

Burgwin-Wright House retrofitting heating/air conditioning system

Written by Allen, Joy

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At the historic Burgwin-Wright House in downtown Wilmington, even the heating and air conditioning system is a relic. Several mechanical units are older than the technicians who have serviced them recently.

The frequency of repairs, scarcity of replacement parts and looming threat of a complete breakdown prompted the museum house to seek a grant to replace the heating, ventilation and air conditioning system. The Marion Stedman Covington Foundation awarded the Burgwin-Wright House \$20,000 to fund the diagnostic, design and retrofitting phases of the project.

Locally owned Building Performance Specialists conducted the diagnostic process in December. The BPS crew used a laser distance-measuring tool to determine the dimensions of every room, window and door. They examined the walls with an infrared camera and performed a blower door test.

“The house is very leaky, but that is typical of old houses,” said Skye Dunning, BPS president.

In a “leaky” structure, conditioned air escapes and outdoor air penetrates the building through cracks and crevices, making energy efficient climate control especially challenging. The dictates of historic preservation significantly constrain how much the building can be retrofitted to make it more airtight. On the plus side, the thick plaster and stone walls of the historic house hold temperature longer than contemporary building materials such as drywall.

Dunning took all of these factors into account when designing the new system, processing the data collected from the house with state-of-the-art energy audit and load calculation software. Bell Cow Heating and Cooling of Fayetteville was chosen to install the new system, which will include sophisticated humidity controls to establish the ideal environment for the museum’s collection of rare 18th and 19th century furnishings and objects. The new system will also deliver increased energy efficiency and lower utility bills.

Built in 1770-71, the Burgwin-Wright House is one of four remaining colonial structures in Wilmington. Purchased by the National Society of the Colonial Dames of America in the State of North Carolina in 1937, the house was restored over a period of several decades and opened to the public in 1951. Guided tours are available 10 a.m. to 4 p.m. Tuesday through Saturday. Learn more at www.burgwinwrighthouse.com.

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