



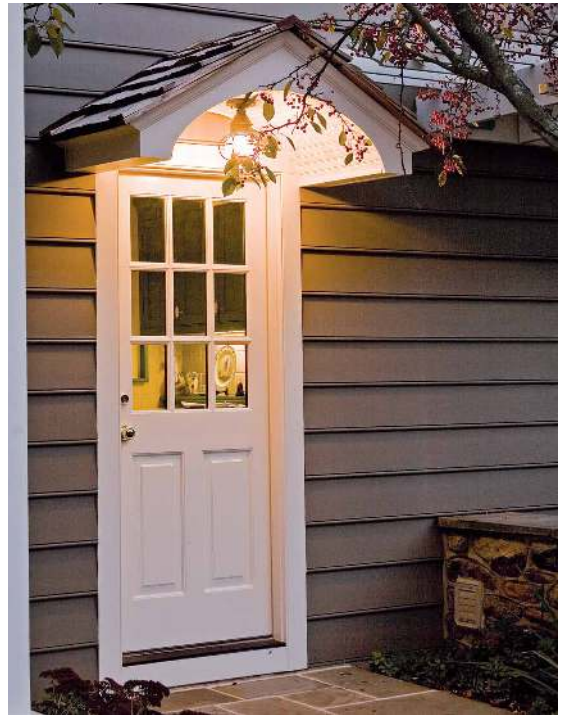
*Above, the cricket roof, which does not obscure the view of the second-floor window. The newly created formal entrance area joins the addition with the original stone farmhouse. Left, the existing porch was removed to make a more formal entrance to the home, and the view from the second-floor window was preserved by installing the cricket roof on the addition which embraced that corner of the house. Opposite, the entrance into the newly constructed laundry room.*



# *Focused on Historic Integrity*



Randi Bye



*Building an addition to the 1699 house of William and Kristine Thum won Gemmi Construction Inc. the coveted NARI Contractor of the Year Award in 2008*

by Margo Aramian Ragan

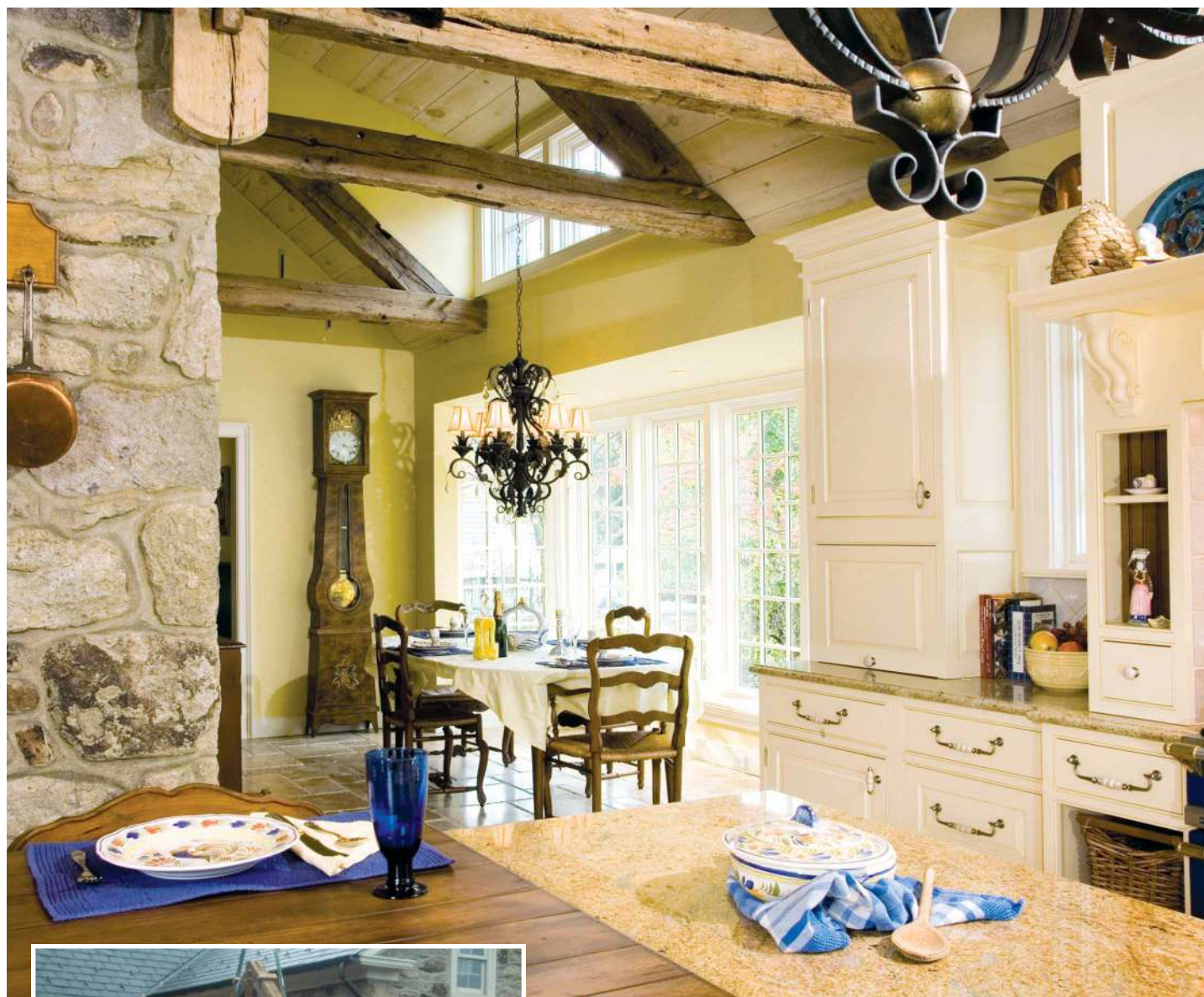
*T*he 1699 house that William and Kristine Thum purchased about 15 years ago already had been added to, renovated and adapted to by generations of owners who preceded them. Soon after purchasing the property, they recognized the need to expand the home. But they regarded themselves as stewards of the property, and they wanted to preserve the unique place a house like theirs had in Bucks County history.

"We had lived abroad for many years and traveled extensively throughout Europe," Kristine recalled. "Our experiences heightened our understanding and admiration for the craftsmanship that characterizes historic buildings. When we purchased this farmhouse, we determined that we would be faithful to the spirit of this home."









*Opposite, sunlight streams into the kitchen from the windows and the clerestory, casting artistic shadows on the system of trusses and gables. Top right, in this view of the kitchen, the exterior wall of the farmhouse, which is now an interior wall for the kitchen, can be seen. John literally hand dug the dirt beneath this wall to lower the floor of the basement below. "At times I looked up at three floors of stone wall as I was digging," John said, "and marveled that not one stone fell." This construction effort was extremely difficult. Above, trusses were constructed off-site by Matt Kanagy, then brought to the home by tractor trailer: Each truss was lowered by crane and set upon the walls.*

Even though William and Kristine had a clear vision of the kind of home addition they wanted, Kristine was willing to wait for the right time and the right contractor. Then she met John Gemmi, general contractor and owner of Gemmi Construction Inc. in Buckingham, PA.

John Gemmi can recall the exact time when he determined upon his life's work. "I was eleven years old when my parents decided to have our basement remodeled," John said. "I was fascinated at how the contractor brought our basement to another whole level of functionality. He was kind enough to allow me to watch and fetch tools. From that moment on, I determined that I wanted to become involved in construction."

In 1997 John opened his own construction firm, assisted by his wife Elizabeth. Gemmi Construction is a full service company with a special expertise in historic renovation and remodeling. "Our work projects are evenly divided between historic renovation and general construction," John explained.





*Left, symmetry of window design with the clerestory, which is a row of windows above normal eye level, set at a 90-degree level from the roof. Below, another view of the welcoming room, allowing focus on a magnificent triptych. Homeowners found the late Victorian Gothic revival work of art in a church in Oxford, England and restored it to its original beauty. Opposite top, two dramatic but immensely practical elements in the new kitchen —the blue enamel French Lacanche stove and the island area, with sections for dining and food preparation. Friends and family gravitate to this area. Original kitchen (below) was the darkest room in the house. These cabinets, probably made in the 20s or 30s, were made with a tongue and groove method. Shelves were stationary and work areas were not well designed.*



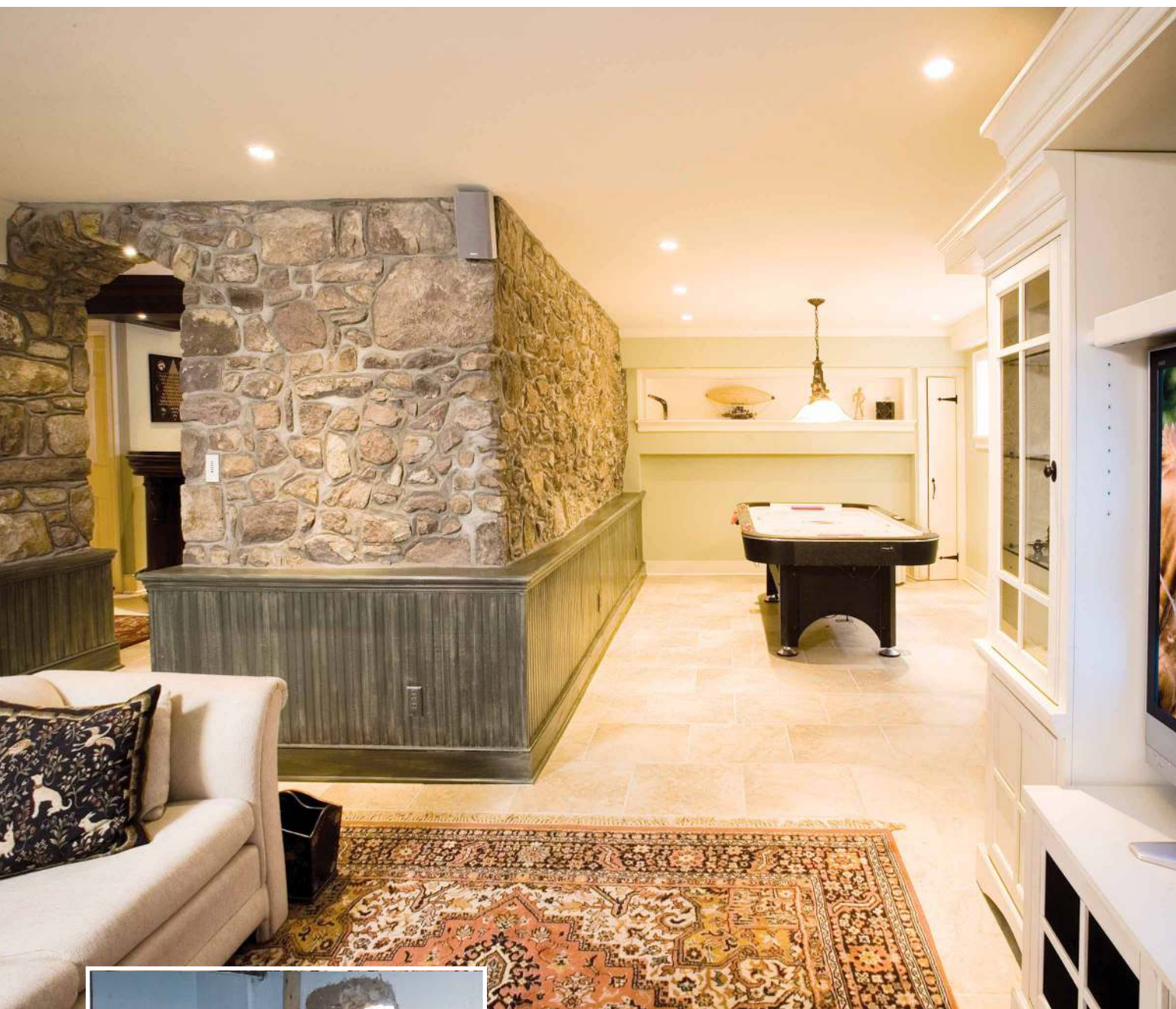




John began work on the Thum property by completing several small projects, and then building a pool house cabana for them that blends harmoniously with the main farmhouse. “William and I were so impressed with John’s passion and attention to detail,” said Kristine, as she explained why John’s company was selected from a number of firms she interviewed. “John was always willing to listen to our ideas, brainstorming on possibilities that we may not have thought of ourselves,” she said. “From the outset, we formed a collaborative team, communicating with respect for each other’s position. The entire process can be described as organic.”

The first step in the construction project was to hire an architect. Steven Ware, a Montgomery County architect, has a reputation for blending new additions seamlessly with old farmhouses, and he designed an L-shaped addition that would include a new kitchen, breakfast dining area, and full basement. “Steven’s design was perfect,” John said. “Any problems we had arose on the actual worksite based upon our shared insistence that no detail be overlooked.”



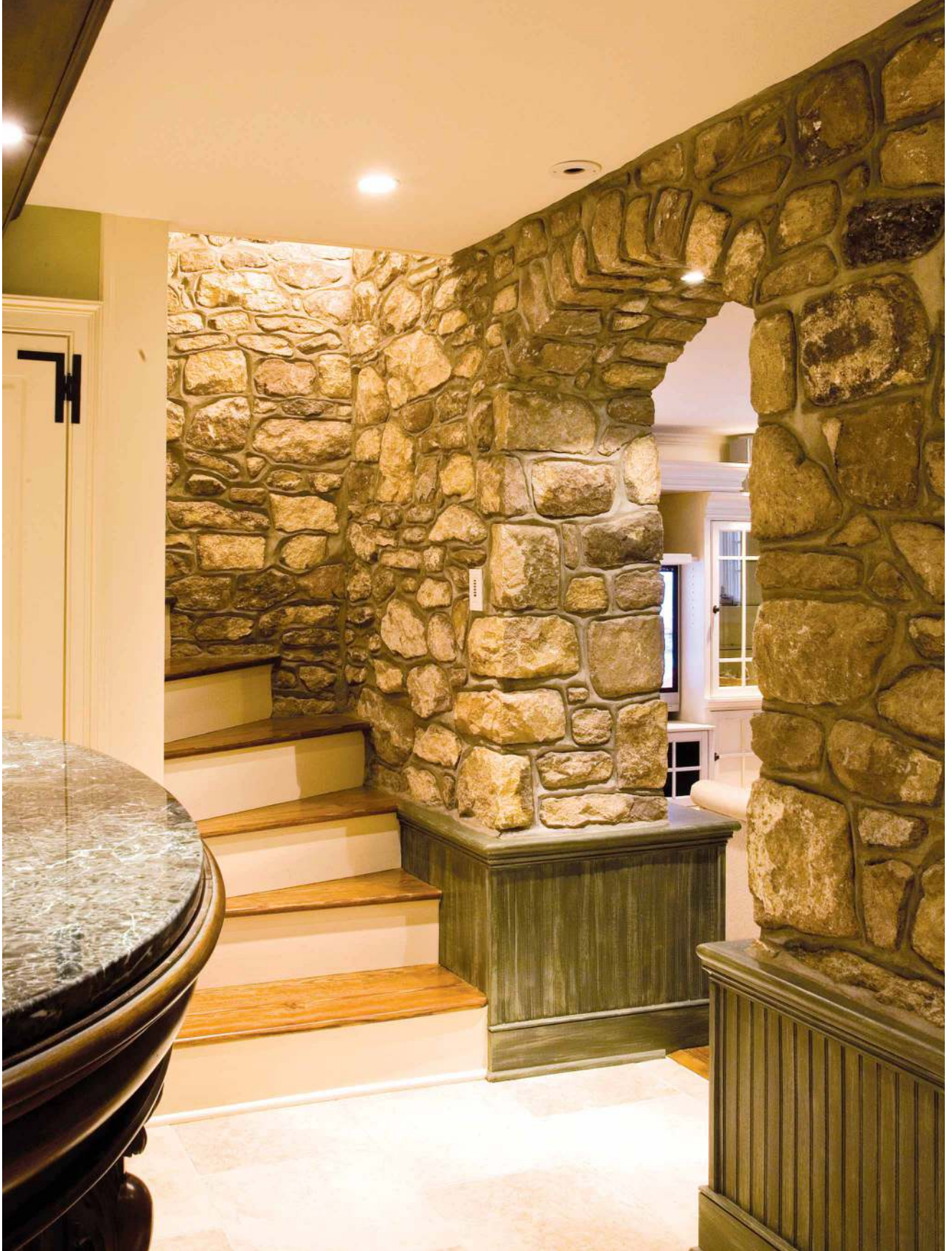


The L-shape addition would embrace a corner of the house, making the previously exterior stone wall an interior wall for the dining area. The two-story home was faced by this stone wall, but an important point was that the wall also extended below the first floor to the basement area. Herein began one of the challenges of the project.

According to John, whenever he begins to work on an historic project, there are inherent challenges—ceilings may be too low, closets may be lacking, space may not flow properly. “It is the challenge that invigorates me,” he enthused. “Every challenge begs for a solution that I cannot wait to find.”

The aforementioned stone wall is a structural load-bearing wall. William wanted to have full use of the old and new basement, but the





*Opposite top, green painted molding conceals the concrete that underpins the stone wall. Basement now is functional as a family gathering location for television viewing and relaxation. The room now resembles an old English pub. Bottom left, a backhoe was used to scoop out dirt from the old basement floor. The opening was later finished as a stone archway, uniting the old and new basements together. This section of the basement was under the old kitchen on the first floor. Above, a new winder staircase had to be constructed, as well as the stone archway.*



existing basement had a very low ceiling. Its floor had to be dug deeper, so that the old basement floor would be in alignment with the new basement. Now John had to figure out a way to underpin the stone wall, and dig beneath it. "You must remember that this wall was built hundreds of years ago, with stone and mortar holding its exterior together, and its interior stones were bound together with horsehair and mud," John said. "We had to figure out a way to dig under this wall without having two stories of Pennsylvania stones becoming unstable. It is a testament to colonial craftsmanship that not one stone tumbled out of place during this excavation."

John devised a system of digging under the wall in three-foot increments, digging the dirt out by hand! A hole was made in the wall that was just large enough for a backhoe to scoop out the dirt assembled from each section. That three-foot space was then shored up and cemented, allowing the workers to move on to the next three-foot increment. Using this laborious method, John was able to dig below the entire wall, creating a new, deeper floor. He utilized beadboard panels to conceal the newly cemented wall, painting it a faux green to give the panels a more colonial appearance. "A great advantage of using beadboard panels is that they can easily be replaced, should there ever be any water damage in the basement," Kristine added.

The hole that served as a window for removing the dirt was eventually converted into a stone archway, which connects the new basement space with the old. If you look closely at the stone wall visible in the basement, you will note that the wall is not straight. That is not an optical illusion; the wall is in fact wavy. "We believe the original builders shoved stones into the wall in any fashion, using mud to hold the stones together," Kristine surmised. "They probably never imagined that this portion of the wall would be visible to anyone, but I see it as an unintentional architectural element to this new space."

The basement rooms provide adequate space for family living, lots of room for television viewing, and a handsome mahogany bar for adult refreshments. Kristine wanted to replicate the look and feel of a London pub, and she achieved that result.

But the same stone wall posed a further challenge to John. Usually, when he works on an addition, he constructs the walls, the roof, and then continues on to the interior spaces. However, with the Thum property he had to reverse the process with the roof being the last part of the construction puzzle. Defining the problem led to its solution, which focused on the kind of kitchen Kristine wanted.

She had been dealing with a poorly lighted kitchen that would test the mettle of anyone who loves to cook, as she does. A previous owner decorated the walls with pink ceramic tile, covering a beautiful stone fireplace in the process. Furthermore, a plaster ceiling concealed a row of beams that today have been refurbished to a lovely burnished tone. The cabinetry appeared to have been homemade, with tongue and groove cabinets housing stationary shelves. "We described the kitchen as a built-in-place," said Kristine. "John stripped the walls down to its basics, so that we now use that room as a welcoming foyer, centered as it is to the rest of the house. A window was made into a door, leading into the kitchen of my dreams."

William and Kristine were quite specific in their requirements for the new kitchen. Aside from what one would expect in terms of conveniences, they were insistent that the character of the kitchen be in keeping with the existing farmhouse. John found a solution in the person of Matthew Kanagy, owner of Kanagy Timber Frames, LLC, from Perkasio.

"When I first began working on the Thum project, I assembled a team of experts who could be called upon regarding various phases of construction. I knew Matt to be the go-to guy for working with original barn beams," said John. As it turned out, Matt was in the process of dismantling the John Souder barn in Telford, and he carefully transported the barn beams via tractor trailer to his own facility.

Matt's assignment was to construct trusses on his site. He selected the best examples of oak from the collection of beams, noting that oak was the predominant species used for building barns in the Central Bucks area. At the same time John was building the kitchen walls and gables, so it was imperative that the two

men were coordinating their work to precise measurements. The complexity of their work lies in the characteristic of the wood itself.

"Working with old wood is challenging," Matt explained. "The beams were originally hand cut with a broad axe, so that the sides of the beams are rough, with no straight edges. Having exact measurements was key to building a successful truss and gable system. Moreover, we wanted to make the trusses authentic so we used a mortise and tenon method."

The basic idea of mortise and tenon construction is that a hole (mortise) is made into one end of a timber, and a tenon, the cut end of another end of timber, is inserted into the mortise. They are peg holed to secure the two ends together to make a 90-degree angle, forming the truss. The process is extremely labor intensive and necessarily precise.

Once the trusses were completed, Matt brought them to the property, where John had a large crane, ready to set each one in place on the walls. The result is a canopy of gables and trusses, with only two nails used in the entire ceiling. Depending upon where you are seated in the kitchen, the trusses form a visual pattern that alternates its shape based on light that streams into the room.

The next step in the addition project was constructing the roof, and herein lays another construction challenge. Bucks County farmhouse roofs are typically 18 feet wide, and the pitch of the new addition needed to be exactly the same as the roof pitch of the farmhouse. "If I made the pitch of the roof too high, the roof would hit existing windows and block their view; if I went too low to avoid that problem, the two roof pitches would not match," said John.

John solved this problem by building what is known as a cricket roof, which is a small cut-out from the existing roof. The view from the window is not impaired, and the cricket roof allows for water to be diverted from the main roof. The pitches for both the original farmhouse roof and the addition are exact—a harmonious solution.

Since the roof is made of slate, John borrowed another idea from the colonists that of installing pegs that prevent winter ice from sliding off the roof. "Someone could be seriously injured or



killed by a chunk of ice falling from above," John informed.

Because Kristine had labored for so many years with a dark kitchen, she was insistent that the addition have plenty of natural and artificial lighting. John used a traditional window design to flood the dining area with natural light. Five large windows were installed on the wall opposite the original stone wall. Above them, John added a clerestory, or clearstory, which in architectural terms, is a row of windows above eye level that allow light into a space.

"The colonists were green long before it was fashionable to be," explained John. "Clearstories stand the windows up from the roof at 90 degrees, which reflects light into the room at a 45-degree angle. The homeowner gets the benefit of light, but does not lose heat as one does with a modern skylight. The challenge with clearstory installation is that framing must be exact."

As for artificial lighting, John established six different zones of lighting that are controlled by an unobtrusive switch and master board. Two zones are for general room lighting; two illuminate the areas where kitchen tasks happen, and the remainder, for accent and dramatic effect. Be it day or night, the kitchen is well lit.

The same exacting attention to detail was given to the flooring, which uses a radiant heating network under travertine stone tiles. The travertines are antique in tone, reflecting the same color palette as the stone wall itself. When the tile installer wanted to use a traditional method of filling the spaces between the tiles with grout and then

spreading the surface to a smooth finish, John himself had to intervene with a more labor intensive technique. Using his finger, John made a tiny trough between all the tiles, slightly exposing their sides. The final effect is that the floor appears more authentic to the original era of the dwelling.

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The task oriented area of the kitchen is dominated by the center island, which is composed of three elements. A maple wood table provides seating for casual dining, while actual food preparation can occur either on the butcher block inset, or on the granite top counter. "Family and company

seem to gravitate to the island," said Kristine, "and I enjoy the companionship while I am preparing the food."

Another major component to this section is a magnificent French stove. This particular Lacanche stove uses cast iron, brilliant blue enamel and brass, a cook's dream stove come true. Decoratively, the stove anchors the colors of the kitchen itself, warm golds and blues reminiscent of the Provence, France countryside.

The entire time taken to complete this addition was approximately nine months. The project was finished by the spring of 2007. John's work earned Gemmi Construction a coveted 2008 National Contractor of the Year Award in the category Residential Historical Renovation/Restoration issued by National Association of the Remodeling Industry (NARI).

Aside from the major construction challenges that were undertaken, John completed other projects. He created custom cabinetry for coats and shoes in the newly designed welcoming foyer. That custom work is so precise that its molding is in perfect alignment with the molding in the more formal entrance way that he also created, which replaced an existing porch.

"William and I wanted a space that future homeowners could enjoy and appreciate," Kristine said. "I believe we three achieved that goal."

Visit [www.gemmiconstruction.com](http://www.gemmiconstruction.com) or call John Gemmi at 215-340-4600 for further information. ♦

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