

case study

Historic Texas Landmark Tower Transformed

The city of Waco, Texas, has enjoyed a hotel at the corner of Fourth and Austin Avenue since 1872 when the McClelland Hotel opened that year. In 1929 a new 12-story Hilton Hotel was built on this corner igniting a wave of downtown urban development. That same year, legendary outlaws Bonnie Elizabeth Parker and Clyde Chestnut Barrow (Bonnie and Clyde) were arrested in the newly opened hotel. Five years later, in April 1934 it was renamed the Roosevelt Hotel – the first in Texas to be named in honor of President Franklin D. Roosevelt.

Fast forward to August 2006 when local builder/developer Mike Clark, J. Michael Clark Builders, Inc., Waco, bought the landmark tower and began a \$15 million renovation converting the old hotel into 10 floors of luxury high-rise offices. The only Class A office space between Dallas and Austin, the tower also features street-level retail, restaurants and a second-story grand ballroom.

Seeking Advanced Cooling and Heating Solutions

To attract first-class tenants to his new tower, Clark knew that his renovation plans must include a state-of-the-art HVAC system that would provide outstanding comfort and indoor air quality. He wanted technology with great flexibility that would supply

individual zones with a personalized comfort system. He understood there were systems available that could deliver instantaneous cooling and heating with low operating sound.

To find answers to these questions Clark turned to Haught Air Conditioning, Inc., Waco, a third-generation family business with whom he had worked successfully in past years. Haught Senior Project Manager Chris Howell met with Clark and listened to his HVAC aspirations. Howell then recommended the exact system which Clark had envisioned for his historic office tower. Howell outlined the numerous benefits and advantages Variable Refrigerant Flow (VRF) zoning systems from Mitsubishi Electric Cooling and Heating Solutions, Suwanee, Ga., has over conventional HVAC systems.

VRF Technology Perfect for Historical Landmarks

Howell explained to Clark why VRF zoning was the ideal technology for his legacy office tower. He showed how VRF systems are particularly suitable for retrofitting historic buildings without disturbing the structure – only a 3-inch hole in the wall is required for piping and wiring. Because the condensing units are normally placed outdoors, Clark wouldn't have to pay for building a mechanical room.



Project Name

Roosevelt Tower

Project Location

Waco, Texas

Completion Date

December 2008

The Team

Owner

**Michael Clark Builders,
Waco, Texas**

HVAC Contractor

**Haught Air
Conditioning, Inc.,
Waco, Texas**

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Howell explained what the acronym meant. VRF is variable because the system uses a proprietary INVERTER technology that varies the speed of the compressor saving Clark substantial energy costs. “Rather than moving air through ducts (a major energy loss), VRF technology moves refrigerant through pipes, delivering the exact amount of cooling or heating for each zone of the building,” he said. The “F” in VRF refers to the flow of the refrigerant through the piping.

Howell said that dividing Roosevelt Tower into zones was the finest way to ensure total comfort for all Clark’s future

occupants because zoning provides each office suite, ballroom or retail space with its own comfort system. Zoning offers maximum comfort and energy efficiency because zones are cooled and heated only when in use.

“VRF technology from Mitsubishi Electric will provide your office tower with simultaneous cooling and heating,” Howell told Clark. “Zones can be actively cooled in one area while being heated in another. Furthermore, a Mitsubishi Electric VRF zoning system is the quietest in the industry – as low as 24 dB(A) for the indoor units and 58 dB(A) for the outdoor units.”

VRF Performance Receives High Reviews from Waco Law Firms

Clark was sold on the concept and told Howell to proceed with ordering the equipment from Mitsubishi Electric. Working closely with Clark’s construction teams, Haught finished installing the VRF system just in time to welcome the moving crews from Waco’s largest law firm – Naman, Howell, Smith and Lee – with 36 attorneys and 38 support staffers. Other law firms followed and today the historic tower is almost totally leased.



The historic Roosevelt Hotel is restored into a luxury office tower where advanced VRF systems provide energy savings for this 90-year-old icon.

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“Discovering Mitsubishi Electric technology was one of the best things that happened to me in this historic renovation,” Clark said. “It has even played a role in helping me lease this Class A space. Lawyers can be very demanding. At the time, we had just come through the hottest summer since 1980 and I have had nothing but compliments from my tenants who love the quietness, comfort and individual controls. I also lease out our grand ballroom and have had a lot of positive feedback from the many Waco citizens renting this celebrated space.”

An Amazing System for a 90-Year-Old Building

“The VRF zoning system has performed exceptionally well,” Howell said. “I was impressed with how trouble-free the equipment was to install. We were able to mount the systems with very few service issues. No one in Waco has ever seen anything like this.

“This is an amazing system for a 90-year-old building,” Howell continued. “There is no way we could have completed this job with conventional ductwork. We had 10

feet from floor to ceiling to work with. Because the Mitsubishi Electric system offers both ductless and ducted units, and because of the slim profile (only nine inches tall) of its indoor units, we were able to deliver contemporary-looking 9-foot ceilings in all the office suites, which impressed Clark’s potential clients.”



Mitsubishi Electric Equipment Installed

- (17) PURY R2-Series Outdoor Units
- (2) PUMY S-Series Outdoor Units
- (64) PKFY Wall-mounted Indoor Units
- (178) PLFY Ceiling-recessed Indoor Units
- (1) PMFY Ceiling-recessed Indoor Unit
- (37) PEFY Ceiling-concealed Indoor Units
- (9) PFFY Floor-standing Indoor Units
- (9) G-50A Centralized Controllers with LonWorks® Interface
- (7) Lossnay Energy Recovery Ventilators