

Madison County
Alabama

MCVILLE MANOR



CHALLENGE

Selecting a cooling and heating system for a 200-year-old home that could not support ductwork

SOLUTION

Zoned Comfort Solutions® from Mitsubishi Electric

RESULT

No damage to the home's structural integrity, discreet operation and true comfort

McVille Manor was built in 1814 and has remained in the same family for six generations. Built out of bricks handmade on the Madison County, Alabama, premises, the home holds an honored place on the National and State Registers of Historic Places. After small additions over the years, the house now stands at 2,200 square feet – and very little of it has had any sort of cooling or heating. That lack of comfort and indoor air quality brought Marguerite Ellison and her cousin Rosemary McCrary to seek out a cooling and heating system that could finally make the house a physically pleasant place to be. Zoned Comfort Solutions® from Mitsubishi Electric offered an elegant answer, keeping the structural integrity of the home in tact while ushering in a new era of comfort. The zoning system will also allow McVille Manor to host school trips, weddings and other events no matter the season or weather.

Ellison said, "The land that this house is on was settled in 1809 by my great-great-great-grandfather, before Alabama was a state.

It's taken a lot of love and effort to keep it going for over 200 years." In recent years, some of that effort has involved trying to introduce cooling and heating to the home. "We had two window units. They were old and inefficient. We also used space heaters, but they never really did the trick." When moisture and mold took their toll on the dining room, it was time.

From Ellison's perspective, the selected system would need to do three things:

1. Maintain the structure's integrity as "the house is very fragile after 200 years."
2. Address moisture, since "in the South, the summers are terrifically humid, and in the winter it's very cold and we've had pipes break."
3. Work unobtrusively while making comfort better since "we're opening the home for events, tours and weddings."

With that first concern in mind, Ellison called architect David Ely, senior associate, KPS Group, Birmingham,



Alabama. He said, "I have a lot of experience working with old homes. And you know, some are easier than others. This one, being more compact, was more difficult."

Ellison also talked with friends, museum curators and contractors. One of those contractors was Eddy Childress, owner, Childress Air Conditioning & Heating, New Market, Alabama. He said, "The State Historical Society – they were afraid and very particular about what we could use. The bricks in the house were never fired, so they're very brittle. They couldn't support the weight of a traditional system, nor could the plaster in other places in the house, and we didn't want a lot of holes."

Ely added, "Conventional ductwork or piping would have been very intrusive to the original spaces, and would have ruined the historic ambiance. The addition also presented challenges due to its location over a low crawl space. There was little room for ductwork within the crawl space, and out in the country concealed ductwork is vulnerable to varmints digging into loose ductwork joints. Concealment of HVAC systems within historic structures is a must, though – it's very important to maintaining the original character of the home."

Childress said, "I talked with my distributor, Partners Supply, and went to look at the house with the store manager and sales rep. They work real close with me on a lot of projects." Together, a design emerged: "Two units – a five-head on one side and a two-head on the other."

It was the variety of Mitsubishi Electric indoor units that made this possible. "The floor model really worked well for this application. And I personally like Mitsubishi Electric. Their units are almost maintenance-free. Very little trouble. It also means a lot that I have a good distributor who goes above and beyond," said Childress.

Ely agreed with the choice. "With this system, you can install with limited impact to the space – not having to cut large holes in the walls or floor. We'd installed these units in other projects so I know they're fine – look good and work well. I like the ability to zone." Ellison also agreed: "These units were great because you don't have to be invasive. And Mitsubishi Electric – they were very responsive. I felt like they were listening to me."

With the system selected, installation took place. Childress said, "It went very well. Was about three working days to install everything, and we were able to spread that across

three different Saturdays." Part of that installation involved Childress custom-building a bookcase "to sort of hide a wall-mounted unit." This worked well for Ely who said the look was "very appealing as it presented minimal visual impact and required nominal structural modifications. The floor-mounted Mitsubishi Electric units also provided individual comfort control for each room with the least impact possible to the home's character or structure."

“There was only one place where we had to make a very small incision in one of the bricks, and it worked seamlessly. Otherwise, the piping went through the floors through little incisions. That was great because the walls are plaster and they'd have cracked terribly.”

— Marguerite Ellison, homeowner

Ellison has been pleased by the resultant look, and by the units' general discreet appearance and operation: "The floor-mounted units are really not noticeable, and the outdoor units – on the back side of the house and side of the house – are very unobtrusive. They're all small and light and quiet. It's unbelievable how quiet they are. Especially compared to those central units that you hear kick on."

The system's ability to create comfort and high indoor air quality in a diverse climate has also impressed Childress. "The climate in Alabama can go from 98 degrees and 20 percent humidity to 30 degrees and 100 percent humidity. Margo was telling me recently how it's been nice to have the humidity controlled – to have the rooms nice and comfortable."

Ellison added, "This is the only time in my life that I can remember being comfortable in the house. Previously, the paint would just peel off the walls. We have a collection of old books and artifacts that needed to be protected, and now they are being preserved in a climate-controlled environment."



PROJECT TEAM

Architect:

KPS Group, Birmingham, Alabama

HVAC Contractor:

Childress Air Conditioning & Heating, New Market, Alabama

Distributor:

Partners Supply, Huntsville, Alabama

EQUIPMENT

- ▶ (2) MXZ M-Series Outdoor Units
- ▶ (5) MFZ Floor-mounted Indoor Units
- ▶ (2) MSZ Wall-mounted Indoor Units