



# Resurrection

**Legendary architect Latrobe's Baltimore cathedral emerges, restored, to reclaim exalted place in annals of American architectural heritage**

**Re-creating a masterpiece in plaster and paint**

**U**ltimately, this was one tough act to follow, in light of the larger-than-life man behind an early American masterpiece and the challenge of returning the landmark edifice to its onetime glory.

Benjamin Henry Latrobe and his Roman Catholic Basilica of the Assumption of the Blessed Virgin

Mary in Baltimore loom large as monuments of American architecture. Latrobe, friend and collaborator of Thomas Jefferson, architect of scores of significant buildings in the early years of the nation, in 1804 offered his services to design a major Roman Catholic cathedral in Baltimore.

**By Joe Maty JAC Editor**



*(Left): The Roman Catholic Basilica of the Assumption of the Blessed Virgin Mary in Baltimore is nearing completion of a comprehensive restoration program. Photo courtesy of the Basilica of the Assumption Historic Trust Inc.*

*(Facing page): The Ascension of Christ mural in the cathedral's main dome, created by EverGreene Painting Studios, New York. Photo courtesy of EverGreene Painting Studios.*



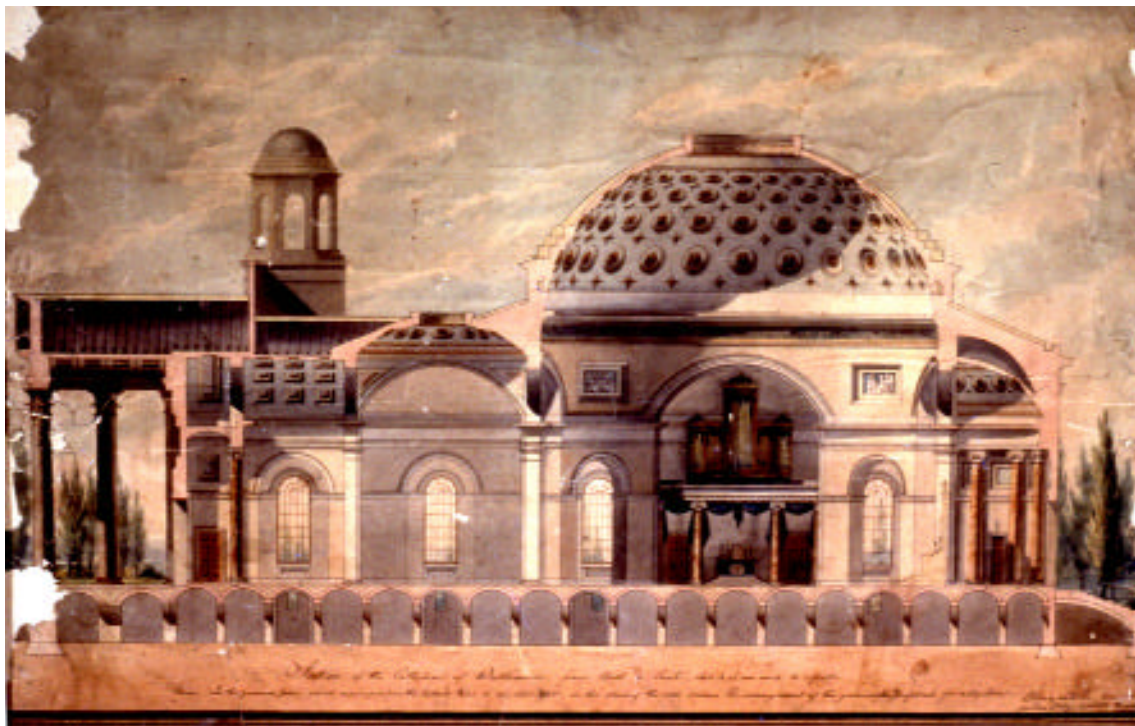
*An EverGreene Studios plasterer at work on columns in the cathedral. Photo courtesy of EverGreene Painting Studios.*

The result was the Cathedral of the Assumption, also known as the Baltimore Basilica, a neoclassical testament in sandstone to a growing Catholic community in a young republic just beginning to find its place in the world.

But that was then. Two centuries later, Latrobe's Greek Revival temple

had become seriously deteriorated, with many of its most important elements and features significantly decayed or obscured by decades of maintenance campaigns and alterations. Responding to this state of affairs, the Basilica of the Assumption Historic Trust Inc.—a nonprofit corporation established in 1976—launched a





***"Section of the Cathedral of Baltimore from West to East," by Benjamin Henry Latrobe, February 1808. From the Archives of the Archdiocese of Baltimore. Photo courtesy of the Basilica of the Assumption Historic Trust Inc.***

major restoration program that got under way in 2004. The result of this ambitious, two-year undertaking is to be formally unveiled during a gala bicentennial celebration scheduled during the week of Nov. 4-12.

The restoration program has left its mark on essentially every inch of the massive cathedral, from the resurrected undercroft chapel, to the mechanical systems, to long-lost fresco paintings of the four Gospel Evangelists, to the reincarnation of the great dome and skylights. The resurrected architectural magnum opus is crowned by the regilded gold-leaf cross that sits as a beacon atop the main dome.

The architects for the restoration program are John G. Waite Associates, Albany, NY, with Associate Stephen F. Reilly serving as project architect. The firm has directed many significant restoration and adaptive-reuse projects,

including work at Mount Vernon, Monticello, and the Lincoln Memorial. The general contractor is Henry H. Lewis, Owings Mills, MD, an important restoration and construction concern in the Baltimore area.

Playing a key role in the restoration program was EverGreene Painting Studios Inc., New York, which was retained to help formulate and execute a variety of painting, plastering, stucco-application, mural-creation, gilding, and related activities in the interior and

on the exterior of the cathedral.

Significant EverGreene contributions include the following.

- Reconstruction of the plaster of the great dome, restoration of all flat plaster, and restoration or re-creation of plaster capitals, rosettes, cornices, and moldings.
- Decorative painting of trompe l'oeil ceiling coffers in the half-dome and pendentives at the apse; stenciling at the altar; grisaille ornament; and gilding of baldachinos. Also included in the scope of work was supervision of general interior and exterior painting work by a local subcontractor.
- Creation of two new murals commissioned for cathedral ceilings.
- Exterior stucco restoration on the towers, dome walls, parapets, and side-wall panels and connector.
- Gold-leaf gilding of three exterior crosses.



### ***A shared vision for an emphatic spiritual statement***

Benjamin Henry Latrobe (1764-1820), the architect of the Basilica of the Assumption, had already made an indelible mark on American architecture by the time he agreed to donate his services to the basilica project, which was begun in 1806 and completed in 1821. Latrobe "changed the course of architecture in the United States" and was "the founder of the modern architectural profession in this country,"

asserts Dr. Charles Brownell, professor of art history at Virginia Commonwealth University.

Latrobe's credits include no less than service as architect, under President Jefferson, of the new national capitol from 1803-1812 and 1815-1817. Jefferson, himself an architect of considerable reputation, had taken note of Latrobe's rise to prominence as "an ambitious but immature avant-garde architect and engineer" in Philadelphia, Brownell relates in biographical sketch



*EverGreene fine arts conservators restoring the 19th-century fresco representing St. John the Evangelist, one of four frescos discovered beneath layers of plaster and paint. Photo courtesy of the Basilica of the Assumption Historic Trust Inc.*

*(Left): Assumption of Mary, a newly commissioned mural, placed over the altar. Photo courtesy of EverGreene Studios.*

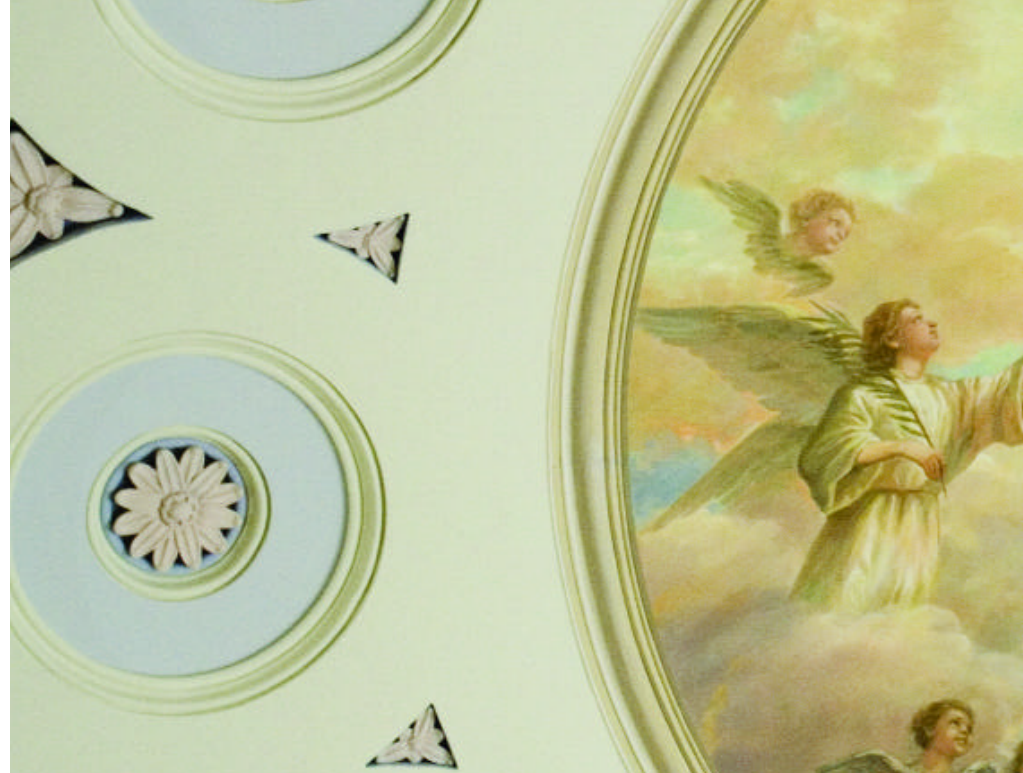
of Latrobe on behalf of the Baltimore Basilica. "He introduced the newest phase of an international movement called Neoclassicism as well as the revival of Gothic architecture, and he created the Philadelphia Waterworks, a landmark in civil engineering," Brownell states.

Latrobe, it might be surmised from a review of historical accounts, could very well have been afflicted by a migraine or two in pursuing his neoclassical vision of architecture. "Latrobe brought



to the architecture of the federal government not only his imaginative, purified kind of Neoclassical style, but also the ideal of all-masonry construction meant to last for centuries," Brownell states. Latrobe's preference for enduring brick and stone domes, however, crossed paths with Jefferson's inclination toward skylights and economical wooden domes. Latrobe's compromise: masonry inner domes to provide long-term structural integrity, and wooden outer domes to shed water while admitting light.

The Basilica of the Assumption, Brownell says, was the "supreme beneficiary of Latrobe's maturation at the Capitol." But here, too, Latrobe's pure neoclassical ideals ran into resistance from church officials concerned about economics and functionality. Resolution was achieved thanks to the intercession of Bishop John Carroll, who would become the first Archbishop of Baltimore during the construction of the cathedral. Bishop Carroll shared Latrobe's enthusiasm for the neoclassical style embraced in the new federal city of Washington, and wanted an architectural symbol that could be considered "American," not Gothic, which was reminiscent of the



Dark Ages in Europe, according to historical accounts from the Baltimore Basilica.

The product of this collaboration of bishop and architect, says Brownell, was Latrobe's "great accomplishment" of uniting two elements that only the greatest church architects have ever reconciled. The cathedral's oblong, cross-shaped body, with obvious Christian symbolism, was fused with "something very different, a domed space, which

for centuries various Christian thinkers had considered ideally beautiful and thus ideally suitable for divine worship." He adds that the Basilica "appears on the exterior to be an oblong building, but this impression dissolves when one steps inside, where the dominant effect is of a grand domed space."

The Basilica is sometimes referred to as "America's First Cathedral" a title attributed to its status as the first great metropolitan cathedral and major religious building constructed in America after the adoption of the Constitution. The Basilica served as a "temple on a hill" for the Catholic inhabitants of Maryland, who had endured 100 years of religious persecution as a small religious minority in the original British colonies prior to the Revolution. Archbishop Carroll, the first bishop in the U.S., helped win freedom of religious expression for the Catholics of Maryland with his support for the Revolution. His cousin, Charles Carroll, was the only Catholic signer of the Declaration of Independence.



## Let the light in

Unlike a great many great monuments to worship, ornate decoration did not serve as a central design motif of the cathedral as conceived by Latrobe. The dominant impression inside the Basilica, says project architect Reilly, stems more from geometric power and interplay of light and shadow than from ebullient Renaissance- or Byzantine-inspired color, paint, or portraiture.

"What you don't really see in this building is a complexity or overabundance of decorative paint. These don't dominate as much as the three-dimensional elements," Reilly says. "Latrobe was relying a great deal on the use of natural light, with large windows and 24 skylights in the roof."

Revealing the decoration and colors that did exist in the original, however, presented more than enough challenges for Reilly and Waite Architects. Among the prized artifacts uncovered were the four evangelist paintings in the drum of the main dome which, inexplicably,



had been obscured by subsequent firing, plastering, and painting. Fortunately, the artwork, though entombed, remained in good condition, and was successfully treated by EverGreene Studios chief fine arts conservator Gillian Randell and conservation technicians.

Sts. Matthew, Mark, and company were not the only victims of the

*In EverGreene's New York studio, artists painted the Ascension of Christ mural onto canvas. The completed painting was then installed in the dome. The new murals were conceived and executed in the spirit of the 19th-century heritage of the building, with subject matter intended to evoke dominant theological themes of the era and the cathedral, and colors that complement the historic color palette for the restoration as determined by the architects.*

*Photos courtesy of EverGreene Studios.*

Basilica's drift from the glories of Latrobe's grand vision. Waite Architects' investigation determined that the interior had undergone a total of 14 redecoration campaigns. Analysis of samples and documentation provided a basis to return the mix of plaster and paint to original appearances—if not composition.

The architects also commissioned the creation of two new murals by EverGreene Studios—Ascension of Christ in the cross dome, and Assumption of Mary over the altar. Kim Lovejoy, EverGreene vice president for restoration, says the murals





***An EverGreene sculptor applies finishing touches and painting of ornament on newly created plaster capital. Photos courtesy of the Basilica of the Assumption Historic Trust Inc.***



***A finish coat of plaster is applied to a column.***

were conceived and executed in the spirit of the 19th-century heritage of the building, with subject matter intended to evoke dominant theological themes of the era and the cathedral, and colors that complement the historic color palette for the restoration as determined by the architects. EverGreene Studios operates a sizeable mural department headed by Bill Mensching, the designer of the cathedral's murals.

Standard painting work was carried out throughout the Basilica interior, and included the apse; side aisles; balconies; vestibule columns and coffers; altar; baldachinos and two baldachi-

***(Above): A view of the cathedral interior as restoration work nears completion. Photo courtesy of EverGreene Studios.***

nos domes; confessionals; sacristy; stairs, and wood rails, including lead abatement; interior windows; and throughout the undercroft. The scope of the painting work included preparation, priming, and application of finish coats. This painting work was executed by Warren Construction & Painting, Baltimore.

The architects specified premium waterborne acrylic products from The Sherwin-Williams Company for standard paint work. The interior product mix included Sherwin-Williams' PrepRite® ProBlock® Primer Sealer and ProMar® 200 premium acrylic for topcoat finishes, in flat, eggshell, and semigloss finishes. For interior wood



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surfaces, the primer used was Preprite® Classic latex. Metal surfaces, including railings, doors, and door frames, were painted with DTM (direct to metal) Acrylic gloss. Exterior coatings specified included DTM Acrylic for metal doors and frames, A-100® latex primer for exterior wood primers, and SuperPaint® latex for wood-surface topcoats.

### **Plaster grandeur redux**

Playing key roles in the development of plaster and stucco treatments were EverGreene's Bob Corwin, master plasterer, who created a process manual for the work needed, and Luis Angarita, senior restoration project manager and



***The main dome with restoration completed.  
Photo courtesy of the Basilica of the Assumption  
Historic Trust Inc.***

head of EverGreene's plaster department. Execution of the work was directed by foreman Johnny Hilares.

EverGreene points to its reconstruction of the interior of the great dome as the "crowning feature" of its plaster restoration at the Basilica. The work involved the use of traditional materials of wood lath and lime plaster, installed around the 24 skylights in the cupola.

Elsewhere, EverGreene plaster artisans re-created columns, capitals, rosettes, cornices, and moldings, matching the original designs. More than 10,000 square feet of plaster, in three coats, was applied to restore water-damaged areas or to reconstruct design features.

### **Exterior elements**

On the Basilica exterior, a major repair and restoration program for the stone

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and stucco façade was carried out. The scope of work included repointing and repair of masonry, reconstruction of roofs, restoration of stucco panels and moldings, regilding of the gold-leaf crosses, and application of protective coatings and sealers.

An investigation found remnants of original lime stucco covered by Portland cement-based stucco that had deteriorated and cracked in many places. Following discussion of potential methods and materials with the architects, EverGreene prepared mock-ups of all recommended procedures, including crack repair, patching, resurfacing, and topcoating.

The resulting stucco-repair protocol included the installation of galvanized metal lath in all areas of original degraded lime stucco and exposed masonry. Repair materials for these areas included scratch coat and brown coat of Otterbein NHL, a hydraulic lime made by Otterbein GmbH & Co. of Germany, which was selected following analysis of residual lime stucco material on the cathedral exterior and research on potential lime-based repair products that would offer the required compatibility and performance.

Elsewhere, EverGreene tradesmen removed all loose stucco and stone substrate materials down to sound surfaces, using hand tools, and removed existing lath and Portland cement stucco that had delaminated from the stone substrate. Stone substrate moldings were repaired to match original profiles, using calcium aluminate cement and sand to obtain high levels of early strength and corrosion resistance.

Existing Portland cement stucco was repaired by widening the larger cracks with grinding tools and patching with Keim Universal Render, a combination of hydraulic lime and white cement binder with sand and mineral fiber fillers, manufactured by Keim Mineral Paints. Smaller cracks were filled during application of the finish coat of stucco. Universal Render is described as being closely akin to some of the earlier known stucco materials. The composition is reported to accommodate a high degree of movement due to thermal expansion and contraction, preventing surface crazing and cracking.

Preparation of existing stucco surfaces

also included cleaning by hand-brushing and power washing, and application of Weld-Crete® bonding agent, a product of Larsen Products Corp.

A notable challenge was presented by the north and south bell towers, where EverGreene staff took soundings of the entire surface to map voids underneath existing Portland cement stucco. Universal render was injected to fill voids that were detected between the substrate and the stucco.

Finishing of the stucco surfaces consisted of application of two coats of Universal Render, with texturing using a sponge float or brushing. Finally, Keim Silan-100, a type of penetrating

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**A view of the main dome in the early morning sunlight, with workers.**

**Photo courtesy of the Basilica of the Assumption Historic Trust Inc.**

silane water-repellent treatment, and Granital, a mineral-based finish coating, were applied to the stucco surfaces as protective finishes. Granital is described as a potassium silicate coating that penetrates and "petrifies" with the masonry or cement substrate to form a solid, mineral, insoluble compound of paint and substrate. The material is billed as being highly lightfast. For the stucco surfaces, the architects requested a custom-tinted color described by as a "light limestone shade with warm tones," says Mame Cohalan, who heads The Cohalan Company, a distributor of Keim products based in Delaware.

Regilding of the main-dome cross and two other exterior crosses atop the cathedral included stripping of existing coatings and gilding, priming, and application of basecoat, size, and new gold-leaf. New 23K gold leaf was also applied to the clock in one of the towers.

Gleaming anew, the gilded crosses serve as a beacon of the cathedral's historic place as symbol of religious freedom in a promising New World. Taken as a whole, the multimillion-dollar restoration program, Baltimore Basilica representatives say, constitutes a worthy tribute to the cathedral's exalted status among American architectural landmarks.

"The Basilica is Latrobe's masterpiece," says Virginia Commonwealth University's Brownell, and "ranks as one of the great buildings of Western architecture."



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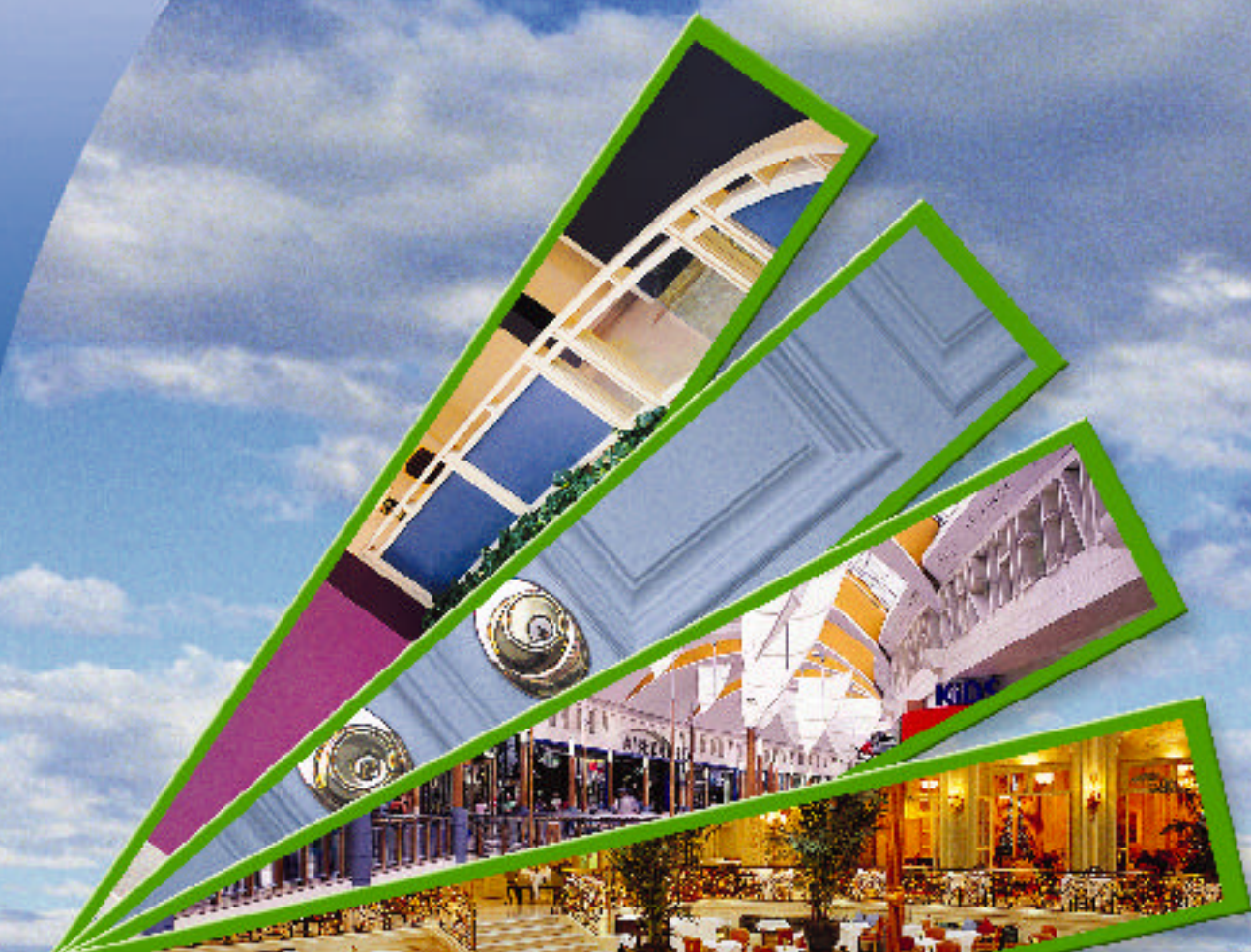
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