Whitmoore Custom Homes Launches Ultra-Efficient Passive House Project in Dallas

Texas Building Science: Designing your Energy Efficient and Storm Resistant Waterfront Dream House with Whitmoore Custom Homes

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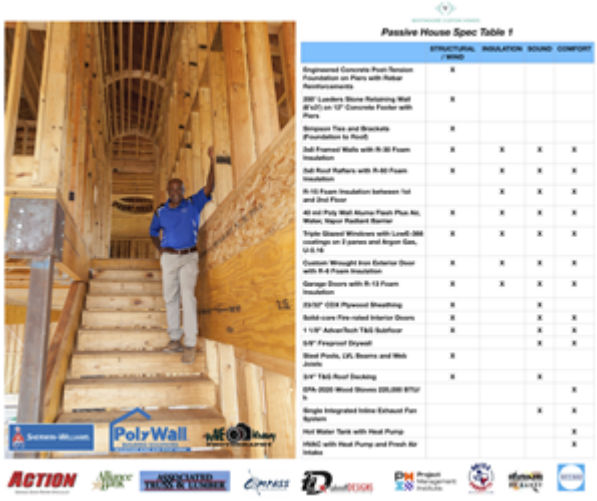
Whitmoore Custom Homes Breaks Ground on Latest Passive House

Passive House project on Lake Ray Hubbard near Dallas, Texas.

Whitmoore Custom Homes Specifications Table 1



Builder Milton Whitley with First Draft of Specs for Lake Ray Hubbard Passive House

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Sunnyvale, Sept. 23, 2020 (GLOBE NEWSWIRE) -- Whitmoore Custom Homes (**WCH**) announced today its latest residential construction project in the Dallas-Fort Worth Metroplex. The project incorporates innovations in building science coupled with proven construction best practices to provide a budget-conscious passive house designed to meet the challenges of the North Texas weather. The estate-sized project is located on the shores of **Lake Ray Hubbard** near Dallas. WCH plans to issue several releases that follow the construction process highlighting key concepts of this waterfront dream house. This release focuses on pre-construction, design, and lot considerations.

“For many clients, building their dream home is the single largest investment they will ever make. It also represents the largest recurring costs over their lifetime due to utility bills, maintenance, and insurance,” said Milton Whitley, CEO of WCH. “This project will prove that thoughtful upfront planning and spending in key areas yield significant immediate and long-term cost savings. These are real savings for clients. Savings that they will see on every utility and maintenance bill for the life of their home.”

In the U.S., one in three households faces a challenge in being able to pay utility bills associated with heating and cooling their home. Energy consumption and the cost of energy are expected to rise as populations increase and stricter regulations are imposed on energy producers. While there has been a growing trend towards home-based renewable energy solutions, such as solar power systems, the installation of such systems are typically cost-prohibitive with pay-back periods that can exceed 20 years. Such systems have substantial recurring maintenance and labor costs, and many families do not find these systems aesthetically pleasing. For custom homes, these systems may negatively affect or contrast with the style and architecture of their property.

At WCH, the emphasis is on smart, practical building science and real economic impact. For example, investing in quality insulation, windows, doors, and the design can return significant savings over the life of the home. These improvements increase the overall comfort even in extreme weather conditions, curb appeal, and resale value of the home. Unlike renewable energy options, these improvements do not require you to

adjust your lifestyle. Nor do they compromise the architecture or beauty of your home or require overly burdensome maintenance schedules, which are common with renewable energy systems. In Texas, frequent hail storms make many such systems, especially solar arrays, economically impractical for many homeowners.

“We utilize key building science principles that are associated with the passive house standard to yield a high-performance structure that operates with reduced energy demands which not only decreases the cost of home operation but also lessens the impact of the home on the environment and lends to optimizing health of the occupants and overall durability of the building,” said Milton. “The economic results are clear when reviewing utility bills and maintenance costs. Our homes save money every day.”

Passive House is a global standard for energy efficiency in a residential and commercial building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that substantially reduce heating and cooling requirements. Passive design is not an attachment or supplement to architectural design, but a process that integrates with architectural design. There are an estimated 70,000 passive house buildings in the world, with less than 2,500 in the U.S.

Passive houses can potentially yield an over 80% reduction in heating and cooling requirements of a home with an over 70% decrease in overall energy requirements when compared to traditional homes. Passive houses begin with the overall design of the home, the orientation of the structure on the lot, as well as, incorporating essential building science principles into the construction process including continuous super-insulation, creating an airtight building envelope, utilizing high performance windows and doors, balancing heat and moisture recovery in ventilation systems, and managing the solar gain from the sun to aid in heating the home.

“As I evaluated builders, it was important to find a professional with a passion for building science that would work closely with me on making cost-effective decisions that returned the best bang for the buck while achieving my architectural, energy efficiency, and structural engineering requirements,” said the client, Robert Brevelle. “Whitmoore Custom Homes proved to be the right choice. Together, we agreed that passive house standards best aligned with our objectives for the project.”

“Before starting on your dream home, one of the most important decisions you will make is in the selection of the builder,” said Corky Randolph, Market President of Alliance Bank of Rockwall and WCH banking partner. “You will spend the next 12 months or more with this person so you better feel comfortable working with them. A builder’s personality, past construction portfolio, and expectations must be aligned with yours.”

The project kicked off with reviews of the local area climate, the waterfront location, lot limitations, and the client’s requirements.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (**ASHRAE**) categorizes Dallas as Climate Zone 3, Subtype A. The climate and waterfront location requires structural engineering to withstand hot and humid summers, below-freezing temperatures in the winter, and frequent wind and hail storms.

Wind gusts in excess of 40 mph are common and during storms can exceed 90 mph. The client required that the structure withstand winds in excess of 135 mph. The current HUD/FEMA/NFPA/local code is 90 mph and the latest ASCE 7-16 and 2018 IBC is 115 mph. These factors impact design and construction aspects from the foundation to the roof.

“The architectural style of the house is French Country - Chateauesque in keeping with the existing structures on the estate,” said Robert. “Fortunately, this style with its steep sloping hipped roofs, high ceilings, large exposed beams, and thick walls facilitate energy efficiency and structural integrity.”

The client required the house maximize the waterfront views. Complicating matters, there were requirements to minimize unwanted solar gain in the summer months while maximizing the benefits of passive solar gain in the winter months. House orientation is an important factor in energy consumption that is commonly overlooked.

To meet these requirements, the majority of the exposed windows face North-East. South-facing windows are protected with covered porches and extended eaves. This shields the windows from the sun during the summer when the sun is higher. In the winter, the sun is lower allowing the house to benefit from passive solar gains. These orientation and design features are expected to save 10-15% on heating and cooling costs.

This being a waterfront house, the windows are large to take advantage of the views of Lake Ray Hubbard. While double pane windows are the “standard” in the U.S., many other countries have already progressed to triple and quadruple pane windows to satisfy their energy codes. For this project, double pane windows would not achieve the energy efficiency or utility bill targets. The triple-pane windows selected for this project have values of U-0.16 and R-6.25 compared with the average double pane window of U-0.36 and R-2.77. With window sizes in excess of 9 ft x 7 ft (as large as a garage door), windows will have a 20-30% impact on heating and cooling costs depending on the season. The additional benefits of triple-pane windows are improved soundproofing, structural strength, and overall comfort in the house.

While many U.S. contractors claim triple pane windows cost more than double pane windows, this project realized a 22% cost savings. This was due to the increased glass thickness and specialized coatings required of a double pane window to meet the equivalent performance of the triple pane window.

In addition to the windows, there are other technical challenges on this project ranging from structural to HVAC. To assist in these technical areas and to perform advanced modeling and testing, WCH is working closely with project managers and engineers from the Project Management Institute (PMI). The PMI is the world’s leading association for project management professionals. The PMI and its 600,000 members are trailblazers in passive house, green building, and energy efficient technologies. Its members work in nearly every country leading commercial and residential construction projects, as well as, defining new building codes and standards.

Robert is a member of the PMI and holds its highest certification, Project Management Professional (PMP). The PMP is regarded as the global gold standard of project

management certification. The PMP is a requirement to bid and execute many large construction projects and government-funded projects such as power plants, dams, airports, military facilities, and space programs.

Initially a client, Robert was recently appointed to WCH corporate advisory board.

“As we started working with Robert on this project, it was clear his diverse experience in management and engineering complimented our company’s strategic growth plans,” said Milton. “We are pleased Robert joined our corporate advisory board and look forward to incorporating more passive house features in our future projects.”

Joining WCH on this project are many of the industry's leading suppliers and contractors to include **Sherwin Williams**, **Poly Wall Building Solutions**, **Action Garage Doors**, **Associated Truss and Lumber**, **Compass Electrical Solutions**, **Project Management Institute**, **Signs by Randy**, **Roltex Concrete**, **Takeoff Designs**, **Willie Benigay Photography**, **Alliance Bank**, and the **Buy or Build Show**.

Through this collaboration, the project has developed specifications that you would not typically find on most custom-built homes (reference Passive House Spec Table 1).

WCH will cover more of these details and specifications in upcoming articles.

About the builder, **Milton Whitley**:
Milton brings over 15 years of experience working through every aspect of the building process from finance to site selection, architectural design, construction to move-in day. In addition to being a general contractor, Milton holds state board of educator certifications in technology and counseling. For over 20 years he taught architectural design, engineering, and computer technology with emphasis on designing structurally sound, energy efficient and environmentally responsible homes. Milton is an innovative and results-driven executive who currently serves as CEO of Whitmoore Custom Homes and the host of the Buy or Build Show. He is an active angel investor in early-stage tech startup firms, serves on boards of several companies and nonprofits. Milton holds a BS in Computer Information Systems and a MA in Counseling from **Amberton University**.

About the client and WCH corporate advisor, **Robert Brevelle**:
Robert has over 20 years of experience in engineering, construction, and technology development. Previously, Robert ran construction projects in the Americas and the Middle East. These included major infrastructure projects such as civil works, medical and first responder facilities, schools, and military construction (MILCON) in support of nation-building and development. Robert has received awards for engineering excellence and innovation by NASA, IEEE, Raytheon, Lockheed Martin, and Louisiana State University. Robert is a member of the **Order of the Engineer**, **Society of American Military Engineers**, and is the President of the Dallas chapter of the **Association of Old Crows**. He recently served as Entrepreneur-in-Residence (EIR) for the Invention Science Fund of Intellectual Ventures, a $6B global invention and investment firm. He has published multiple technical papers, and he was named as a Top Angel Investor in 2017 and 2019 by People Maven and **Crunchbase** for his investments and leadership in early-stage technologies. Robert holds a BS (high honors) and MS in Computer Science and Engineering from the **Illinois Institute of Technology** and an MBA from the **University of Texas at Dallas**. He completed postgraduate coursework in Industrial Engineering and

Economics at **Southern Methodist University**, **Colorado State University**, and **Cornell University**. Robert is a credentialed Project Management Professional from the PMI, and he is a graduate of the Executive Leadership Program from the Johnson Graduate School of Management at Cornell University.

About Whitmoore Custom Homes:
Whitmoore Custom Homes (WCH) is a family-owned and operated Texas company. We are more than just a luxury home builder. With a focus on innovation, we are blazing new trails in design, personalization, and energy efficiency. We work closely with our customers to create dream homes that reflect the unique people that live in them. Customers are encouraged to be involved through all phases from design and budgeting through all of the little touches that transform a house into a home. The result is a personal and empowering homebuilding experience. Learn more at **www.whitmoorecustomhomes.com**

Attachments

- **Whitmoore Custom Homes Breaks Ground on Latest Passive House**
- **Whitmoore Custom Homes Specifications Table 1**

For all press, marketing, and customer inquiries please contact mwhitley@whitmoorecustomhomes.com

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