

# Jefferson Comes Alive

The on-going restoration of Thomas Jefferson's Poplar Forest reveals much about early-19th-century construction techniques.

**PROJECT:** POPLAR FOREST, FOREST, VA

**ARCHITECT:** MESICK-COHEN-WILSON-BAKER-ARCHITECTS, ALBANY, NY; JOHN MESICK AND JEFFREY BAKER, PARTNERS IN CHARGE

**CONTRACTOR/OWNER:** THE CORPORATION FOR JEFFERSON'S POPLAR FOREST, FOREST, VA; TRAVIS C. McDONALD, DIRECTOR OF ARCHITECTURAL RESTORATION; DOUGLAS RIDEOUT, HEAD RESTORATION CRAFTSMAN (1995-98); VINCENT FASTABEND, HEAD RESTORATION CRAFTSMAN (1998-PRESENT)

Somehow, while serving as President, Vice President, Secretary of State, Minister to France, Congressman, Governor of Virginia and President of the American Philosophical Society, founding the University of Virginia and drafting the Declaration of Independence, Thomas Jefferson found time to pursue his passion for architecture. Drawing heavily upon Classical precedent most influential was Andrea Palladio his designs spawned a new American style. The more famous Jeffersonian designs include Monticello, the University of Virginia and the Virginia State Capitol. Somewhat lesser known is Jefferson's "other" home: Poplar Forest, a secluded estate in rural Virginia that fulfilled his long-standing vision of a personal refuge from the rigors of public life.

Poplar Forest was built on a sprawling 4,812-acre estate about six miles southwest of Lynchburg, VA. Construction of the Neoclassical brick structure - much in the spirit of a Roman villa - began in 1806 and continued for the next 20 years. Designed at a much more intimate scale than Monticello, it was the only other home Jefferson built for himself. "When finished," he wrote in 1812, "it will be the best



Since its inception in 1984, the non-profit Corporation for Jefferson's Poplar Forest, along with Albany, NY-based Mesick-Cohen-Wilson-Baker-Architects and an advisory panel of restoration professionals, has worked - adhering to the historical construction sequence and using early-19th-century construction techniques - to return Jefferson's private retreat to its original condition.

*All photos courtesy of The Corporation for Jefferson's Poplar Forest*

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Jefferson's design of Poplar Forest was largely influenced by ancient Roman, Renaissance and 18th-century British and French architecture, all combining to create a distinctly Jeffersonian house. Like all of his designs,

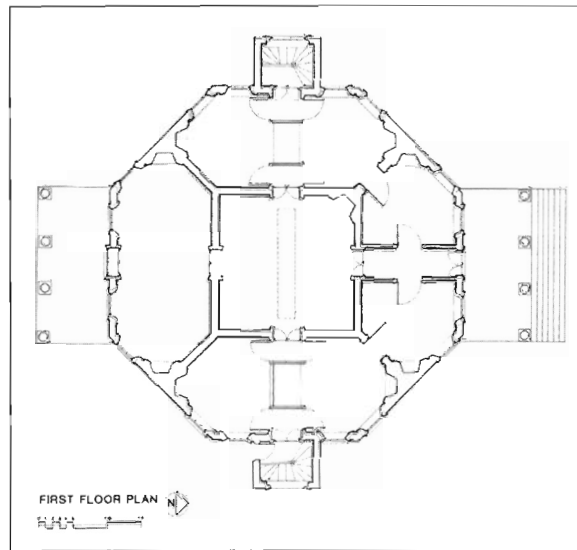
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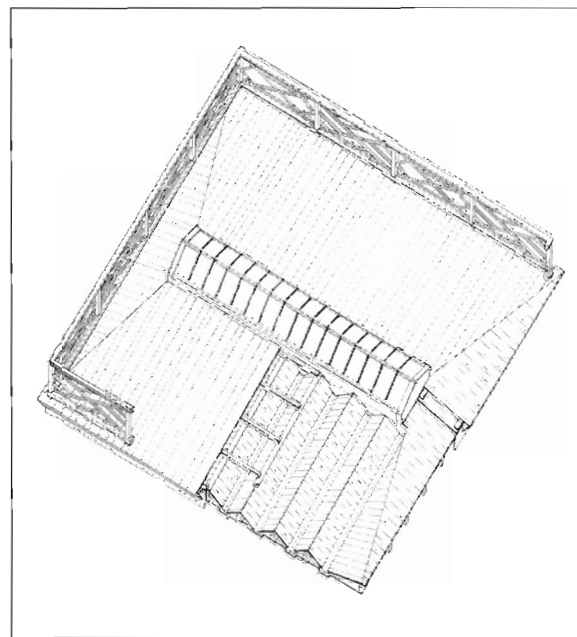
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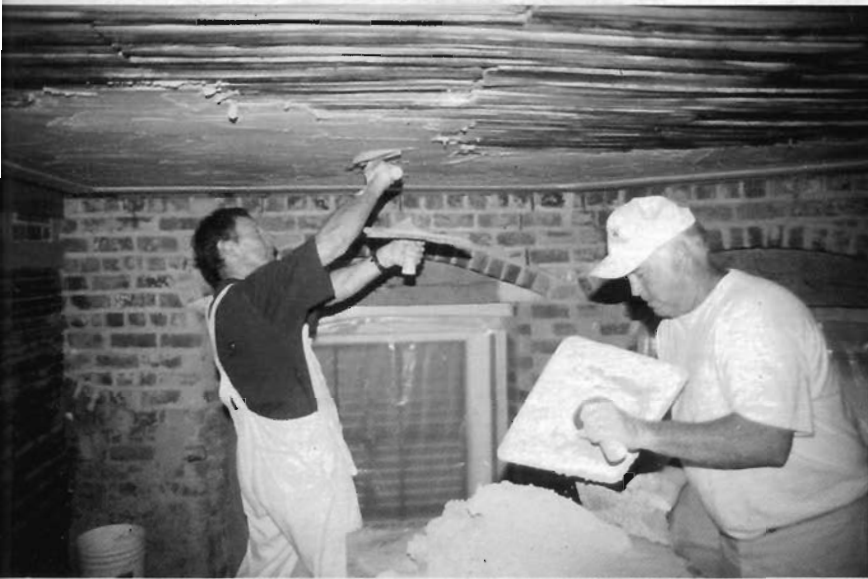


Far left: By combining aspects of Roman, Renaissance, British and French architecture, Jefferson created a style uniquely his own. With the on-going restoration, Poplar Forest once again features columned porticoes, white trim and green shutters typical of Jeffersonian designs.

Top left: Often directing the construction via letter from the White House, Jefferson’s design of Poplar Forest called for an equilateral octagon with a perfectly cubic center room surrounded by four elongated octagons. All drawings courtesy of Mesick-Cohen-Wilson-Baker-Architects

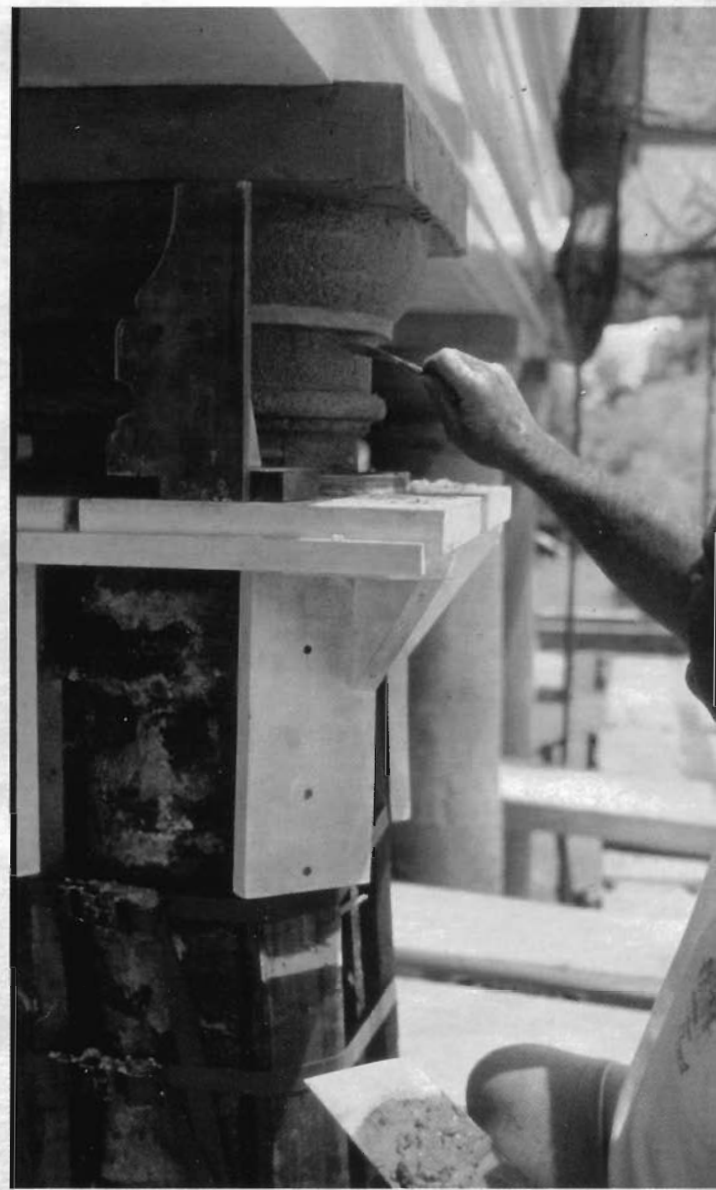


Left: Poplar Forest’s functional flat roof, one of at least nine versions of the Jefferson innovation, consists of a “serrated” system of gutter and ridge joists connected by inclined shingles, all covered with a flat deck. It is bisected by a 16-ft.-long skylight.



Top: Poplar Forest took on a distinctly different appearance when it was reconstructed after a fire in 1845.

Above: In open areas, the plastering process began with the application of hundreds of hand-split laths – gapped to allow the plaster to anchor itself. After the first coat was applied, it was scratched to allow the second layer to adhere. All told, three coats of traditional lime plaster were applied at Poplar Forest under the supervision of Scottish plasterer Alex Hylands.



Jimmy Price, of Monroe, VA-based Price Masonry Contractors, finishes Poplar Forest's Tuscan brick columns and capitals with traditional lime stucco.

The Corporation for Jefferson's Poplar Forest, a non-profit organization that had been established by a small group of local residents with the vision of not only saving Jefferson's estate, but also of restoring its Jefferson-era appearance.

it adhered to a strict geometric order. The exterior walls formed an equilateral octagon, while the interior space was comprised of four elongated octagons around a perfectly cubic central space with 20-ft. dimensions. This central room was lit from above by a 16-ft.-long skylight; in the parlor, floor-to-ceiling triple-hung windows brought in light and allowed views to the south. Typical of his designs, it featured columned porticoes, red-brick walls, white trim, green shutters and a functional flat roof.

Jefferson visited Poplar Forest intermittently until his death in 1826. After that time, the story of Poplar Forest is one of continual demise. It was first inherited by Jefferson's grandson, Francis Eppes, who sold the property two years later. It would change hands three more times, experience a fire and undergo significant alterations through the years. By the early 1980s, it was rapidly approaching extinction.

"The house was lived in up to 1979, when the last owners put it on the market," says Travis McDonald, Poplar Forest's director of architectural restoration. "One person stepped up to save it. In 1983, he decided he needed to turn it over to a group that could take on the responsibility of preserving it." In 1984, 48 acres of the original estate were purchased by

Jefferson's appearance.

Under McDonald's direction, the restoration process began in 1989. From the outset, Poplar Forest's board of directors maintained an idealistic attitude, insisting on "doing it right": the preservation and integrity of the building as an historical artifact was of utmost importance, no artificial constraints were placed on the restoration timeline and not only would the restoration process follow the historical sequence of its original construction, it would also utilize early-19th-century construction techniques.

In order to ensure the authenticity of the restoration, Poplar Forest has maintained an advisory panel of restoration professionals that bring to bear years of historic restoration experience: William Beiswanger, the director of restoration at Monticello; Nicklaus Pappas, former chief historical architect and Edward Chappell, director of architectural research, Colonial Williamsburg; Hugh Miller, former chief historical architect of the National Park Service; Orlando Ridout, chief of architectural survey of the Maryland Historical Trust; Robert Burley, of the Burley Partnership, in Waitsfield, VT; and the late Lee Nelson, former chief of the Preservation Assistance Division, the National Park Service. Since 1990, Albany, NY-based Mesick-Cohen-Wilson-Baker-Architects — which had previously investigated Jefferson's buildings at the University of Virginia and restored a complex roof at Monticello — has been the architect for Poplar Forest.

While it doesn't retain as high a proportion of historic materials as Monticello, John Mesick, one of the partner in charge of the project, says Poplar Forest is important because it explains another aspect of Jefferson — the private man. "While in other projects he was constrained by the needs of others," he says, "with Poplar Forest he had a blank page on which he could fulfill his own longings.

"I think it's his most perfect residential design. He was following English pattern books and Palladian ideals. Then he went to France and that offered whole new prospects — that sojourn had a great deal of impact on his work."

The investigation of Poplar Forest began in 1990. Because of a catastrophic



Floor-to-ceiling triple-hung windows, a design element Jefferson observed during his time in France, bring abundant light into the octagonal room on the south side while also allowing views of the expansive estate.

Based on his reading of Palladio, Jefferson added a service wing to the east side of the house in 1814. The 100-ft. addition, which included a storage room, kitchen, laundry and smokehouse, was rebuilt between 2001 and 2002.



fire in 1845, little of the original fabric remained. "After the fire," says Mesick, "it was adapted to a Greek Revival farmhouse of the day. The reconstruction basically erased the details of the Jefferson house. So far as what could be found that was original, it was very fragmentary."

The original evidence was recorded by the director of the restoration and the architects as the post-Jefferson parts of the house were slowly deconstructed. With little in the way of original physical evidence, much of the research focused on examining historical documents, including stacks of detailed letters Jefferson had written to his workers from the White House. As the evidence mounted, and was combined with details of the same Jeffersonian workers' construction idiosyncrasies at other Jefferson projects, Poplar Forest slowly began to take shape – on paper. "The exciting thing," says McDonald, "was that nobody knew what Poplar Forest should look like. We got as much out of the investigation as we could; after we knew what the house should look like, it was a matter of restoring it the right way."

Before the actual restoration work could begin, the nearly 200-year-old building had to be stabilized. Footings were installed under the brick walls; waterproofing and drainage systems were implemented; and the south portico arcade and columns were straightened and repaired.

The restoration of the original brickwork began in 1995. On the exterior, window openings that had been bricked up, moved or made larger to accommodate later Greek Revival features were re-created; column shafts were restored. In the interior, eight feet of reproduction brick were added to the central room to return it to its original cubic dimensions (a second floor had been added in post-Jefferson alterations). Wherever possible, sound, original bricks were saved; those beyond repair were reproduced in seven color ranges. Like the original process, wooden molds were created in six unique shapes: five-sided for the corners of the octagon, pie-shaped for the Tuscan column shafts and four special shapes for column bases and capitals. About 20,000 of the original 250,000 bricks were re-created.

In restoring the brickwork, masons at Poplar Forest developed a traditional lime mortar based on samples of the original mortar. Three types of sand, two types of dirt and two types of lime were pounded together, just like the Jefferson-era process – making the project a leader in the back-to-lime movement.

While the restoration of the brickwork went on below, the roof over the central room was being reconstructed. It represents one of at least nine versions of the functional roof that Jefferson pioneered: a flat deck above a complex “serrated” ridge-and-valley system designed to drain water from the roof. It was a system that Jefferson first used at Monticello, and then later at Poplar Forest and the University of Virginia. “At the White House,” says Mesick, “the serrated roofs on the east and west wings were designed by Jefferson and built by Latrobe – he also influenced Madison to use his design at Montpelier.”

In order to replicate Jefferson’s design, a series of joists – carved out to form a gutter – were interspersed with higher ridge joists; the two were connected with inclined shingles (the entire system

**Top right:** The Tuscan entablature and Doric balustrade were reconstructed in antique pine; the finished parts of the balustrade and the balusters are mahogany.

**Right:** Today, the restoration of Poplar Forest continues – the east wing roof structure and the interior moldings are currently in process. Owing to the efforts of The Corporation for Jefferson’s Poplar Forest; Director of Architectural Restoration Travis McDonald; Mesick, Cohen, Wilson, Baker Architects; an advisory panel of restoration professionals; and a team of dedicated craftspeople, Jefferson’s private retreat is well on its way to being returned to its early-19th-century appearance.

was reproduced in antique pine). Jefferson's concept was simple enough: rain would fall through the flat deck, down the sloping shingles, into the pitched gutter joists and onto the main roof below. The restored flat roof includes a 16-ft. skylight — the largest that Jefferson designed for a residence — that bathes the central room with light, and is adorned with a Chinese railing. The main roof was framed with oak timbers and covered with stainless-steel shingles dipped in tin (Jefferson-era wrought-iron shingles are no longer made). It should be noted that Jefferson's "serrated" roof system was not perfect. In one of the few modern allowances, a rubber membrane was placed under the reconstructed roof to protect against potential leaks.

For the interior ceilings and walls, a traditional three-coat lime plaster was used. While similar in composition to the mortar used in the brickwork, the plaster also included another Jefferson-era ingredient: brick dust, meant to act as a strengthening agent — a practice dating back to ancient Rome.

In open areas, like the ceiling, the application process began with the installation of hundreds of hand-split laths gapped to allow the plaster to anchor itself. Once the first layer was applied, whether to the laths or the brickwork, it was scratched to allow the second layer to adhere. The second coat, known as the straightening coat, was applied after the first had cured, a process that takes several weeks. The much thinner final coat was moistened with a damp brush during application to ensure a smooth finish.

Along with the architectural restoration, Poplar Forest has been the site of an archaeological excavation. In addition to rediscovering Jefferson's unique landscape design, the dig has uncovered the remains of a 100-ft. service wing that Jefferson had added to the east side of the house in 1814. Today, the reconstruction of the roof of the wing — the same flat, "serrated" roof as on the main house — is in process. In the interior, the moldings are now being re-created by hand using antique tools.

Owing to the idealistic attitude of The Corporation for Jefferson's Poplar Forest, the restoration continues to showcase historic restoration at its best. "The client is unique," says Mesick. "There is no schedule and the correct materials have always been used — everything has been done without compromise. The technology with which it was built was, for the most part, used in its reconstruction. It's probably the best run restoration project we've been involved in."

"One of the unique aspects of this project is that it has always been open to the public, from taking it apart to putting it back together," says McDonald. "We've been known as a place to see the process. Our board and donors have understood the time and money it takes to this the right way. It's been a slow process, but no one has ever complained.

"We probably have another 10 years of work, so people can still come and watch the process in action — and next year is our bicentennial."

—Will Holloway

