

# Designed For You



4945 West Patrick Lane  
Las Vegas, Nevada 89118-2853  
office 702.876.0668 fax 702.876.3493

architecture / engineering / site  
**GARY GUY WILSON**



planning / interior design  
**ARCHITECTS**

## Radiant Heating & Cooling

by Gary Guy Wilson, AIA, LEED AP

**(Happy Holidays coming for 2010/2011...** The Architect enthusiastically embraces 2011 as a year of increasing economic activity and rebuilding of prosperity across our Town, State and Nation.... How can LEED principles apply in that rebuilding?... By taking a fresh look at techniques, methods and materials for building renovations and new constructions, we will be able to reduce costs of building occupancy and operations both in terms of dollars and in conservation of energy, water, and material resources.

One way that can be possible in the life cycle operation of your building is through utilizing Radiant Heating and Cooling techniques...perhaps as much as 35% savings in energy use and cost for heating and cooling your building.

### "Radiant Heating and Cooling? Impossible?"

Radiant Heating is one of the earliest forms of thermal energy known to man. It was only after the advent of combination heating and ventilation units, that seemed quick and easy, though not necessarily efficient, that the world began to turn away from radiant sources. There is a wealth of information available on this subject. Check out "Thermally Active Surfaces in Architecture, by Kiel Moe, for one. And, in addition, by contacting [ggw@ggwarchitects.com](mailto:ggw@ggwarchitects.com).

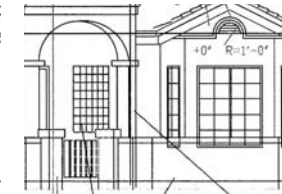
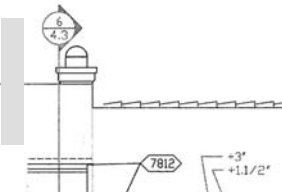
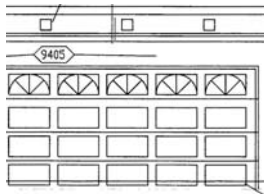
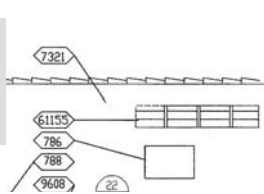
Heat (thermal energy) can be transferred in three ways. 1. Between particles (or objects) that are in direct contact with each other, a process known as CONDUCTION. 2. By fluids that are in motion, such as moving air of a different temperature into or through a space. This process is known as CONVECTION. 3. And, by RADIATION which is the transfer of thermal energy by electromagnetic waves that by the laws of thermodynamics will always move heat from a higher temperature source or object to an object of lower temperature. This transfer gives us the basis for RADIANT HEATING IN BUILDINGS and is also the basis for RADIANT COOLING...

We all know of the Radiant Heat from the sun, the high temperature source object, to the earth the lower temperature receiving object. The electromagnetic waves always travel in a straight line. Thus, when we put up a shading device, the device receives the radiant heat and the waves do not "bend". As a result we can be warm in the sun and cool in the shade. The air is not being directly heated, only objects exposed to the radiant source. We can use these concepts in our building design.

The laws of thermodynamics, also say that thermal energy will always move from the object of higher energy (temperature) to the object of lower energy thereby "cooling" the first object. This fact of physics allows us to create radiant cooling in buildings.

Why consider radiant heating and cooling? to Save on Energy consumption and Save on operating cost.

Do you have Questions or Comments regarding "Green" considerations in your life? "ASK THE ARCHITECT/LEED AP" at [ggw@ggwarchitects.com](mailto:ggw@ggwarchitects.com)."



## SPOTLIGHT Gilbert Grove & Terry Grove

A dismal 2010 has a bright spot! GGWArchitects has re-connected with longtime clients, Gilbert Grove, President, and Terre Grove, Vice President, of Grove, Inc. The relationship between Gilbert and Architect Wilson began years ago on several jobs before joining forces again on River Cove Townhomes, at St. George, Utah in 1992. "It was a great project," states Gilbert. It was the first of its kind for St. George at that time.

Gilbert's journey to Nevada began in 1962 after attending the Texas State School of Mines and Metallurgy (now the University of Texas El Paso), and serving 2 years in the Army during the Korean War. He left El Paso to perform structural engineering at the Nevada Test Site. From there, Gilbert joined Ben O. Davey, running their Reno office for 2 years and Sunrise Construction, helping to build Nellis Air Force Base. By this time, Gilbert was ready to venture out on his own.

In 1973, he and his wife of 54 years, Peggie, opened Grove Construction. Eventually, daughter, Terre, joined Grove, as did her sister, Kari, as Controller. With the arrival of Terre's son, Tyler, as Estimating Project Manager, there are now 3 generations of Groves on board.

Terre started working in the Grove warehouse in the eighth grade. As time passed, she assisted project managers, distributing plans and obtaining bids. She served as Receptionist before becoming involved in project management. She also assisted Mom, Peggie, with payroll. Today, Terre dons a hard hat and visits job sites to monitor construction. She is proud to report that Grove, Inc. was the first construction firm in town to implement computerized cost estimating. Terre has now been at Grove for 31 years and has been running it for the last 5, as Gilbert reduces his role.

Terre heads a strong marketing push in answer to the slowing economy. Much of their present work had already been negotiated. Grove is seeing a turnaround in private sector work, such as schools and churches. And therefore, they are focusing on that market.

Grove Construction has had a significant impact on our valley landscape, constructing many of our schools, including Faith Lutheran Jr./Sr. High School; hotels; parking garages; service industry buildings, such as Western Linen; Department of Defense Structures; and many financial institutions, such as Citibank Credit Card Processing Facility. In addition to Nevada, Grove is licensed in several adjoining states. Grove also was the first local Contractor to utilize the concrete pumping system for high rise concrete placement.

The River Cove Townhomes project with GGWArchitects was a huge success, largely due to the design that provided superb floor plans and unique features. Gilbert fondly recalls meeting with Architect Wilson at his Spring Mountain & Polaris office over the years. The two have great respect for each other and are excited about the idea of pairing up again on future projects.

# GGWArchitects<sup>2</sup>