

THE "OLD MEETS NEW" NET ZERO HOME

Building Type.....Residential
Location.....Caseyville, IL

Size.....5,656 sq. ft.
Year Built.....2017

Design Highlights

The main technologies utilized in this home are markedly simple yet time-tested. It's south-facing exposure with a strategic overhang is an ancient solar heating and cooling strategy, famously employed by the Pueblo Indians at Mesa Verde. Copulas are also an ancient cooling technology, commonly used in American architecture prior to the advent of modern air conditioning. Earth tubes are also a time-proven technology and were used by George Washington at his Mount Vernon estate.



Resilience, Sustainability & Comfort Notes

- In addition to the superior insulation provided by the Logix insulated concrete forms, the tight building envelope also served to enable the passive ventilation system, allowing the cupola to draw geothermal-conditioned air into the house through the earth tubes using only the chimney effect.

"This home demonstrates that a house does not require complex systems and exotic technology to achieve energy Net Zero."

- STEPHEN HEINRICH, OWNER

Construction Facts

Spray foam attic insulation was applied to the underside of the roof sheathing to create conditioned attic space. To allow the sheathing to breathe, a double-sheathed roof was built with an air gap in between sheathing layers to allow airflow from the soffit vents in the eaves to the ridge vent on the roof peak. A 1 1/2" gap was achieved by fastening 2x4s flat on top of the bottom sheathing layer along the roof truss lines.



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