

Architect:

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Owner:

Private Residence

Project Cost:

n/a

Square Footage:

1,787 sf

Cost per Square Foot:

n/a

Completion Date:

n/a

Project Consultants:

n/a



Project Description:

This is a 1787 square foot, two story, two bedroom residence in the Amberleigh development in South Richmond, Virginia.

Green Features:

Advanced framing features include elimination of T-posts on interior walls, minimization of headers on interior door openings and non-support walls, horizontal blocking, open corner framing, and rigid sandwiched insulation on all exterior window and door headers. Moisture control was ensured through a water management plan including a perforated drain at footing level, and adequate sloping from foundation wall. Ventless, air sealed, crawl space featured polyethylene vapor diffusion retarder. Supply air from the forced air distribution system was used to create a positive pressure of 2 to 3 pascals. Advanced insulation included elevated levels of hi-density insulation, R-13 rated spray cellulose applied to exterior walls, elimination of T posts, use of stud corners, rigid foam at exterior wall headers, R-30 rated blown cellulose in the ceiling, and R-10 rigid foam boards in crawl space stem walls and rim and band joist areas. Infiltration/exfiltration control measures include careful sealing and caulking of attic, crawlspace and exterior wall and innovative drywall installation technique to create air barrier. Anderson double hung, vinyl clad, wood frame high efficiency windows with Low-E gas filled glazing were used HVAC equipment included a York 2.5 ton 12 SEER, air conditioner with variable speed handler. Heating is provided by a York 90% plus two stage gas furnace. Gas furnace and air handler located in a buffered space (garage), and all other equipment located in conditioned crawl space or other conditioned space. A supply ventilation system with circulation and point source exhaust was installed to provide fresh air and maintain a positive pressurization. A supply duct brings in outdoor air and mixes it with indoor air to provide circulation and tempering prior to supplying the common area. Supply air is filtered where it enters the system and before it enters the living environment. Bathroom exhaust fans and kitchen range hood provide point source exhaust as needed. All fans have dedicated on/off switch, are quiet in operation and equipped with a gravity type damper. The forced air distribution system consisted of round galvanized metal supply and return trunks, with foil faced flex for sound attenuation on individual run-outs. All take-off were provided with manual dampers to balance system air flows. Return filter grill is Hart and Cooley sized for extended surface 3M Filtrete Ultra Allergen 1' pleated disposable filter. No room or zone exceeded a pressurization/depressurization level of 3 pascals.