

an empty-nester couple who host frequent visitors to a group of friends who have pooled their savings and gone in on a house together. On the pages that follow is a home as versatile and beautiful as it is innovative and sustainable.

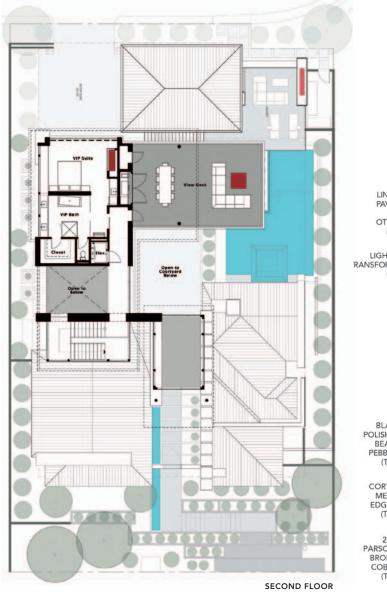
/ hile every builder knows that a home's design must respond to its surroundings, The New American Home's desert location posed special challenges in responding to that call. The lot offers eye-popping views to the south and

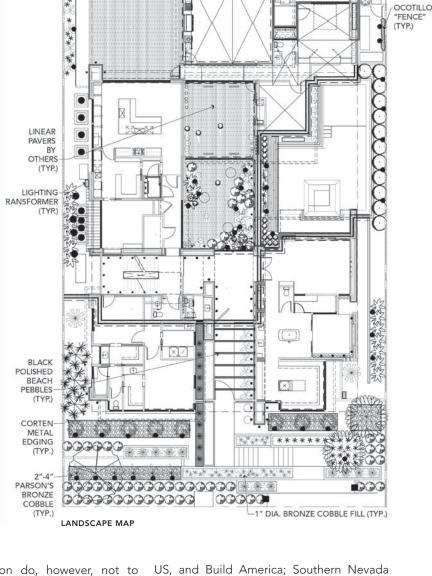
west, including views of the Las Vegas strip. Though the project team wanted to take advantage of those vistas and encourage as much natural ventilation as possible, this approach proved tough to achieve. "In the original design, we had a lot more operable windows and doors," Anderson says. "But once ENERGY MISER + DREAM HOUSE the sun hits your windows, you've created a major heat component. To get our numbers to work, we had to get rid of some of them."

Element Design | Build was onboard for a super-efficient home but unwilling to compromise design to do so. The original concept's generously sized windows facing south and west had to go. The entire

project team was challenged to come up with a design that could maintain Element's vision, with energy smarts. This necessitated a slight change in direction.

As a result, most of the home's windows face northeast, with outdoor spaces, such as the one off the kitchen, taking advantage of the views. Those windows that do face south and west have generous overhangs. The windows themselves feature glass developed by Sierra Pacific Windows in time for construction of The New American Home. "Usually, when you put the windows in, the house gets hotter, but this home got cooler," Anderson says. "I was shocked."





The new direction also involved using a standard of indoor comfort rarely if ever seen in residential construction. The home has been designed on the basic principles of heat, moisture, and relative humidity control. In designing for maximum comfort, human metabolic rates for sitting, sleeping, and being active—while wearing either long sleeves or short sleeves—were closely examined. "For us, designing on the basis of comfort was a big philosophical change," says Achilles Karagiozis, global director of building science at Owens Corning, supplier of the wall assembly. "But gigajoules don't make people happy." Comfort, sustainability, and

lasting construction do, however, not to mention the lower utility bills.

Because of energy recovery ventilators and a MERV-13 system, the home breathes mechanically, achieving air quality that's "pretty close to what it is for an operating room," says Drew Smith, president of Two Trails Green Consulting, the home's thirdparty certifier.

An Indoor AirPlus certification is expected. Other certifications expected to acknowledge The New American Home's aggressive sustainability initiative include the National Green Building Standard's Emerald Level; from the DOE, Energy Star, Challenge Home

Green Building Partnership; and the Water Smart Home Program (SNWA/SNHBA).

CUTTING-EDGE TECHNOLOGY

he New American Home is a smart one, embracing the latest in home automation. Door locks, smoke alarms, burglar alarm, HVAC controls, lighting, audio, video, the irrigation system, interior and exterior shades, swimming pool controls, the garage door and motor court gate, and the courtyard door station

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where guests can be buzzed in are all integrated via Savant Systems and can be controlled whether the owner is on the premises or on vacation. Anderson, a fan of all that home automation can bring to a house, is especially keen on systems that are simple enough not to rely on an integrator, where consumers can make changes themselves to create exactly the experiences they want in their own homes. The New American Home delivers all that, too, and its automation brings energy savings into the equation.

A SLOPED SITE OFFERS UPSIDES

he steep lot and 20-foot drop initially presented challenges, but Element used it to best advantage. By lowering the main level, the team was able to add another story, bypassing area height restrictions and offering a master/guest suite, kitchenette, and an outdoor entertaining area that all boast hypnotic views of the Las Vegas skyline. The garage was moved below and to the home's rear, creating space for two garages on a lot that would normally accommodate one. In doing so, appealing outdoor spaces were created on the lower level. A walkout ground floor with unobstructed views helps maximize the indooroutdoor relationship, and having some walls in the earth further improves the home's impressive HERS numbers.

ON THE MAIN LEVEL, THE LIVING AREA IS ADJACENT TO THE KITCHEN IN AN OPEN-PLAN LAYOUT THAT ENABLES SIGHTLINES THROUGHOUT THE SPACE. VISIBLE FROM BOTH ROOMS ARE THE COURTYARD AND WESTERN-FACING VISTAS OF THE MOUNTAINS AND THE LAS VEGAS STRIP.















American Home



Spears explains his design strategy as "exploiting plants that are water-thrifty." The front of the home, which is more exposed to blazing sun and drying winds, called for typical desert plants in stylized groupings. A weather-sensitive irrigation system throughout adjusts water usage relative to the immediate climate.

The courtyard, passively cooled because it's sheltered from sun and wind, was the place to use thirstier plants.

But prickly cacti aren't the only way to achieve water-smart landscaping that's appealing and textured. Spears used plants such as Japanese Blueberry and Smooth Agave to add color and lushness.

"No matter where you are in the house, the outdoors is right there," says Spears of The New American Home's landscaping program. "It transports you to a vacation and takes you out of your head." PB

CLOCKWISE FROM UPPER LEFT: ON THE GROUND FLOOR, THE OFFICE HAS ITS OWN ENTRANCE AND BATH, EASILY CONVERTIBLE TO A MULTIGEN SUITE; FLOOR-TO-CEILING WINDOWS FROM SIERRA PACIFIC OFFER COURTYARD VIEWS TO EACH LEVEL; THE MEDIA ROOM USES SMART HOME TECHNOLOGY FOR AUDIO-VIDEO AND SHADES, AS WELL AS A DUPONT CORIAN WIRELESS CHARGING SURFACE.







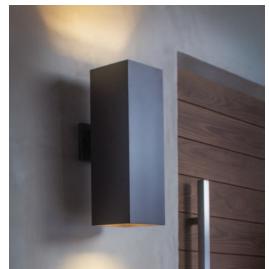
LESS THAN ZERO

he New American Home's energy consumption exceeds Net Zero, giving back to the grid, says Drew Smith, president of Two Trails Green Consulting, the home's third-party certifier. Final numbers were still being confirmed at press time, but below are energy facts and a diagram from Owens Corning of the wall assembly components, which use readily available products.

- HERS: A score of about -17 is the target for the home.
- Solar: The PV roof array is comprised of 61 panels amounting to 19.215 kW. (Without PV panels, the home's HERS score would be 47.)
- **R-ratings:** wall, 31; roof, 58.





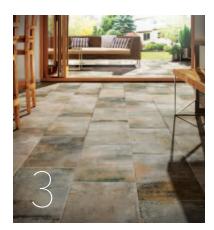




CLOCKWISE FROM ABOVE: THE REAR ELEVATION SHOWS A STEEPLY SLOPED SITE. TAKING ADVANTAGE OF THE 20-FOOT DROP, THE DESIGN TEAM BYPASSED HEIGHT RESTRICTIONS, ALLOWING FOR THREE STORIES. SIERRA PACIFIC'S HIGH-PERFORMANCE WINDOWS AND LARGE OVERHANGS CONTRIBUTE TO THE HOME'S EXCEEDING NET ZERO; WESTERN VISTAS MAKE ENJOYING THE SUNSET AN EVERYDAY OCCURRENCE; ALL LIGHTING IS LED, INCLUDING OUTDOOR FIXTURES BY HUBBELL; THE TWO GARAGES ARE ENTERED THROUGH A SLIDING GATE FROM LIFTMASTER, AN AMPLE MOTOR COURT, AND DOORS BY CLOPAY.











DuPont Surfaces' Corian solid surface material comes in more than a hundred colors and patterns and can be custom-cut and installed for applications ranging from virtually seamless kitchen and bath countertops and backsplashes to intricate inlays and textures. Corian is nonporous and smooth, with its color and pattern running all the way through. The material doesn't support microbial growth and is heat-resistant, stain-resistant, and durable. There is no off-gassing during installation. Other DuPont Surfaces products also featured in The New American Home are Zodiaq quartz surfacing and Corian Charging Surface, which can wirelessly recharge smart devices. (Platinum Sponsor)

With a specially engineered surface texture designed for both traditional and synthetic stucco, DuPont Building Innovations' Tyvek StuccoWrap reduces cracking, improves stucco curing, and channels moisture out of the wall. The water-resistive barrier helps control moisture distribution in the mix during early hardening, enhancing the curing process and resulting in stronger stucco. By helping to seal the building envelope, it protects against bulk water intrusion and air-transported moisture. In ad-

dition, the wrap weighs less than Grade D building paper, making it easier to handle and faster to install. Also featured in The New American Home is DuPont Building Innovations' FlexWrap NF window and door flashing. (Platinum Sponsor)

Ceramic tile, porcelain tile, natural stone tile, and quarry tile from Daltile create the look of wood, glass, slate, marble, granite, and quartz, among others. The manufacturer makes tile for use on floors, walls, and countertops. Tiles range in size from 1-inch-by-1-inch mosaics to 36-inch-long planks. The Porcelain Tile Certification Agency certifies Daltile's porcelain tiles. Cotto Contempo (shown) is glazed porcelain, comes in four colors and four sizes, and is appropriate for both interior and exterior use. (Bronze Sponsor)

Three ways to cook are built into Thermador's Masterpiece Steam and Convection Oven: steam, convection, and a combination of steam and convection. To make things easier for the cook, 40 preprogrammed modes automatically set the oven temperature and humidity for a range of recipes. A 14-pound turkey will fit in the 1.4-cubic-

foot oven. Installation can be done in a 24-, 27-, or 30-inch space; the 30-inch installation requires a trim kit. The oven requires no plumbing, which simplifies installation. Other Thermador products also featured in The New American Home are a built-in coffee machine, custom hood insert, Masterpiece double oven and Masterpiece Freedom induction cooktop, built-in MicroDrawer microwave, convection warming drawer, built-in Freedom refrigerator and built-in upright freezer and wine cooler, and Star-Sapphire dishwasher. (Platinum Sponsor)

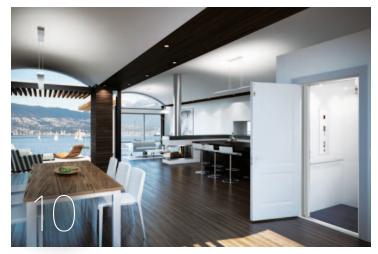
Clopay's Avante Epic Bronze garage door is constructed with a 2¹/8-inch-thick commercial-grade aluminum frame designed to be virtually maintenance-free. Frosted tempered glass panels allow daylight to filter through while maintaining privacy. Solid aluminum panels to match the frame are also available. Clopay's frames and solid panels come in nine standard colors plus custom colors; there are 12 glazing options. A number of sizes are offered. Doors that meet many local wind-load requirements are available. The manufacturer suggests that its doors also can be used as a solarium door or loft partition. (Bronze Sponsor)











The EWS Spectrum from Environmental Water Systems provides filtered, conditioned water from every tap in the house. It suits 90 percent of homes, is easy to install, and maintains itself, the manufacturer says. This whole-house water filter removes chlorine, VOCs, pesticides, dyes, fuels, and other contaminants, not only providing water that is enjoyable to drink and shower in but protecting plumbing and appliances from chemical damage. The conditioning process uses no salt or chemicals. In areas with naturally soft water, another option is the CWL Spectrum, which provides filtration only. The Spectrum meets or exceeds FDA, NSF, ANSI, and California state requirements. (Silver Sponsor)

With a palette of 1,667 colors, Sherwin-Williams'
Cashmere interior acrylic latex paint provides
an abundance of choices. Unlike other paints
that leave brush and roller marks, Cashmere goes on
smoothly and levels out, the manufacturer says. The

paint comes in flat enamel, low luster, medium luster, and pearl finishes. It meets the most stringent VOC regulations. (Silver Sponsor)

The New American Home incorporates a variety of power management products from Eaton, including decorative switches, advanced lighting controls, USB receptacles, and the circuit-protecting BR series load center and AFCI breakers. These load centers and circuit breakers provide reliable power breaking and circuit protection by combining arc fault and ground fault technology to reduce electrical hazards in the home. Arc fault circuit interrupters are a stable technology that can be used throughout the home in both AFCI breakers and AFCI receptacles. (Gold Sponsor)

Specifically colored to help blend The New American Home into its mountain range setting, the new Desert Sunset Luxor Panel was

designed, manufactured, and installed by Environmental StoneWorks. As with all its manufactured stone products, a project manager was on site during the entire installation process. The company offers ICC-certified stone and brick veneers and architectural precast products and accessories. (Gold Sponsor)

Choices aplenty make it easy to match home elevators from Garaventa to a home's décor. For example, the melamine panel comes in six finishes: white, antique white, light maple, dark maple, gray, and oak. Both raised and recessed-center panels are available in oak, maple, or cherry. The two other panel choices are wood veneer (oak, maple, mahogany, or birch) and glass. Both a cable hydraulic drive and an in-line drive that requires no machine room are available. All cars are equipped with solid accordion gates. Options include Italian controls and full-return curving handrails. (Bronze Sponsor)













Conveniently mounted on the side of the garage door rather than on the ceiling like a conventional opener, the LiftMaster 8500 wall-mounted opener clears the ceiling, leaving room for storage and providing a clean interior look. Like all LiftMaster garage door openers, the 8500 features MyQ technology. That means homeowners can remotely monitor and control their garage door, as well as house lights, using a smartphone. (Bronze Sponsor)

USP Structural Connectors from MiTek include everything from angles and straps to hangers to fasteners to glulam beam connectors. All have been code-evaluated. MiTek also manufactures epoxy, the Hardy Frame Shear Wall System, the Z4 Tie-Down System, and Muro tools. (Silver Sponsor)

Phantom Screens' Executive motorized retractable screens help create comfortable outdoor living spaces. Custom made and professionally installed, they block insects and reduce solar heat gain and glare. The screens can be mounted on the interior or exterior

of the home, fitting openings up to 25 feet wide and 16 feet tall. Compatibility with home automation systems allows users to program them to operate automatically whenever needed. More than 30 types of mesh and numerous finish options are available. (Bronze Sponsor)

Engineered to decrease the potential for lightning-related damage to a home's gas piping, TracPipe CounterStrike corrugated stainless steel tubing by OmegaFlex has a proprietary jacket material. If the piping becomes energized by lightning, the black jacket dissipates energy, protecting the stainless steel pressure liner and other fuel gas system components. TracPipe CounterStrike resists the damaging effects of electrical energy as much as 400 times better than conventional corrugated stainless steel tubing, the manufacturer says. (Silver Sponsor)

The ability to customize Panasonic Eco Solutions North America's WhisperGreen Select ventilation fan provides builders with options for both speed and features. A speed

selector offers a choice for airflow. Builders also can pick any three of the four value-added features: a night light, condensation sensor, motion sensor, or multispeed with time delay. The Flex-Z Fast bracket is designed to make installation quicker. The fan is UL listed for installation in tub and shower enclosures when it's used with a GFCI-protected circuit. A replaceable LED lamp is included. Also featured in The New American Home is the WhisperRecessed ceiling-mounted ventilation fan/light. (Gold Sponsor)

To improve energy efficiency and comfort in a home, insulation is key. Owens Corning's Foamular extruded polystyrene insulation board, used in The New American Home, has an R-value of 5 per inch of product thickness. This closed-cell, moisture-resistant insulation board is suited for everything from walls to roofs to foundations. It can be used on wood or steel framing and concrete walls. Foamular is available in a variety of sizes, thicknesses, edges, and compressive strengths. Also used in The New American Home: Owens Corning's ProPink Complete wall insulating system and EcoTouch insulation. (Platinum Sponsor)











Trane's heat pumps come in three price points: economy, standard, and premium. The competitively priced XR series includes models with a SEER rating of up to 17.25. The midrange XL heat pumps range up to a SEER rating of 19; the XV20i variable-speed heat pump has a SEER rating of up to 20. Several models feature humidity control, and some have two compressors built in. Trane also makes air conditioners, air handlers, gas furnaces, oil furnaces, coils, ductless systems, packaged systems, and geothermal systems. (Silver Sponsor)

Kohler's distinctive Prolific sink creates a multifunctional kitchen workstation. It features three graduated ledges in the basin where homeowners can use the bamboo cutting board, two multipurpose grated racks, colander, and wash bin. Other Kohler products also featured in The New American Home are the DTV electronic

control, which combines water, sound, light, and steam to create a spa-like environment in the bath; the Numi toilet, which features a motion-activated cover and seat, deodorizer, and foot warmer; and the wall-hung one-piece Veil toilet with a tank that goes behind the wall. (Gold Sponsor)

The five-light chandelier from Progress Lighting's Bliss Collection melds a casual look with elegant styling. Oversize crystal beads complement an antique bronze iron frame and fluted, clear optic glass shades. Also in the line are a three-light chandelier, mini pendant, and bath and vanity lights. (Bronze Sponsor)

Front-loading Maxima steam washers from Whirlpool's Maytag brand feature the PowerWash cycle, which uses extra wash action, heated water, and a thorough rinse to help remove tough stains. A combination of two

ball-bearing balancing rings, a six-point suspension system, and advanced software handle the vibration of almost any load size. The optional Sanitize cycle removes 99.9 percent of household bacteria, the manufacturer says. Matching steam dryers have a stainless steel drum that's built to last. For better tumbling and more even drying for small loads, an extra interior fin helps stop clothes from riding the drum. Steam-enhanced cycles and options take care of wrinkles and odors. (Bronze Sponsor)

Sierra Pacific's wood and aluminum-clad windows come in a variety of styles, including casement, awning, double-hung, horizontal sliders, bay, bow, radius, geometric, bifold, and multi-slider. The company also makes French doors, patio doors, glass pocket doors, stacking glass doors, and Dutch doors. Its new Lift and Slide door slides right into a pocket in the wall. (Platinum Sponsor)

American Home SPONSORS AND PARTICIPANTS

PLATINUM SPONSORS

- LSC BSH Appliances Thermador appliances
- Lsc DuPont Corian/Zodiaq countertops, charging
- Lsc DuPont Tyvek housewrap
- LSC Owens Corning Foamular, building envelope
- LSC Sierra Pacific windows and sliding doors

GOLD SPONSORS

- LSC Eaton electrical receptacles
- LSC Environmental StoneWorks stone veneers
- LSC Kohler plumbing fixtures, generator
- Lsc Panasonic ventilation fans

SILVER SPONSORS

Environmental Water Systems – water filtration MiTek – structural hangers

- Lsc OmegaFlex gas piping
- LSC Sherwin-Williams Cashmere interior paint
- LSC Trane heat pumps

BRONZE SPONSORS

- * Clopay garage doors
- Lsc Daltile tile and flooring
- LSC Garaventa Lift elevator
- LSC LiftMaster garage openers and security gate
- LSC Phantom Screens window screens
- LSC Progress Lighting lighting fixtures
- LSC Whirlpool/Maytag/KitchenAid washer/dryer/countertop appliances

PARTICIPATING COMPANIES

LSC 84 Lumber (Logix) – ICF blocks Abbott's Technology Design Group – automation installation

Absolute Closets and Cabinetry – closets

Alcal Specialty Contracting – garage door, insulation installation

Bandalux – interior shades Bathtub for Pets/Forever Stainless Steel – pet amenities

- LSC Big Ass Solutions patio fans
 Blynco Window Fashions installation, interior shades
 Bosch stackable washer and dryer
- * Bosch Thermo Technology tankless water heaters
 Carpets N More cabinet installation
 Civil Werx staking and grading
 Coulisse interior shades

 $\label{eq:Custom Specialties Group - fire features and installation} In the Court of the Court$

Dekton (Cosentino) – outdoor kitchen Econ Appliances – installation Electrolux-Beam – central vacuum system Emtek – interior door hardware Grace – roof underlayment Hankin Specialty Elevators – installation

- LSC Hearth, Patio & Barbecue Association association members
- * Hearth Products Controls (HPC) fire features
- LSC Honeywell structural wiring
- * Hubbell Lighting lighting fixtures
 Infratech outdoor heaters
- Lsc InSinkErator food disposers, water dispensers

 JD Stairs interior stairs
- LSC Kingspan Insulation protection board
- Kohler Power Systems generator
 Lubrizol fire suppression system
- Lsc Mohawk Industries wood floors, carpet
 National Nail nails, screws, caulking, sealants
- Pacific Energy Fireplace Products fire features
 Pakedge wireless
 PentAir pool and water feature equipment

- RH Peterson/Fire Magic fire features, outdoor kitchen equipment
 - Republic Services trash dumpster and recycling reports

Rodenhouse – wall systems installation
Satco Products – light bulbs
Savant Systems – smart home technology
Step Stone Pavers – central courtyard pavers

The Art of Tim Cantor – original art
Tiberti Fence – jobsite fencing

Two Trails – energy consultant and verifier

LSC USG – gypsum/drywall/underlayment

- UltraCraft Cabinets cabinetry Unique Wholesale Distributors – interior shades
- LSC Uponor plumbing runs
 Vahallan Papers wall coverings
 Window Fashion Vision magazine interior shades
 Interior furnishings provided by: Attitude Furnishings,
 Broyhill, Drexel Heritage, Henredon, Hickory Chair,
 Huppe, La Barge, Lane Furniture, Lane Venture,
 Maitland Smith, Pearson, Soho Concepts, Somers
 Furniture, Thomasville, Ultimate Builder Services
- LSC = LEADING SUPPLIERS COUNCIL MEMBER
- * = CONTRIBUTOR THROUGH LSC MEMBER

PROJECT TEAM

Builder/Architect/Interior Designer Element Design | Build, Henderson, Nev.

Landscape Architect Sage Design Studios, Las Vegas

Green Building Consultants Home Innovation Research Lab, Upper Marlboro, Md.; Two Trails Green Consulting, Sarasota, Fla.

Producer National Association of Home Builders, Washington, D.C.; NAHB Leading Suppliers Council, Washington, D.C.

Media Partner *Professional Builder* and *Custom Builder* magazines, Arlington Heights, III.

THE NEW AMERICAN HOME 2016 TEAM



CLOCKWISE FROM TOP LEFT: MEGHAN CORRIGAN, DIRECTOR
OF ADMINISTRATION, ELEMENT DESIGN | BUILD; JOSH
MOSER, PROJECT MANAGER, ELEMENT DESIGN | BUILD;
JOSH ANDERSON, OWNER, ELEMENT DESIGN | BUILD;
JOSH ANDERSON, OWNER, ELEMENT DESIGN | BUILD; JED
TIPPETTS, DIRECTOR OF OPERATIONS, ELEMENT DESIGN |
BUILD; JONATHAN SPEARS, LANDSCAPE ARCHITECT, SAGE
DESIGN STUDIOS; BILL OWENS, TASK FORCE VICE CHAIR, THE
NEW AMERICAN HOME; TONY MANCINI, GROUP DIRECTOR/
PRINCIPAL, PROFESSIONAL BUILDER MAGAZINE, SGC HORIZON;
TUCKER BERNARD, DIRECTOR, THE NEW AMERICAN HOME; TED
MAHONEY, TASK FORCE CHAIR, THE NEW AMERICAN HOME;
ELMA GARDNER, INTERIOR DESIGNER, ELEMENT DESIGN |
BUILD; JUDY BROCIEK, DIRECTOR OF EVENTS, SGC HORIZON;
DREW SMITH, PRESIDENT, TWO TRAILS GREEN CONSULTING