

COMFORT AT HOME

WINTER 2011

Photos: By Andy Frame Photography (www.andyfrance.com)



The 2011 ReVISION House

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www.canellaheatingandair.com

TELEPHONE: 828-327-9680

A Solution for HEATING & COOLING a Difficult Room

With the economy in its unpredictable state right now wreaking havoc on the home sales market, many people are deciding to stay put and fix up what they've got. Many times this leads to finishing off some unused space such as adding a room to the basement or finishing a bonus room over the garage. A big question that needs to be addressed upfront is how to heat and cool that new space.

In many of these cases it's not convenient or even possible to add ductwork and hook onto the existing HVAC system. A classic example of this is a sunroom which is usually installed on a slab and has no attic space above it to hide ductwork. As luck would have it, there's a perfect energy-efficient, quiet, comfortable solution called a Ductless Mini Split, or a

mini-split heat pump though that name is somewhat misleading since it both heats and cools.

A mini-split is a two-part system that consists of a small outdoor unit and an indoor unit that hangs on a wall or mounts in the ceiling. What's missing from a traditional heat pump system is duct work. This can reduce some of the cost of installation but more importantly means all of the heated and cooled air makes it into your home. (A standard duct system can lose up to 30% of its air to leakage.)

It also means there is no duct system to run through the attic or the crawlspace where it can pick up dirty, unconditioned air along the way. All of this adds up to lower energy bills and cleaner indoor air.

Another advantage to a mini-split is that the unit can be turned on when someone is in the room and turned off when everyone is gone, eliminating the energy wasted by heating and cooling a room with no one in it. The better units continuously monitor the temperature in

the room and adjust the speed of the compressor instead of turning it on and off like a traditional unit. This also contributes to energy efficiency and quieter operation.

Occasionally there might be more than one room that can't be accessed by conventional ducted methods. For that situation there are mini-splits available with multiple indoor units, or heads, serviced by one outdoor unit. Again, each unit can be turned on and off independently depending on when the rooms are in use.

In addition to the comfort and efficiency provided by a mini-split, most of them qualify for tax credits and rebates. A homeowner who is a customer of an electric city utility could potentially receive \$400 back from the utility for the installation of a mini-split. The unit can

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Canella Heating & Air Conditioning is the winner of numerous awards in the Catawba Valley including:





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The ranch-style home is an American icon—an architectural style that was immensely popular throughout the country from 1950-1970. It is recognizable by its single-story exterior, low-slung roof, wide eaves, large windows and simple trim. Today, young families appreciate the open floor plan characteristic of this style, and older buyers are rediscovering the ease of living on one level.

The 2011 ReVISION House is the latest in a series of homes remodeled by Green Builder Media to demonstrate sustainable building practices. This project celebrates the ranch form, freshening an existing ranch-style home in Orlando to appeal to today's home buyers. The design team's goal was to keep the costs down and also preserve the architectural character of the house. The finished project shows how a renovated ranch-style home can function well for the modern lifestyle without the expense of adding a lot of square footage.

The original 1,800-square-foot house had three bedrooms—all grouped together—and one and a half baths. A new addition enlarged the home to 2,400 square feet, giving it four bedrooms and three and a half baths. The master suite is now located on the opposite side of the house from the other bedrooms. By reconfiguring the existing layout, a number of other design flaws were addressed: a proper entry and foyer were created; the laundry room was brought in from the garage, and a powder room was added. A covered outdoor living space was also included in the redesign.

The ceiling height was raised to 9'-4" in the new addition to bring more light and airiness into the kitchen, grand room, and master bedroom—the center rear section of the home. Ceiling heights remain at 8' in the remainder of the home, which feels cozy by contrast. The corner windows in the bedrooms and living room remain, as well as the chimney placement and location. All in all, only 600 square feet of

The 2011 ReVISION House



Photos: By Andy Frame Photography (www.andyframe.com)

space was added, yet the livability of the house was greatly improved.

Other ways this home demonstrates sustainable building practices is through its use of the following high-performance and energy-efficient green products:

- Concrete masonry veneer on the exterior is pre-molded over polystyrene panels, offering R-13.5 insulation.
- A “cool roof” product from MonierLifetile has high solar reflectance and thermal emittance.
- Custom impact-resistant aluminum-clad windows provide security against intruders, reduce outdoor noise, and filter 99% of UV light.
- Closed-cell spray foam insulation that potentially saves 20-40% on heating and cooling energy. Product does not have formaldehyde or respirable fibers.
- Hybrid water heater with twice the efficiency of standard electric water heaters.
- All appliances are ENERGYSTAR qualified.
- Many light fixtures are LEDs.
- Low-flow plumbing fixtures.
- No-VOC paint.
- Occupancy/vacancy light sensors offer safety and energy-efficiency.
- ENERGYSTAR qualified exhaust fans maintain good air quality in the house.

Out of the Ordinary

Each day you may pass by the exterior of your home without really analyzing its appearance. Does your home look dated and worn? Is there anything exciting that sets it apart from the other homes on the block? If you decide to sell your home, will it impress potential buyers from the curb—or is your home's exterior bland and uninspiring?

Your home's facade can take on an entirely new dimension with the addition of contrasting decorative trim or with the front door attractively painted in a bold color. Creating an entry portico, or a porch that extends across the front of your home, can lend depth to the facade. Use stone accents to add warmth and textural interest. Design an inviting approach to your home with paving stones or bricks.



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A carefully planned greenscape also adds tremendous appeal to the look of your home. Select plants that are native to our region so they will require less water and fertilizer to keep them healthy and vigorous. Include flower boxes at the entrance for a "welcome home" touch.

As you are planning the makeover, it is wise to choose roofing, siding, door and window replacement products that help reduce energy costs. For example, the U.S. Department of Energy



Photos: Courtesy of CertainTeed (www.certainteed.com)

CertainTeed's Restoration Millwork Exterior Trim is made from easy-care PVC, but looks and feels like lumber.

says that ENERGY STAR qualified windows can save as much as 15% on your energy bill. Foam-backed siding provides a modest boost in R-value, as well as reduced sound transmission. Similarly, you will want to select products that are easy and inexpensive to maintain, such as siding and trim that never need painting.

THE ULTIMATE CULINARY CENTER

The holidays are almost here. Is your mouth already watering for roast turkey with all the trimmings? If your family is really into cooking, you will be excited to learn about Thermador's latest introduction: the Pro Grand Steam Range.

This 48-inch range offers seven distinct cooking options, all in one sleek package: a full-function combination steam and convection oven; a large-capacity convection oven; a six-burner gas cooktop and electric grill/griddle option; and a warming drawer.

True foodies will especially appreciate the steam and convection oven that enables cooking without using butter or fat, improves overall food quality and appearance, and preserves healthy vitamins and nutrients typically lost during traditional cooking methods. The oven cavity is large enough for a 14-pound turkey that will take only 90 minutes to cook in Combination mode, resulting in a moist inside and a perfect crust outside.

Photo: Courtesy of Thermador (www.thermador.com)





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The 2011 ReVISION House

A Solution for Heating & Cooling a Difficult Room

“The House as a System”

Out of the Ordinary



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A Solution for HEATING & COOLING a Difficult Room



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also qualify for a 2011 tax credit of up to \$500. An accountant would be able to determine eligibility for the tax credit.

Like a standard air conditioner or heat pump, mini-splits must be sized appropriately for the application. It is still possible to over-size or under-size the system which would entirely defeat the purpose and cost more than it should to operate. Only a heating and air conditioning contractor experienced and trained in the installation of mini-splits, like our specialists here at **Canella Heating and Air**, can calculate the correct size. If you think you have an application that could be well served by a mini-split, please call us at **828-327-9680**. We'd be happy to take a look and help you determine if this solution is right for you.

“The House as a System”

You may be familiar with this term but you probably haven't given it much thought. The house IS a system might be more readily understood, though you still might not understand what the impact is to you or why this concept is important.

When your house was originally built, it was designed to be a certain size and included systems such as plumbing, electrical, and heating and air conditioning also designed for that exact size. Considered in the design were the number of bedrooms and bathrooms, the type of windows and what direction they faced, the level of insulation, and what the best way to heat and cool it would be. Over time many people make changes to their home like adding rooms or additions, removing walls, or replacing doors and windows. What's easily overlooked is that the house's individual systems may no longer be effective, efficient, or even safe for the new configuration.

One example that's very important for its safety implications is the example of a gas furnace. When originally installed, it may have been placed in the basement which was unfinished, uninsulated, and wide open. It could get all the fresh air it needed to burn properly and to “draft,” or carry the poisonous fumes created during combustion up and out through the vent pipe. One day a homeowner decides to finish the basement. Inadvertently, this homeowner

just drastically cut off the furnace's unlimited source of combustion air. Without enough air, the chimney (vent pipe) can't draft well enough to carry the noxious fumes out of the house. There is also the potential that when the furnace turns on, the flame will “roll out” or burn beyond the confines of the equipment while it tries to find enough air. In either of these cases, death can result from carbon monoxide poisoning or because something catches on fire.

Another example is adding insulation, especially if done since the last heating and cooling system was installed. Depending on how well the house was air-sealed and insulated, the HVAC system might be too big now. When it's oversized, it can't remove humidity like it's supposed to in the summer, or cycles on and off too often causing utility bills to rise.

These are a few examples of why it's important to know that making a change without looking at the impact on the entire house can have other consequences, or how the whole house operates as a system. At **Canella Heating and Air Conditioning**, we have certified Building Analysts on staff trained to look at the house as a whole in addition to the individual systems. If you're considering making some of these major changes, please call us at **828-327-9680** and let us make sure you remain comfortable and safe.