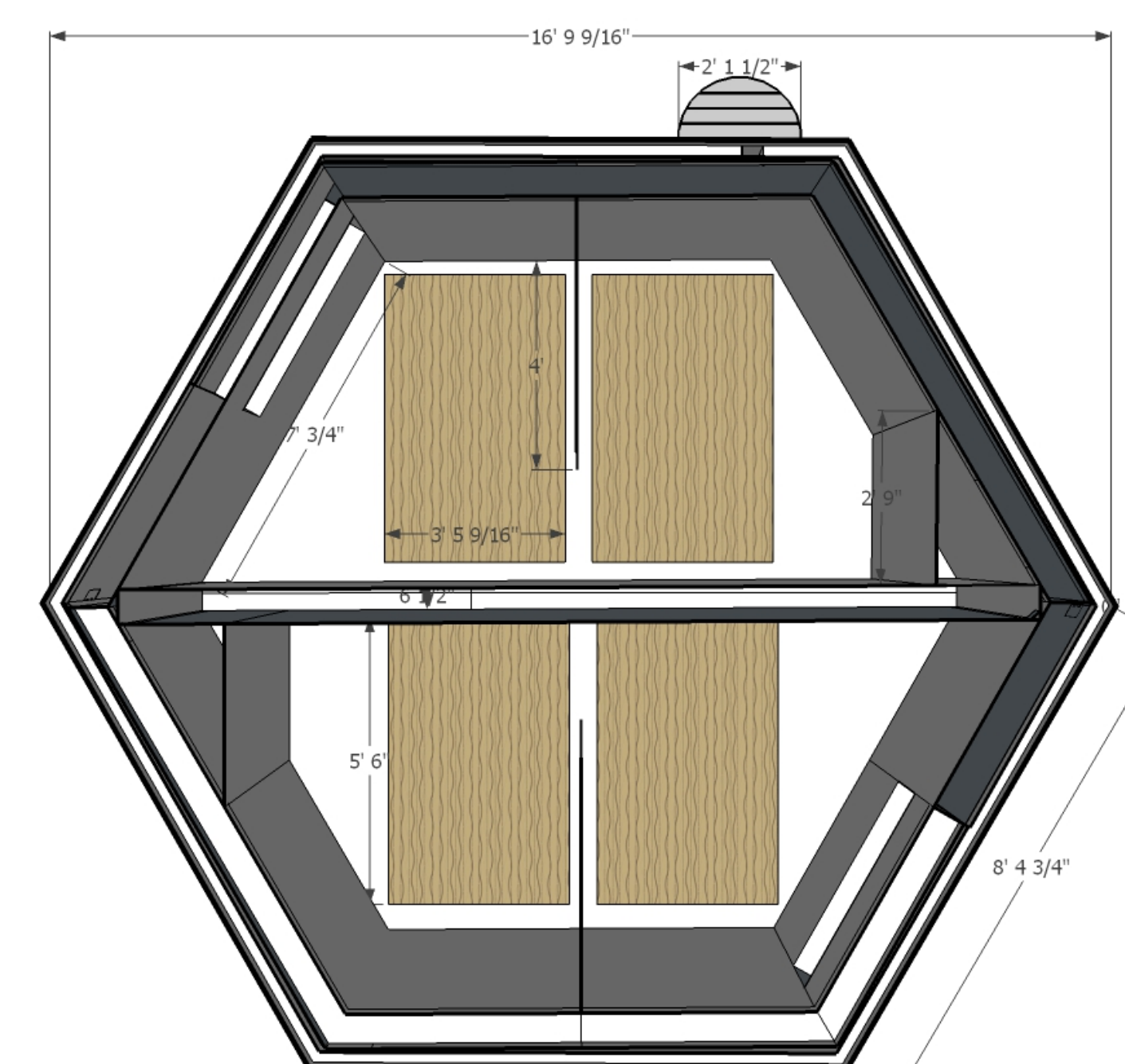
Design Documents



Individual Wooden Pallet House with Water Collection System



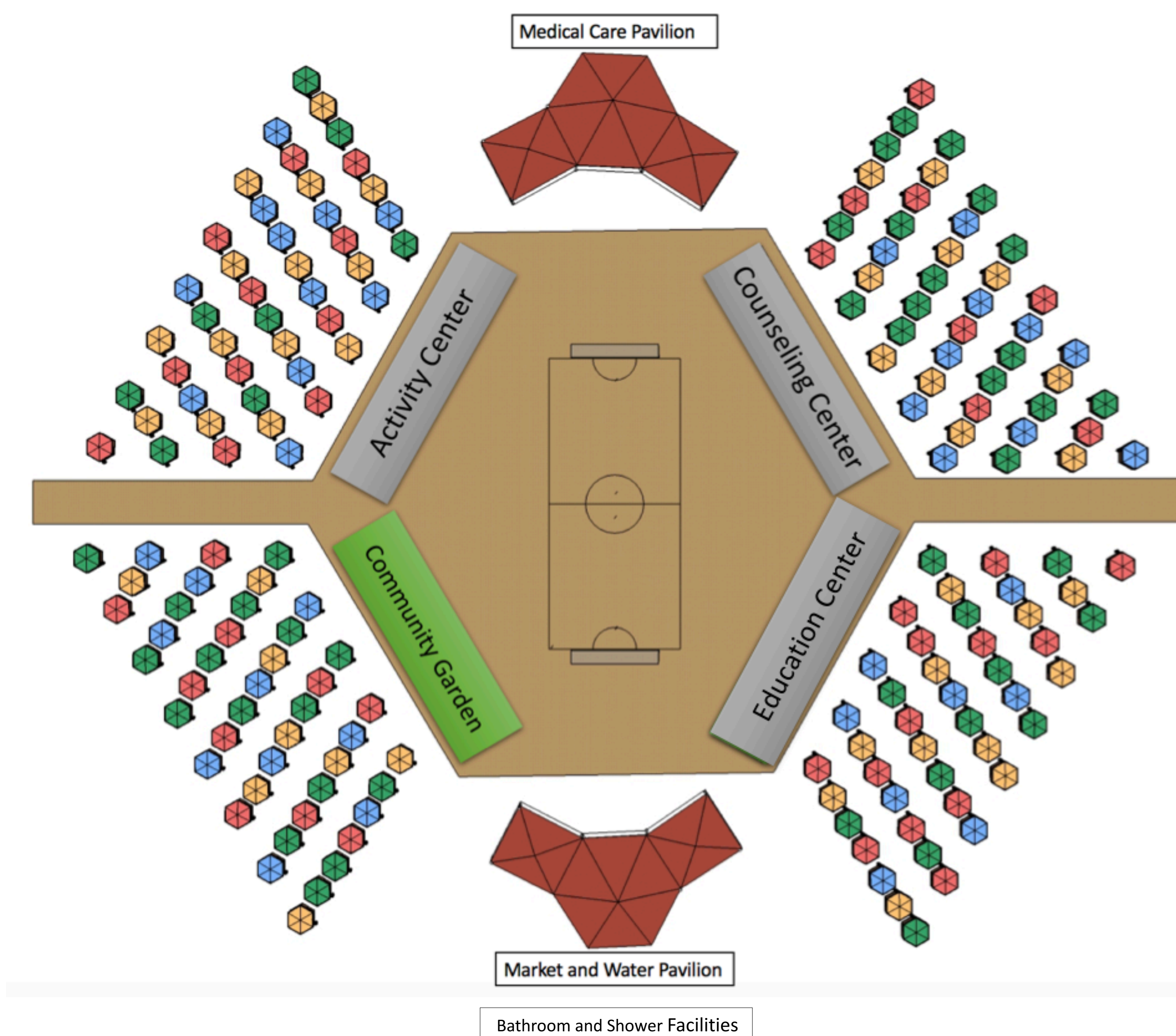
Zinc Roof Plan allows for easy water drainage



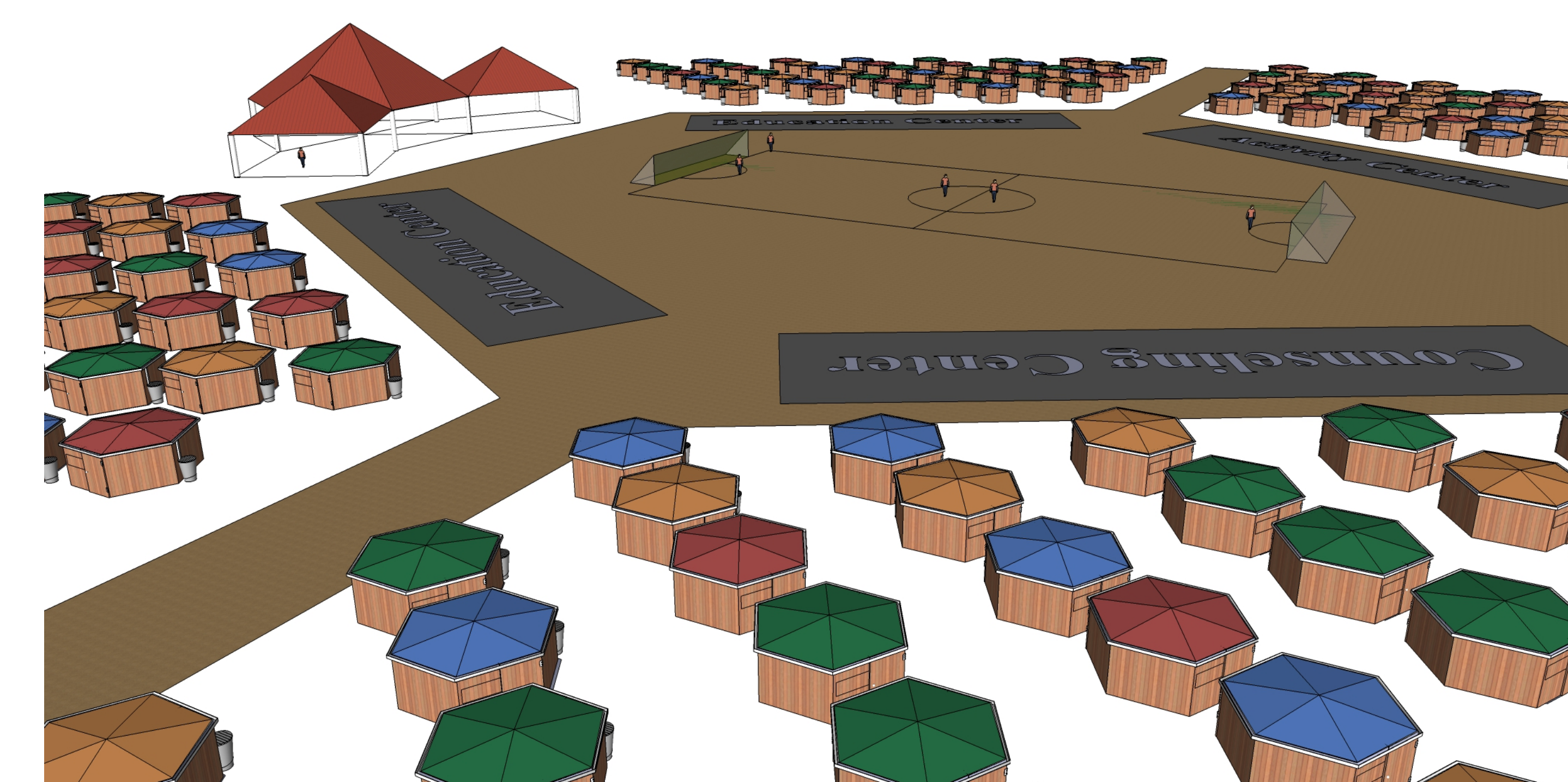
Floor Plan with Sleeping Mats

Program Design

- The program design implements education, entertainment and medical programs.
 - Refugees can apply for different roles in the community such as a school teacher, and medical care volunteers.
 - A soccer field and entertainment pavilion lay in the center of the community.
 - Many refugees arrive malnourished, injured or sick from their travels and are in need of medical attention.
- Refugees will have sustainability programs including:
 - Composting for plants
 - Community gardens
 - Water collection bins
 - Local market system for food



Community layout from above allows for easy expansion and a center for programs



Soccer fields, a community garden, counseling center and education center lay at the heart of the camp.

References

I-BEAM Architecture and Design. (2015). The Pallet House. Retrieved December 3, 2017, from <http://www.i-beamdesign.com/the-pallet-house-newyork/>
McKnight, Jenna. (April 2016). Architects for Society designs low-cost hexagonal shelters for refugees. Dezeen. Retrieved from <https://www.dezeen.com/2016/04/14/architects-for-society-low-cost-hexagonal-shelter-housing-refugees-crisis-humanitarian-architecture/>