

# The Fred W. Smith National Library for the Study of George Washington

By Todd Garing

**M**ount Vernon—George Washington’s beautiful estate overlooking the Potomac River, just south of the nation’s capital—welcomes thousands of visitors each year to tour Washington’s mansion, farm, and gardens. Now, with the opening of the new Fred W. Smith National Library for the Study of George Washington, the estate is also a welcoming home for scholars of President Washington, the Founding Fathers, and Colonial America.

This elegant retreat is set on 15 serene, wooded acres, directly across the street from the estate. The 45,000-square-foot library consists of a three-level, light-filled building with offices, meeting rooms, and carefully designed spaces for special collections and rare volumes. Nearby, a new 7,300-square-foot residence features two apartments and six guest suites for visiting scholars.

## Protecting Rare Documents

The Mount Vernon Ladies Association, which commissioned the design and construction of the Library, sought a suitable home for 19th- and 20th-century books and other objects commemorating Washington, as well as a portion of his own personal collection of books, manuscripts, documents, maps, and letters. The building features two rare-book rooms, as well as an oval-shaped vault that houses 103 volumes owned by George and Martha Washington. Maintaining appropriate temperature, humidity, and air quality for the building’s varied uses was a key objective for the design of the facility. The secure, climate-controlled vault is among 68 temperature zones within the building.

Mueller Associates provided the mechanical, electrical, and plumbing (MEP) engineering design for the project, working closely with the architectural firm of Ayers Saint Gross. The Baltimore-based design team

had previously worked together on numerous museum and visitor-center projects requiring stringent environmental controls, and understood the critical challenges involved in protecting these valuable collections. Three air-handling units were incorporated

into the building systems design, with one unit specifically dedicated to the special collections areas.

Additional collections are stored in a circulating collection area adjacent to the first-floor reading room and on the lower level, with the upper level



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housing offices. Daylight permeates the building, with two-story windows surrounding the reading room on three sides. The largest meeting room, which features a micro-tile digital display wall, also has windows on three sides. The MEP design maintains a comfortable environment for visitors, with demand-based controls for temperature and humidity. A perimeter radiation system integrated into the architecture provides added comfort near the glass.

## Sustainable Strategies

Building goals included a high level of energy efficiency and sustainability, and the library is designed to LEED®-Gold certification standards. Chilled water is used for cooling and dehumidification, with a dedicated stand-alone chilled water plant. Energy-efficient systems include a dedicated heat-recovery chiller; an energy-recovery

ventilator; a hot water heating system with condensing boilers located in the basement; high-efficiency toilets and urinals; low-flow, sensor-operated faucets; daylight harvesting; dimmable lighting; and occupancy sensors. All of the systems modulate efficiently to meet variable heating and cooling loads.

The sustainable strategies extend to the building's relationship with the site. In addition to providing daylight, the abundant glass offers extended views of the surrounding landscape, designed by Michael Vergason Landscape Architects. The U-shaped building embraces a courtyard, and was designed to minimize disturbance to the site. In addition to an extensive tree-preservation effort, the building's air-cooled chiller was positioned onsite, but well away from the building.

Incorporating the MEP equipment and piping into the building proved to be another key challenge. The building

is designed to maximize ceiling heights, which limited the amount of space in which to route ductwork and piping. The two attic mechanical rooms feature tight slopes, which required careful planning in order to integrate large equipment. Mueller Associates and Ayers Saint Gross made optimal use of Revit® 3-D modeling software to coordinate the design.

## Connecting to History and Sense of Place

Meeting its lofty objectives for design, sustainability, and purpose, the Library is a striking addition to the Mount Vernon property. "It has been such an honor to be the lead architectural firm in designing this library for our first President," says Adam Gross, FAIA, principal of Ayers Saint Gross. "Our goal was to reflect George Washington's ideals of character, order, balance, strength, precision, and elegance in the design of the buildings and grounds. With the help of our teammates from Mueller Associates, we were able to meet this goal."

With the completion of the library, George Washington's own dream has been realized. "I have not houses to build, except one, which I must erect for the accommodation and security of my military, civil and private papers, which are voluminous and may be interesting," he wrote in a letter in the spring of 1797. Now, with his books and documents protected and preserved in this exceptional new facility, scholars can further their study of the country's first President. 🏛️

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Interior of the Library

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