

A Flexible Four-Square DADU

Universal Design & Aging in Place

This DADU is designed for an aging couple or single person. Single story allows for ease of entrance and maneuvering through the home. Two bedrooms is often needed for a couple who are aging in place along with a second WC. All doors to have lever handles and are minimum of 32" in width. Laundry room to have double swing doors to open the space to the hallway for maneuvering room. In addition to mini-split heads in the 3 major rooms for individual control, an HRV with HEPA filter is specified for extended periods of time indoors due to weather, fires, illness or covid. Though parking was not a requirement, consideration was made for a space that meets zoning codes that can be used by the inhabitants or for guests. See floor plans for more extensive list.

Affordability & Cost Effectiveness

Building with hempcrete has been proven to be in the same cost per square foot as an average well built home. Interior floors to be durable insulated hempcrete or finished slab on grade. Square design has smaller wall to floor area ratio (30'x30'=900 sf with 120 lf perimeter wall surface where as a 15'x60'SF=900 sf with 150 lf perimeter. Less surface area of the exterior walls creates more affordable construction along with modular design.

Sustainability and Resilience

I'm deeply impassioned about the transformative potential of hemp/lime as a building material utilizing either hemp panels or bricks. They're not just methods of construction, they represent regenerative solutions to confront the pressing issues of our time, including the housing crisis and the profound impacts of climate change. Hemp/Lime walls create a durable, breathable and energy efficient wall assembly allowing for a high level of indoor air quality and carbon neutral construction. Note that though this is a preferred method for construction in this design, the modular layout would also lend itself to advanced framing principles with more conventional materials. Hemp/lime has a fire rating of zero making it an important building material to mitigate fire concerns.

Innovation & Creativity/Aesthetics

Hemp Panels or Bricks are finished with natural clay plaster which has the same look as a stucco finish and can be colored to suit the overall site design and aesthetics. With a square house, the design can be rotated or flipped depending on site considerations without effecting the interior space. In some cases, the entrance might make more sense facing the alley or it could be turned to face the main house for quicker access between the two dwellings. A square design also allows for flexibility in roof style (3 options shown) depending on whether the owner wants to match the style of the main house or change to a more traditional or modern style roof. It was clear if the primary dwelling was a single or two story and because the foot print of the DADU is larger than the primary, the roof can be adjusted to create a more pleasing and congruent building massing.