

Jewel of the DESERT

Our latest model demonstration home, VISION House® Tucson, tackles the challenges of desert living—sustainably.

BY CHRISTINA BIRCHFIELD

**VISION
HOUSE®
TUCSON**

GRAND OPENING

OUR LATEST 21ST-CENTURY net-zero VISION House® is infill within infill, adjacent to downtown Tucson. It snugly nestles with its neighbors in the village of Armory Park del Sol, a late-20th-century community, “Where Historic Meets High Tech.” The original Armory Park neighborhood, one of Tucson’s oldest, embraces the 14.98-acre Armory Park del Sol community.

Photography by lathamarchitectural.com

Earth Tones. Three-coat traditional stucco covers the Miller wall, reinforced, concrete-filled CMUs covered with two inches of Johns Manville AP Foil-Faced polyiso foam sheathing. MI EnergyCore windows are R-4, with a U-value of 0.25.

Working Roof. Boral *Madera* cement tiles protect the roof. VISION House® Tucson achieves net zero with Hanwha SolarOne HSL series solar panels, provided by OneRoof Energy. Solar hot water panels (inset) supply most of the home's water heating load.



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DESIGNATED in the National Register of Historic Places (NRHP) in 1976, historic Armory Park is a mix of Mission, Moorish, Spanish Revival, Victorian and other now-classic styles that reflects Tucson's eclectic historic heritage.

The 2,267-square-foot VISION House® Tucson faces these historic homes on South Third Avenue, and seamlessly blends with both its del Sol community and the overall neighborhood so well that it is in no way obvious from the street just how sustainable and innovative the home is.

Even the Hanwha grid-tied solar panels on the Boral *Madera* concrete-tile roof are just barely visible from the street. The *Autumnwood* roof shakes replicate hand-split cedar. It may not seem so with a house only about six feet away from its neighbors, but no home in Armory Park del Sol can cast a shadow on its neighbor's solar power—even when the sun is low in the winter.

“Sustainability is a three-legged stool: environmental, economic and cultural.”

John Wesley Miller

VISION House® Tucson is a continuation of builder John Wesley Miller's dreams. Miller gave birth to the idea of Tucson's sustainable Civano community, and is the builder of numerous custom homes. “We always thought we would take the lessons learned, and apply them in the city,” he says.

The first sustainability question the Armory Park del Sol community is: “Why tear up more outlying land to build sustainable communities when there are so many aging inner-city sites in need of revitalization?” The del Sol community addresses “environmental, economical and cultural equity.” VISION House® Tucson is another step forward.

Structural Integrity

The walls are “the standard Miller wall”—concrete masonry units (CMUs) insulated on the exterior with two inches of Johns Mansville *AP Foil-Faced* polyiso foam sheathing, followed by three-coat stucco sitting on top of a 12”-thick steel reinforced slab. Walls and floor have thermal mass that holds and greatly slows temperature extremes, something Miller calls “the thermal flywheel effect.”

But as exceptional as the “bones” of this home may be, its surfaces are just as bold. The stucco is coated with Sherwin-Williams' lively *Armagnac* color (Armagnac is a French brandy). Exterior fascia is *Ligonier Tan*. The windows from MI Windows and Doors have a U-value of 0.25 and an R-value of 4. The super-insulated roof makes for a tight, energy-efficient building envelope.

Built-in Safety and Comfort

Architect Hank Krzysik's VISION House® Tucson design features numerous exterior doors with which to invite in cool morning and luxuriant evening breezes, to naturally ventilate the home.

Walk up the short sidewalk, and enter the home at grade level. All Armory Park del Sol community homes are universally accessible, with gentle sloping walks if needed, and accessible floor plans with at least 36"-wide doors throughout.

The covered entry is part of a wrap-around porch, shading parts of the west and all of the home's north side from high summer sun, when days are hottest and longest. Rich, *Brevity Brown*-stained wood posts support the porch.

It's counterintuitive, but—Miller says—Armory Park del Sol is "security by openness." Crime rates are among the lowest in Tucson within the walkable community, despite the fact that most homes have no gates or tall fences. Some neighbors are members of Tucson's Dark Skies Initiative, which seeks to limit the effects of night light pollution to preserve dark skies for astronomers. All of the community's homes feature soft lighting that faces down over the garage doors. These lights automatically turn on at night to illuminate streets without upward glare.

The attached VISION House® Tucson garage, outfitted with the Gladiator storage system, is in the back, on the home's east side, facing Ott Avenue. There are no front-facing garages.

Modern Detailing

Once inside, the mood changes to light, yet serene. Painter and interior designer Robin Motzer has used a subtle palette. Crossville *Virtue* porcelain-stone tile floors look like marble, but have a "Hydrotect Coating" to protect against dirt and bacteria. Sherwin-Williams Zero-VOC *Accessible Beige* on most walls complements the floors. The great room interior-wall niche is a slightly deeper *Fawn Brindle* that picks up the marble-like grain color in the floors. Of course, low- or no-VOC paints and finishes and tile floors help create a healthy home environment. The Beam *Alliance* central vacuum system by Electrolux keeps everything clean.

Contemporary patterned rugs differentiate great room space into living and dining spaces. Neutral-colored seating—a sofa, loveseat and chair—are enlivened by darker wood. Rectangular accent and dining tables are in colors like *Espresso* and *Burnished Walnut*. Wood exterior door and windows that lead from the dining area to the northern porch are stained *Burnished Walnut*.

To create flexibility, interior designer Motzer scattered contemporary chairs around the home. Depending on the occasion, the chairs can shift location as needed. Artwork in the living spaces and throughout the home are either Motzer's own oils or from Tucson's Etherton Gallery.

The plan wastes little space on circulation. To the immediate right



Green Builder Media's VISION House® Tucson Team

Builder: John Wesley Miller Companies

Architect: H.J. Krzysik

Interior Design: RLM Designs

Landscape Architect: Gordon H. Darby

White and Bright. Tile flows from the main living space into the kitchen. The backsplash includes subway-shaped tile studded with Crossville stainless steel, square tiles. Countertops are Vetrizzo *Emerald Coast*. The full suite of kitchen appliances is from Whirlpool. Note the Kohler *Sensate* touchless kitchen faucet.



Master Suite. The main bathroom features complete suite of Kohler faucets, fixtures and fittings. Crossville *Virtue* tile paves the floor, lines the shower, and forms the backsplash above the Vetrizzo countertops. The shower features a Kohler *Moxie* showerhead. The master bedroom (below) opens to an outdoor patio.



Night Watch. In case of fire, sprinklers can reduce pollution by reducing overall fire damage and water waste.

of the entry door, a short hall leads to the second bathroom and two bedrooms (one of which we show as a home office).

Eider White walls brighten the secondary bathroom. Unlike most other rooms, it is the ceiling that is painted a color called *Watery*. Shimmery Crossville *Glass Box Aqua Gleam* glass tile lines the tub/shower area. Kohler fixtures include nickel faucets.

The kitchen is a study in light: *White Icing Medallion* wood cabinets feature dovetailed joints on drawers and self-closing doors. A full set of Whirlpool *White Ice Collection* appliances are accented with stainless steel handles. The floor and backsplash are a continuation of the Crossville *Virtue* marble-like tile. Subway-shaped tile studded with stainless steel tile squares, installed at a 45° angle, surfaces the backsplash. Counters are Vetrizzo's *Emerald Coast*, a light, aqua-green-flecked matrix made of 85% recycled green float

glass used in construction, oyster shells from the South Carolina Coast and bits of marble from the historic Georgia Marble Quarry. Another exterior door leads outdoors from the breakfast area. Kohler's *Whitehaven* apron kitchen sink has a *Sensate* faucet that allows for touchless operation.

A tiny hall off the dining room leads to a storage closet, the laundry (which also houses the home's interior HVAC)

and the generously sized owners' suite. Motzer divided the 14'10" x 28'4" room into sleeping and reading areas defined, once again, with contemporary area rugs. Another exterior door leads from the suite to the northern porch.

Sea Salt-colored walls accented with *Coastal Plain* colors bedroom and bathroom walls. Origins *Glass Snow Flake*, an iridescent white tile, lines the large shower. All plumbing fixtures and faucets are Kohler. The large master shower includes the



To explore the floorplan more thoroughly, visit www.greenbuildermedia.com/VHTFloorplan



Grand Space. The open living and dining room are the heart of VISION House® Tucson. Paved with easy-to-clean Crossville Virtue Porcelain Stone tile, the floors mimic marble. The tile's Hydrotect coating repels dust. Area rugs define living spaces.



All Electric. In the garage, a Schneider Electric EVlink electric vehicle charging station fuels the electric car.



Clearing the Air. BEAM Alliance Central Vacuum Cleaner by Electrolux keeps the dust where it belongs—outside the house.



Water Works. A low-profile tank provides essential rainwater storage for the home, a key aspect for any green home in the Tucson region.



World Premiere. Rheem's Net-Zero Air and Water System was used for the first time at VISION House® Tucson.

Moxie showerhead plus wireless speakers, to aid listening to tunes or singing in the shower. And all the bathrooms are kept properly dehumidified and ventilated by Panasonic WhisperGreen ventilation fans.

Energy Conscious

The all-electric net-zero home's hidden systems keep energy costs down and clear the air of pollutants. Its calculated HERS rating is a rather astonishing -17. Chief among these systems is the Rheem Net-Zero Air and Water System, a new system being introduced at VISION House® Tucson. It includes a Rheem classic 15 SEER heat pump, a hydronic air handler and Rheem's solar hot water heating system with storage tank and tankless water heater to serve as back up. One innovation is that the system's exhaust heat will be captured to help heat water.

Tucson is rather notorious for its summer thunderstorms, replete with dramatic lightning displays. Not to worry in VISION House® Tucson; it features Square D Surgebreaker Plus—whole-house surge protection for electrical, telephone and television distribution systems. Schneider Electric also provided the electrical vehicle EVlink charging station in the garage.

Classically Tucson style, supremely comfortable, sustainable, universally accessible and energy self-sufficient, VISION House® Tucson is the perfect next chapter in the VISION House® series. **GB**