



# AN ENERGY STAR; FOX BLOCKS ICFS

*Sofia Court, Walkill, NY*



## Challenge

The homeowners wanted to build a home that would be beautiful, functional, and sustainable. They brought in an ICF expert contractor who selected Fox Blocks as the ideal building material to accomplish the homeowners goals. This home was built directly into a natural rock ledge and features large covered porches and breezeways on the exterior and beautiful oak floors throughout the interior.

A significant challenge encountered while constructing this home was the large rock ledge that interfered with the lower level of the home. With no room for footings, the Fox Blocks forms had to be cut perfectly to sit against this rock ledge. A second challenge in this project was the 54' long ICF gable that required extra long bracing. The building was designed to meet high efficiency and sustainability standards, which included being airtight. To achieve this, the contractor utilized spray foam insulation. They sprayed the underside of the roof and sealed it to the top of the ICF walls with great success.

With nearly 40 ICF homes completed to date by the contractor, the craftsmanship of this home is exactly what you would expect from a highly experienced builder. Walls are straight and plumb, openings are perfect, and the energy performance of the home is unparalleled.

## Project Highlights

**2021 ICF Builder Award  
Large Residential 1st  
Runner-Up**

**Winner of Department of  
Energy Housing Innovation  
Award in 2020**

**Energy efficient home**

**High level air tightness**

**Geothermal used for all  
space conditioning and  
100% of DHW**

## Project Stats

**Location:** Wallkill, NY

**Industry:** Large Residential

**Size:** 2,067 sq. ft. (floor)

**ICF Use:** 2,642 sq. ft.

**Cost:** \$650,000

**Total Construction:** 9 months

**ICF Installation Time:** 28 days



## Sustainability

Impressively, this home achieved the lowest HERS score in all of North America in 2019 thanks to its tight building envelope. A minimum HERS score for energy star certification is roughly 60 while a code-built home requires a score of 100. This home received an outstanding score of 26.

The impressive sustainability stats don't stop there. A standard ACH pascal level for a blower door test is 0.6, and code only requires 3.0. This home received a blower door test achievement of 0.14, which is almost unheard of. The domestic hot water and space conditioning utilize geothermal energy and the house is solar powered via pv panels on the roof. Sofia Court has been recognized as an EPA IndoorAirPlus home, a required certification for the Department of Energy zero energy program, and was the 2020 Winner of the Department of Energy Housing Innovation Award.

## Timing

This project was built during the harsh New York winter, and had to contend with four major snow storms. Insulated blankets were used to keep the snow from building up inside the ICF walls. Thanks to building with Fox Blocks, the construction timeline was not compromised by the winter weather.

## Budget

Designing and building with Fox Blocks contributed to this high-performance home being completed on budget. The lifetime savings on utilities make this home an incredible investment and achievement.



877-369-2562 • [info@foxblocks.com](mailto:info@foxblocks.com)  
6110 Abbott Drive, Omaha, NE 68110

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[foxblocks.com](https://foxblocks.com)