



NATURAL MASONRY CONSTRUCTION



AFFORDABLE REGENERATIVE COTTAGES

Our cottages are called regenerative because they give back to the planet more than they take. And they are the perfect Accessory Dwelling Units for a community's affordable infill housing program costing no more to build than a traditional wood framed cottage. The exterior walls of our cottages naturally stabilize the home's interior humidity and temperature fluctuation creating an energy cost savings of over 45% when compared with an identical traditional wood framed cottage equipped with the same HVAC system.

The exterior walls of our cottages have zero structural maintenance issues from mold, rot, termites or rodents because there are no nesting crevices or food sources. Our walls are also fire-proof and can sit in flood water for days with no damage to the interior, exterior or core of the walls. Our exterior walls are finished in a natural hydraulic lime stucco that is virtually maintenance free other than an affordable lime wash to the exterior walls every 15-20 years.

Construction Management

Graham Durrant and William Stanwix our onsite construction managers have a combined 31 plus years of experience working with hemp, earth and lime building material. Between them they have worked on more residential and commercial hempcrete building projects in the United Kingdom and Europe than have been built in the entire United States to date.

William is the co-author of "The Hempcrete Book" and the first fulltime Hempcrete contractor in the United Kingdom. Graham of Hemp-Lime Spray has sprayed more Hempcrete into commercial and residential buildings than anyone else in the United Kingdom.

Cottage Design

Our Regenerative Cottages are better for the environment, the community and the residents because they are regenerative, carbon negative and energy efficient. And they don't cost anymore to build than a traditional wood framed cottage.

Our Regenerative Cottages are built using loadbearing exterior walls consisting of a thermal mass core made from stabilized compressed earth block. That thermal mass core is then insulated to the desired R-Value with sprayed hempcrete insulation. The hempcrete insulated thermal mass core is then

encapsulated on the exterior with a beautiful lime stucco available in a variety of colors. The interior is finished with a breathable lime plaster.

Some of the benefits of our cottages include LEED Certification, EPA Energy Star and Indoor airPlus Certifications, a negative Carbon footprint, zero toxic off-gassing, and a cost saving of over 45% on energy, utility, exterior maintenance and insurance bills.

Energy Efficiency

The loadbearing exterior walls of our Regenerative Cottages naturally stabilize the homes interior humidity helping to regulate temperature fluctuation and creating an energy and utility cost savings of over 45% when compared with an identical traditional wood framed cottage equipped with the same HVAC system.

The University of Oklahoma (OU) built two identical homes one residence was built using traditional wood framing the other home was built using a thermal mass core of stabilized compressed earth blocks. Their analysis determined that the residence with the thermal mass core was more energy efficient and the stability of the temperatures and humidity inside the residences had a deviation of roughly half that of the traditional wood framed residence.

Indoor Air Quality

Three out of the six requirements necessary to receive an EPA Indoor airPlus Certification are addressed naturally by our loadbearing exterior hemp, earth and lime walls.

- **Mold and Moisture Control:** The exterior walls of our Regenerative Cottages have zero mold, rot or pest issues. Unlike traditional wood framed walls our walls have no wood-fiber, drywall, conventional insulation or cavities to host mold, rot and pests. In fact, our cottages are flood-proof and can be submerged in flood water for a week without any structural damage or resulting mold/rot issues.
- **Building Materials:** The exterior walls of our Regenerative Cottages are made from natural breathable regenerative and sustainable building material that produces zero Volatile Organic Compound (VOC) off-gassing of any kind. The primary concern of VOC off-gassing is formaldehyde which has been reclassification by the World Health Organization as a carcinogen. The following traditional wood framed building materials create formaldehyde off-gassing paints, primers, stains, adhesives, drywall, plywood, OSB board, fiberglass insulation, spray foam and rigid foam insulation.
- **Pest Management:** The exterior walls of our Regenerative Cottages are made from natural breathable and sustainable building materials that are termite, pest, and rodent proof because there are no hidden wall cavities to live-in and no food source for them to live on.

The remaining three EPA Indoor airPlus Certification requirements necessary are addressed by using an efficient HVAC system, proper combustion venting, and the use of a proper radon barrier under the foundation.

