



# HVAC DUCTWORK

## Design

- Ductwork is designed according to **ACCA MANUAL D**, the industry standard for creating efficient and high performance duct systems.
- Entire duct system is hard-ducted – no panned joist cavities were used.
- All supply and return ducts are located in the conditioned space of the home. Any duct leakage that occurs, therefore, is not wasted energy.
- Central returns deliver air efficiently to the air handler, while jump ducts across bedroom doors allow return air to flow from rooms to the hallway. This type of duct system prevents pressure imbalances which can cause uneven temperatures, stagnant air, carpet discoloration, and other performance issues.

## Installation

- **Duct sealing:** FoilMastic®, a special butyl-rubber backed foil tape, was used to seal the joints and seams in the ductwork.
- **Air Leakage Testing:** Ducts will be tested for air leakage when the home is complete. Due to the careful duct sealing, very little energy should be wasted due to leaky ducts. It is not uncommon for a typical new duct system (with panned joist cavity returns) to leak 25% or more of its air. A carefully sealed, 100% hard-ducted system can have as little as 3-5% leakage. When ducts are in attics or other unconditioned space, air leaking from ducts is forced outdoors and a lot of energy is wasted. However, even if all the ducts are in conditioned space, excessive duct leakage prevents air from flowing to its intended location and, thus, compromises system performance.

6 pts. Duct sealing receives **6 points** under **Section 3.3.3k** of the **NAHB Model Green Home Building Guidelines**.

8 pts. Ducts in conditioned space receives **8 points** under **Section 3.3.3l** of the **NAHB Model Green Home Building Guidelines**.

6 pts. Installation of jump ducts is awarded **6 points** under **Section 3.3.3m** of the **NAHB Model Green Home Building Guidelines**.