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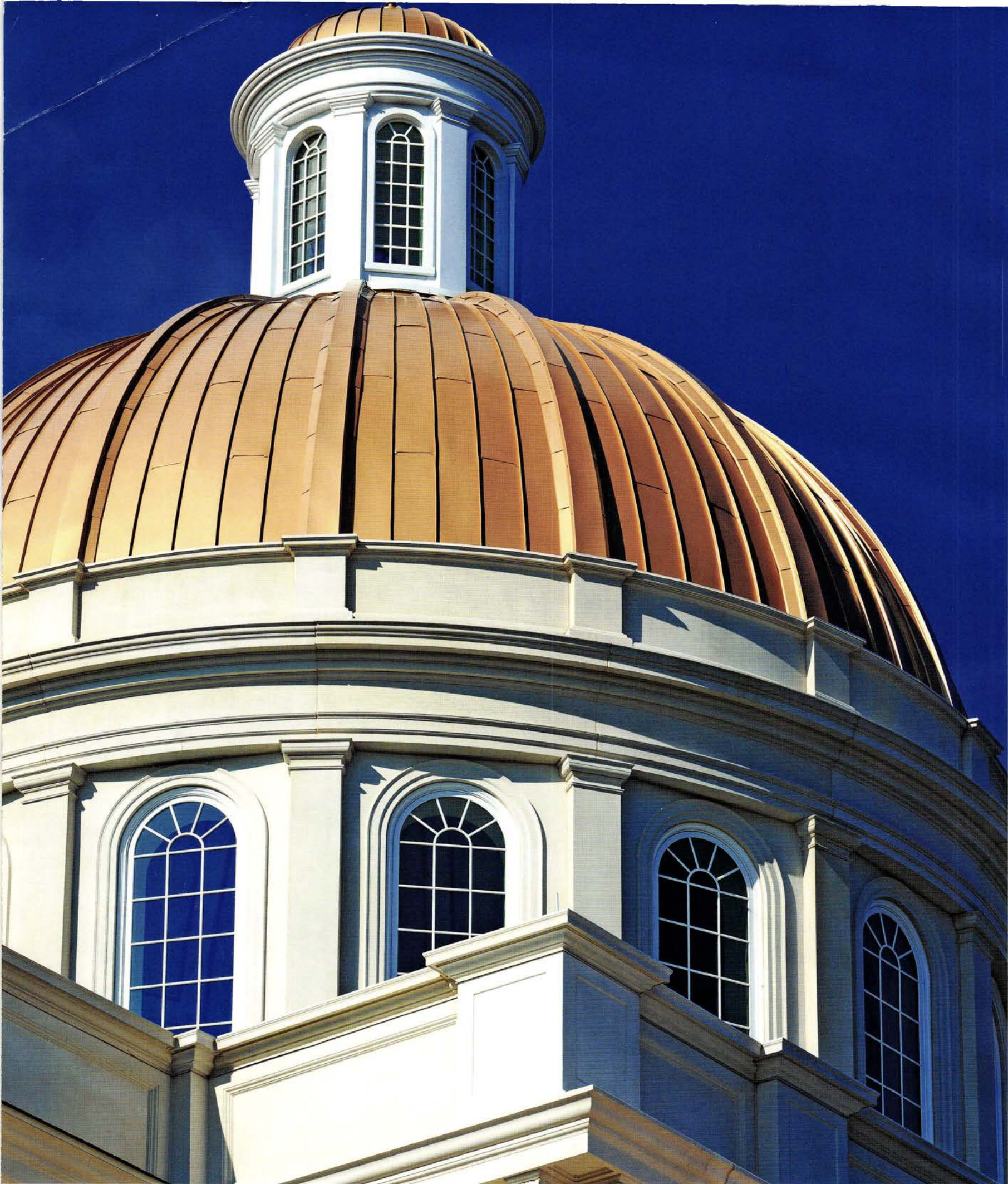
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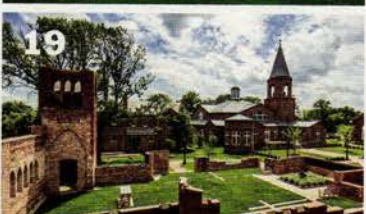


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# 2016 PALLADIO AWARDS

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## 15 Years of Excellence in Traditional Architecture

The 15th annual Palladio Awards competition recognizes 12 firms for outstanding work in traditional design, six in the commercial, institutional and public architecture category and six for residential work. All winners enhance the beauty and humane qualities of the built environment through creative interpretation and adaptation of design principles developed through thousands of years of architectural tradition.

The Palladio competition is the only national awards program that honors achievement in traditional architectural design. It was created in 2002 by Clem Labine, founder of *Traditional Building*, *Period Homes* and *Old House Journal* magazines. "In 2001, I decided that *Traditional Building* and *Period Homes* magazines should launch an annual awards program to honor excellence in traditional design," says Labine. "Up to that point, nearly all architectural design competitions were controlled by juries under the sway of modernist ideology. The result was that designers of new classical and historically inspired buildings received virtually no professional recognition."

The awards are named in honor of Andrea Palladio, the Renaissance architect who created modern architecture for his time while using models from the past for inspiration and guidance. The program applies the same criteria that Palladio used in his own work – projects should meet all of the functional needs of contemporary usage while applying lessons learned from previous generations to create enduring beauty.

Says Labine: "Andrea Palladio was the paradigm I was looking for: A truly modern architect – a visionary man of his time – who made creative use of historic precedents. Thus were born the Palladio Awards."

The awards will be presented at a dinner ceremony during the Traditional Building Conference July 19-20 in New Haven, CT. The six commercial, institutional and public winners are featured in this issue. The residential winners will be featured in the July issue of *Period Homes*.

We congratulate all of the winners. For more information on the Palladio Awards, go to [www.palladioawards.com](http://www.palladioawards.com). To see more about the awards over the years, go to [www.traditionalbuilding.com](http://www.traditionalbuilding.com).



### The 2016 Winners for Commercial Design

#### RESTORATION & RENOVATION

**HBRA Architects** for the restoration of the West entry and lobby of the Charles Deering Library, Northwestern University, Evanston, IL

#### ADAPTIVE REUSE/ SYMPATHETIC ADDITION

**Schooley Caldwell Associates** for the Cristo Rey Columbus High School, Columbus, OH

#### NEW DESIGN AND CONSTRUCTION, MORE THAN 30,000 SQ.FT.

**Glave & Holmes Architecture** for the Christopher Newport Hall, Christopher Newport University, Newport News, VA.

#### NEW DESIGN AND CONSTRUCTION, LESS THAN 30,000 SQ.FT

**Robert A.M. Stern Architects** for Immanuel Chapel, Alexandria, VA

#### PUBLIC SPACES, PARKS, GARDENS, STREETSCAPES

**Architectural Resources Group** for the Steven S. Koblík Education & Visitor Center, The Huntington Library, Art Collections and Botanical Gardens, San Marino, CA

#### SPECIAL AWARD FOR CRAFTSMANSHIP

**Historic Doors, LLC**, for the Chara Aurora Cooper Haas Pipe Organ Façade, General Church of the New Jerusalem, Bryn Athyn, PA

## THE JURY

A jury of distinguished design professionals was selected by the editors of *Traditional Building* and *Period Homes* magazines. The 2016 jurors for commercial, institutional and public architecture were (left to right in photo):



**Victor F. Ortale, AIA,**  
LEED BD+C, Business  
Schools Practice  
Leader, Associate  
Principal, Goody  
Clancy Architecture /  
Planning / Preservation

**Gerry J. Sullivan, AIA,**  
LEED AP, President,  
Sullivan Buckingham  
Architects

**David N. Fixler,**  
FAIA, LEED BD+C  
AP, Principal, Design  
and Preservation,  
EYP Architecture &  
Engineering

**Mark Thaler, AIA,**  
Partner, Lacey  
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## Restoration & Renovation

### HBRA ARCHITECTS, INC., CHICAGO, IL



**PROJECT:** Restoration of the West Entry, Charles Deering Library, Northwestern University, Evanston, IL

**ARCHITECT:** HBRA Architects, Chicago, IL; Aric Lasher, FAIA, President and Director of Design; Dennis E. Rupert, FAIA, Principal in Charge; William J. Kinane, Jr., Project Architect

#### KEY SUPPLIERS

**MILLWORK AND CARVING:** Barsanti Millwork, Chicago, IL

**ARCHIVAL CASEWORK:** Small Corp, Greenfield, MA

**ORNAMENTAL IRONWORK:** O'Brien Metal, Chicago, IL

**STONE SUPPLIER AND FABRICATOR:** Quarra Stone Company, Madison, WI

**LIGHTING:** Anne Kustner Lighting Design, Evanston, IL

**BELOW:** HBRA restored the loggia and added a new plaza and custom light posts, returning the West Entry to its original function and prominence. The \$4-million project included a 6,000-sq.ft. lobby on the interior and the exterior plaza. All photos: Mark Ballogg

# Restored Library Entry

**L**ibraries are among the favorite building types at HBRA Architects Inc. — projects include the Bass and Beinecke Libraries at Yale and the Hale/Farrell Library at Kansas State University — so that affection may help explain why the firm's restoration of the West Entry of the Charles Deering Library at Northwestern University has helped earn it a 2016 Palladio Award for Restoration and Renovation.

Designed by James Gamble Rogers in the Collegiate Gothic style, the Charles Deering library opened in 1933 and served for decades as Northwestern's main library, as well as a cathedral-like campus landmark. In 1970 when the University built a research library right next door, they permanently closed Deering's front entrance and re-routed access through a basement corridor that connects the two buildings.

"Deering Library wasn't really sealed up; it was still in use," explains Aric Lasher, FAIA, HBRA President and Director of Design, "but it no longer had its own public face or public presence." What's more, the remaining entrance, such as it was, took a circuitous route below grade. "So the idea of the West Entry restoration was to improve the setting for the building and reopen it to the public."

Construction of a new, accessible entry route and plaza is a signature feature of the West Entry restoration, so matching the existing stone and masonry work of the 80-year-old library was critical. "On the building exterior, there is a mixture of seam-faced and vein-cut Lannon stone, a very dense Wisconsin limestone," says Lasher. It's the same material, he explains, but one with many beautiful variations that was obtained for use in the landscape walls from the same quarry as the library.

He adds that the carved limestone elements on the exterior contribute a different character, and are used in the building loggia as well as some of the interior stonework. "Many of the original materials are local — at least Midwestern in origin," says Lasher, "and though we had some difficulty locating exactly the same granite for new copings and stair treads, we found plenty of good sources for a compatible match."

#### The Plaza

Sourcing slab stone for the plaza, however, was another matter. As originally specified, the material was a very figured, variegated, dense-structured sandstone. "It's beautiful, and used extensively in the United States Capitol and government buildings in Washington, DC, but the only place we could see it at

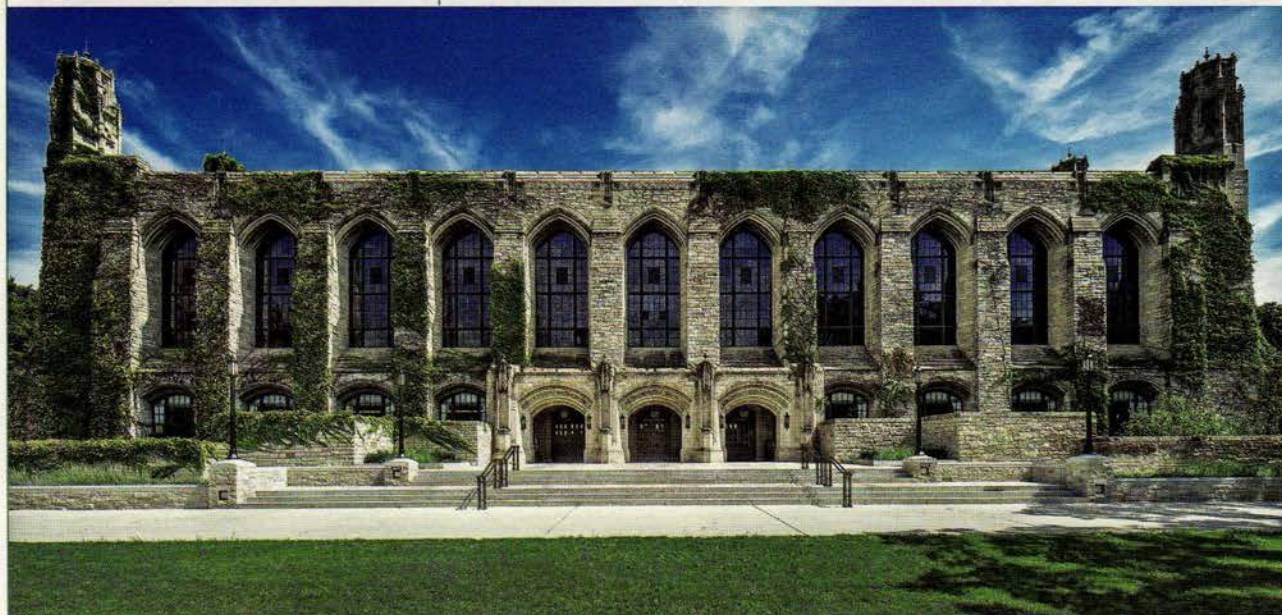
Deering Library was in the original drawings." Turns out, all of the original paving stone had been removed over the course of minor renovations of the porch area, leaving no extant examples. What's more, the quarries for the DC buildings are owned by the federal government exclusively to maintain a ready source for repair and replacement stone. "So we found our stone through a company that sources materials from all over the country, and has always done a magnificent job matching difficult materials for our stone building projects," Lasher adds.

The new plaza, which fronts nearby Deering Meadow, not only includes custom-designed lamp standards and railings and new landscaping, but also ADA access. "Rather than ramps with railings, or some other sort of intrusive, asymmetric element, we have very gradually sloping walkways that lead from the main pedestrian thoroughfare up to the plaza level on either side," says Lasher. "They work with the overall design and ensemble of the entry plaza in a way that doesn't feel like an accommodation for the disabled. Able-bodied people use those ramps probably as much as they do the steps."

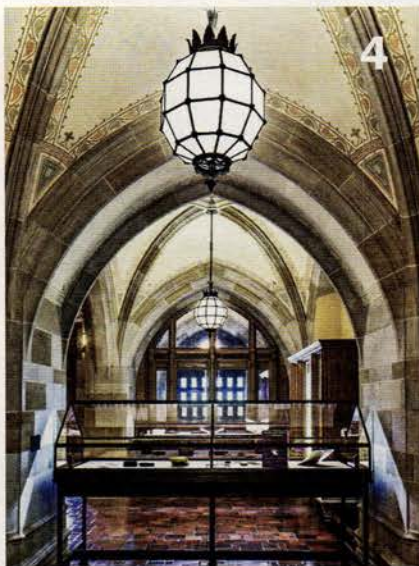
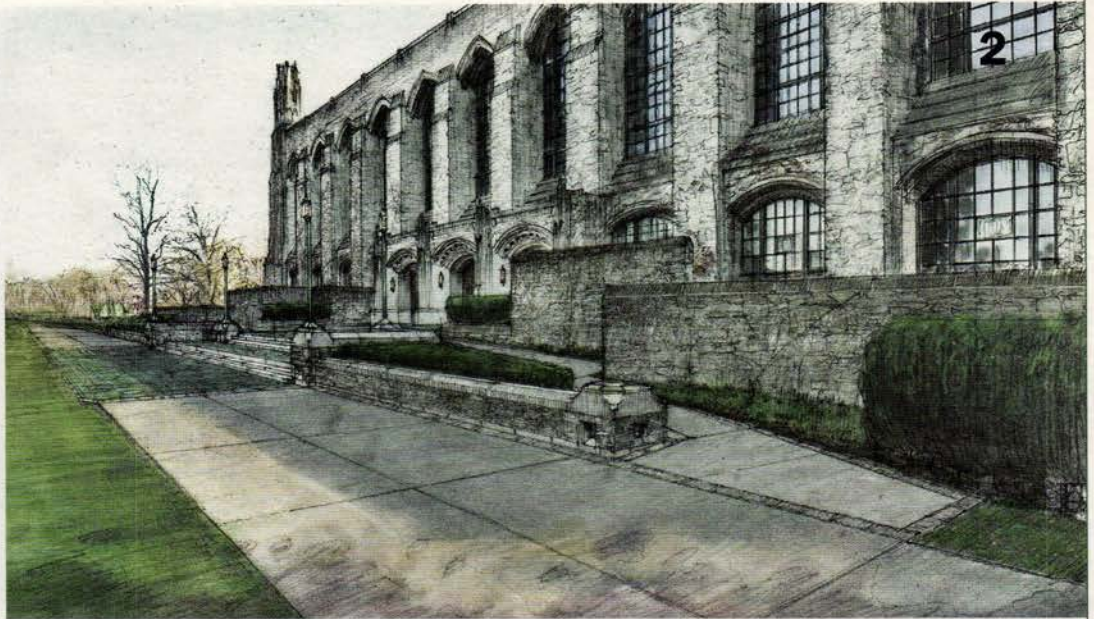
#### Lobby Challenges

As the project progressed to interior, work on the lobby it took on extra, intangible challenges. First, the client required that the library not be vacated during construction, and the spaces at both the north and south sides of the entrance hall had to remain available to the public. Second, any new work would not be obvious.

"The client's wish was that there'd be no visual disparity between the quality of the new work and the original architecture of the Rogers building," says Lasher. Or, put another way, their goal was to not to follow a "nod to the future and a nod to the past" approach in introducing modern elements. "Because we were familiar with a high level of finish, and work with craftspeople







1: Though the Charles Deering Library had been a visual portal to the campus since 1933, when access was routed through a nearby building in the 1970s, the West Entry became vestigial at best.

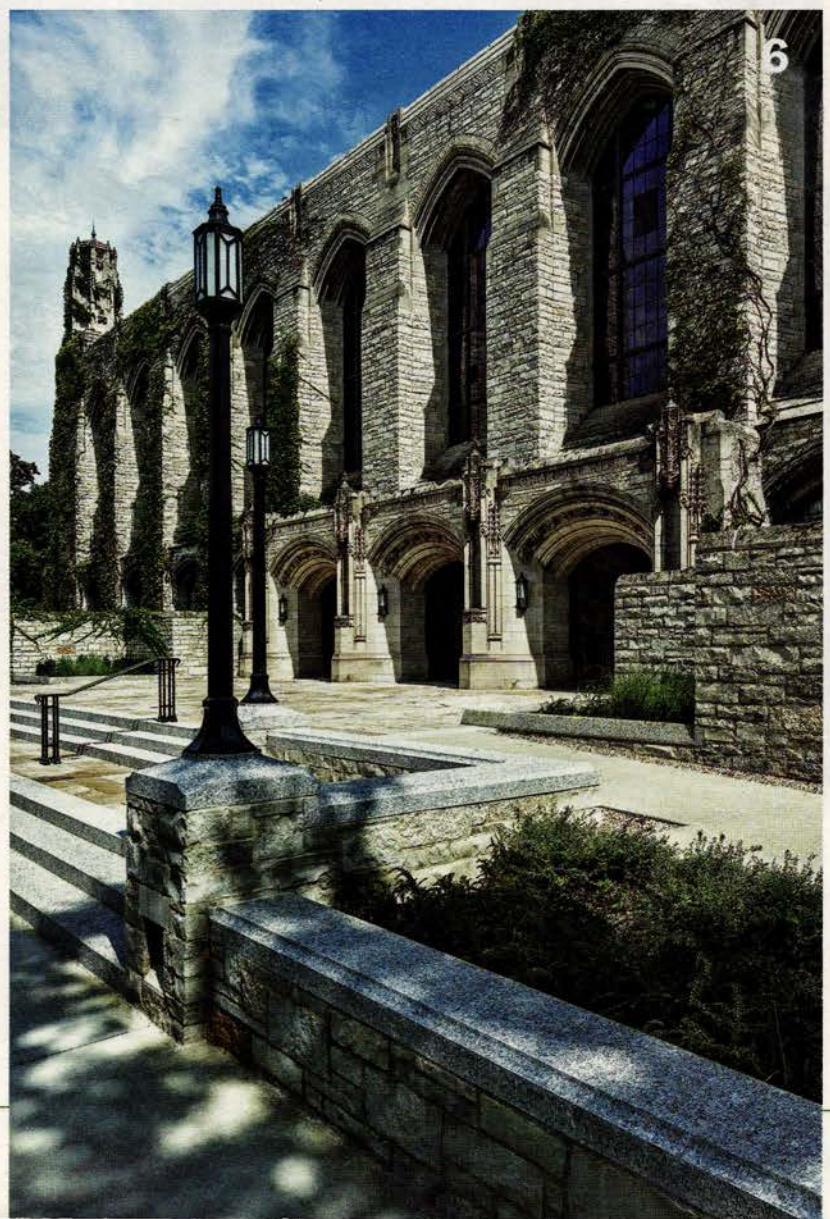
2: A view of the exterior, looking north toward the new entry plaza. Gradually sloping walkways lead from the main pedestrian thoroughfare up to the plaza level.

3: New millwork and doors provide entry from two vestibules to the lobby and a meticulous match with existing woodwork.

4: Behind the period appearance, the new display cases, or vitrines, and restored lighting are state-of-the-art and archival grade. Note the stencils in the newly cleaned ceiling.

5: After 1970, the only access to Deering was through a nondescript underground corridor. (left) Renovating the corridor with new finishes and a terrazzo floor helped define the transition from one library to another.

6: The landscaping of the new entry plaza included retaining walls of Wisconsin Lannon stone capped with granite, and a pair of sloping ramps behind them for ADA access.



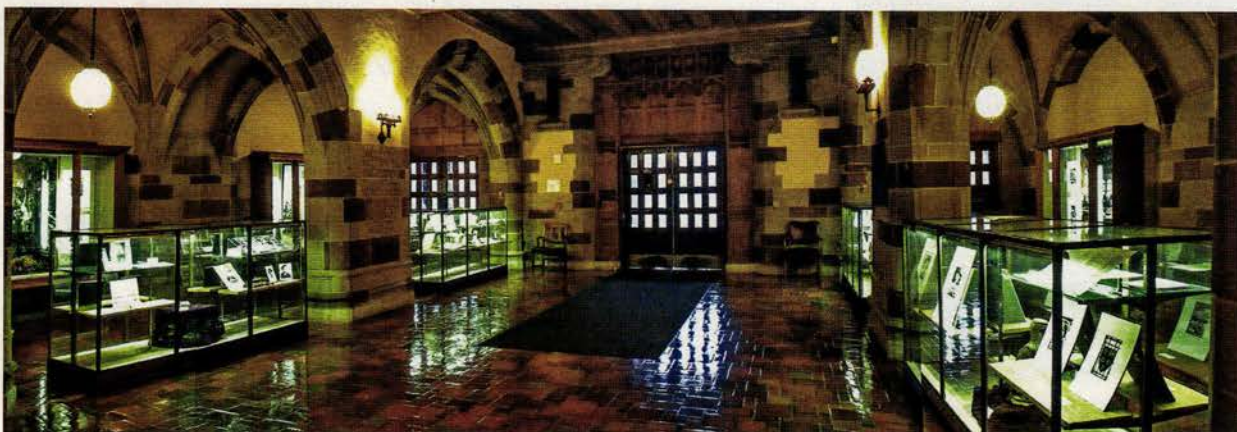
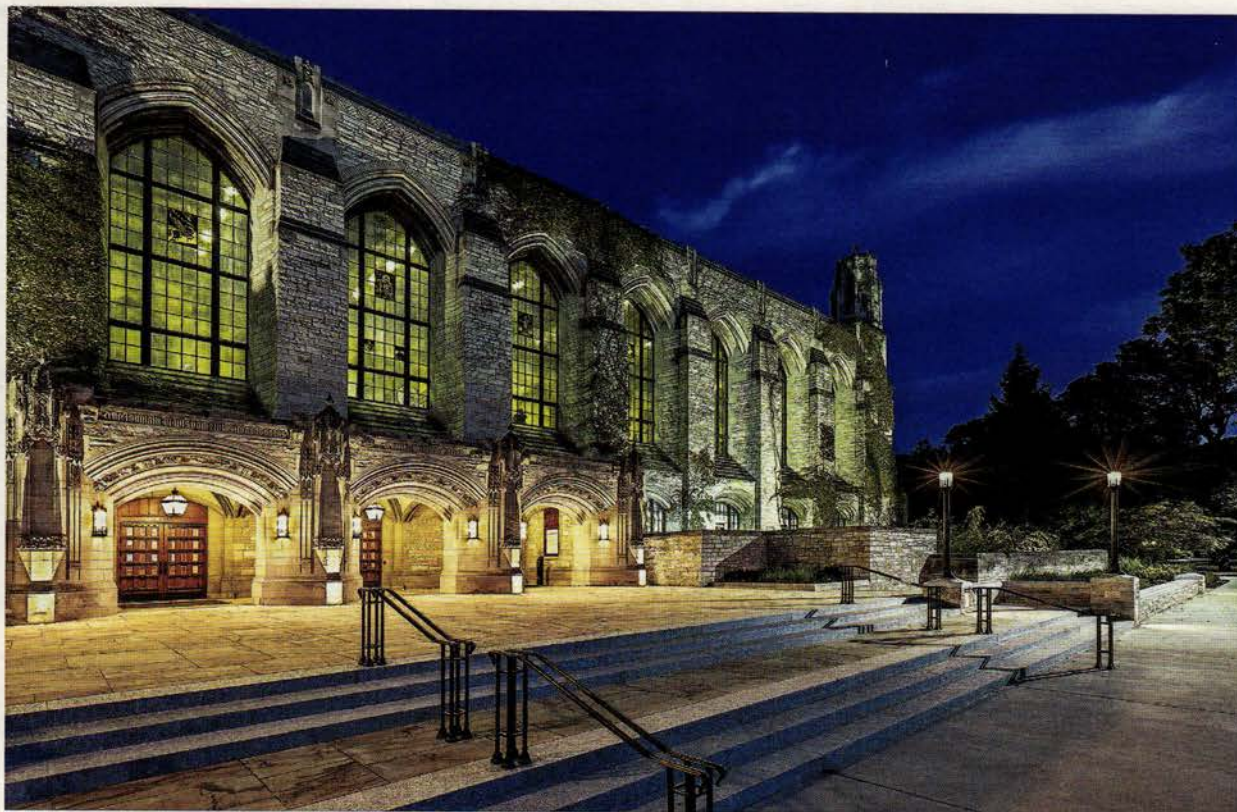
who are capable of providing that level, we were able to both modify and add to the existing stonework and woodwork in the lobbies without any apparent fingerprint – even though the scope of the work was significant.”

Nonetheless, there were some twists to seamlessly restoring and upgrading the lobby while staying consistent with the rest of the

80-year-old building. “James Gamble Rogers often mixed materials in his buildings,” explains Lasher, “to give them not just a varied look, but also the appearance of age.” In the Deering lobby, for example, limestone and sandstone are combined for an almost polychrome effect.

Lasher notes that at Yale, Rogers built buildings with a very porous limestone that absorbs dirt and thus





**FROM TOP:** An evening view highlights the new lighting of the plaza plus the restored loggia.

Closing the West Entry had reduced the lobby and connected vestibules to a backwater space with some little-used glass display cases.

The restored lobby features a new desk and vestibules. The designers maintained the quality and design of existing features. The dark-and-light stone-work is a James Gamble Rogers touch.

tion museum-grade. "The idea was to turn the lobby – which wasn't being used for much of anything – into a space that could showcase the library's collections. However, for that to be possible it would have to meet certain environmental standards; otherwise other libraries wouldn't lend archival materials."

Besides adding a custom-designed desk station for building security, which had never previously existed, the work included refurbishing four existing glass display cases, or vitrines, and creating four new matching, archival-quality display vitrines out of hand-forged antique iron.

Though the West Entry is only the initial phase of an overall restoration of the library, it included upgrades to mechanical systems that required creativity, as is often the case in historic buildings. "We had to work with the existing mechanical systems in the building," says Lasher, "making sure that they would perform adequately, not only for user comfort, but also to avoid compromising the archival materials being displayed."

Repair, reconstruction and re-lamping of period fixtures was just part of the process. "We worked with a lighting design company who was able to augment the actual lighting component of those fixtures without changing their appearance, so that their lighting characteristics were either more appealing or better suited to their new use." Lasher says they were also able to conceal new uplighting in some ornamental millwork elements within the lobby. "It's very subtle and doesn't look like a modern lighting intervention, but it does provide a higher level of illumination in what were dark corners of the spaces."

Part of the overall program was also to improve the accessible route through the building and its connection to the later main library. "Formerly, you never quite knew when you were leaving the 1970s building and entering Deering. The corridor felt like somewhere you weren't supposed to be, as if you had wandered into a back-of-house area." The firm's solution was to design an entryway and corridor with a clear sense of transition to Deering Library. "Now there's a portal that feels like part of Deering, so a visitor experiences a very clear demarcation between the two buildings and their identities." – *Gordon Bock*

can take on the ambiance of age very quickly. "The idea was to give them a sort of ready-made venerability – and charm," he explains. "This wasn't the first Rogers building we worked on, so I think our learning curve was less than for someone who was unfamiliar with his work."

Even so, very real accretions were a genuine problem. "People had smoked there for 60 years and the surfaces, which, in addition to stone, include ornamental stenciling on the plaster ceilings, were covered with nicotine stains." In response, the firm worked with a stone restorer who cleaned the interior stone with a poultice method. "Once cleaned, the lobby went from being a dark, kind of lugubrious space to something light and much more uplifting."

### The Collections

New components and mechanical systems were essential if the recommissioned lobby was to be functional and up-to-date, not to men-



## Adaptive Reuse

SCHOOLEY CALDWELL ASSOCIATES, COLUMBUS, OH



**PROJECT:** Cristo Rey Columbus High School, Columbus, OH; James Foley, president

**ARCHITECT:** Schooley Caldwell Associates, Columbus, OH; Robert D. Loversidge, FAIA, Principal in Charge; Tim Velazco, NCARB, Project Architect; David A. Vottero, AIA, Design Architect; Kim Traverse, Interior Designer

**CONSTRUCTION MANAGER:** Corna Kokosing Construction, Westerville, OH; Jim Negron, Executive Vice President; Jim Valentas, Project Manager; Derke Erwin, Project Engineer; Dave Roden, Superintendent

## KEY SUPPLIERS

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*This project originally appeared in the October 2015 issue of Traditional Building. The same story, with minor revisions, appears here.*

**RIGHT:** The Cristo Rey High School opened in Columbus, OH, after an \$18-million renovation led by Schooley Caldwell Associates brought it up to modern standards and restored much of the historic character of the 1899 structure. All photos of rehabilitated building: Brad Feinknopf, Feinknopf Photography

# Historic High School

The Cristo Rey Catholic High School program was launched in the 1990s when the Jesuits, well known for leadership in education, saw a need for better secondary education in Chicago's impoverished Pilsen neighborhood. They established a work-study program that helped finance the school and also provided work experience for the students.

There are now approximately 30 Cristo Rey High Schools throughout the U.S. One of these opened in 2014 in Columbus, OH, in a building listed in the National Register of Historic Places that had been derelict for many years.

The long and complicated history of this particular building goes back to 1832, when it was built as a School for the Deaf and Dumb. The name was changed to the School for the Deaf and they soon outgrew the building and built a new larger one, said to have been designed by George Bellows, Sr. (father of the famous painter), in 1868. Needing still more room, the school added an approximately 84,000-sq.-ft. new building in 1899, this one designed

by Richards, McCarty and Bulford.

This urban complex housed the School for the Deaf until the 1950s when the school moved to a new location. "The building underwent a series of historically insensitive renovations that significantly altered the interior spaces," says Tim Velazco, NCARB, project architect. It was eventually abandoned and became derelict."

When the School for the Deaf moved out, the state of Ohio occupied the lower floors in both buildings, abandoning the upper floors, until the late 1970s. Schooley Caldwell was called in to design a retirement community, a plan that was dropped when the original 1868 Bellows building burned and was demolished, leaving the 1899 building. Over the years, SCA also designed it as an office building, a plan that went all the way through construction documents; a conversion to market-rate apartments, and a children's library.

Meanwhile, the city's Recreation and Parks Department had created a topiary garden on the site of the original 1868 building. Adjacent to the still existing 1899 building, it is

based on the famous 1886 painting by George Seurat, "A Sunday Afternoon on the Island of La Grand Jatte," and has become a beloved destination point for the city.

## Cristo Rey Comes Forward

In 2012, Jim Foley, president of Cristo Rey Columbus, who had been searching for a location for a school, fell in love with this building. The location was ideal: next to the library and the park, in a neighborhood called the Discovery District, which has several educational institutions, the art museum as well as the library. "The neighborhood is all about education and it is also on the bus line, for convenient transportation," says Robert D. Loversidge, FAIA, principal in charge. "It is also in a neighborhood where they can find jobs."

The library bought the property from the Philadelphia developer and split it, selling the building to Cristo Rey, and keeping part of the site to make a library-park connection. "Everybody won in this deal," Loversidge adds.

This time the project would







**CLOCKWISE FROM TOP LEFT:** A view of the east elevation. The building now has historically appropriate new windows and a new roof.

**Before and after photos of a corridor, which were returned to their original widths and heights. This section offers a view into the gym.**

**The new entry court provides accessible entry into the building and a more formal connection to the adjacent park.**

be completed. Schooley Caldwell developed a plan for converting the historic 1899, 84,000-sq.ft. building into a contemporary high school, and the new school opened in 2014, after an \$18-million renovation.

The derelict structure had quite a few typical problems. The asphalt roof was beyond the end of its life and residential skylights had been added. In addition, "the interior was cheap developer stuff, with layers of carpeting and tiles, lowered ceilings and new stairs," Loversidge points out.

"The character had been hidden or removed," says Velazco. "Vaulted openings had been squared off with drywall and big skylights had been roofed over."

On the first two floors, SCA created larger classrooms, taking room from the hallways. "The original classrooms were not big enough," says Loversidge. "We cre-

ated suites of classrooms by capturing some corridor space and by taking down walls between the classrooms to make large, medium and small classrooms. Elevators and restrooms were installed where the historic iron stairs, long ago removed, had been."

One of the most significant changes was the main entry. SCA created an entry court, lowering it to make it accessible and to provide a single point of entry. "It is a shadow of the original terrace," notes Velazco, and was created with valuable input from John Sandor, architectural historian with the National Park Service. In conjunction with the new entry and because the historic staircases had been removed long ago, they also created a new open central stairway from the ground floor to the first floor.

The original gym is also on the ground floor, opposite the main entrance. SCA removed a floor that

had been added to the gym, taking it back to the original scale, so the gym is now open to a two-story height. They also added a large glass window on the second level so people walking by can look down into the gym.

Also located on the ground floor are the cafeteria, kitchen, storage and restrooms.

"The dormers begin on the third floor, so there are quirky spaces," says Loversidge. "We put art, music and science up there. We could also get big spaces for specialized classrooms."

As for fenestration, new windows with historically correct sightlines were added to replace the worn-out vinyl replacement windows. "We worked with the National Park Service to get a good match," says Velazco. "The historic windows were long gone and had been replaced with residential vinyl windows."

SCA also created a large, 4,000-sq.ft. chapel, keeping the columns

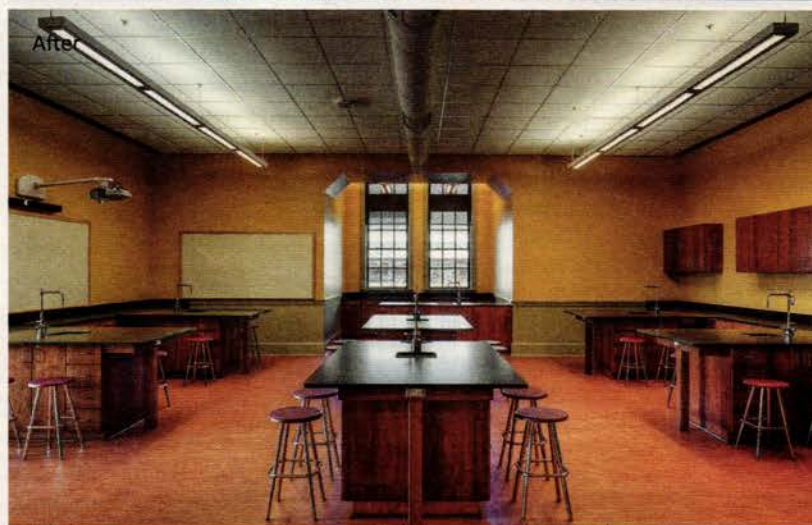
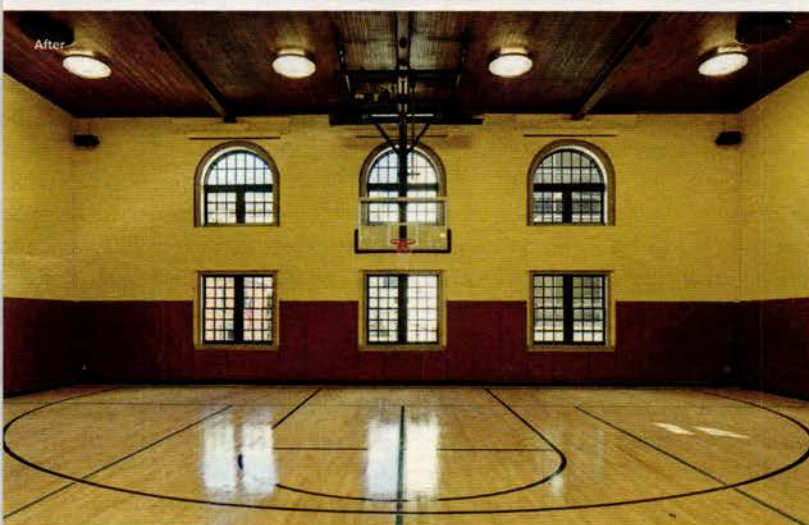
and beams so you could see what was done.

### Detective Work

Throughout the project, the SCA team investigated the building to discover and restore the historic character of the building as much as possible. "After the building had been cleared of the non-original components added throughout the years, we combed through, performing a historic inventory of all remaining character-defining original items," says Velazco. "I like to think of this as detective work, in concept. You have to look closely for remnants of various details, collect evidence, and puzzle together what the building looked like originally. My favorite detail in the building is the chair rail, and its integration with door and window systems."

"This was most interesting," he adds. "When the non-original mate-





materials were gone, we found 2½-in. radius bullnose corners, and were able to replicate chair rail based on this one single detail and on scars on the walls.”

The design team also found wood floors throughout. Although the contractor initially suggested replacing it, Loversidge said they should try to restore it. “We had a great contractor who was willing to give it a try. They were astounded by how good the restored floors looked, and the cost was significantly less than replacing the flooring,” he notes. In addition, the design team found miles of wood baseboard that the contractor was able to restore and replicate in his workshop.

On the exterior, the masonry was in fairly good shape. A number of minor repairs were made and approximately 60% was repointed. A new roof – the original slate roof was long gone – was installed, the residential skylights were removed, and appropriate sheet-metal accessories, downspouts and flashing were added.

Although the building didn’t seek LEED certification, all systems are energy efficient and the building was tightened up. “The greenest building is the one that is already built,” Loversidge notes. “It is quite energy

efficient, we just didn’t go through the LEED process.”

The design work started early in 2013 and construction started June of that year, and the Columbus Cristo Rey High School opened in 2014.

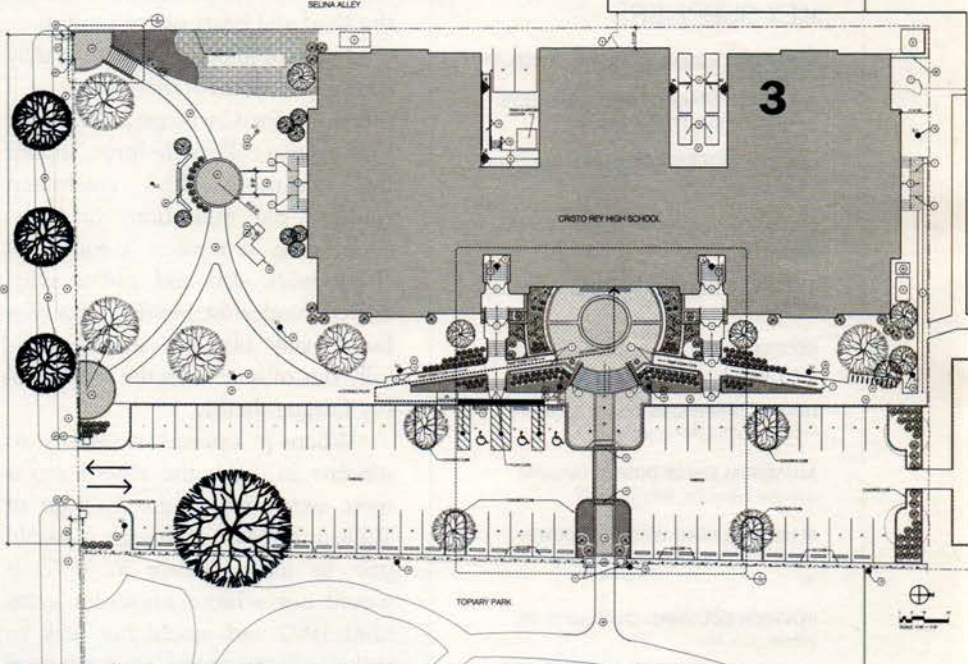
“All of this was made possible in part because of available tax credits (State and Federal Historic Preservation tax credits and New Market tax credits),” says Velazco. “The project came together perfectly, thanks in large part to an excellent team with a common set of goals. We are very proud of this building today.” – Martha McDonald

**1: Before and after views of the gymnasium. An intervening floor was removed, returning the space to its original height and purpose and exposing original tongue-and-groove pine ceiling.**

**2: Before and after views of the third floor where classrooms for art, music and science are located.**

**3: The updated building features easy access to the nearby public library and offers an accessible court main entry. Plan: Schooley Caldwell Associates**

**4: A larger classroom was created by combining two formerly separate, smaller rooms. A portion of the wall was left in place to show the original separation.**





## New Design and Construction, More Than 30,000 sq.ft. GLAVÉ & HOLMES ARCHITECTURE, RICHMOND, VA



**PROJECT:** Christopher Newport Hall, Christopher Newport University, Newport News, VA

**ARCHITECT:** Glavé & Holmes Architecture, Richmond, VA; H. Randolph Holmes, Jr., AIA, Exterior Architecture Design Principal; Lori Snyder Garrett, AIA, LEED Green Associate, Interior Architecture Design Principal; John R. Gass, RA, LEED AP, CDT, Project Manager; Lynden P. Garland, AIA, CDT, LEED AP, Project Architect; Kevin Svensen, Architecture Project Designer; Eleanor Barton, CID, ASID, CDT, Interior Design Project Manager; Vanessa Smith, J.B. Elko, Interior Project Designers

**GENERAL CONTRACTOR:** Whiting-Turner Contracting Co., Norfolk, VA

### KEY SUPPLIERS

**MASONRY:** Snow Jr. & King Inc., Norfolk, VA

**ARCHITECTURAL PRECAST CONCRETE:** Royal Stone Inc., Williamston, MI

**CUSTOM EXTERIOR LIGHTING:** Crenshaw Corp., Floyd, VA

**MILLWORK:** Stephenson Millwork Co. Inc., Wilson, NC

**SYNTHETIC SLATE ROOFING:** Eco-Star, LLC, Holland, NY

**ROOFING:** Baker Roofing of Norfolk, LLC, Norfolk, VA

**DOORS/FRAMES/HDW:** Architectural Products of VA, Ashland, VA

**ALUMINUM ENTRY DOORS:** Oldcastle Building Envelope, New York, NY

**ALUMINUM CLAD WOOD WINDOWS:** Weather Shield Windows and Doors, Fairfield, NJ

**INTERIOR COLUMNS:** Chadsworth, Inc., Wilmington, NC

**STONE FLOORING:** Pompei Inc., Newport News, VA

**CUPOLA AND CLOCK:** Campbellsville Industries Inc., Campbellsville, KY

**FOUNTAIN:** Wesco Fountains Inc., North Venice, FL

**GLASS FLOOR:** Technical Glass Products Inc., Painesville Township, OH

**MURALIST:** Glenn Palmer Smith, New York, NY

**RIGHT:** Designed by Glavé & Holmes, the Neoclassical Christopher Newport Hall is the focal point of the university's Great Lawn. It is built of red brick and cast stone. All photos: Virginia Hamrick

# Neoclassical Education

Christopher Newport University, a small, public liberal arts institution in Newport News, VA, takes great pride in the fact that it has always lived up to its motto: Students Come First. In 2015, its 54th year, it writ those words large in cast stone and red brick with the opening of Christopher Newport Hall, a one-stop student success/services structure that ushers scholars from admissions to graduation and serves as the cornerstone of the University's two-decades-long transformation into a world-class campus.

The \$32-million, 82,000-sq.ft. Neoclassical Collegiate-style edifice, the work of Glavé & Holmes Architecture of Richmond, VA, marks the culmination of the institution's grand master plan to create an iconic Great Lawn that functions as the head and heart of the campus.

The completion of the stately drum and domed monument is a milestone for Christopher Newport University, a college freshman among the commonwealth's celebrated centuries-old institutions of higher learning. It replaces a four-level 1980s brick slab and ribbon-windowed modernist building that was functionally obsolete and aesthetically out of sync with the traditional Ivy League theme.

When it opened its doors to scholars in 1961, the school was a mere extension of the College of William & Mary. Although it would gain its independence in 1977, it would not achieve university status until 1992 and would not seek to make an architectural statement until 1996 under President Paul S. Tribble.

During the last decade, Glavé & Holmes has designed a number of campus buildings, most notably the nearby Forbes Science Building and Luter Hall, which houses the Luter School of Business. It also expanded the Freeman Center that sits adjacent to Christopher Newport Hall.

"The construction on the core campus is approaching \$1 billion," says Randy Holmes, AIA, senior principal of Glavé & Holmes, which was founded in 1965, four years after the university. "It's a remarkable story for us and a rare one in the public university world." Christopher Newport Hall, adds Lori Snyder Garrett, AIA, LEED Green Associate and interior architecture design principal for the project, "is the pinnacle of the university's transformation."

### Past and Future

To assure that the hall best serves the 5,100 students on campus, the firm reached out from the past to the present and into the future, creating a design that fluently speaks the hierarchical architectural language of the Neoclassical Collegiate style yet fuses it with a contemporary idiom that places a value on natural light and air, sustainability and spaces that work for students and staff. The classical orders were executed in precast using 21st-century technology.

As with all recent buildings on the state-owned campus, Christopher Newport Hall's design addresses sustainability and energy-efficiency goals. The building meets Virginia Energy Conservation and Environmental Standards, a state-approved alternative to LEED certification.

The first floor, which houses a stu-

dent Commons, is in the Tuscan style; the second floor, the reception area and starting point of campus tours for prospective students and parents, is in the Doric order; the third floor, where student services offices are located, is Ionic; and the fourth floor, where the president's office and other administrative offices are sited, represents the Corinthian style.

"They wanted the hall to be a backdrop for graduation, so we designed large sweeping steps in the front, and they wanted it easily accessible, so there are entrances on all four sides," says Holmes. "It's a fluid building."

Inspired by the campuses of the University of Virginia, William & Mary, the University of North Carolina and Washington and Lee, the architectural team clearly defined Christopher Newport Hall as the crown jewel of the Great Lawn. "The quadrangle or lawn is part of the development of universities," Holmes says. "Historically, it's the way campuses have been envisioned. There's a strong relationship between the buildings and the landscape. We followed three principles – clear edges, a strong center and consistent texture – in the creation of CNU's Great Lawn, to which the hall is a key component and the anchoring element."

### Glass Floor

Christopher Newport Hall's crowning touch – the shimmering painted metal dome – is a triumph not only on the outside but also on the inside. As originally envisioned, the sightline was to soar from the second floor to the oculus 110 feet above, but the costly atrium fire-exhaust systems required by state safety codes spurred







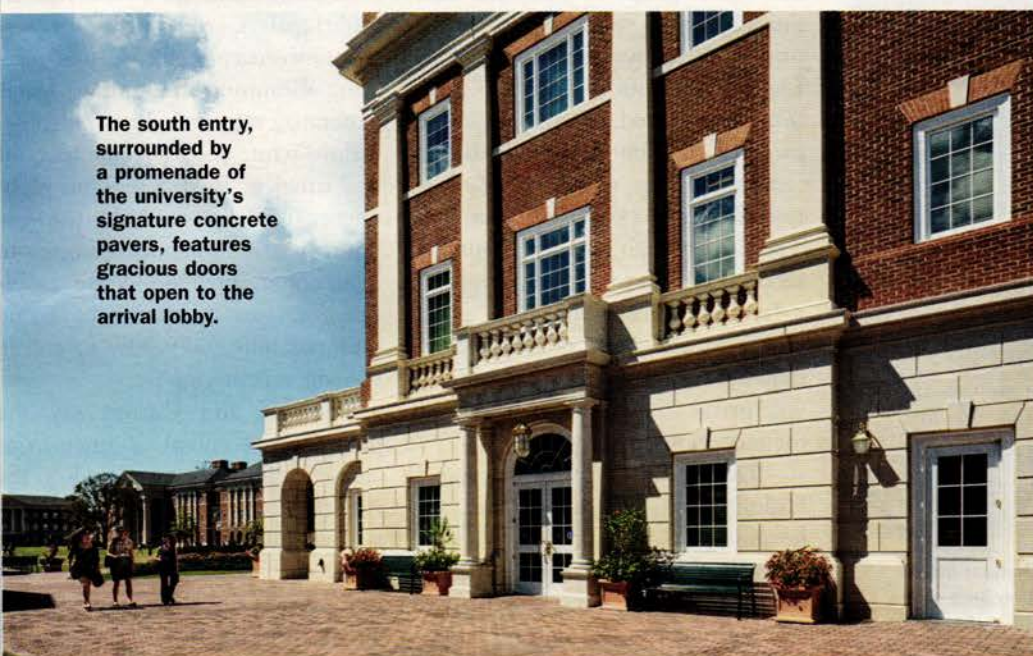
1



2



3



The south entry, surrounded by a promenade of the university's signature concrete pavers, features gracious doors that open to the arrival lobby.



4

1: The hall's grand sweeping staircase on the West façade was designed for graduation ceremonies, and the arched cast-stone base creates a podium that offers gathering spaces with a Great Lawn vista. The clock represents the significance of the passage of time and the importance of using it wisely.

2: The precast Corinthian columns possess a high level of detail unprecedented in such large pieces.

3: The main processional stairway from the entry level to the second floor features a vaulted ceiling and traditional lighting fixtures retrofitted with LED lamps.

4: A black-and-white marble floor marks the entrance to the ground-level Commons. It offers L-shaped desk-like stations that resemble those in a concierge bank where staff

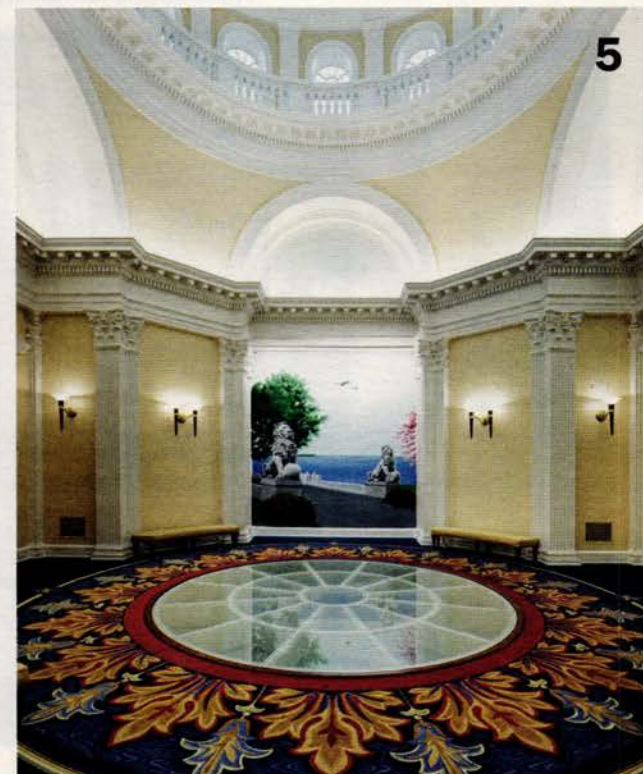


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members can give personal attention to students.

5: The ground-breaking glass floor, which turns opaque at the flick of a switch, offers a sightline all the way to the top of the dome. The mural depicts a City of Newport News landmark.

6: The focal point of the outdoor courtyard is a three-tiered cast-iron fountain. It creates a contemplative space for students and is designed to accommodate overflow crowds during peak times like registration. The open core brings natural light to the interior spaces of the hall.



5





**LEFT:** From the third floor, there's a bird's eye view of the glass floor upstairs.

**RIGHT:** The East façade, also referred to as the rear or second front, features an arched opening in the center pavilion that leads to an outdoor courtyard with a fountain.



**ABOVE:** The second-floor reception area is the first official welcome space for visitors. From here, they can look all the way up to the dome's oculus.

**BELOW:** The president's fourth-floor office includes a work table, reception area and a traditional-style bookcase with a central door that opens to a private bath. The color scheme – white with accents of red, yellow and blue – echoes that of the rest of the building.



the team to think outside the dome. The solution – a circular 15-ft.-dia. fire-rated structural glass/privacy glass floor that looks like a mullioned window – was unprecedented.

"When it was under design, no other place in America had one," Garrett says. "Now, there's one at Northwestern University's Engineering Life Sciences building. We had wanted to have a single piece of glass, but it wasn't possible technologically, so we divided it into the biggest segments possible." The floor, which is visible from the second and third stories, contains a layer of transparent LCD glass, which at the flick of an electric switch, becomes translucent to provide privacy when the space is used for receptions.

"Desperation drove the design," Holmes says. "The president, in keeping with the university's student-focused philosophy, wanted the view of the dome to be open to everyone, not just staff members with offices on the top floor. We also designed it so that you can walk around the dome's balcony; the 360-degree views of the Great Lawn are fantastic." The glass floor is the most popular feature of the hall, with students continually bringing family and friends onto the fourth floor to ask for demonstrations of the transparent-to-translucent feature.

### Outside the Classroom

Outdoor spaces suitable for collegial gatherings also were a prime consideration of the project, Garrett says, because "studies have shown that 70% of learning occurs outside the classroom." To capitalize on that statistic, the team created a large open courtyard, complete with a splashing three-tier cast-iron fountain, which is entered through an archway in the center pavilion at the rear or "secondary front" of

the building. "It's semi-private and out of the main flow of students," Holmes says. "It's like a secret garden. It leads to the Commons and serves as an overflow space during peak times such as registration."

The furnishings in the hall are traditional, Garrett says, "because the university believes that creating beautiful, traditional space generates respect." The red-blue-yellow-white color scheme is classic and timeless. Red, a vibrant, high-energy color, is used on the first floor, where students congregate. The upper three floors are enveloped in various shades of cream, with red, blue and yellow accents in the soft furnishings.

Holmes and Garrett say the project gave them a once-in-a-career opportunity to exploit the Neoclassical style. "The exterior is classically proportioned, and we were able to carry that character into every aspect of the interior: details from the door hardware and cast-iron registers to the finishes," he says. "We'll not likely have the chance to go to this level of detail on such a large scale again. We are fortunate to have a staff of talented architects and interior designers that allowed us to achieve this."

The fact that the firm was chosen to design most of the Great Lawn buildings reinforced the rhythm of the Neoclassical language, Garrett says, "creating a strong consistency of character that makes Christopher Newport University one of the premier classic American campuses today."

The importance of Christopher Newport Hall to the university's culture has far exceeded everyone's expectations. Some students who tossed their tasseled caps into the air at graduation have returned to its iconic staircase to exchange marriage vows.

– Nancy A. Ruhling



## New Design & Construction, Less Than 30,000 sq.ft. ROBERT A.M. STERN ARCHITECTS, NEW YORK, NY



**PROJECT:** Immanuel Chapel, Virginia Theological Seminary, Alexandria, VA

**ARCHITECT:** Robert A.M. Stern Architects LLP, New York, NY; Grant F. Marani, AIA, Project Partner; Charles Toothill, Esther Park, Project Architects; Rosa Maria Colina, Project Manager

**LANDSCAPE ARCHITECT:** Michael Vergason Landscape Architects, Alexandria, VA

**CONTRACTOR:** The Whiting-Turner Contracting Co., Greenbelt, MD

### KEY SUPPLIERS

**LITURGICAL DESIGN CONSULTANT:** Terry Byrd Eason Designs, Chapel Hill, NC

**LIGHTING DESIGNER:** Fisher Marantz Stone, New York, NY

**ACOUSTICAL AND AV CONSULTANT:** Jaffe Holden Acoustics, Inc., Norwalk, CT

**STRUCTURAL ENGINEER:** Robert Silman Associates, New York, NY

**ORGAN:** Taylor & Boody Organbuilders, Staunton, VA

**FURNITURE:** Woodpecker Enterprises, Apex, NC

**BRICK:** Old Virginia Brick, Salem, VA

**WINDOWS:** LePage Millwork, Riviere-du-Loup, Quebec

**METALWORK:** Daniel Miller, Waynesville, NC

**INTERIOR FLOORING (BLUE STONE):** Devonian Stone, Windsor, NY

**BELLS:** Whitechapel Bell Foundry, London, England

**LIGHTING FIXTURES:** Crenshaw, Floyd, VA

**PLASTER:** C.J. Coakley Co. Inc., Falls Church, VA

# A Chapel for the Ages

Since its consecration in 1881, Immanuel Chapel had served as the spiritual center of the venerable Virginia Theological Seminary. For more than a century, the historic red brick building with Gothic Revival detailing pointed heavenward as the school, the largest and second oldest accredited Episcopalian seminary in the country, grew around it on its 80-acre campus in Alexandria, VA.

After a fire destroyed the iconic edifice in 2010, the seminary's leadership commissioned Robert A.M. Stern Architects of New York City to design a "timeless" chapel that would honor the institution's history yet be a monument to its present and future endeavors. "Our design was conceived not as a nod to the 19th century but rather as a chapel for the ages to honor and carry forward all that had gone before on the seminary's campus," says architect Grant F. Marani, AIA, and Fellow of the Australian Institute of Architects, who served as project partner.

Even if the seminary had desired to replicate the old chapel, it was not a viable option. The building was narrow and before the blaze, additions had been made and more had been under discussion for decades. But neighboring buildings precluded the expansions that were deemed necessary to appropriately serve students and community worshippers. What's more, it was discovered that the old chapel had no footings, precluding any type of cost-effective, code-compliant renovation or restoration.

"The seminary seized the opportunity to reinvigorate the institution while retaining important memories of the old," says Marani. "The chapel we designed was at the time the newest building on the campus, which was established in 1823, and obviously also the most important since the earlier chapel was built."

### Greek-Cross Plan

Marani, along with project architects Charles Toothill and Esther

Park and project manager Rosa Maria Colina, created a Greek-cross plan for a building whose exterior reflects the red brick of the campus' earliest buildings and whose plain-spoken interior provides a worship space flexible enough for intimate services as well as large-scale celebrations.

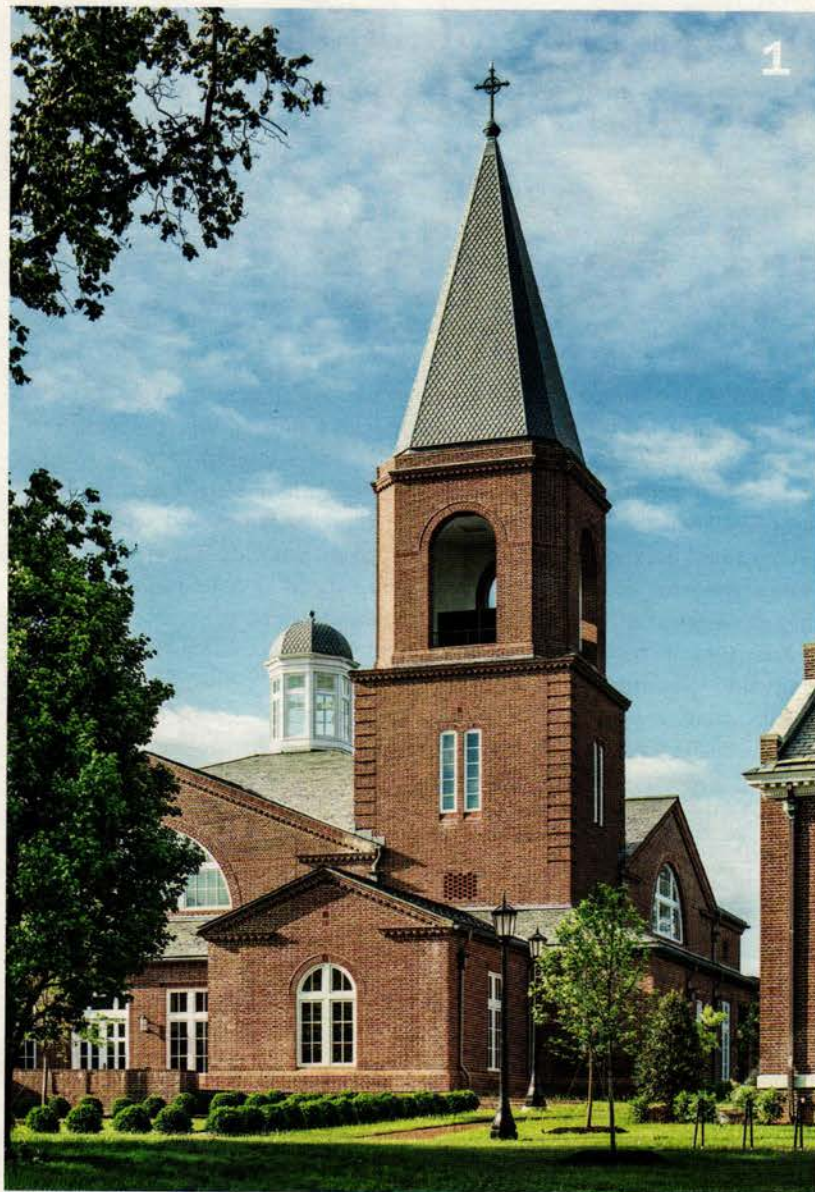
"The 19th-century campus buildings are a mix of styles ranging from Italianate and Georgian to Federal," Marani says. "The variety gives the campus charm because the various architects – excuse the pun – sang in harmony. None of the buildings shout; they speak comfortably."

The red brick chapel the Stern team designed is defined by straightforward forms and a simple four-square spire, features that complement the surrounding eclectic array of architecture. The new chapel, which at 18,400 square feet is twice the size of its predecessor, features an octagonal room that overlooks the ruins of the earlier building, which have been transformed into a tran-



**RIGHT:** Robert A.M. Stern Architects designed the new red brick Immanuel Chapel at the Virginia Theological Seminary, Alexandria, VA, to reflect the restrained 19th-century architectural traditions of the campus' earliest buildings. All photos: Peter Aaron/OTTO





quail garden designed by Michael Vergason Landscape Architects of Alexandria. “There is an intimate relationship between the old chapel and the new,” Marani says. “They commune together.”

The site, which offers views of the Grove, a wooded area at the center of the campus, was largely clear. “There were two long-standing oak trees that we had to fell, but they were not lost,” Marani says. “The wood was salvaged and reused for the chapel organ’s case.”

### Gateway to Seminary

The chapel, the largest structure on the southern end of the campus, serves as gateway to the seminary. The project also included adding a new entrance to the neighboring Welcome Center, turning that building from a rectangle to a T-shape, and reconfiguring the entry drive and arrival court.

The chapel’s ceremonial entrance, marked by a broad west-facing portico, greets visitors and congregants, and a terrace at the seminary community entrance to the north receives seminarians and staff members.

“It’s the most complex building on campus, and it’s also the most elegant,” Marani says. “But it doesn’t feel overwhelming because of the way it is composed; we balanced its large mass with low, one-story gable-fronted pavilions.”

Inside, the four corners of the Greek cross are designed for specific uses: There’s a parish parlor, a children’s room, a choir room and a vesting room/sacristy. The floor plan is flexible and the two altars are moveable, so the space can be transformed to accommodate primary seating for 25 to 30 students at morning and evening services and up to 300 congregants for midday Eucharist and Sunday services.

The design reflects the chapel’s multipurpose mission: Not only is it a place of worship for the seminary community, the local congregation, and visitors from the worldwide Anglican Communion, but it also is a space for seminarians to learn to lead worship.

“Inspiration for the interior came from Colonial-era Virginia churches, many of which are very simple with

stone floors and white walls,” Marani says. “We found it a calming and beautiful way to link to the past. But the floor plan is more generous than those older buildings and supports the liturgical requirements of the 21st century.”

### Natural Light

The chapel, which features stone and wood-plank flooring, plaster coffered ceilings and plaster walls, exploits natural light not only from a lantern above but through oculi at the four sides of the cross, creating a singular spiritual ambience. “The light changes during the day, so the effect at morning prayer is different from the light at midday Eucharist,” Marani says.

A simple circular chandelier, designed by the Stern team and engineered by Zack Zanolli of Fisher Marantz Stone of New York City, is equipped with uplights and downlights as well as speakers. The vaulted ceiling enhances acoustics, whether a festive band is playing, the choir is singing or a celebrant is leading prayer.

A trio of arched stained-glass windows, the only ones that survived the fire, were incorporated into the oratory, as was a wooden pew that then-President Gerald Ford and his family sat upon when attending services.

The new chapel is also sustainable. Certified LEED Gold by the U.S. Green Building Council, its walls and ceiling have energy-efficient above-average R-ratings to ward off the heat and cold. Large windows flood the interior with natural light, and local materials, notably the brick and stone for its facades and the repurposed timber for the flooring and organ, predominate.

The new Immanuel Chapel, which opened in 2015, immediately established itself as a worthy successor to its 1881 predecessor. “When people walk in, they feel they have arrived at a very important place in the Episcopal Church in the United States,” Marani says. “We are honored to have been asked to design a new spiritual heart for this important institution, and we hope we have risen to the challenge.”

— Nancy A. Ruhling



1: The foursquare steeple, sited on the side closest to the Welcome Center, is a counterpoint to the Italianate tower of the nearby Aspinwall Hall.

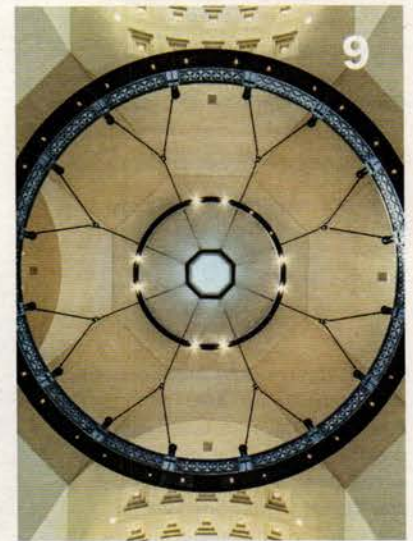
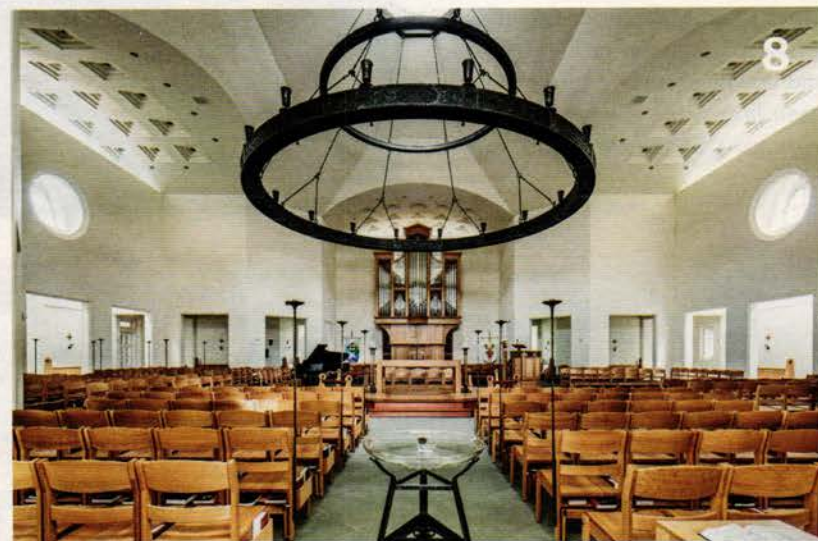
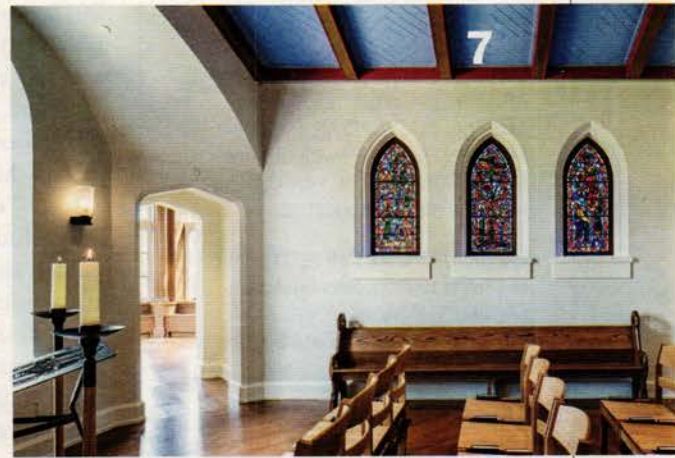
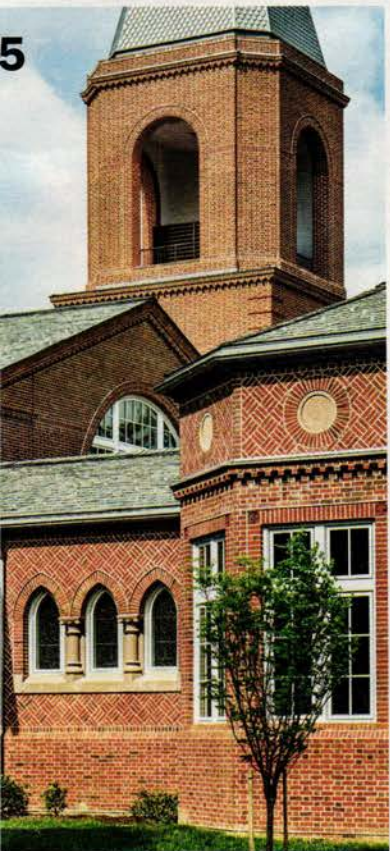
2: The chapel features a portable altar to make the space flexible for large and small services and events.

3: The vesting room, located in one of the four corners of the Greek cross, contains an altar-like table for folding garments and banks of storage drawers for vestments.

4: The ceremonial entrance to the chapel was designed to be a gateway to the campus. A new entrance to the Welcome Center, left, was also part of the project.

5: The three arched stained-glass windows were salvaged from the original chapel, which was destroyed by fire in 2010.





6: The contemplation room, framed by pew-like window seats, is illuminated by a flood of natural light.

7: The pew used by then-President Gerald Ford and his family and the three arched stained-glass windows were among the few items salvaged from the original 1881 chapel.

8: A circular steel chandelier, designed by Robert A.M. Stern's David Pearson and engineered by Fisher Marantz Stone of New York City, is equipped with speakers as is the vaulted ceiling.

9: Natural light illuminates the three-ring steel chandelier.

10: The octagonal contemplation room faces the ruins of the old chapel that has been converted into a serene garden. The room's wood paneling is unique to distinguish it from the other spaces in the building.

11: From the new chapel, the ruins of the old, transformed into a contemplative garden designed by Michael Vergason Landscape Architects of Alexandria, VA, are visible.



# Public Spaces, Parks, Gardens, Streetscapes

## ARCHITECTURAL RESOURCES GROUP, PASADENA, CA



**PROJECT:** Steven S. Koblik Education and Visitor Center, The Huntington Library, Art Collections and Botanical Gardens, San Marino, CA

**ARCHITECT:** Architectural Resources Group, Pasadena, CA; Stephen J. Farneth, FAIA, LEED AP, Principal in Charge; James McLane, AIA, LEED AP, Project Manager; Ashley Powell, Justine Leong, AIA, LEED AP BD+C, Mike Lovato, Design Associates.

**LANDSCAPE ARCHITECT:** Office of Cheryl Barton, San Francisco, CA; Cheryl Barton, FASLA, FAAR, Principal in Charge; Paul Sieron, Project Manager

**GENERAL CONTRACTOR:** Matt Construction, Santa Fe Springs, CA; Jim Muenzer, Sr. Vice President

### KEY SUPPLIERS

**PRECAST CONCRETE:** Quick Crete Products Corp., Sun Valley, CA

**CLAY TILE ROOFING:** MCA, Corona, CA

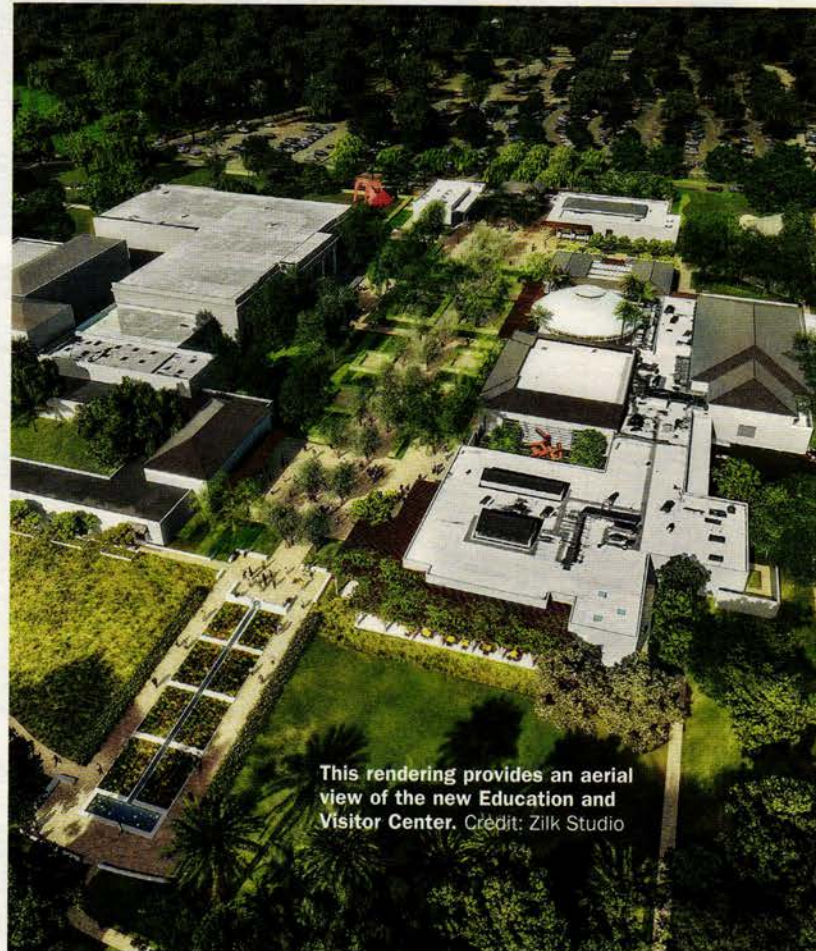
**WINDOWS:** Metal Window Corp., South Gate, CA

**RIGHT:** Designed by Architectural Resources Group (ARG) of Pasadena, CA, with landscape architect Cheryl Barton, the eight-acre Steven S. Koblik Education and Visitor Center provides an entry to The Huntington Library, Art Collections and Botanical Gardens in San Marino, CA. Buildings in the Entry Grove (1) include ticketing (11), coffee shop (10) and the retail store (9). The Central Garden (2) includes the classrooms (12) with courtyard (4), auditorium (13) the multipurpose building (14) and the dome-covered garden court (5). The third area features the boardroom (15) with courtyard (6), the dining room (16) with wrap-around terrace (7) and the kitchen (17). In addition, the Stroll Garden (8) leads into the rest of the estate, and the South Garden (3) leads toward the mansion and the Desert and Palm gardens. Facing the site is the Munger Research Center. Site plan: Architectural Resources Group

# At The Huntington

Steven S. Koblik made many significant improvements in his 14 years as president of The Huntington in San Marino, CA, but none was more notable than the new Education and Visitor Center that bears his name. Completed in May, 2015, just about the time Koblik retired, the new eight-acre center acts as an entry to the historic 200-acre Huntington Library, Art Collections and Botanical Gardens in San Marino, CA. It consists of a series of buildings (100,000-sq. ft. including 40,000-sq. ft. under grade) and related outdoor spaces and gardens.

It all started in 1910 with Henry Huntington's classical Gilded-Age mansion designed by Myron Hunt and the adjacent 1919 library, also designed by Hunt. Some of the other existing historic outbuildings at The Huntington include a billiard and bowling building adjacent to the main house that is now a tea house, a garage that is now an art gallery,



This rendering provides an aerial view of the new Education and Visitor Center. Credit: Zilk Studio





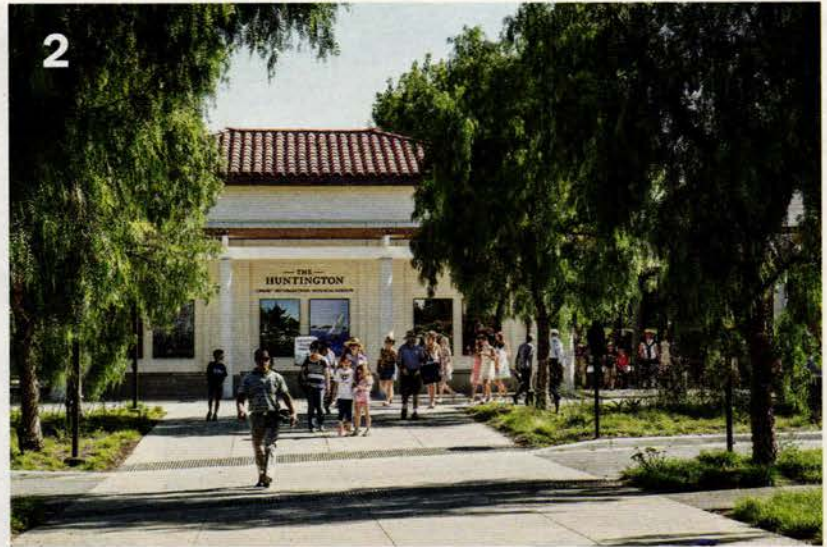
**1: The Huntington Mansion, 1910, and the Library, 1919, (bottom photo) were both designed by Myron Hunt. Photos: Architectural Resources Group**

**2: The first view the visitor to The Huntington sees is this entrance path taking them from the parking area to the ticketing and information buildings.**

All photos: David Wakely, unless otherwise specified

**3: A view of the dining terrace from the South Garden.**

**4: The open-air Garden Court in the center of the visitor area is covered with a 36-ft. high dome.**



and a mausoleum designed by John Russell Pope, said to be a precursor to the Jefferson Memorial. Over the years, Huntington and his wife amassed a vast collection of books and art and developed the various gardens, which they left to a foundation created on Henry Huntington's death in 1927. When Koblik arrived in 2001, his first project as president was to update the existing buildings. His last was the addition of the new entry area.

The two primary firms called in to design the new entry area were Architectural Resources Group (ARG) of Pasadena, CA, known for its historic preservation work, and landscape architecture firm Office of Cheryl Barton of San Francisco. The project was made possible by a generous gift from Charles Munger, who had also previously donated funds for the Munger Research Center, which faces the new entry area.

"The estate landscape was tied together with gardens, but it didn't have a great front door or facilities for education, service and retail," notes Stephen J. Farneth, FAIA, principal in charge, Architectural Resources Group. "That was the genesis of the program. It became quite a large square footage as originally conceived. Our guiding idea was that the character of the estate had to be preserved."

This led the design team to break the program into several buildings rather than one large structure, and to separate these smaller structures with courtyards and outdoor spaces. "This broke down the scale of the buildings and created a lot of flexibility about how they can be used," says Farneth.

### Comfortable on Site

"The idea was to merge the buildings with the landscape and the gardens, and to create buildings that are classical in proportion, form and material, but that still read as contemporary," he continues. "We wanted them [the buildings] to feel comfortable on the site, but not take a predominant role."

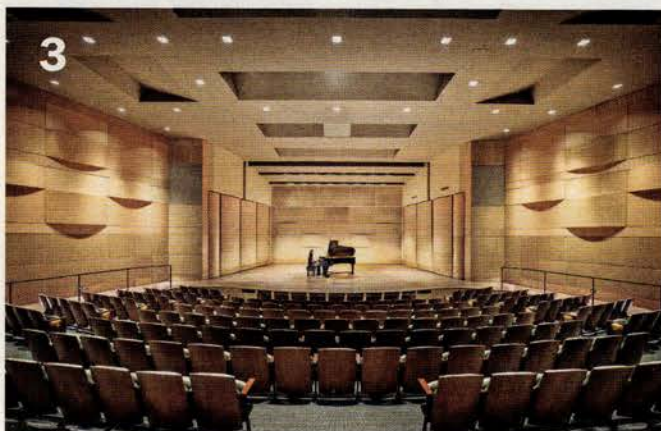
Farneth worked closely with landscape architect Cheryl Barton on the project. "Our initial thinking when competing for the project was that it should be buildings within a garden, rather than a garden with buildings," says Barton.

While the buildings and garden framework – the allée, courts, hedge 'rooms' and walks – are classical in style, the garden plantings are not. "It is a wild, painterly California Garden," she explains. "Hedges and trees provide a structure, but the smaller plant materials are much more informal. The garden is a playful 'plein-air' tapestry within a tree-lined, geometric hardscape."

She notes that the horticulture is intended to be adaptive to future climate conditions. Plantings are a 'polyculture' of species from Mediterranean environments around the world – South Africa, Chile, Italy and Spain, as well as California – that will adapt to the warming environment of southern California. Other sustainable strategies included the installation of mature specimen trees to provide immediate shade, selection of paving materials that reduce glare and heat reflection, and the minimal use of water in two recirculating water features.

The result is a series of nine buildings connected by outdoor areas. The buildings are: ticketing,





**1:** A view of the Entry Grove and fountain from the Central Garden.

**2:** The indoor/outdoor café offers seating for 300 and views of the gardens.

**3:** The lecture hall provides seating for 400 people.

**4:** Barton describes the new plantings as a “wild, painterly California garden.” Photo: Millicent Harvey



and Visitor Center, or move directly into the various gardens in the 200-acre Huntington estate. For example, after ticketing, the visitor can head west toward the Stroll Garden and other gardens on the property, such as the Chinese and the Children's gardens. Or, walking straight through the Central Garden leads to a historic pathway that goes toward the main library and mansion or to the Desert or Palm gardens. Visitors can come into the Education and Visitor Center for a lecture or for an event without going to the other areas of the estate.

“The whole project is about how to control movement. You can go to the visitor area for a lecture or to have lunch without buying a ticket to the Huntington areas,” Farneth explains. “From the moment you arrive, you always know where you are and you have a point of reference.”

He adds that in addition to being easy to navigate and being compatible to the existing historic structures, the combination of indoor and outdoor spaces in the new Education and Visitor Center contributes to energy efficiency. “Almost half the collection is underground, which makes it easier to manage the conditions. And the use of outdoor spaces for gathering and circulation greatly reduced the volume that was enclosed, so you have lower energy and construction costs. It was a win/win situation, and you can get from one space to another without getting rained on.”

The two-year, \$48-million project was completed in 2015 and has been very well received. “We were looking to build new indoor/outdoor space that would do several things — properly greet and orient our visitors and members; accommodate our growing program of lectures and educational activities; and harmonize with the existing structures that inhabit this estate property,” says Susan Turner-Lowe, vice president for Communications and Marketing for The Huntington. “And what we got is so much more than the sum of its parts — it’s an astoundingly successful addition that both looks gorgeous and functions beautifully. The project was a triumph on all fronts, and our constituents — from visitors to members to volunteers, staff, scholars, and students — have been swooning over it ever since it opened last year.”

— Martha McDonald

coffee shop, a 5,000-sq.-ft. gift shop, a 400-seat auditorium, classrooms, a 5,000-sq.-ft. multi-purpose building, a boardroom with courtyard, a dining/kitchen building with a terrace with outdoor/indoor seating for 300, and below-grade construction for storage for the library and art collections. (See site plan, page 22.)

Loggia, courtyards and gardens connect the buildings and create options for visitors to walk to different areas. These include the Entry Grove, a Central Garden, the Garden Court covered with a 36-ft. high dome, the South Garden, as well as the Dining Terrace, the Boardroom courtyard, the Education Court, and a patio off the auditorium. “The

buildings go inside and outside; they are integrated with the landscape design,” says Farneth. “The landscape views,” Barton adds, “are designed to frame the architectural and natural elements of the site’s context, including the original Huntington residence and San Gabriel Mountains.”

The Education and Visitor Center is essentially divided into three areas. The first is the Entry Grove with the ticketing building, the retail store and the visitor orientation. A central allée of olive trees leads the visitor to the Central Garden area with the domed Garden Court, the classroom building and the auditorium. The third section includes the boardroom (with courtyard) and the food

service area with a surrounding terrace providing a view out over the Desert and Palm gardens and Henry Huntington’s mansion.

Under the education court is a full basement that houses additional storage for the library collections. A loading dock and elevator leading to this basement are located behind the kitchen.

### Facilitating Movement

Farneth explains that on arrival, visitors walk from the reconfigured parking lot to the shaded Entry Grove for ticketing and information. From there, they can walk down the Central Garden to different areas within the Education



## Special Award for Craftsmanship HISTORIC DOORS, LLC, KEMPTON, PA



**PROJECT:** Chara Aurora Cooper Haas Pipe Organ Façade, Bryn Athyn Cathedral, Bryn Athyn, PA

**PATRON:** Fred Haas through a gift from the Wyncote Foundation in memory of his mother, Chara Aurora Cooper Haas.

**DESIGNERS:** Steve Hendricks, Wendy Wyncoll, Historic Doors, LLC

**CRAFTSMEN:** Jesse Dunkelberger, Justin Hendricks, Michael Hamm, Mark Hendricks, Historic Doors, LLC

**INSTALLING CONTRACTOR:** Gurney Kerr Contractors, Huntingdon Valley, PA

# Worshipful Woodwork

**A**mong many devoted woodworkers, there's an unsung credo that a project should be worth cutting down of a tree. Indeed, that might go double for historic buildings on the order of Bryn Athyn Cathedral, but no doubt Historic Doors LLC of Kempton, PA, has kept the faith by designing and fabricating a set of white oak, organ-pipe screens in traditional Gothic tracery patterns, prompting a special Palladio Award for Craftsmanship.

Says Steve Hendricks, owner of Historic Doors, "It was very humbling to receive the commission for new woodwork in such a well-loved building." The charge was to create and install facades that fill two

existing, adjacent, 25-ft. tall, pointed arches in the transept off the main body of the cathedral, as well as two secondary arches in the side aisles. "Our goal was to provide woodwork that would harmonize with the architecture of the cathedral, as well as the musical instrument to be installed behind it, and to draw upon as much precedent as possible so that the end result looks like it has always been there."

No mean feat seeing as Bryn Athyn Cathedral in Bryn Athyn, PA, is not your garden-variety, neo-Gothic church. Constructed 1913-19 from an initial design by the legendary Ralph Adams Cram, with funds and property donated by Pittsburgh Plate Glass Company founder John

Pitcairn, Jr., the building is the episcopal seat of The General Church of the New Jerusalem, based on the writings of Emanuel Swedenborg.

More importantly, its architecture is derived from a unique process that eschews conventional plans in lieu of a medieval design/construction collaborative of artisans and workers working from meticulous scale models. Wrote Cram in 1918, "Every new suggestion ... was put in force, or further developed, until at last, by the time the walls had begun to rise above the ground, the system had reached a point of development never achieved at any place since the close of the Middle Ages."

Despite the collaborative, open-minded heritage of the building



A before view of the twin main arches shows the decommissioned freestanding organ pipes and how the new woodwork will have to integrate with the clustered stone piers. All photos: Len Levasseur



The completed main arch facades. As seen by the congregation, the white oak woodwork harmonizes with the Gothic cathedral architecture without upstaging stonework or obscuring the new pipe organ.





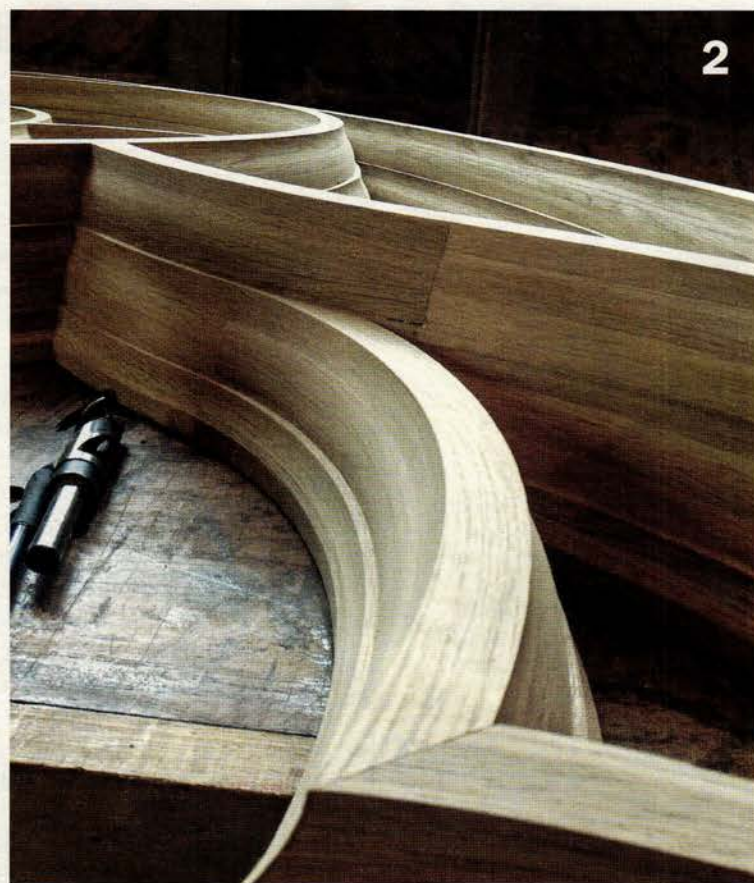
**1:** The main arch tracery underway in the shop. Note the scale of the woodworking compared to the craftsmen, and how the circular rose will be supported by the lancet arches to come.

**2:** A detail of the main arch illustrates the complexity of coping and joining many curved molding patterns to build up the tracery.

**3:** The base tracery, shown here in the shop, is a motif of intersecting semicircles that becomes a screen for the electronic organ speakers.

**4:** As seen in the shop, the side arch tracery is a reduced, half-version of the main arch designed to fit within buttresses on a side aisle.

**5:** One of the three components that form the main arch, the upper tracery section stands ready to ship to the cathedral.



itself, the idea of adding organ screens was controversial. Back in the 1970s the church had attempted to install a pipe organ that, like many such instruments, featured big, cantilevered turrets projecting out into the sanctuary. "Those organ pipes would have been right in the sightlines of the altar and nearby windows," says Hendricks, "and the congregation was so upset that the project never went forward." Even 40 years later, a new attempt at an organ resurrected the old, hard feelings, so much so that the Cathedral Director cautioned, "This is a very sensitive project that has been tried and then squashed."

Fortunately, this was not Historic Doors' introduction to the cathedral. "We already had done some prominent and successful woodwork

that harmonized with the building," says Wendy Wyncoll, Historic Doors designer, "so we think that's why the patron and the church awarded us this project and were open to our proposal for a design."

Indeed, design was the crux of the matter. Though the new organ (an instrument melded from two historic, decommissioned Skinner organs) would have over 3,000 pipes, they would be mostly invisible. "Our job was to frame what are known as façade pipes – that is, just the 24 or so show pipes in the arches that indicate there's an organ there," says Hendricks. So while the call was to not have the organ pipes overpower the sanctuary, by the same token the new woodwork could not dominate either. "As we got to researching

what pipe organs look like around the world, it seemed the majority of designs and casings are pretty elaborate," says Wyncoll.

The challenge then was to make sure that the character of any new intervention maintained the building's architectural integrity and purpose using materials and joinery methods that add to its craft tradition. "We wanted a traditional-looking composition that would have a top, a middle, and a bottom," says Hendricks, "so in our design we suggested a capital, shaft, and base." This tripartite design also has a practical side. "Behind that base are speakers for an electric organ, so we had to leave room for those speakers to sound through, as well as the pipes."

Other windows in the cathe-

dral have three lancet arches, but Hendricks and Wyncoll felt two would be better for obtaining a framed pipe space. These lancet arches carry a rose (a circle with Gothic decoration) but that raised a mechanical issue. "In stonework, you often seen lancet arches carrying a rose, which produces a hollow space where they come together," says Hendricks. "We wanted a more elegant solution in wood, so we used a precedent from the choir (choir area) arches at Canterbury Cathedral in England."

Despite the fractious history of the new organ screen project, selecting a design went blessedly smoothly. "We had one major presentation to the Cathedral Director and the donor, making our case visually with



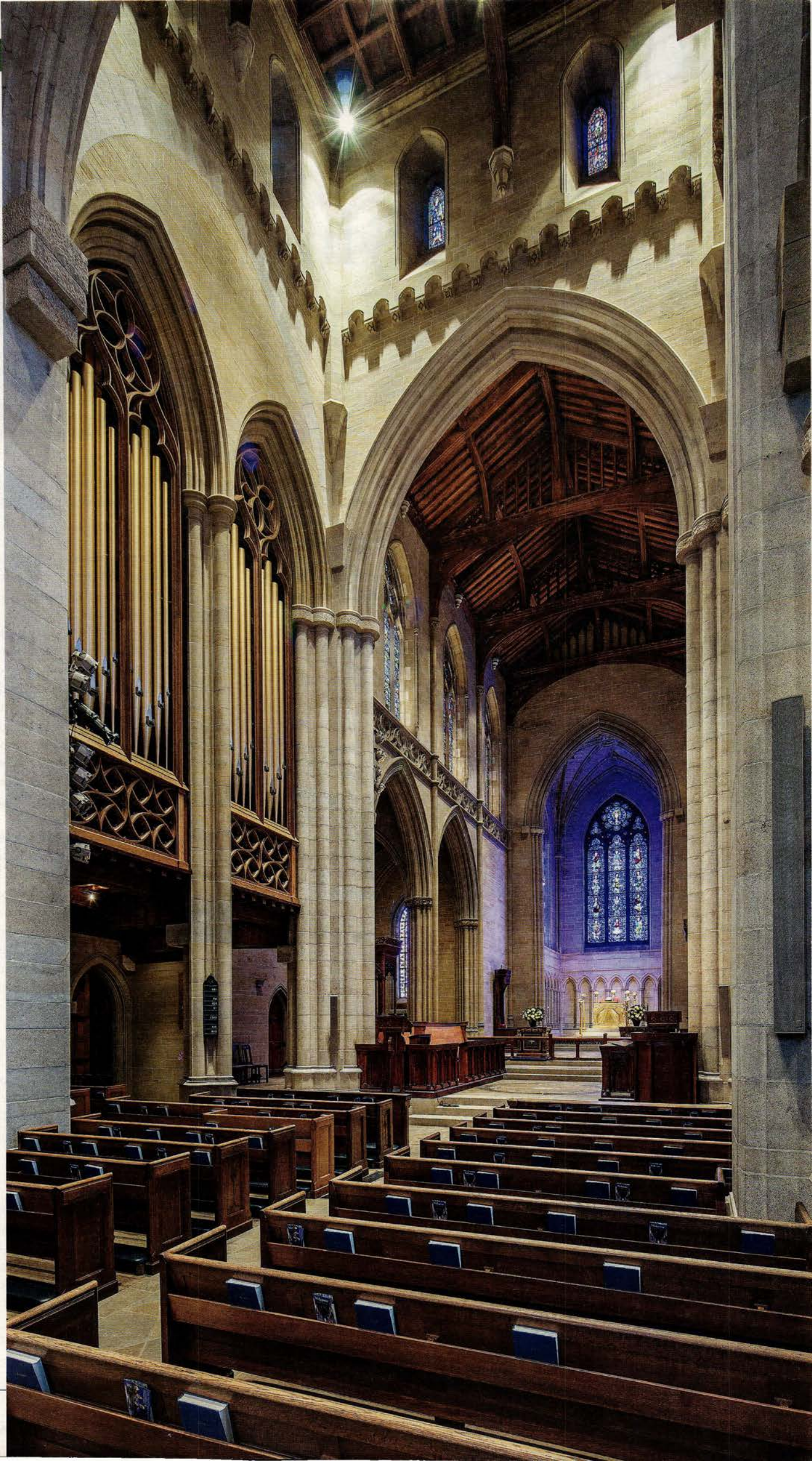


examples from within the cathedral and other Gothic architecture,” says Hendricks. This included arguments for a base, body, and head, and that the arches should be filled with tracery. “We then presented the committee with three or four different tracery designs, hoping they would pick the one we liked, which they did.”

As mentioned, the largest arches are 26 feet tall by 8 feet wide, and the entire commission took about 14,000 feet of white oak to fabricate. To illustrate the massive scale, Hendricks points out that a section of the woodwork at the top is cut from 5-in.-square stock – almost like timber framing. “The nature of this tracery is that it’s all curves – nothing straight,” he says. “So we actually had to make tooling that allowed us to cut patterns and copes, both left-handed and right-handed.”

The work began with building a lot of careful templates on-site, then transferring that information to full-size drawings for fabrication. Each screen is assembled from three components: the tracery in the top, the tracery in the bottom, and the vertical pieces that connect them. “We have incredibly talented people in our shop,” he says, “and two of them spent six months, full-time building the screen – not including finishing and installation (which involved another contractor).” Adds Hendricks, “As much as we love working with classical buildings, it was amazing to have such a monumental project in the Gothic tradition. No doubt, Ralph Adams Cram would more than agree.

— Gordon Bock





# Guidelines for Specifying Architectural Ironwork

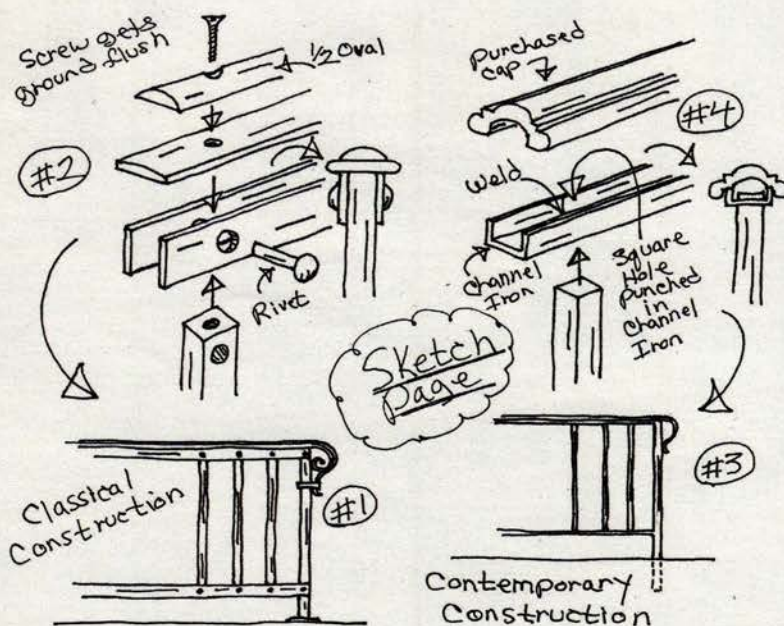
I have been an Architectural Blacksmith for 35 years. Gates and railings. A person would think after spending 35 years working in what looks like a relatively simple profession, they would have all the answers. Well, neither is architectural blacksmithing as simple as it looks, nor do I have all the answers.

I have however, seen a number of wrought-iron jobs come up short of what they could have been. When looking at these jobs, it is apparent that if one or more of 6 considerations would have been addressed, this ironwork would not have the problems it has now. The 6 considerations are: (1) Construction methods, (2) Rust considerations, (3) Material choices, (4) Finish options, (5) Installation, and (6) Samples. Let's go through these topics.

## Construction Methods

Historic ironwork was often constructed as per sketches #1 and #2. Contemporary ironwork streamlines the construction process for the masses, as in sketches #3 and #4. The advantages of contemporary construction are production speed and watershed. The advantages of classical construction are many, one of which is the detailing rivet construction gives the ironwork.

If you look at sketches #1 and #2 and think about water and rust, you can see that with five pieces overlapping each other there are definitely areas for water to seep into and create rust problems. If you look at historic ironwork, the rust problems are generally in the areas of overlapping metal. How can we engineer rust out of a product? Three



Sketches #1 and #2 show classical construction, contemporary ironwork is shown in sketches #3 and #4. All sketches and photos: Robert Walsh



The Minnesota Governor's residence was designed by architect William Channing Whitney and built 1910-1912 for Horace Hills Irvine, a lumberman and lawyer in St. Paul, MN. The original home had two interior window openings filled with ironwork. At some point, the metalwork disappeared. The new forged steel gates were replicated by Robert Walsh and his colleague Tom Latane, based on a 1920s photo taken in the residence.

ways to combat or eliminate rust are caulk, galvanizing or constructing with a rust-proof material (aluminum).

## Caulk

Let's think about caulk and your product in the design stage. First, how much caulking will need to be done? If you have a simple short railing, maybe caulking the joints will be the way to go. Or if you have a large project with only a few joints that will be rust prone, then caulk them. Or can you design your project so the parts in question can be removed to somehow facilitate better paint coverage? These decisions are weighed against galvanizing or constructing with aluminum.

Here are some thoughts on caulking. A person can use paint-able caulks, but paint-able caulks are not silicone. Silicone caulks have produced better results than the non-silicone products I have tried. If you use clear silicone in your joints, it will be invisible, initially. However, after a couple years, the wind carrying dust will abrade the clear silicone and it will become milky and quite noticeable. Whether using clear or a colored silicone, to minimizing the caulks appearance, apply it as follows.

After painting your metalwork, mask off the sides of the joints to be caulked, using painters tape. Keep the painters tape close to the joints so your caulking areas are minimized. Then apply your caulk and because the silicone sets up quickly, immediately after applying the silicone, wipe the joints with your finger or a tool to give the silicone a nice concave contour. Then also quickly, remove the painters tape. At this point, run your finger (or a tool) across the joints again to smooth out the rough edges where the caulk met the tape. With this approach you will get the great qualities of silicone while minimizing the caulk lines.

## Duplex Systems

Painting over a galvanized surface creates what is called a Duplex system. With this duplex system, the lifespan of the zinc does not start to diminish until the paint allows oxidation. Meaning, if the zinc has a 60-year life when exposed to the atmosphere (and hopefully more, depending on the air quality) the 60-year life span does not start as long as the galvanized surface remains sealed off from the elements. This is great.

## Hot Dip Galvanizing

Galvanizing provides great rust protection. However, even though the metal has been completely submerged into molten zinc, the process is generally not 100% perfect. The process may not be 100% perfect for two reasons. First, when galvanizing, the entrapment of pickling acid in joints and seams becomes a concern. With a good flushing (which is a standard procedure) the entrapment of acid is minimized if your joints and seams allow good drainage.

The second problem is the lack of complete coverage. Zinc cannot



flow into tight joints. In a nutshell, when galvanizing ornamental ironwork you get an extremely high volume of coverage, but it is often not complete coverage. On the upside, the seams of tight joints are often sealed up by the zinc, and if not, then often by the primer and paint.

### Preparing Galvanized Steel for Paint

A mistake I have seen too many times goes like this. A zinc surface is often sweep blasted by a sandblaster just prior to painting. This blasting removes oxides and gives the slick galvanized surface texture (tooth) for paint adhesion.

There is a hardness scale called the Mohs Hardness Scale. This scale goes from 1 to 10. When this scale is used for blasting mediums, talc is given a rating of one and diamond a rating of 10. When sweep blasting a freshly galvanized surface prior to painting, the American Galvanizers Association specifies blasting the surface with a medium that has a mohs hardness rating of 5 or less. The concern, is blasting (removing) the zinc off the steel.

The sandblasting shops in my area blast with crushed coal slag in various grit sizes. Previously sandblasters used silica sand. Silica sand for blasting has been discontinued because of silicosis. The mohs hardness value for silica sand is 5-6 and for coal slag the mohs value is 7.

Here comes the problem. When taking a freshly galvanized product to a blaster, what you might be told when you ask for a blasting medium of 5 or less on the mohs scale, is that "the blaster will simply turn down the air pressure in his gun. This will achieve the same results as a blasting medium with a lesser mohs rating."

Turning down the air pressure in a gun works if you are careful with silica sand, but coal slag is just too aggressive. What needs to be done, is your sandblaster needs to order a blasting medium from his supplier with a mohs hardness rating of 5 or less. Typically this will be walnut shells with a mohs hardness of 3-3.5 or corn cobs with a value of 4.5.

### Painting a Galvanized Surface

There are a number of very successful ways to paint a galvanized surface. And, there are some predictable choices that will set you up for failure. Educate yourself.

The American Galvanizers Association spells out for you, exactly what works and what sets you up for failure. You can find this information in their website. Google the American Galvanizers Association. Once in their site follow these steps:

- Opening page, upper right, "Education & Resources"
- Education & Resources page, left side "Publications"
- Publications page, left column, scroll down to "Painting over HDG"
- Painting over HDG page, center right, 2nd listing going down, "Duplex Systems: Painting Over Hot Dip Galvanized Steel"

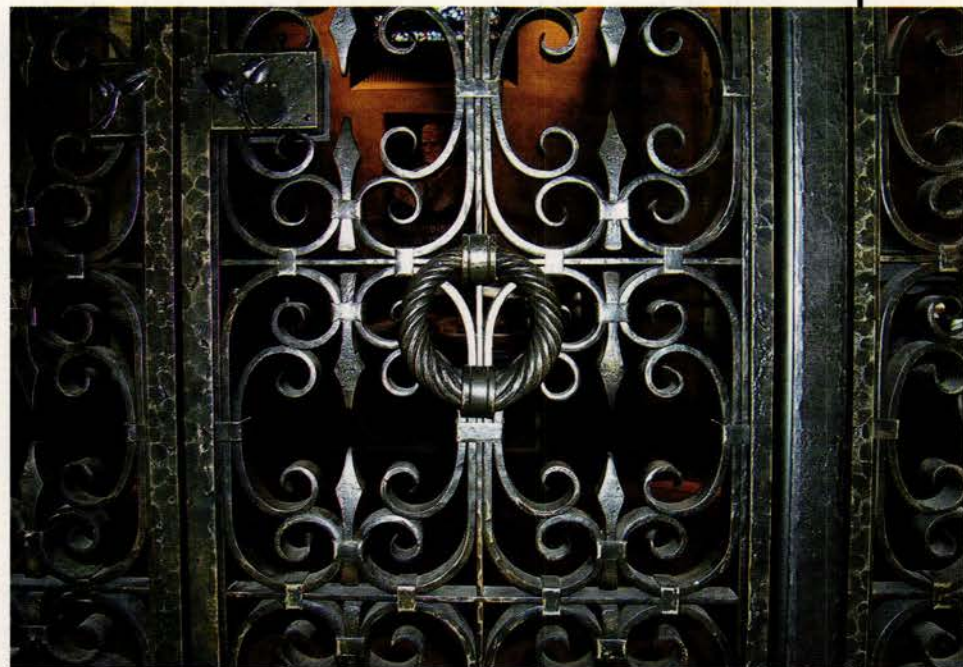
Click on the page title "Duplex Systems: Painting Over Hot Dip Galvanized Steel" to open up a PDF. You will be asked for your email and postal mailing address. I find this invasive, but I did it. The American Galvanizers Association invites you to download this PDF, or you can purchase it. The primers and paints in the PDF are found on pages 9 and 10.

Note. When looking at page 9, the Epoxy-Polyamide is "Cured." The curing time between paints varies considerably. Sherwin Williams Tile Clad 2 High Solids requires 21 days to cure. Sherwin Williams Macropoxy 646 requires 7 days to cure. Diamond Vogel has an epoxy that dries in a day, but is not on the MnDot approved list. My applicator assured me the Diamond Vogel paint would perform well on a large railing job. Based on the applicators recommendation, I agreed to go with the Diamond Vogel product. That was in 2006 and the fence looks great today (2016). We'll see??

And another note, if you back track and scroll down further on the Publications Page, you will find surface preparation information. This information is also offered free for downloading, or it can be purchased.

### Painting Steel That Has Not Been Galvanized

What is the function of an applied finish on metal? The function is providing barrier protection. A protective barrier between the metal and moisture. And this moisture barrier needs to be UV resistant. To meet these requirements, I suggest taking advantage of the tax money you have spent to live in your state. Meaning, what have the state engineers researched and designated for barrier protection on the metalwork



LEFT & ABOVE: Designed by architect Emmanuel Masqueray, the Saint Paul Cathedral was built 1904-05. It originally had two interior portals, each filled with matching ironwork. At some point, the ironwork in one of the portals disappeared. Miller Dunwiddie Architects, Minneapolis, MN, led the restoration of the cathedral and the project was featured on the cover of *Traditional Building Magazine* (Jan/Feb 2002). As a part of this restoration, the missing metalwork was replicated to match the existing portal. This hand-forged steel metalwork was fabricated by Robert Walsh, working with master blacksmiths Nathan Robertson and Keith Johnson, Kristen Skiles and master painter Roger Loyson.



along your highways, street lights etc. Applied barrier protection is not going to get any better than this.

Typically the information your state will provide you with is: Two part epoxy primers – for adhesion; high-build mid-coats – adding mil thickness for longevity; UV resistant top coatings – to seal everything up and protect it.

What your state will provide you with will not be one specific brand of products. Instead, you will find a number of approved product brands. In this chart will be primers, mid-coats and top-coat systems within each brand. To see what the State of Minnesota specifications are, google, Minnesota Department of Transportation Paint Specifications.

- Once on the MnDot page, “Approved/Qualified Products.”
- Once on the approved/qualified products page, “Paint/Stain/Coating Systems (non-pavement).”
- Once on paint/stain/coating systems (non-pavement) page, “Bridge Structural Steel Coatings.”

MnDot specified (high solids) paints are thick, so I often delete the high-build mid coat for general purpose exterior railings. Do what is appropriate for a given project.

## Aluminum Construction

The world is changing. I was once at a conference, listening to a blacksmith talk while forging aluminum. The blacksmith posed this question to the audience: “If the blacksmiths in the 18th century would have had a rust-proof metal (aluminum) available to create the exterior masterworks in Europe, do you think they would have used it?” Keep in mind, all aluminum looks the same but the strength between alloys varies considerably. Alloy 1100 is extremely soft and a completely different metal than forged alloy 5052 or 6061-T6 when formed cold.

Recently, I was talking with a conservator in Europe who was restoring a famous work in forged iron. Regretfully, this master-work had been restored so many times that it was questionable whether or not there were any original parts left in the composition. And another regret, all the previous restorations were not done well.

Would aluminum have been used if available in the 18th century? Maybe. What you want to consider while on the drawing board, is how much overlapping of the elements will there be? Going back to sketches #1 and #2, the use of aluminum is a logical choice for a product like this.

Next, consider the design (artwork) within a gate or railing. If the artwork has a lot of stringy elements, can they be discretely connected to each other for strength? Will connecting these elements adversely affect the overall design concept? If so, steel is stronger than aluminum so steel might be your better bet.

While on the topic of strength, what works well is bumping up the thickness of your elements when constructing with aluminum. If repousse acanthus leaves are bumped up from 1/8-in. thick to 3/16-in. or a quarter-inch thick, they keep looking better and better. Everybody wins with this approach.

Another consideration is the feel of aluminum. It's ok to mix metals. Meaning, a fence in front of a home can be made with aluminum and a pedestrian gate in the fence made with steel. Steel will give the gate a predictable feel/weight when being opened or closed. Aluminum is one third the weight of steel. When mixing steel with aluminum, remember to separate the metals to avoid corrosion problems caused by galvanic action.

## Painting Aluminum

For aluminum paint specifications, go to the Minnesota Department of

Transportation site again. This time in the last step of the search, instead of opening up the Bridge and Structural Steel Coatings page, open up the “Traffic Signal” page.

Blasting steel or aluminum just prior to painting is always a good practice. Blast with a fine or medium grit to avoid excessive tooth on the surface of your metal. Coal slag works well for this.

## Installation

When installing ironwork, I do not recommend drilling big holes and permanently grouting railings in place. This process is fast but I prefer bolting railings in place. Drill your stud holes deep and blow the holes out with compressed air. While blowing in the holes, scrub the walls of the holes up and down with a stiff barrel brush. This process will give you good anchoring locations. In these clean and deep holes, install clean studs with an industrial grade two-part epoxy.

If you make a test piece in a brick in your shop, and install a stud correctly, the brick will break when trying to pull the stud out. If you epoxy a stud into a shallow dirty hole, you're wasting your time. And on another but related subject, single-part glues titled “epoxy” in the hardware store are not what you want. Purchase an industrial grade two-part epoxy with an expiration date.

Bevel the edges of your base plates and size them correctly so they look nice. A drop of Loctite in a painted acorn nut that is just snugged up works well. There is no need to tighten beyond snug when using Loctite.

You want your ironwork bolted (not cast) in place for a number of reasons. First, when your client calls you in 20 or so years and wants advice on how to refinish the railing you designed, with bolts, the railing can be in a truck and on its way to a sandblaster in half an hour. What drove this sequence home to me, was once after installing a large and very heavy fence project in cement, I received a call from the homeowner six months later, informing me that the powder coating was peeling off his new fence. If this fence had been bolted in place, I would have had only one problem – the paint. That same year, another client's daughter drove her car into a fence we cast in concrete. Unless pressured, never again will I cast ironwork in place.

## Samples

Here is a really old story that I hope does not come across as whining on my part. It's just all too often the way it is. When bidding a job, there are generally other shops bidding as well. Metalwork can vary dramatically in quality. I always push the perspective client to receive samples from all bidders. And all too often, I provide a sample and my competitors provide a better sales pitch and a better price, without samples. You know where this story is going. I do, because on occasion I have seen the finished and installed products while listening to the consumer complain. There is no free lunch.

As a consumer, always request small samples from all vendors while in your initial conversations. Then as the price is being negotiated, include a foot-long (full-scale) sample section of the railing, for example. Have this large sample supplied with the applied finish (paint) so you know exactly what you will be receiving.

What works well on both ends, is having the iron shop make two samples. The shop keeps one sample and you retain the other until the work has been installed. This assures you of exactly what you will be receiving and the shop can refer to their sample while building your project.

A perspective client once told me that she wanted to work with people who were members of the “no surprises club.” I think we all feel this way. A vendor is no more interested in reworking your ironwork than you are in not receiving what you had envisioned.

Good luck. The joy is in the journey.

Robert Walsh is the founder of the R. Walsh Gate & Railing Company, a cottage industry of blacksmith shops, located mostly in the Upper Midwest. Walsh and his colleagues have been hand forging fine architectural metalwork for 25 years. More information on Walsh can be found at [www.walshornamentaliron.com](http://www.walshornamentaliron.com) and [www.rwalshgatesandrailings.com](http://www.rwalshgatesandrailings.com)

Concept sketch for a fine private residence







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#### Speaker:

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Inc., Cincinnati, OH



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Chick McBrien, CSI/CDT, Senior  
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Ceiling tile from **Above View** was used for this classically styled ceiling at the Academy of Classical Design, Southern Pines, NC.

## Above View Inc.

414-744-7118; Fax: 414-744-7119  
www.aboveview.com  
Milwaukee, WI 53221

Supplier of ornamental plaster ceiling tile made in US: Each 2x2-ft. tile drops into standard 15/16-in. T-bar grid; tile is non-toxic, non-combustible & biodegradable; more than 70 standard designs; custom capabilities; established in 1984.

Click on no. 1537



This Old English ceiling was created using hand-cast plaster panels from **Decorators Supply**.

## Decorators Supply Corp.

800-792-2093; Fax: 773-847-6357  
www.decoratorssupply.com  
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Manufacturer of classic architectural elements: 13,000 appliques for woodwork, furniture & walls; plaster crowns, ceiling medallions, ceilings, niches & swags; 900 sizes of column capitals, plaster capitals, corbels & columns; 15 styles of traditional wood mantels; Classically inspired grilles; since 1883.

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Colonial era moulding piece with scroll or wave pattern over reed is one of many patterns available from **Driwood**.

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888-245-9663; Fax: 843-669-4874  
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Florence, SC 29503

Supplier of molding: Stock & custom moldings for residential & commercial projects; embossed moldings, custom millwork, mantels, entrances, cabinet & panel work, custom doors.

Click on no. 2077



Faux marble is one of the many finishes that can be created by the artisans at **EverGreene Architectural Arts**.

## EverGreene Architectural Arts

212-244-2800; Fax: 212-244-6204  
www.evergreene.com

New York, NY 10001

Decorative-arts studio: murals, decorative painting, gilding, plaster, wood, metal, stone & mosaics; new design, conservation & restoration; ecclesiastical, institutional, public & commercial projects; offices in NYC & Chicago.

Click on no. 2460 for decorative painting; 743 for ecclesiastical specialties; 2678 for plasterwork



A craftsman at **Felber Ornamental** is shown here completing a custom "guilloche" model.

## Felber Ornamental Plastering Corp.

800-392-6896; Fax: 610-275-6636  
www.felber.net

Parkesburg, PA 19365

Creators and manufacturers of interior and exterior molded ornament: capitals, cornices, friezes, niches, keystones, rosettes, coffers, domes & medallions; custom mantels; plaster, gypsum & GRG; GFRC, signage, plaques, sculptors, model makers & casters on staff; stock & custom.

Click on no. 2890



The Soane Caryatid statue from **Haddonstone** is based on a design created by the Coade and Sealy Co. in 1812.

## Haddonstone (USA), Ltd.

719-948-4554; Fax: 719-948-4285  
www.haddonstone.com

Pueblo, CO 81001

Manufacturer of classical & contemporary cast limestone: columns, balustrades, benches, planters, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; 500+ designs; custom designs.

Click on no. 4020



**John Canning Studios** conserved and restored this mural and the decorative finishes.

## John Canning Conservation & Painting Studios

203-272-9868; Fax: 203-272-9879  
www.JohnCanningCo.com

Cheshire, CT 06410

Restorer, conservator & designer of decorative finishes, ornamental plaster & wood: historic paint analysis; plaster consolidation & stabilization; decorative paint, murals, interior & exterior gilding, wood graining, metal & stone cleaning.

Click on no. 5100

## Robinson Iron Corp.

800-824-2157; Fax: 256-329-6600  
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Alexander City, AL 35010

Designer & installer of custom metalwork: fountains, columns, fences, doors, railings, sculpture, benches, grilles, cresting, street lighting & gazebos; wrought iron/steel, aluminum, bronze & cast iron; historical restoration.

Click on no. 3240



## Rohlfs Stained & Leaded Glass Studio

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www.rohlfsstudio.com

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Designer, fabricator & installer of new stained & leaded glass; restoration & replication; protective glazing; etched, carved & fused/slumped glass; steel casement retrofitting; mosaics; established in 1920.

Click on no. 6240 for stained glass; 1480 for window



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This leaded glass panel was restored by **Rohlfs** at a New York townhouse.

**Schiff Architectural Detail** built the World Food Grain Sculpture light sconce; it represents four of the world's most important food crops: wheat, rice, corn and soybeans.

This 8-ft. bronze sculpture by **Dino Crisanti** cast in bronze by **Wagner Foundry** and is used as a monument gate at a residence in a Chicago suburb.



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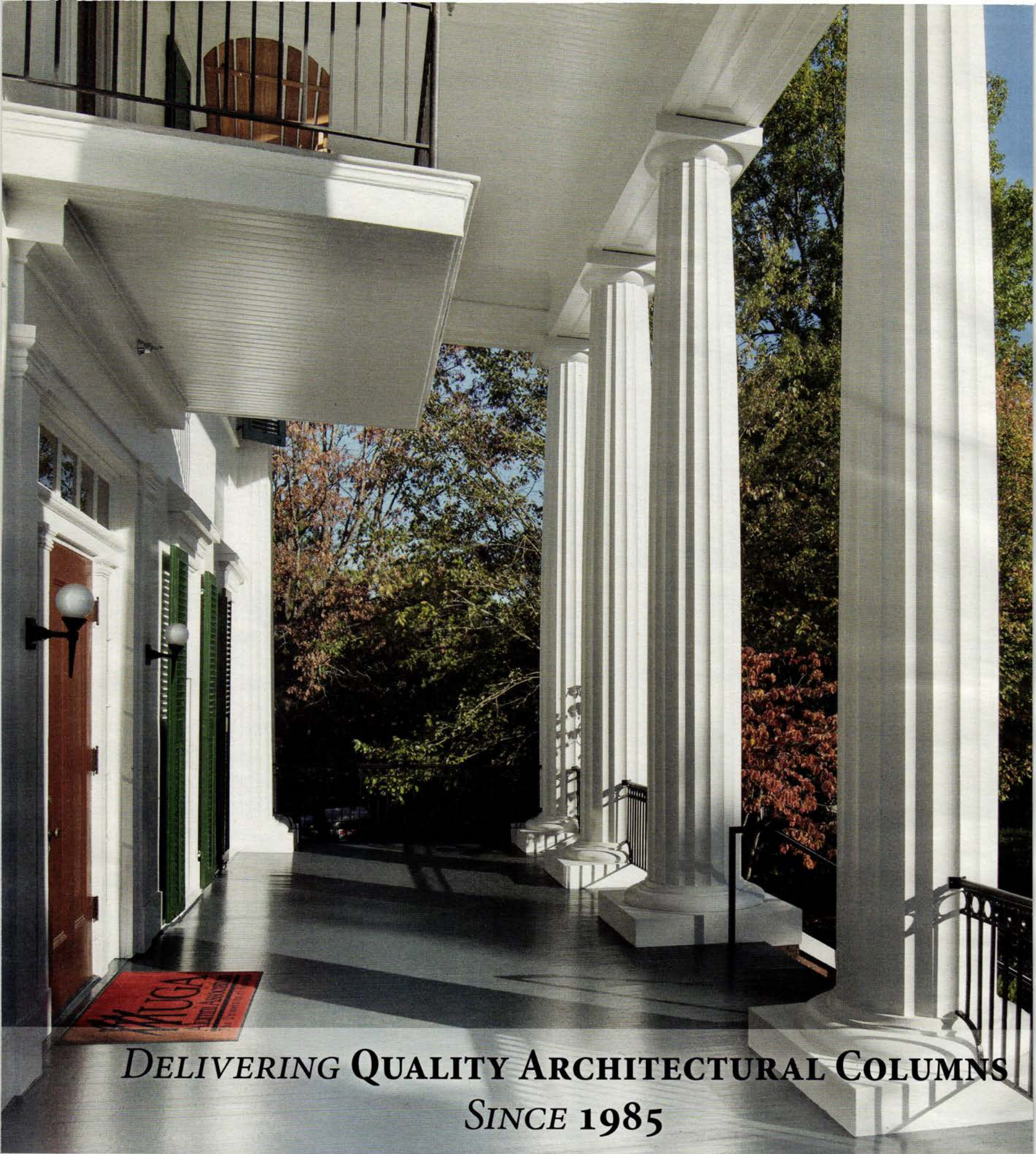
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This plaster capital from **Felber Ornamental Plastering Corp.** measures 6 1/2 in. tall x 6 3/8 in. wide and projects 5/8 in.

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Click on no. 2890



Columns from **Haddonstone** enhance this building's portico.

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**Worthington Millwork** makes wood columns for interior and exterior applications.

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Click on no. 1580 for PolyStone; 180 for wood



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**Allegheny Restoration** repaired and replaced the wood windows for this historic building.

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[www.alleghenyrestoration.com](http://www.alleghenyrestoration.com)

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Manufacturer of reproduction & custom wood doors & windows: window replication, restoration & repair; art glass; hardware replacement; storefronts & ecclesiastical projects; 15 years of experience; nationwide.

Click on no. 1004



**Allied Window** supplied the single-glaze storm windows for the Emery Center Apartments in Cincinnati, OH.

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[www.alliedwindow.com](http://www.alliedwindow.com)

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Manufacturer & installer of Invisible Storm Windows®: custom colors, shapes & glazing materials; aluminum; sound-reduction protection from UV & vandalism; interior & exterior; commercial & residential applications.

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**Architectural Components** restored the double-hung windows for the Customs House Maritime Museum in Newburyport, MA; the windows feature laminated single-pane glass and are counter-balanced with weights and pulleys.

## Architectural Components, Inc.

413-367-9441; Fax: 413-367-9461

[www.architecturalcomponentsinc.com](http://www.architecturalcomponentsinc.com)

Montague, MA 01351

Manufacturer of reproduction & custom wood windows & doors: true-divided lites with insulated glass; wood-framed storm sash & screens; renovation & restoration projects & new construction; paneled walls & storefronts; catalog \$5.

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The model 6114 pulley from **Architectural Resource Center** is designed for use in traditional windows.

## Architectural Resource Center

800-370-8808; Fax: 603-942-7465

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Northwood, NH 03261

Supplier of historically styled hardware: sash pulleys, lifts & locks, sash chain & rope; weather stripping; patented sash weights.

Click on no. 1670



This front door lock is one of many historic styles offered by **Ball & Ball Hardware**.

## Ball & Ball Hardware

610-363-7330; Fax: 610-363-7639

[www.ballandball.com](http://www.ballandball.com)

Exton, PA 19341

Custom manufacturer & supplier of ornamental metalwork & hardware: door, window, shutter, gate & furniture hardware; fireplace tools; wrought iron, steel, aluminum, bronze, brass, copper & cast iron; custom reproductions.



Interior storm windows from **Cityproof Windows** are designed to reduce noise infiltration.

## Cityproof Windows

718-786-1600; Fax: 718-786-2713

[www.cityproof.com](http://www.cityproof.com)

Long Island City, NY 11101

Manufacturer & installer of custom-made interior window systems: aluminum, storm/screen combo, arched & custom shapes; mechanical fastenings; acrylic, lexan, UV-resistant, standard, low-E, tempered, laminated & etched-glass glazing.

Click on no. 2390



This home package kit was custom designed and built by **Connor Homes**; it includes historically styled windows.

## Connor Homes

802-382-9082; Fax: 802-382-9084

[www.connorbuilding.com](http://www.connorbuilding.com)

Middlebury, VT 05753

Home builder: homes & more; follies, garden houses, pool houses, storage sheds; mantels, kitchen cabinets, barns, millwork, paneling, windows, stairs & stair parts.

Click on no. 2064



**Coppa Woodworking** custom manufacturers screen and storm doors.

## Coppa Woodworking

310-548-4142; Fax: 310-548-6740

[www.coppawoodworking.com](http://www.coppawoodworking.com)

San Pedro, CA 90731

Manufacturer of wood screen doors & storm doors: more than 300 styles; pine, Douglas fir, oak, mahogany, cedar, knotty alder & redwood; any size; many options; arch & roundtop, double, French doors, doggie doors, window screens & more.

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**Crittall Windows** offers traditionally styled windows and doors made with recycled and recyclable-steel content.

## Crittall Windows, Ltd.

011-44-1376530800; Fax: 011-44-1376530801

[www.crittall-windows.com](http://www.crittall-windows.com)

Witham, Essex CM8 3UN U.K.

Manufacturer of steel window & door system: single hung, casement, pivot, awning, project fixed lite & round top; historical restoration & vation; minimum maintenance; custom shape sizes; recycled/recyclable steel content.

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**E.R. Butler & Co.**'s extensive collection includes this French-style door hardware.

## E.R. Butler & Co.

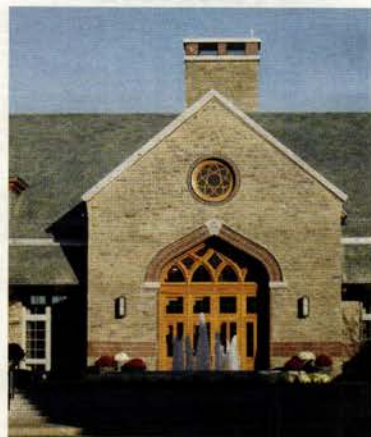
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**Historic Doors** created a new entry and rose window for the Brickman Center at Bryn Athyn College, Bryn Athyn, PA.

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Click on no. 1096



**Innerglass Window Systems** supplied the interior glass storm windows for this historic building.

**Innerglass Window Systems**

800-743-6207; Fax: 860-651-4789

[www.stormwindows.com](http://www.stormwindows.com)

Simsbury, CT 06070

Manufacturer of custom glass interior storm windows for energy conservation & soundproofing; outperforms almost any replacement; automatically conforms to the opening, compensating for out-of-square conditions; no sub-frame needed; all glazing options available; easy do-it-yourself installation.

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**J.S. Benson** built these bowed reproduction windows for a building in Boston's historic Back Bay neighborhood.

**J.S. Benson Woodworking & Design**

802-398-2003; No fax

[www.jsbenson.com](http://www.jsbenson.com)

Middlebury, VT 05753

Builder of custom windows, doors & architectural millwork: historical reproduction; in-house design team, 110,000-sq.-ft. factory with state-of-the-art CNC machines combined with old world craftsmanship; sustainable & reclaimed antique lumber available; can replicate any historic or style; since 1978.

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[www.customforgedhardware.com](http://www.customforgedhardware.com)

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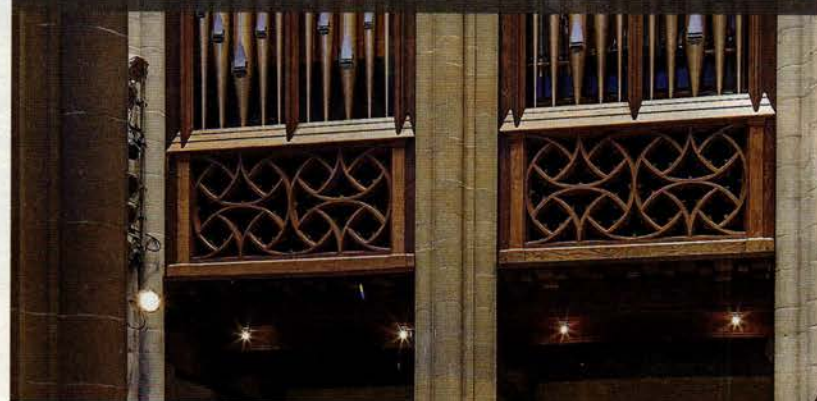
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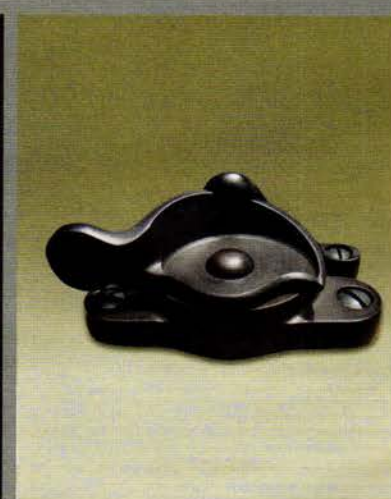
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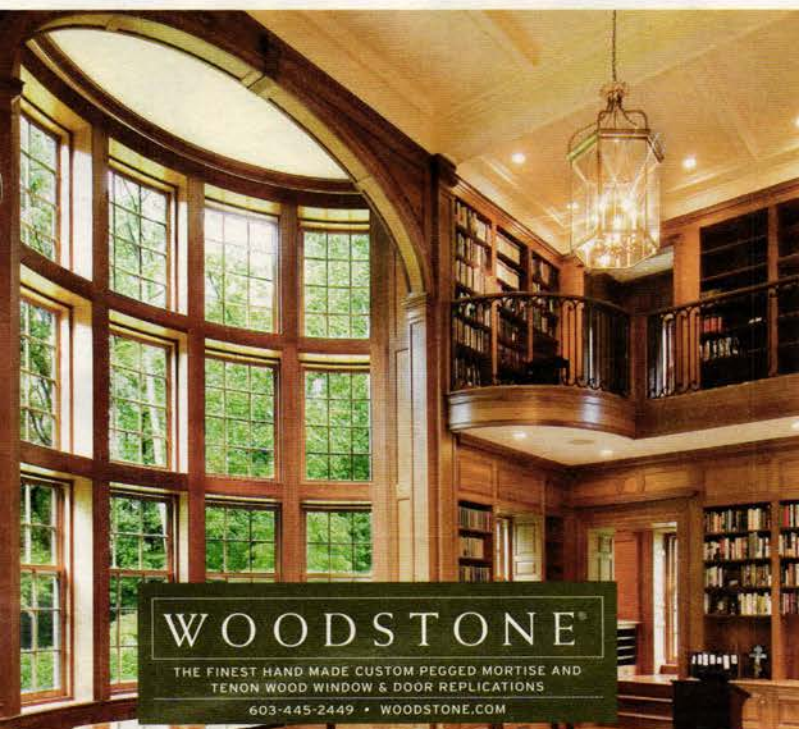


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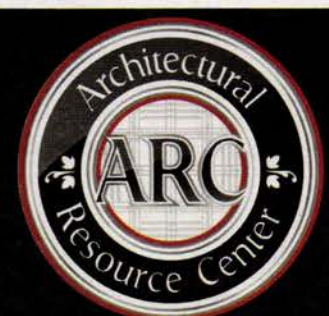


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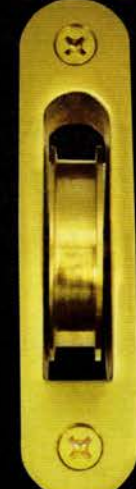
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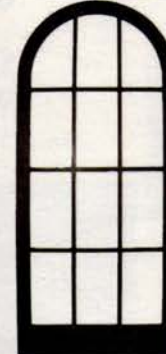


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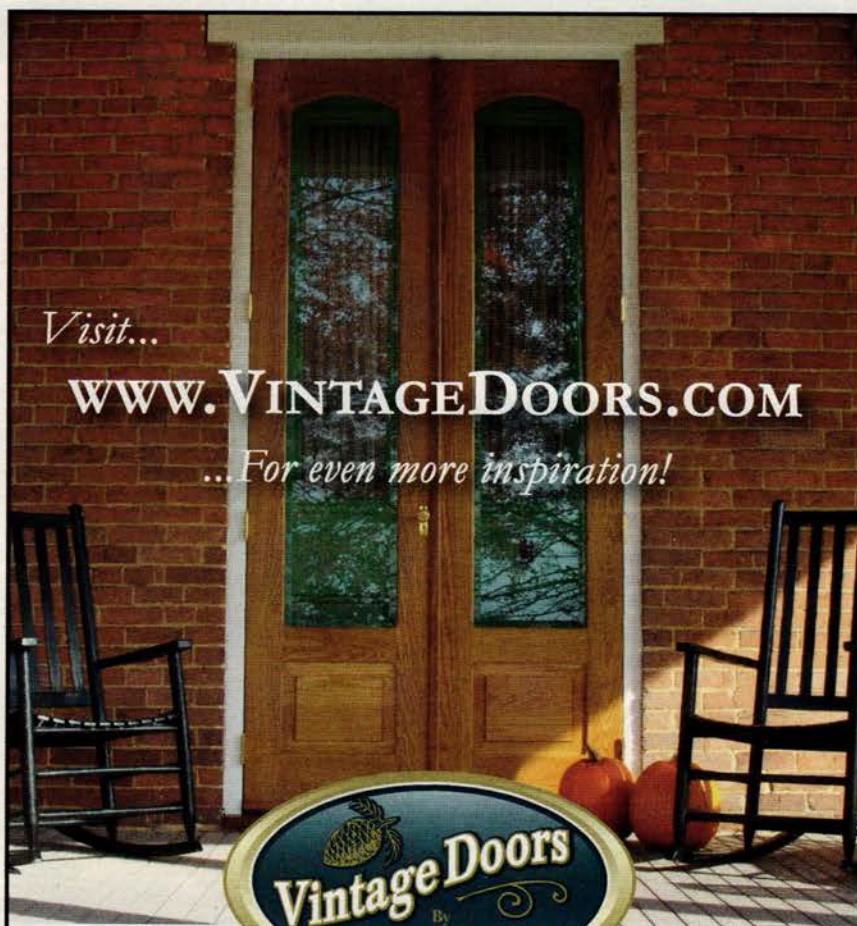
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This wood window in this room was fabricated  
by **Marvin Windows and Doors**.

### Marvin Windows and Doors

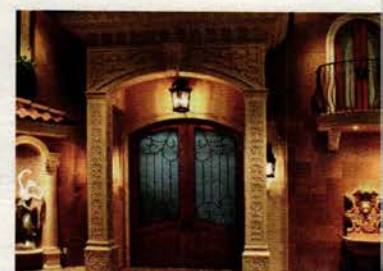
888-537-7828; Fax: 651-452-3074

www.marvin.com

Warroad, MN 56763

Manufacturer of wood windows & doors: clad & clad-wood; special shapes; custom sizes & more than 11,000 standard sizes; historical replicas; interior & exterior storm windows.

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The Kaukauna, WI, showroom for Carved Storm Windows & Doors features custom French entry doors fabricated by **Parrett**; they are made of South American mahogany using 2 1/4-in. thick panels and a custom wrought-iron grille.

### Parrett Windows & Doors

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www.parrettwindows.com

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Manufacturer of custom, quality wood & aluminum clad windows & doors: vast array of options, numerous wood species & complete finishing capabilities; historical replicas; screen doors, casings & moldings.

Click on no. 3003





This historically styled casement handle is one of many styles available from Phelps Company.

**Phelps Company**  
603-6213; Fax: 603-336-6085  
www.phelpscompany.com  
Le, NH 03451

Manufacturer of traditional hot-forged solid-brass hardware: sash pulleys, weights, chains, locks; stop-bead adjusters, spring bolts, ventilation locks, push-out casement hard-storm/screen-door latch sets & more.  
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Created new leaded glass and medallions as well as thermally broken windows and leaded glass, for 18 windows (3 bays of 6 windows) for the Pelham High School Alumni Center, Pelham, NY.

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www.stainedglassstudio.com  
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Designer, fabricator & installer of new stained glass; restoration & replication; decorative glazing; beveled, carved & fused/slumped glass casement retrofitting; established in 1920.  
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Shuttercraft, Inc. can match existing shutters in a variety of authentic shutter styles.

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Click on no. 1321



SRS Hardware offers solid brass sash locks in a variety of finishes.

**SRS Hardware**  
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www.srshardware.com  
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Manufacturer & distributor of traditional hardware: for wood windows; full line from weights to pulleys, lifts & locks.

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800-787-2001; Fax: 315-324-6531  
www.vintagedoors.com  
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Manufacturer of custom exterior & interior wood doors: door hardware, screen doors & storm doors; traditional, Craftsman & Victorian styles; solid wood & glass panels available.

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Solid-mahogany double "Old Fashion" screen/storm doors with satin nickel hardware are one of the specialties of Vintage Doors.



Weather Shield's windows are designed to reduce heating and cooling costs.

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Manufacturer of high-quality, efficient windows & doors: handcrafted for over 60 years; a passion for innovation; a wide range of products & styles for residential & commercial buildings.

Click on no. 2079

**Wiemann Metalcraft**  
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www.wmcraft.com  
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Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast- & wrought-metal alloys, finishes & architectural styles; since 1940.

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Wiemann Metalcraft fabricated these bronze Art Deco door panels.



Doors in panel and glass combinations from Woodstone can be surrounded with a custom-designed architectural trim package.

**Woodstone Company**  
800-682-8223; Fax: 603-445-0174  
www.woodstone.com  
North Walpole, NH 03609

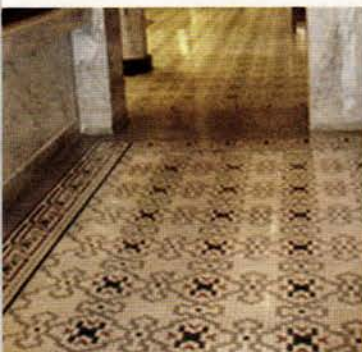
Custom fabricator, distributor & supplier of doors, windows & shutters: paneled doors & complete entryways; storm & screen doors; screen windows; most wood species; coped mortise-&tenon joinery; historical & landmark specifications.

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**Zepa Industries, Inc.**  
704-583-9220; Fax: 704-583-9674  
www.zepa.com  
Charlotte, NC 28273

Supplier of architectural woodwork: stairs, mantels, paneling, wine cellars, furniture, doors & more.

Click on no. 1996



American Restoration Tile manufactured this hexagonal, unglazed porcelain flooring tile.

**American Restoration Tile, Inc.**  
505-1000; Fax: 501-455-1004  
www.americanrestorationtile.com  
Fayetteville, AR 72703

Manufacturer of historical tile: for fireplaces, flooring, kitchens, baths & custom mosaics; restoration & new construction; custom matching glazed & unglazed tile.

www.traditionalbuilding.com



Resawn longleaf yellow heart pine from Sylvan Brandt comes in widths of 3 to 5 in. and lengths of 5 to 16 ft

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717-626-4520; Fax: 717-626-5867  
www.sylvanbrandt.com  
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**Motawi Tileworks**

734-213-0017; Fax: 734-213-2569  
www.motawi.com  
Ann Arbor, MI 48103

Supplier of tile: Arts & Crafts, Art Nouveau, medieval, Celtic & animal motifs; ceramic relief tile for fireplaces, kitchens, baths & floors; specializes in custom-designed fireplaces.

Click on no. 2080

**Subway Ceramics**

888-387-3280; No fax  
subwayceramics.com  
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Supplier of historically authentic ceramic tile: field tile, moldings & trim pieces; flooring; mosaics; Victorian style.

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**Chadsworth Columns**

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Manufacturer of authentically correct architectural columns: complete line of columns, piers, pilasters & posts for interior & exterior use; variety of sizes, styles & materials, including wood; more than 20 years.

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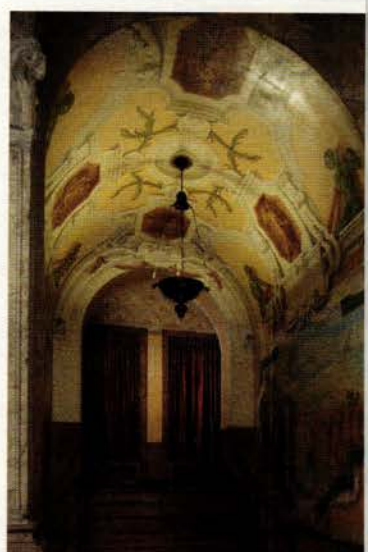
Composition lineal scroll work and plaster ornamental grille work from **Decorators Supply Corp.** was applied to these walls.

**Decorators Supply Corp.**

800-792-2093; Fax: 773-847-6357  
www.decoratorssupply.com  
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on no. 2890



ornate plaster ornament was fabricated by  
er Reeve.

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9-0090; Fax: 718-609-0061

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lyn, NY 11222

m manufacturer of architectural & orna-  
l plaster for interiors & exteriors: in-house  
ors; design development (CAD) engineering  
project management services; commercial  
dential.

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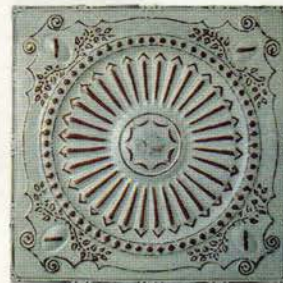
John Canning and David Riccio of **Canning Studios** are shown here preparing the decorative finishes, conservation and restoration samples for The Cosmos Club, Warne Ballroom in Washington, DC (built 1901). Click on no. 5100.

### John Canning Conservation & Painting Studios

203-272-9868; Fax: 203-272-9879  
[www.JohnCanningCo.com](http://www.JohnCanningCo.com)  
Cheshire, CT 06410

Restorer, conservator & designer of decorative finishes, ornamental plaster & wood: historic analysis; plaster consolidation & stabilization; decorative paint, murals, interior & exterior gilding; wood graining, metal & stone cleaning.

Click on no. 5100



This piece of metal was manufactured by Metal Ceiling Express.

### Metal Ceiling Express

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Manufacturer of ceilings: ornamental; decorative painting & faux finishes; architectural, standard custom sheet metal.

Click on no. 2035



This tile was designed by Motawi Tileworks.

### Motawi Tileworks

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Supplier of tile: Arts & Crafts, Art Nouveau, medieval, Celtic & animal motifs; ceramic relief tile; fireplaces, kitchens, baths & floors; specialized custom-designed fireplaces.

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[www.worthingtonmillwork.com](http://www.worthingtonmillwork.com)  
Panama City Beach, FL 32413



Distributor of architecturally correct columns: adjusted fluting, priming & asphaltum; mouldings; balustrades, pediments, ceiling medallions, niches, pedestals & brackets.

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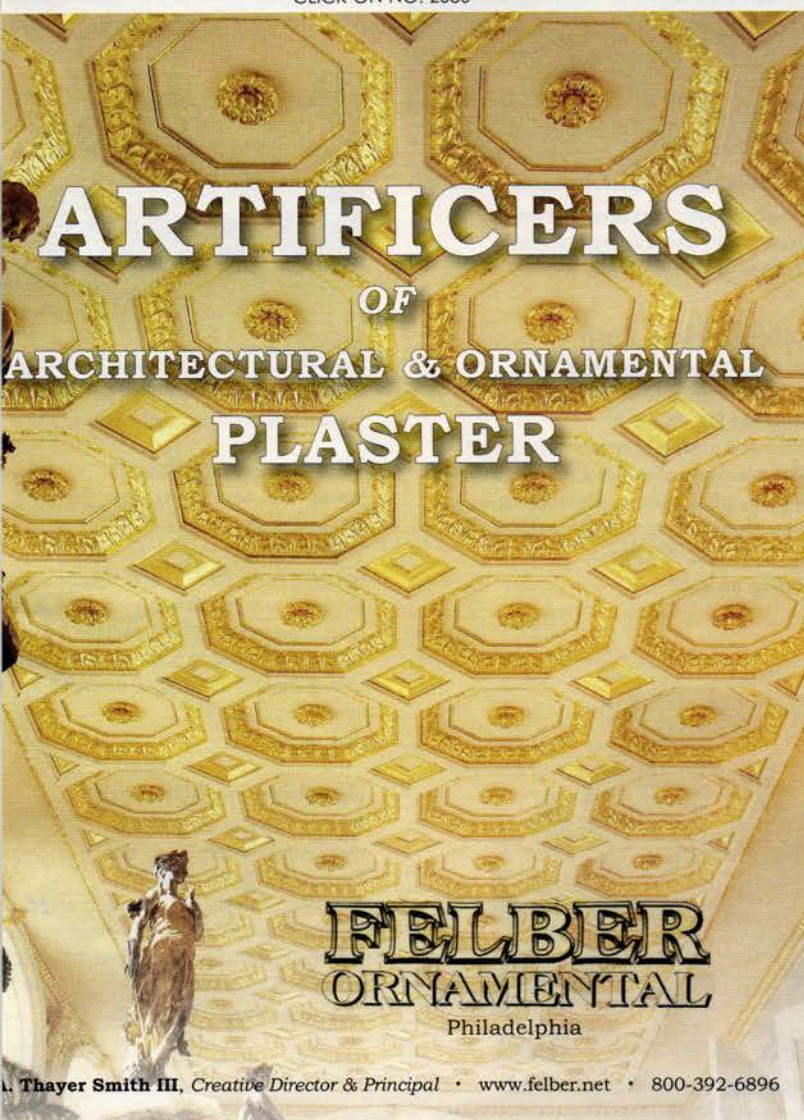


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[www.columns.com](http://www.columns.com)

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Manufacturer of authentically correct architectural columns: complete line of columns, piers, pilasters & posts for interior & exterior use; variety of sizes, styles & materials, including wood; more than 20 years.

Click on no. 1580 for PolyStone; 180 for wood



The tiered cast-stone Eton College fountain from **Haddonstone** is a replica of the fountain that stood in the Cloister Court of Eton College, Windsor.

## Haddonstone (USA), Ltd.

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[www.haddonstone.com](http://www.haddonstone.com)

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Manufacturer of classical & contemporary cast limestone: columns, balustrades, benches, planters, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; 500+ designs; custom designs.

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## Robinson Iron Corp.

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[www.robinsoniron.com](http://www.robinsoniron.com)

Alexander City, AL 35010

Designer & installer of custom metalwork: fountains, columns, fences, doors, railings, sculpture, benches, grilles, cresting, street lighting & gazebos; wrought iron/steel, aluminum, bronze & cast iron; historical restoration.

Click on no. 3240



**Schiff Architectural Detail** created the Frank McKinney Memorial Fountain for the University of Indiana.

## Schiff Architectural Detail, LLC

617-887-0202; Fax: 617-887-0127

[www.schiffarchitecturaldetail.com](http://www.schiffarchitecturaldetail.com)

Chelsea, MA 02150

Custom fabricator of metalwork: exterior lamp posts, plaques, fences, fountains, sculpture, gazebos, planters, interior & exterior railings, grilles, domes, finials; non-ferrous forged work; machine-shop service; rubber molding & pattern work; capitals; windows, doors & door hardware; mantels, fans, fireplace tools; historical restoration.



This 14-ft. high cast-bronze fountain is one of identical pieces that **Wagner Foundry** created for the entrance to a private residence in Chicago suburb; the sculptor was Dino Crisan.

## Wagner Foundry, Inc.

800-276-1084; 773-276-7907; Fax: 773-276-9656

[www.wagnerfoundry.com](http://www.wagnerfoundry.com)

Chicago, IL 60622

Custom fabricator of architectural, art & industrial castings: hardware, sculpture, grilles, signage, plaques, storefront elements & cast-metal ornament; aluminum, bronze & brass; sand & lost-casting; ecclesiastical work.



**Wiemann Metalcraft** fabricated this gazebo fence and trellis in cast and wrought iron.

## Wiemann Metalcraft

918-592-1700; Fax: 918-592-2385

[www.wmcraft.com](http://www.wmcraft.com)

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Rupert, VT 05776

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Supply's tradi-  
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prisms are replicas  
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is shown here  
with the LB-20  
bracket;  
the lantern  
is 32-in. tall  
by 13 3/4-in.  
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## Herwig Lighting

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www.herwig.com  
Russellville, AR 72811

Designer & manufacturer of handcrafted cast  
metalwork: period-design lanterns, street light-  
ing, posts, custom outdoor lighting, street clocks,  
benches, bollards, custom plaques, signs & more;  
aluminum & bronze; since 1908.



**House of Antique Hardware** manufactured this  
English Victorian chandelier with etched-glass shades.

## House of Antique Hardware

888-223-2545; Fax: 503-233-1312  
www.hoah.us  
Portland, OR 97232

Manufacturer & supplier of vintage reproduction  
door, window, shutter, cabinet & furniture hard-  
ware & accessories: Federal, Victorian, Colonial  
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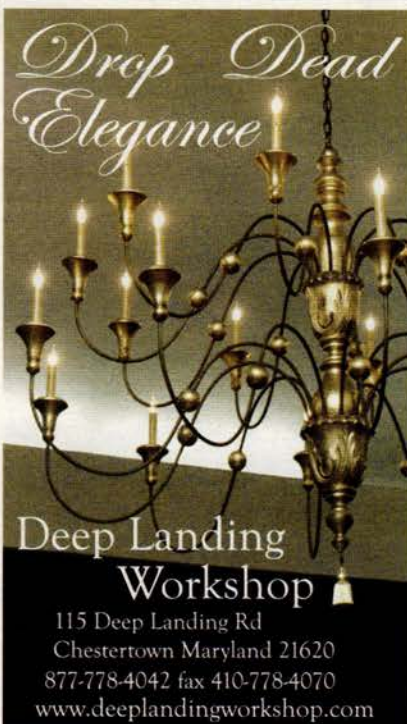


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[www.architecturalfans.com](http://www.architecturalfans.com)

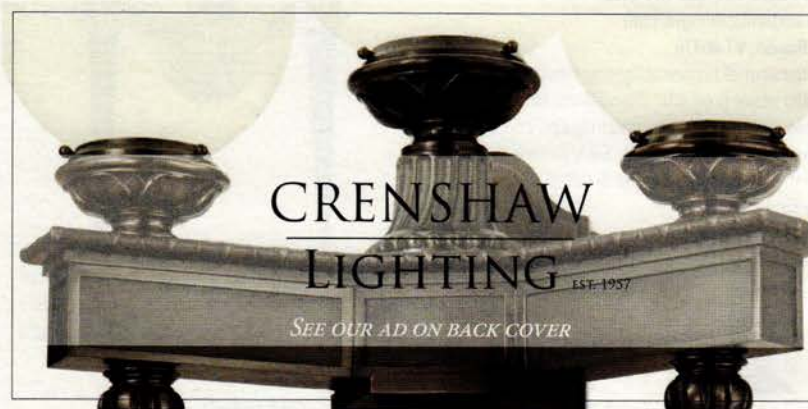
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Lantern Masters fabricates replica historical fixtures using traditional techniques.

**Lantern Masters, Inc.**  
 818-706-1990; Fax: 818-706-1988  
[www.lanternmasters.com](http://www.lanternmasters.com)  
 Westlake Village, CA 91362  
 Custom designer & manufacturer of lighting: interior chandeliers, pendants, ceiling flushes sconces & exterior lanterns including wall, floor, wall, pendant, post & pilaster; many architectural periods; historical reproductions.  
 Click on no. 1239





This Baja Mission outdoor light fixture was hand-crafted of copper and brass by Lanternland.

**Lanternland**  
800-520-0000; Fax: 480-962-1997  
lanternland.com  
AZ 85210  
Manufacturer of lighting: artisan handmade  
& brass lanterns & outdoor lighting;  
period styles.  
Click on no. 2076



Ana Pendant from Remains Lighting is a bent dome chandelier of bent glass held in a cast-bronze ring with a leaf-and-dart border.

**Remains Lighting**  
800-520-0000; No fax  
remains.com  
New York, NY 10001  
Lighting manufacturer: commercial, resi-  
& institutional; exterior & interior lighting;  
metal & traditional lighting & mirrors; lighting  
design services; UL certified, LEED-  
certified.



A custom reproduction of a lawn club fixture for a lawn club; it was designed to look like others that were believed to have been used during the 1930s-1940s.

**Field Lighting**  
800-839-9999; Fax: 610-518-7264  
scofieldlighting.com  
Pittsburgh, PA 15335

Manufacturer of historic lighting: 17th through 19th cen-  
tury inspired lanterns, sconces, ceiling lights &  
chandeliers; finished in natural, bronzed, leaded,  
patina copper or aged tin; collection is custom-  
designed to the specific needs of projects & clients.

traditionalbuilding.com



St. Louis Antique Lighting restored this fixture for the "World Food Prize" project in Des Moines, IA.

**St. Louis Antique Lighting Co.**  
314-863-1414; Fax: 314-863-6702  
www.slalco.com  
Saint Louis, MO 63130  
Manufacturer & supplier of architectural lighting:  
all styles; historical reproductions & custom light-  
ing; restoration services; commercial & ecclesi-  
astical projects.  
Click on no. 6190

**Wiemann Metalcraft**  
918-592-1700; Fax: 918-592-2385  
www.wmcraft.com  
Tulsa, OK 74107  
Designer, fabricator, finisher & installer of fine  
quality custom ornamental metalwork: railings,  
fences, gates, custom, hot-rolled steel doors &  
windows, lighting, grilles, bronze & aluminum  
entry doors; all cast- & wrought-metal alloys,  
finishes & architectural styles; since 1940.  
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Woolen Mill Fan Co. offers a selection of traditionally styled belt-driven ceiling fans.

**Woolen Mill Fan Co.**  
717-382-4754; Fax: 717-382-4275  
www.architecturalfans.com  
New Park, PA 17352  
Manufacturer of decorative ceiling fans: historic  
& new designs; belt-& pulley models & beltless  
single-motor units; iron, bronze & aluminum  
castings.  
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# Mantels, Chimneys & Fireplaces



Historically styled fireplace accessories are available from Ball & Ball.

**Ball & Ball Hardware**  
610-363-7330; Fax: 610-363-7639  
www.ballandball.com  
Exton, PA 19341  
Custom manufacturer & supplier of ornamen-  
tal metalwork & hardware: door, window,  
shutter, gate & furniture hardware; fireplace  
tools; wrought iron, steel, aluminum, bronze,  
brass, copper & cast iron; custom reproductions.



Connor Homes provides many options such as this majestic fireplace.

**Connor Homes**  
802-382-9082; Fax: 802-382-9084  
www.connorbuilding.com  
Middlebury, VT 05753  
Home builder: homes & more; follies, garden  
houses, pool houses, storage sheds; mantels,  
kitchen cabinets, barns, millwork, paneling, win-  
dows, stairs & stair parts.  
Click on no. 2064

**Driwood Moulding Company**  
888-245-9663; Fax: 843-669-4874  
www.driwood.com  
Florence, SC 29503  
Supplier of molding: Stock & custom moldings  
for residential & commercial projects; embossed  
moldings, custom millwork, mantels, entrances,  
cabinet & panel work, custom doors.  
Click on no. 2077



This custom Felstone mantel from Felber Ornamental Plastering Corp. was built using stock components.

**Felber Ornamental Plastering Corp.**  
800-392-6896; Fax: 610-275-6636  
www.felber.net  
Parkesburg, PA 19365  
Creators and manufacturers of interior and exter-  
ior molded ornament: capitals, cornices, friezes,  
niches, keystones, rosettes, coffers, domes &  
medallions; custom mantels; plaster, gypsum &  
GRG; GFRC, signage, plaques, sculptors, model  
makers & casters on staff; stock & custom.  
Click on no. 2890

**Fires of Tradition**  
519-770-0063; Fax: 519-770-1295  
www.firesoftradition.com  
Brantford, ON N3T 5L6 Canada  
Manufacturer of fireplaces: electric fires, grates,  
Rumford fireplaces, mantels & more.



This is one of many mantels available from Haddonstone.

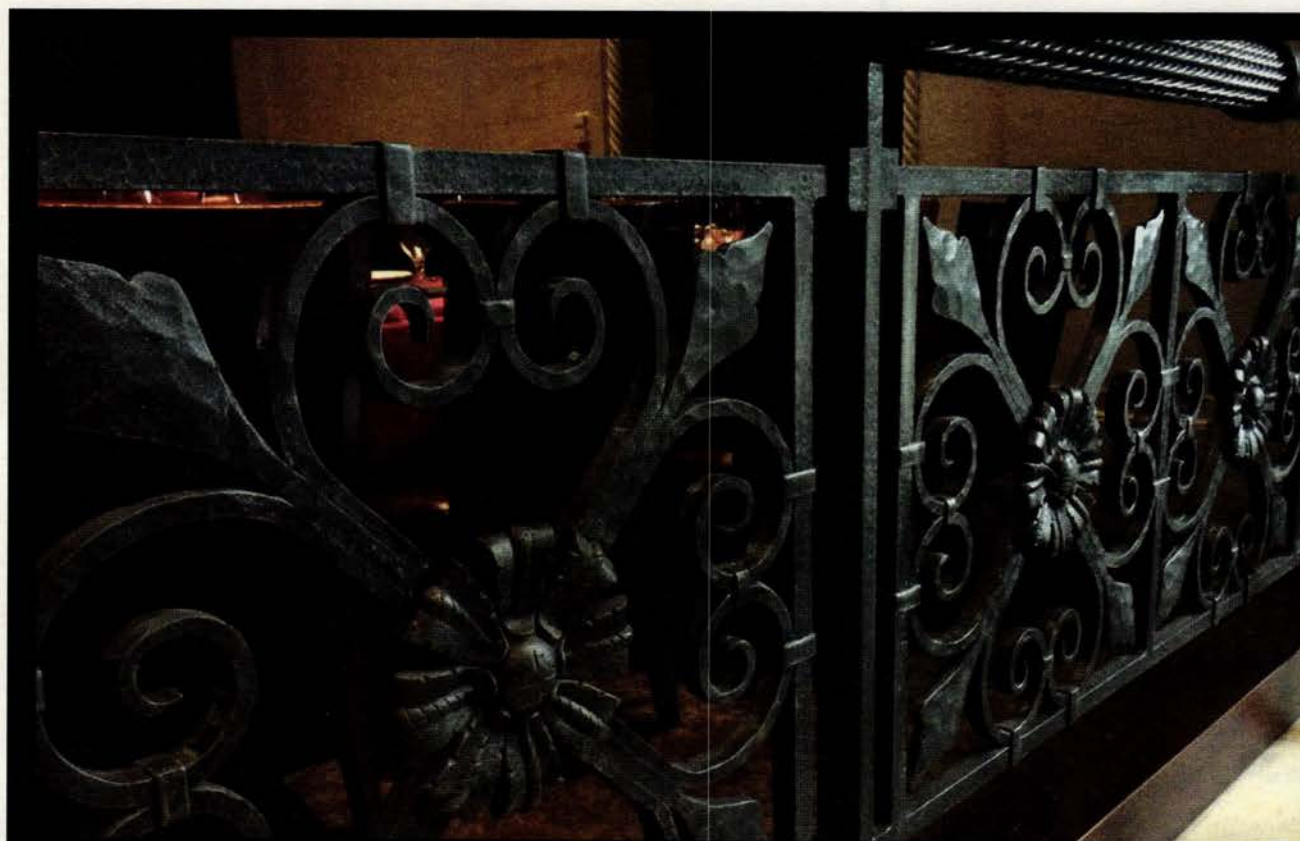
**Haddonstone (USA), Ltd.**  
719-948-4554; Fax: 719-948-4285  
www.haddonstone.com  
Pueblo, CO 81001  
Manufacturer of classical & contemporary cast  
limestone: columns, balustrades, benches, planters,  
pavers, fountains, gazebos, interior ornament, man-  
tels, statuary & more; 500+ designs; custom designs.  
Click on no. 4020



Fireplace tile is available from Motawi Tileworks in a variety of historic styles and colors.

**Motawi Tileworks**  
734-213-0017; Fax: 734-213-2569  
www.motawi.com  
Ann Arbor, MI 48103  
Supplier of tile: Arts & Crafts, Art Nouveau, medi-  
eval, Celtic & animal motifs; ceramic relief tile for  
fireplaces, kitchens, baths & floors; specializes in  
custom-designed fireplaces.  
Click on no. 2080





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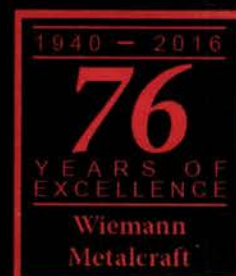
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Iron, Stainless, Glass  
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## Metalwork

### Architectural Grille

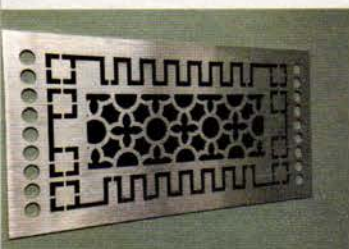
7-6267; Fax: 718-832-1390

[archgrille.com](http://archgrille.com)

yn, NY 11215

Manufacturer of custom grilles: perforated & linear grilles; radiator covers; aluminum, brass, steel & stainless steel; variety of finishes; stock sizes; water-seal cutting.

on no. 2220



Manufacturer of Architectural Grilles custom fabricated this perforated metal grille.

### Architectural Grilles

8-0628; Fax: 516-488-0728

[aagrilles.com](http://aagrilles.com)

Hyde Park, NY 11040

Designer & manufacturer of extensive line of linear bar & perforated grilles including the exclusive "Bead frame". More than 75 years' experience serving the architectural, interior design, building, construction, engineering & HVAC industries; affiliate members of the American Institute of Architects NY, New York, & Chicago chapters & member of the U.S. Building Council (USGBC). \*Patent Pending

For more information.

### Custom Metal Fabrications

3-3562; Fax: Same as phone

[ironcrafters.com](http://ironcrafters.com)

ury, NY 11590

Manufacturer of ornamental metalwork: railings, gates, fireplaces, mantels, hardware & accessories; handcrafted & hand forged.

### Architectural Grilles

2-9449; Fax: 631-482-9450

[cocometalcraft.com](http://cocometalcraft.com)

ngdale, NY 11735

Manufacturer of grilles & architectural metal products: stainless steel, brass, aluminum & steel; linear bar grilles; perforated; custom work.

[traditionalbuilding.com](http://traditionalbuilding.com)



Bill's Custom Metal Fabrications hand forged this gazebo.



Linear bar grilles are one of the specialties of Coco Architectural Grilles.



This ornate historically styled ironwork is the work of the artisans as Compass Ironworks.

### Compass Ironworks

717-442-4544; Fax: 717-442-1948

[www.ironworkclassics.com](http://www.ironworkclassics.com)

Gap, PA 17527

Fabricator of wrought-iron metalwork: gates, fences, railings, décor; family owned; hand crafted; historical styles; recycled content.



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[www.archgrille.com](http://www.archgrille.com)

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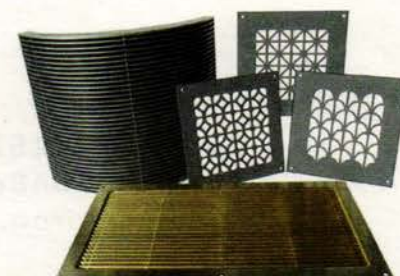
### Kayne & Son Custom Hardware

828-667-8868; Fax: 828-665-8303

[www.customforgedhardware.com](http://www.customforgedhardware.com)

Candler, NC 28715

Manufacturer of forged- & cast-metal hardware: strap, H, HL, butterfly & butt hinges; thumb-latch locksets, gate hardware, shutter dogs & more; fireplace tools; grilles; bathroom accessories & kitchen equipment; restoration; catalog \$5.



Kees offers architectural stamped grilles in steel, galvanized steel, stainless steel, aluminum, brass and bronze; bar grilles are available in stainless steel and brass. Click on no. 1335.

### Kees Architectural Division

800-889-7215; Fax: 920-876-3065

[www.kees.com](http://www.kees.com)

Elkhart Lake, WI 53020

Custom fabricator of architectural stamped, waterjet-cut & bar grilles & registers: baseboards & radiator covers in stamped & perforated metal; wide variety of patterns & thicknesses.

Click on no. 1335

### Metal Ceiling Express

941-723-2288; Fax: 941-729-1470

[www.metalceilingexpress.com](http://www.metalceilingexpress.com)

Palmetto, FL 34221

Manufacturer of ceilings: ornamental; decorative painting & faux finishes; architectural, standard & custom sheet metal.

Click on no. 2035

### Pacific Register Company

805-487-7500; No fax

[www.pacificregisterco.com](http://www.pacificregisterco.com)

Oxnard, CA 93033

Manufacturer of registers: metal, wood & stone; many historic styles; accessories.

Click on no. 2070

### Renovation Brands/Reggio Register Co.

800-880-3090; Fax: 978-870-1030

[www.reggioregister.com](http://www.reggioregister.com)

Leominster, MA 01453

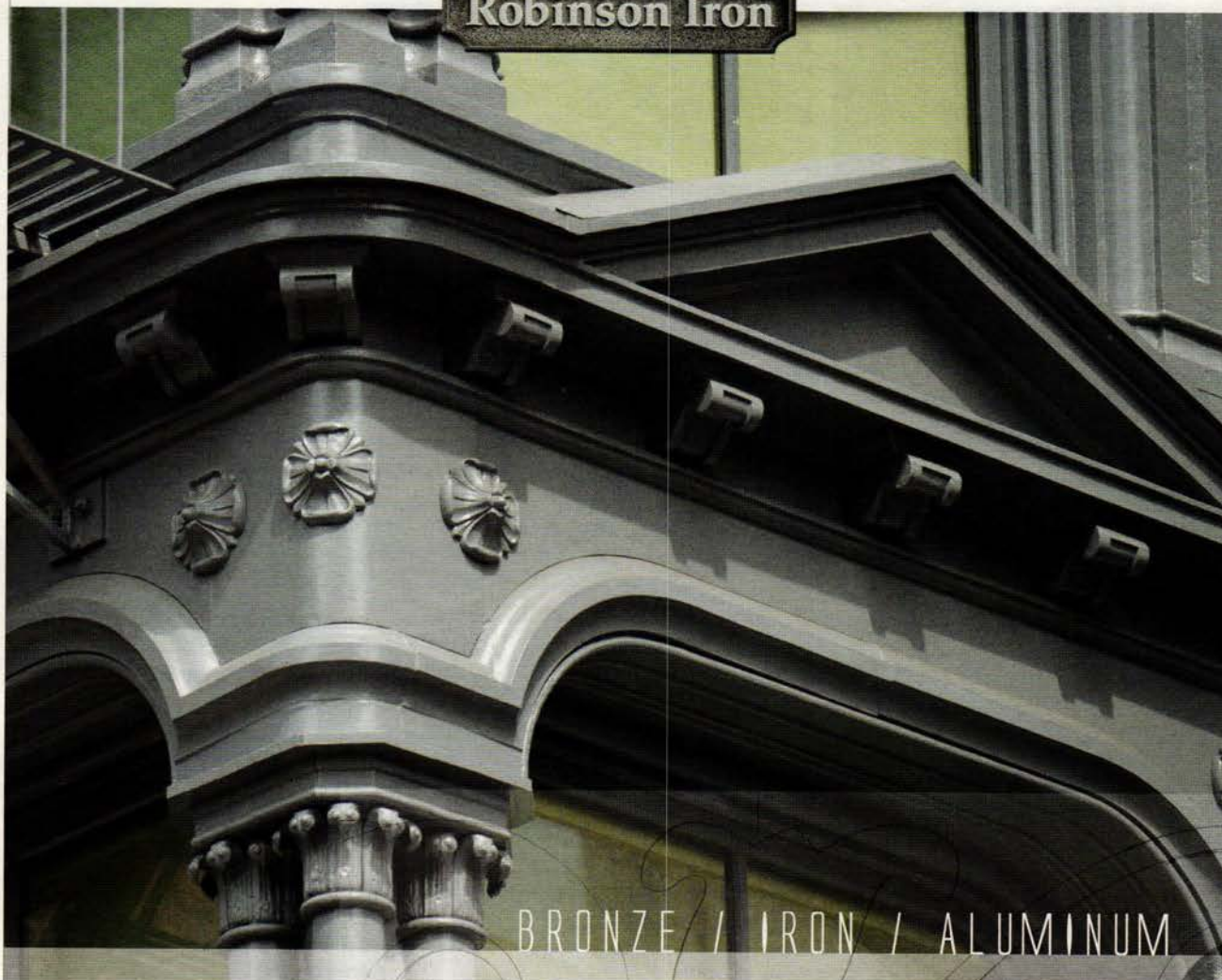
Manufacturer of grilles & registers: for forced-air & high-velocity systems; cast iron, brass, aluminum, steel & wood; handcrafted to last for generations.

Click on no. 5810



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**Robinson Iron** designed and fabricated this railing with a leaf motif and swirling newel post.

### Robinson Iron Corp.

800-824-2157; Fax: 256-329-8960

[www.robinsoniron.com](http://www.robinsoniron.com)

Alexander City, AL 35010

Designer & installer of custom metalwork: fountains, columns, fences, doors, railings, sculptures, benches, grilles, cresting, street lighting & gazebos; wrought iron/steel, aluminum, bronze & iron; historical restoration.

Click on no. 3240



**Schiff Architectural Detail** fabricated these ornate railings for an historic neighborhood.

### Schiff Architectural Detail, LLC

617-887-0202; Fax: 617-887-0127

[www.schiffarchitecturaldetail.com](http://www.schiffarchitecturaldetail.com)

Chelsea, MA 02150

Custom fabricator of metalwork: exterior lampposts, plaques, fences, fountains, sculptures, gazebos, planters, interior & exterior railings, grilles, domes, finials; non-ferrous forged work; machine-shop service; rubber molding & patina work; capitals; windows, doors & door hardware; mantels, fans, fireplace tools; historical restoration.



**Wiemann Metalcraft** fabricated the ornate railings and other metalwork for Del Friscos Double Eagle Steak House, Chicago.

### Wiemann Metalcraft

918-592-1700; Fax: 918-592-2385

[www.wmcrafter.com](http://www.wmcrafter.com)

Tulsa, OK 74107

Designer, fabricator, finisher & installer of fine custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; cast- & wrought-metal alloys, finishes & architectural styles; since 1940.

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87-6267; Fax: 718-832-1390

www.archgrille.com

Brooklyn, NY 11215

Manufacturer of custom grilles: perforated & bar grilles; radiator covers; aluminum, brass, & stainless steel; variety of finishes; stock & custom water-jet & laser cutting.

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## Industry in Architectural Grilles

88-0628; Fax: 516-488-0728

www.aagrilles.com

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Designer & manufacturer of extensive line of linear bar & perforated grilles including exclusive JBead frame\*. More than 75 years' experience supporting the architectural, design, building, construction, engineering, HVAC industries; affiliate members of the American Institute of Architects NY, Long Island, Chicago chapters & member of the U.S. Green Building Council (USGBC). \*Patent Pending

## Architectural Division

89-7215; Fax: 920-876-3065

www.kees.com

Elkhart Lake, WI 53020

Manufacturer of architectural stamped, waterjet-cut & bar grilles & registers: baseboards, radiator covers in stamped & perforated metal; variety of patterns & thicknesses.

Click on no. 1335

## Pacific Register Company

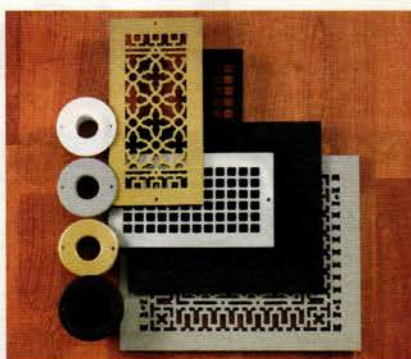
87-7500; Fax: No fax

www.pacificregisterco.com

San Francisco, CA 94133

Manufacturer of registers: metal, wood & stone; variety of historic styles; accessories.

Click on no. 2070



**Renovation Brands/The Reggio Register Co.** offers a wide selection of traditionally styled grilles and registers in solid cast iron, brass or aluminum.

## Renovation Brands/Reggio Register Co., The

800-880-3090; Fax: 978-870-1030

www.reggioregister.com

Leominster, MA 01453

Manufacturer of grilles & registers: for forced-air & high-velocity systems; cast iron, brass, aluminum, steel & wood; handcrafted to last for generations.

Click on no. 5810



**Unico's** small-duct, high-velocity HVAC system takes up less than a quarter of the space of a traditional system, making it ideal for historic buildings.

## Unico System, Inc.

800-527-0896; Fax: 314-457-9000

www.unicosystem.com

Saint Louis, MO 63111

Supplier of mini-duct systems for retrofitting HVAC systems: ideal for historic preservation; quiet, energy-efficient system; takes 1/4 space of conventional HVAC; delivers 12 tons of ac in same space as 3-ton traditional system.

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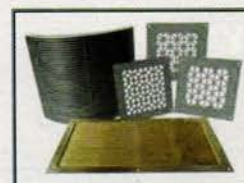
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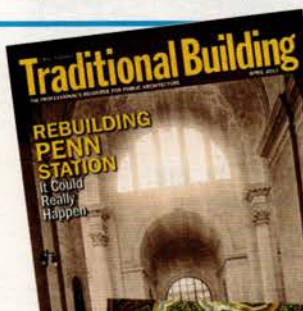
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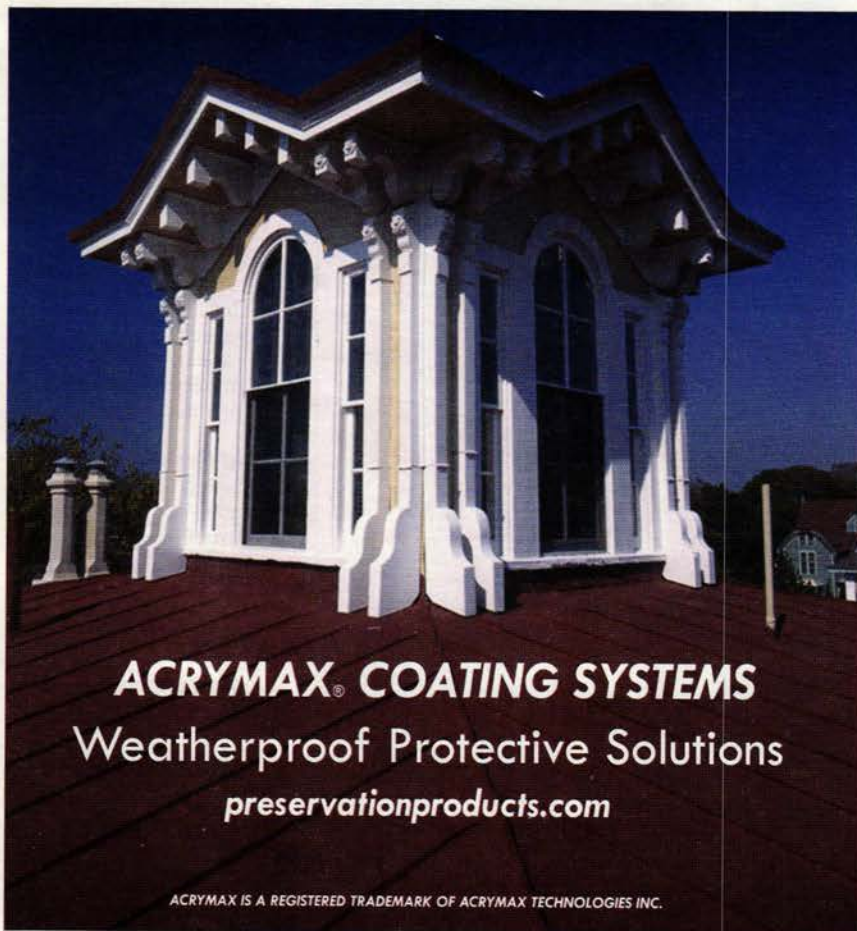




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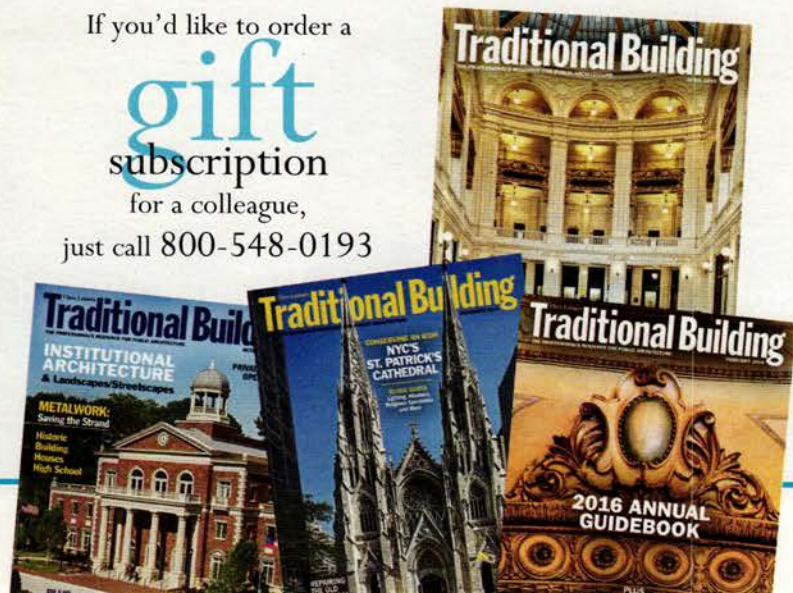
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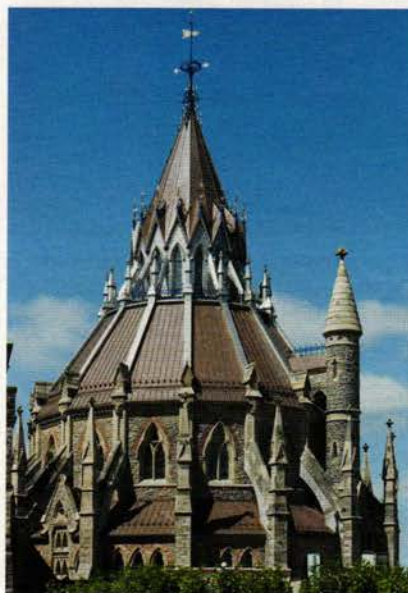
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# Roofing & Roof Specialties



Heather & Little restored the metal roofing  
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Canada.

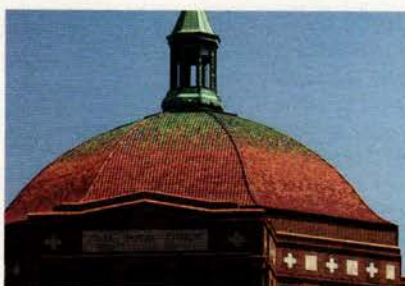
## Heather & Little Limited

800-450-0659; Fax: 905-475-9764

[www.heatherandlittle.com](http://www.heatherandlittle.com)

Markham, ON, L3R 0H1 Canada

Fabricator & supplier of historical sheet-metal specialties & architectural sheet-metal components: finials, cornices, leader heads, cresting, metal shingles, pressed-metal wall cladding, cupolas, steeples, domes, reproductions; capitals & balustrades; Kalemein & lot-line metal windows & doors, statuary restoration.



Ludowici's graduated s-tile in a custom color blend was part of the historic renovation of the First Baptist Church in Asheville, NC.

## Ludowici Roof Tile, Inc.

800-945-8453; Fax: 740-342-0025

[www.ludowici.com](http://www.ludowici.com)

New Lexington, OH 43764

Manufacturer of architectural terra-cotta roof tile & floor tile: Over 40 standard roof tile profiles including barrel, shingle, interlocking & shake & slate alternatives; customize shape, texture & color; historic renovation program; 75-year material warranty includes color.



NIKO fabricated the copper dormers and mansard roof and also installed the copper penthouse for this building in New York City.

## NIKO Contracting Co., Inc.

412-687-1517; Fax: 412-687-7969

[www.nikocontracting.com](http://www.nikocontracting.com)

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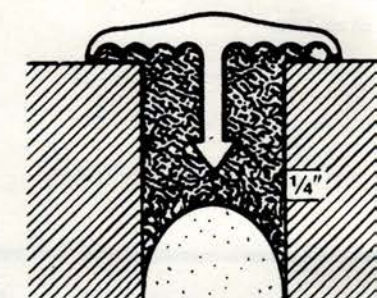
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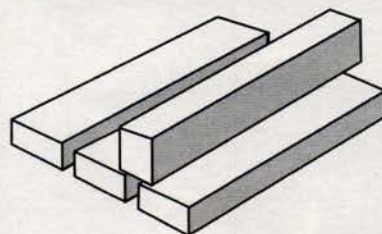
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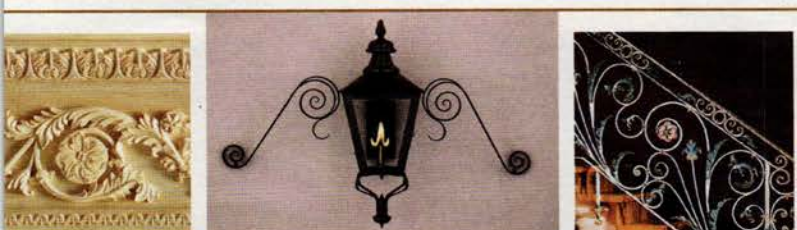
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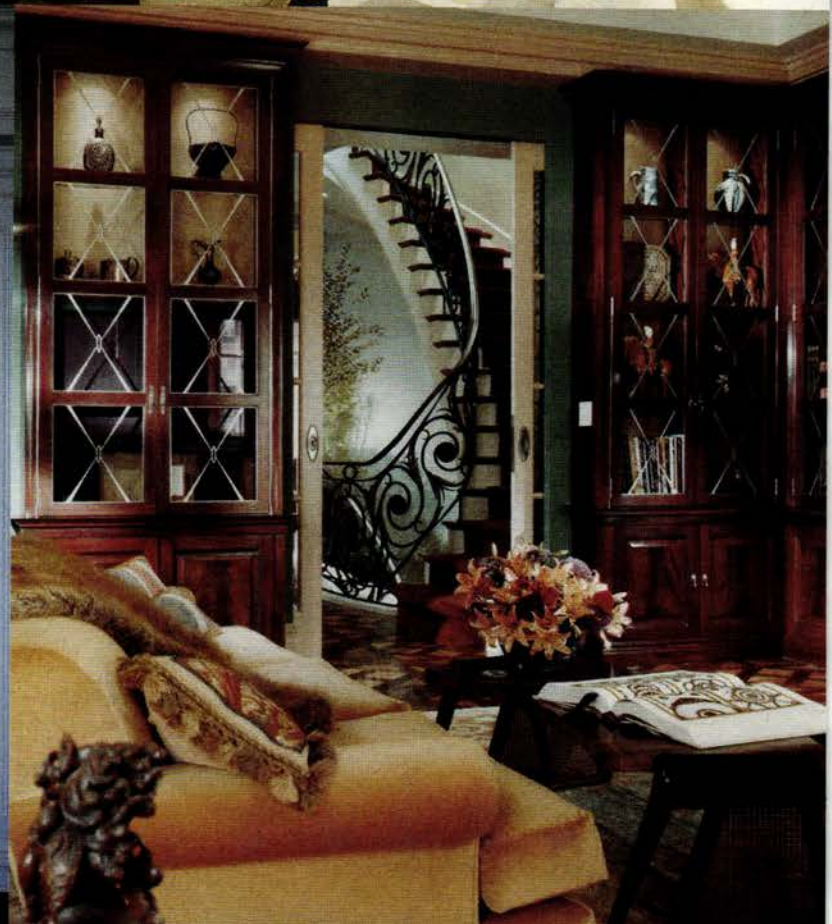
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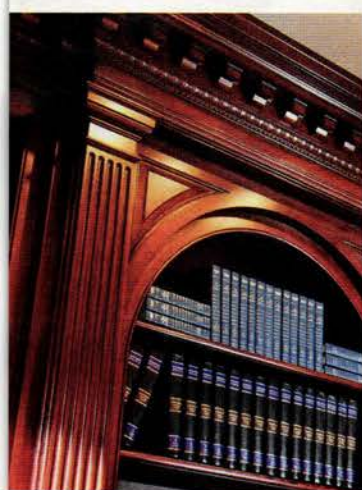
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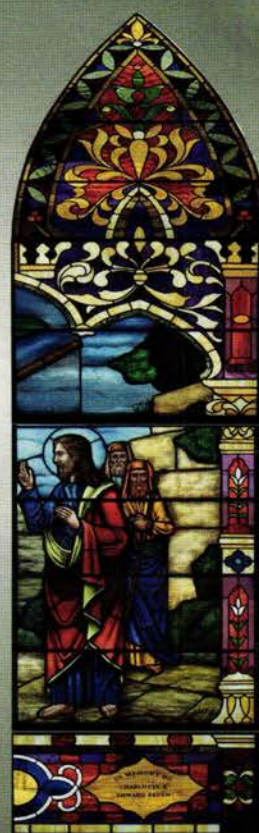
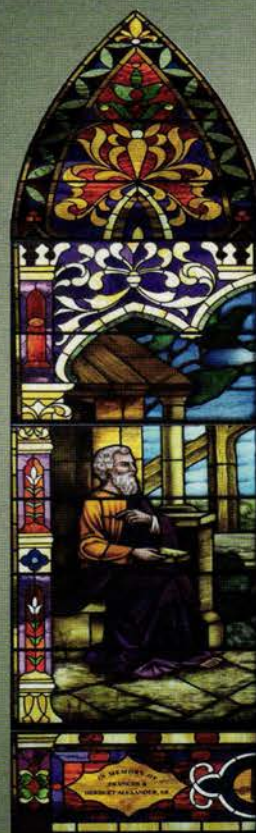
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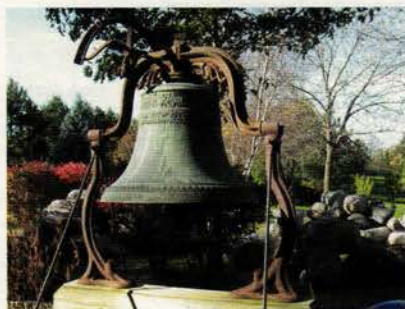


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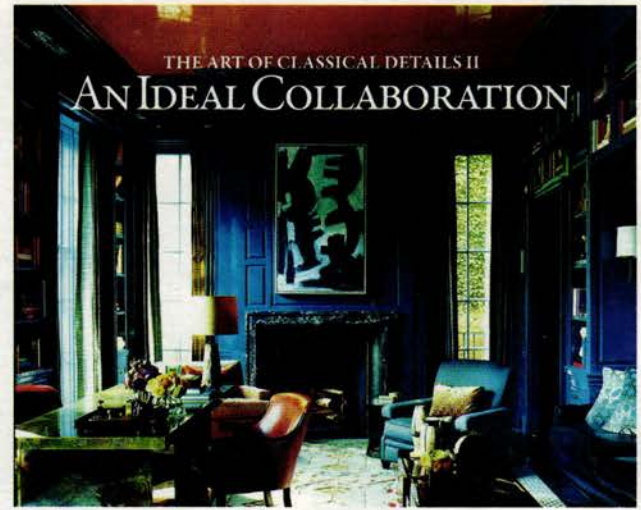
# Craft and Collaboration

## The Art of Classical Details II: An Ideal Collaboration

By Phillip James Dodd

Images Publishing, 2015, Hardcover; 300 pages; \$70

ISBN: 978-1864706017



This new volume by Phillip James Dodd is a companion to his first book, *The Art of Classical Details: History, Design and Craftsmanship*.

The great virtue of this new book by Phillip James Dodd today is the forceful argument for collaboration as fundamental to the architectural process, not just to the “ideal” of the title. In an era where the “Starchitect” still reigns, where the idea of the lonely genius still captivates the public mind and holds sway within the schools, this handsome volume is a welcome antidote.

Throughout history the process of design and construction has been well known to involve the close collaboration of many talents from many fields sometimes over very long periods of time. Geniuses abound and often receive just credit for their great buildings, but the army of artisans and brilliant craftsman working in concert all along were well known to be co-creators. This book focuses on contemporary practice and personal testimony rather than recounting the tradition, and that is well and good. Far too frequently lessons from the past are easily dismissed as “that was then, this is now.”

The subtitle of this book is *The Art of Classical Details II*, and although it can very well stand on its own considerable merits, it is clearly designed as a companion volume to the first, *The Art of Classical Details: History, Design and Craftsmanship*. They both are organized in such a way that they are good for browsing, beautiful illustrations alternating with winsome writing, and equally good for serious study.

Notable in my experience of both books is a sense of cheerfulness throughout. This quality is achieved by lively layouts, lavish photos of all sizes, from explanatory vignettes to two-page panoramas, and consistently upbeat essays. The mood is set by an exuberant forward written by the Interior Designer Ellie Cullman who refers to this volume as a “testimonial to the mutual respect we support and maintain in this close-knit, highly spirited, and very collaborative business of design.”

The 16 essays by a wide variety of professionals are all valuable, coming as they do from very different points of view to reinforce the overall theme. As an architect myself I was especially interested in “A Builders Perspective” by Palm Beach Contractor John Rogers. He notes that “Collaborate is a term frequently used, but an act seldom performed. Nowadays it is constantly offered in sales and marketing materials.... Yet true collaborative relationships are in reality very rare, as sharing does not often come naturally to many designers.” Alas, I think he is right about that. But Rogers argues very effectively that “an early involvement of the whole team (Architect, Decorator, Consultant, and Builder) lends itself to a better understanding and appreciation of each others’ role in the project.” And shared goals are essential.

Architect Kahlil Hamady’s essay “A Visit to the Mount” is notable for addressing a broad range of historical and literary sources relevant to the central theme, including an extensive discussion of Edith Wharton’s wonderful book *The Decoration of Houses* written in 1897 with architect Ogden Codman Jr. I hope Hamady’s reference to Wharton will encourage readers to seek out that book. Those who do may be as profoundly affected as I was when Henry Hope Reed persuaded me to read it 40 years ago.

One of the most personal and engaging of these essays is written

by Francis Terry, the architect son of the renowned English Architect Quinlan Terry. He writes of his youth when he was “torn between wanting to be an artist and an architect, a common dilemma which has faced many artistic students.” His reason for ultimately choosing architecture “goes right to the heart of the nature of collaboration.” His story is a delight to read, and he closes with this comparison: “Painting is, of course, one of the highest and most intense art forms, but it is small and personal... Architecture, on the other hand, paints on a far broader canvas, which requires the collaboration of many differently skilled people in its execution, and this is, in essence, the joy of architecture.”

Another essay especially illuminating because of its autobiographical nature is John Milner’s on “Design and Preservation.” As one of the first of his generation to devote a private practice to preservation, he is able to tell us of his discoveries and how he learned a great deal about traditional building that had not been taught in schools since the Second World War. “Putting myself in the mind of the craftsman,” he writes, “allows me to make a direct connection between concept and execution.” And Milner concludes with: “The most rewarding projects with the best results are those that have had the benefit of collegial and collaborative relationships among clients, designers, builders and craftsmen. Design is the first step, but the craftsmen’s contributions are fundamental to realizing, enriching and giving personality to a final creation”

The final essay, by William Bates III, is “The Academic Experiment.” To my mind it is possibly the most inspirational of all. He swiftly summarizes the radical shift in the arts and education that took place in the wake of the Second World War. “Postwar modernists promoting all things traditional as obsolete, if not heretical, seized on the decline of craft to support their grip on the architecture of America.” Eloquently, Bates recounts the struggle to get things back on track, including the efforts of Henry Hope Reed and the growth of the Institute of Classical Architecture and Art. Finally, in the fall of 2005, the new American College of the Building Arts was ready to accept its first incoming class. For many of us, this new institution is one of the strongest indications that a “New American Renaissance” is underway.

While the excellent essays of the first half of this fine new book make the case as well as words can do, it is the projects illustrated in the latter half that prove to our eyes that all will indeed be well in the years to come. It is this book by Phillip James Dodd and its earlier companion volume that are both agents and evidence of that New American Renaissance.

*Alvin Holm, AIA, is an early advocate of traditional design, in private practice since 1976, and winner of the first annual Clem Labine Award. He has lectured and taught widely, having initiated a course in Design with the Classical Orders in the National Academy of Design in 1981 and subsequently at many other institutions. He has been an ardent member of ICAA since its inception and prior to that, an officer in Classical America.*



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# On Classicism's Timelessness

A recent Forum by Paul Ranogajec urged traditional and classical architects to give more attention to “the challenges and opportunities afforded in contemporary thought.” (Quoting from the printed version throughout.) Instead we hide behind “our own shibboleth, the doctrine of the “timeless classical.”

He names several offenders including Dr. Demetri Porphyrios who wrote, “‘Modernism’ ... encourages a radical permissiveness [that is] necessarily opposed to classical restraint and decorum.” Porphyrios again: in modern thought “history nurtures no moral paradigms; it simply points to a value-free relativism...” In contrast, “the classical ‘is certainly the enduring and timeless.’” Untrue? Hardly.

Ranogajec also names several “conservative philosophers” with “classical theories” propounding “eternal truths vouchsafed to a unitary Western Tradition.” This results in “bad history and ... a defensive unwillingness to acknowledge the constructive value in contemporary thought.”

At least Dr. Ranogajec, historian of architecture, rejects “the dogma that ‘architecture must be of our time.’” And he notes that “Each time it

ever active reciprocity between the power of top-down monocratic and bottom-up democratic authority. The architects’ buildings facilitate justice by expressing the character of the instrumentalities the political order uses to achieve justice while, quite independently, striving for beauty guided by architecture’s principles. The Pantheon in Rome illustrates the independence of serving justice’s transient means and embodying architecture’s enduring beauty.

And so his second complaint, that “timeless classicism” invariably and indiscriminately labels contemporary thought as modernist. His clearer online text reads, “By seceding from the contemporary intellectual culture and by justifying classicism as that which lies beyond time, we have missed what is *timely* and urgent.” The “timeless classical” can only propose a form of *return* to past views” because current classical theory rejects what it “invariably and indiscriminately labeled modernist.”

Well, no. While all modernism is modern, not all that is modern is enveloped in modernism’s ideology, which makes only the present and the not-yet-arrived future instrumental.

*The modern is simply the present form of the enduring and timeless justice and beauty that are necessary for human flourishing.*

appeared classicism” adapted “to serve the present.” But let me say, what he proposes classicist adapt from it would be harmful.

He notes that “timeless classical” is harmless in its “weak form.” It just means long-lasting – classic cars, three-pointers, bon mots. But its “strong form, which pervades current classicist rhetoric, it means that which truly transcends time ... [which] impedes deeper considerations of time and history in relation to classicism.”

This serious gravamen has two parts.

First, classicism’s timelessness. Classicism simply separates the best from the rest. In the eighteenth century when historians started using formal elements to identify period styles and ancient formal elements kept recurring, they set the classical style apart as an enduring formal style in ever different classical styles.

To his credit Ranogajec avoids the word style. His formulation says, “The formal elements of classicism may exist beyond time-bound limits, but the ways in which architects use those forms occur within history” as “*historically specific traditions of classicism.*” (Italics added.) To conflate the two as Modernists do makes them skunks in the present’s garden party.

The unbound formal elements invest a building with timeless beauty in its many timely forms. So why the doubt expressed by “may exist”? And no mention of beauty? It is the formal content of buildings and a central topic in theories of architecture. Vitruvius explained it under *rationatio*, the complement to *fabrica*, with its *symmetria* (i.e., proportionality), *eurythmy* (i.e., proper finish and adjustment), and *decorum* (i.e., fitness to its civil purpose), and later authors added concepts such as *concinnitas*, *imitatio*, *convenance*, variety within unity, and type, character, and style.

Ranogajec also dismisses “immutable principles” as one of classicists’ “reactionary guises.” But beauty lets architecture’s “immutable principles” shine forth. Without beauty a building is simply a designer’s art object. In classical doctrine it is an element in a city and the complement to the justice that a political order seeks by using the “immutable principles” that facilitate human flourishing.

Classicism’s golden thread running from ancient Greece and through the manifold adaptations of the Western Tradition and into modern America is the quest for justice and beauty found in the political order’s

The modern is simply the present form of the enduring and timeless justice and beauty that are necessary for human flourishing. The word modernism when applied to architecture seeks to nullify the classical, the enduring, and anything else that is not modern. Consider the past views that he mentioned: they are timely and are in the past; modernism treats them as styles. What, then, of principles? They are enduring and are given new form in each succeeding modern present, including today’s. Principles guide the arts to beauty, and, *mutatis mutandis*, they promote justice in the political life of cities.

So of course classicists quite reasonably reject what modernism produces, whether in theories or buildings, and especially the modernism in contemporary thought that would use the timely to “sustain civic life against the degrading aspects of modernity.” The antidote is not more modernism but the classical principles that take modern form in justice and beauty.

“The city must be a new creation because the old city, like the present and future city, was and is a product of imagination, desire, and power, and the particular combination of relations which made it cannot be restored.... [This] genuinely revanchist program ... should be opposed.”

Sorry: not revanchist, but certainly unprincipled and classical with citizens seeking justice in the just proportionality between a people’s past traditions and customs that bind them into a community and the inventions and innovations that put principles into service in the present as they pursue their happiness in beautiful cities that justice lights.

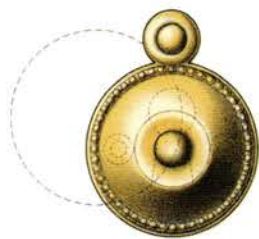
How can an advocate of classicism join others in getting it so wrong? Clearly, we need to redouble our participation in the civic forum where the greatest art, the art of governing well, is practiced, the forum that ultimately controls what is built, a forum where only classicism can help build the eternally sought and never fully achieved beautiful and just city that promotes human flourishing.

*Carroll William Westfall is an Emeritus Professor of the University of Notre Dame School of Architecture and author most recently of Architecture, Liberty, and Civic Order: Theories of Architecture from Vitruvius to Jefferson and Beyond (Ashgate, 2015).*





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