

NGBS GREEN CASE STUDY

Designer Trade Services

The New American Remodel 2022



About the Project

Project Type: Single-family Remodel

Home Size: 3,688 sq. ft.

Location: Orlando, FL

NGBS Green Certification: Emerald Level (Jan 2022)

Additional Certifications Earned:

NGBS Green+ [NET ZERO ENERGY](#) and [WELLNESS](#)

Website: [The New American Remodel](#)

Project Team:

Builder / Remodeler: [Designer Trade Services](#)

Architect: [Architecture by Phil Kean](#)

Interior Design: [Ewing, Noble & Winn Interiors](#)

Landscape Design: [Signature Landscape Contractors](#)

Verifier: [Drew Smith](#) and [Josh Kane](#), Two Trails, Inc.

Sponsored Products: Various, coordinated with [NAHB's Leading Suppliers Council](#)



About TNAR

The New American Remodel (TNAR) 2022 is the official remodel show home of NAHB's International Builders' Show (IBS). For several years, all TNARs have been built to the rigorous requirements of the National Green Building Standard (NGBS) and have pursued NGBS Green certification by Home Innovation Research Labs. TNAR employs the latest in design trends, products, and techniques in an existing home.

TNAR 2022 is an innovative masterpiece. It features technological advancements that allowed the home to achieve exceptional levels of energy efficiency and sustainability while retaining and enhancing its original mid-century modern design. TNAR 2022 earned NGBS Green Emerald-level certification, as well as NGBS Green+ NET ZERO ENERGY and +WELLNESS certifications. It also earned ENERGY STAR, Indoor airPLUS, and DOE Zero Energy Ready labels.

At the start of the project, the home performed poorly in its energy use, with a HERS Index value of 115 — 15% less-efficient than the average new code-built home. Following the renovation, the home has an enhanced building envelope, high-efficiency windows and doors, variable electric heat pump for space conditioning, and a rooftop solar PV system. These upgrades enable the home to generate more energy than it is designed to use.

Designer Trade Services was able to reuse the existing structure to limit new material usage. The finished one-story property is expansive with 5,498 sq. ft. of living space, nearly double the original size. The home features five bedrooms, four and a half baths, a showroom three-car garage, indoor-outdoor living features, including a luxurious outdoor kitchen, and a detached guest house.

NGBS Green Features and Practices

Energy Efficiency & Renewable Energy

- With 13.2 kilowatt photovoltaic solar array and battery backup, home is designed to produce more energy than it consumes
- Tight building envelope (constructed using [AeroBarrier](#)) boosts air leakage to 3.32 ACH; minimizes incoming contaminants and supports energy efficiency
- Exterior masonry walls are insulated using reflective wall insulation
- Windows with low-e coating limit solar heat gain and optimizes air tightness
- Efficient variable refrigerant electric heat pump
- 100% LED lighting for all interior and exterior lighting
- ENERGY STAR appliances, variable pool pumps



Sustainable Materials

- Regionally-sourced and recycled content concrete trusses and drywall

Water Efficiency

- Achieved a greater than 50% reduction in water usage through the installation of high-efficiency plumbing features
- EPA WaterSense certified high-efficiency faucets and toilets
- Outdoor landscape features natural landscaping and minimal turf grass to reduce landscape watering needs
- High-efficiency micro-spray, driplines, and irrigation controllers contribute to further outdoor water use reduction

Health & Wellness

- Walkable community near resources, retail, and restaurants reduces auto dependence and carbon emissions
- Low emission building materials, cabinets, flooring, and finishes
- Whole-building mechanical ventilation with air filtration capability
- Whole-building dehumidification system by [Ultra-Aire](#) to maintain relative humidity
- Lighting control system offers convenience and a comfortable living environment



The Verifier Voice

"Having been the sustainability consultant and green verifier for The New American Remodel projects for many years, I appreciate how showcase homes like this provide an opportunity for all trades within the building process to see and experience the many different cutting-edge products and green building techniques available today. This annual project, in particular, exemplifies how important it is for a renovation home to be tested and certified, and what a profound difference it can make to the home's efficiency. Building green does not need to be more difficult or extremely costly. Finding what makes sense for you and your clients is the best way to deliver a high-performance certified project."

– Drew Smith, NGBS Green MASTER Verifier, Two Trails, Inc.

