

## Elegant Missouri River Ranch

Washington, MO



This healthy home is nestled in Washington, Missouri, the corncob pipe capital of the world. When the homeowners set out to build a new home in this small town along the Missouri River, they prioritized both a low energy profile and superior comfort for their family. The house was foamed and sealed to create a very tight envelope, and Jim's

Heating and Cooling took the healthy home features to the next level by applying elements of the 2012 Energy Code to the heating and cooling system. The home also incorporates many beneficial accessories to fulfil the homeowners' energy cost and comfort requirements, including steam humidifiers and energy recovery ventilators.

### Project Details

|                              |   |
|------------------------------|---|
| <b>Building Size:</b>        | 4,500 sq. ft.   |
| <b>Loop Type:</b>            | Vertical  |
| <b>Geothermal Equipment:</b> | 5-ton Hydron Module Combination unit, 3-ton Hydron Module Multi-Positional Vertical Packaged unit   |
| <b>Installation Date:</b>    | March 2016  |
| <b>Installation Details:</b> | <p>The lower floor has in-floor radiant heating, involving five circuits. A Honeywell four-zone system was used with the forced air geothermal system to provide a temperature control system that matched the homeowners' lifestyle. Two Aprilaire steam humidifiers were also added to provide lower energy costs, a healthier home environment, and increased comfort.</p> <p>Energy recovery ventilators (ERVs) were added to each system in order to continually provide fresh air, reducing VOCs. This was all connected by four Aprilaire multi-stage touchscreen thermostats that integrated the steam humidifiers and ERVs into a one-device control center.</p> <p>A vertical loop was used even though there was a large lake available. Both options were assessed with a cost/benefit analysis and it was determined the vertical loop was the more beneficial option.</p> |

**Geothermal Contractor:** **Jim's Heating & Cooling** • Washington, MO • (636) 239-3581  
[www.jimsheatandcool.com](http://www.jimsheatandcool.com)

 CONSTRUCTION TYPE  
**New Construction**

 SYSTEM TYPE  
**Forced Air System**

 SYSTEM TYPE  
**Radiant System**

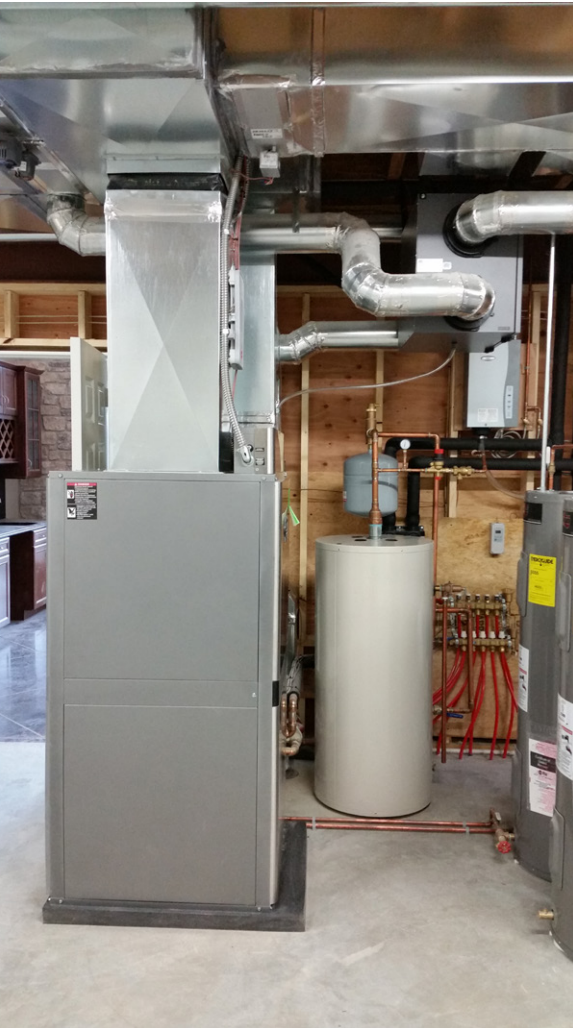
 LOOP TYPE  
**Vertical Loop**



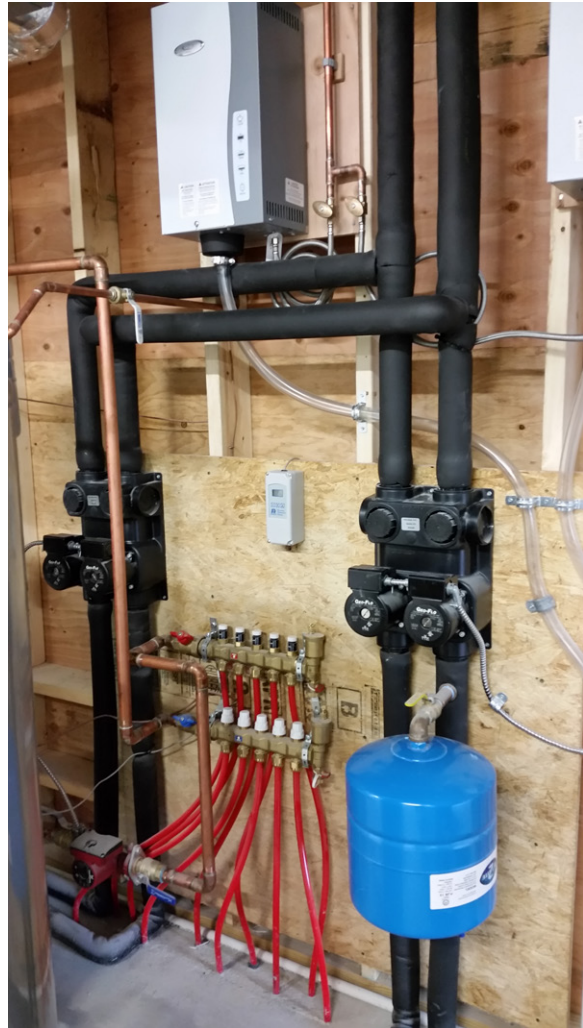
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Radiant floor tubing



Left: Multi-Positional Vertical Packaged Unit



Right: Pumping installation for radiant floor heating