

Garbett

## *The Garbett Passive House*



*The Gomez - 4 bed | 3.5 bath | 2-car garage | 2,609 SF*

### WHAT IS A PASSIVE HOUSE?

A passive house comes down to building principles. These principles can be applied to all building typologies – from single-family homes to multifamily apartment buildings, offices, and skyscrapers.

Passive design strategy carefully models and balances a comprehensive set of factors including heat emissions from appliances and occupants to keep the building at comfortable and consistent indoor temperatures throughout the heating and cooling seasons. As a result, passive buildings offer tremendous long-term benefits in addition to energy efficiency:

- Super-insulation and airtight construction provide unmatched comfort even in extreme weather conditions.
- Employs continuous insulation throughout its entire envelope without any thermal bridging (heat transfer).
- A comprehensive systems approach to modeling, design, and construction produces extremely resilient buildings.
- Passive building offer the best path to Net Zero & Net Positive buildings by minimizing the load that renewables are required to provide.

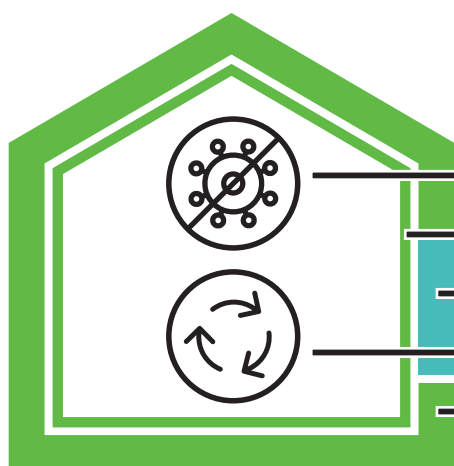
\*Floorplans and renderings are conceptual drawings and may vary from actual plans and homes as built. Options and features may not be available on all homes and are subject to change without notice. Dimensions are approximate. Actual homes may vary from photos and/or drawings which may show upgrades and may not represent the lowest-priced homes in the community. 5/04/22



garbetthomes.com

801 396-9882





## HOW WE DID IT.

- FRESH AIR SYSTEM (ERV)
- AIR-TIGHT SEAL
- HIGH PERFORMANCE DOORS & WINDOWS
- ADVANCED HEAT PUMP TECHNOLOGY
- INCREASED INSULATION

Passive building comprises a set of design principles used to attain a rigorous level of energy efficiency a superior level of comfort. "Optimize your gains and losses" based on climate summarizes the approach. To that end, a passive building is designed and built in accordance with these five building-science principles:

- Employing the use of an energy recovery ventilator improves indoor air quality and reduces the energy used by your heating and cooling equipment.
- The building envelope is extremely airtight, preventing infiltration of outside air and loss of conditioned air.
- Employs high-performance triple-pane windows & doors - solar gain is managed to harness the sun's energy for heating purposes in the heating season & to minimize overheating during the cooling season.
- Uses balanced heat- and moisture-recovery ventilation (ERV System).
- Employs continuous insulation throughout its entire envelope without any thermal bridging (heat transfer).

System	Garbett Passive	DOE ZERH
Above Grade Walls	6" rigid insulation over 2x6 wall R-53.1	2x6 wall R-23.1
Basement Walls	2x4 wall over 3" rigid insulation R-29.7	Continuous batt insulation R-22
Under Basement Slab	8" under slab insulation R-40 (R-5/inch)	No under slab insulation R-0
Floor above garage	2" spray foam above 10" blown-in insulation R-52	12" blown-in insulation R-49
Windows	<U-0.16	<U-0.28
Sliding Glass Doors	U-0.19	U-0.28
Front Door	<U-0.20	<U-0.30

System	Garbett Passive	DOE ZERH
Heating	9.5 HSPF (Heat Pump) 97.3 AFUE gas furnace backup	96 AFUE gas furnace
Cooling	18 SEER (Heat Pump)	13 SEER (AC)
ERV	Broan ERV 200 ECM	Broan ERV 70
Water Heater	93% gas tankless	93% gas tankless
Attic	R-60	R-60
Air Sealing	<1.0 ACH	2.0 ACH