



Solving the Challenge of Recreating “Period” Architecture: *Oldcastle’s DUFFERIN® Stone Allows Georgia Church to Realize its Byzantine Dream*

By
Neal Sugarman

For years, architects, designers and builders across North America have been using brick (with varying degrees of success), as the primary building material in their quest to create modern structures that replicate Byzantine Period architecture. The products available to complete these enduring edifices have been limited by color, size, shape and quality – until recently. In fact, the Holy Transfiguration Greek Orthodox Church in Marietta, Ga. not only accurately reflects 8th century structures built in the ancient city of Nicea, Asia Minor (now Iznik, Turkey), but also uses unique 21st century products by Oldcastle, Inc. for an authentic but more cost effective result.

The XX,XXX square foot church was constructed using a combination of DUFFERIN® Stone masonry veneer and brick, while the accompanying 600-seat outdoor amphitheatre was built using the Country Manor® retaining wall system and Belgard® antiqued pavers – all part of the Oldcastle family of products. The finished structures embodied the Holy Transfiguration leadership team’s vision, reflecting the ancient Byzantine building style in its design, materials and craftsmanship.

In order to make their ancient Greece-inspired vision a reality in 2001, the Holy Transfiguration leadership team retained San Francisco-based architects, CJK Design Group. Selected based on their knowledge and experience building Byzantine-Orthodox structures, CJK Design Group was commissioned to develop plans for a 460-seat church and 600-seat amphitheatre using building materials that recreated the signature look of ancient Greek and Byzantium masonry structures.

The Holy Transfiguration leadership team wanted a structure that would last for generations, yet fit within a conservative budget. The CJK Design Group, led by President and Principal Architect Christ Kamages, developed concepts for the church that included a “cross-in-the-square” structure popular during the 8th century. This model prescribes that the structure be built with a general square form and a cross shape superimposed above it. The church also needed to comply with the historical architectural elements of a Greek Orthodox Church, which included a magnificent 45,000-pound copper dome.

CJK’s initial design challenges were increased by the need to identify building materials that would reflect an authentic appearance, were structurally sound and ultimately, cost-effective. The leadership team initially approved the use of an all-decorative brick, but changed their minds when Kamages introduced them to a more efficient and cost-effective building material.

The Solution and Results

The building material, DUFFERIN Stone, is a modular masonry veneer manufactured by Oldcastle® Architectural Inc. The durable building material has a natural stone appearance with an antique finish that not only maintains its color over time due to the variegated pigments throughout, but more importantly, requires virtually no maintenance..

The product was so visually compelling, flexible, easy to use and cost-efficient that it led Kamages to modify the church's design from an all-brick structure to one primarily utilizing DUFFERIN Stone, with architectural brick bands in the middle of the stone fields as accents. This gave the structure the authentic, Old-World appearance the leadership team had envisioned.

The 600-seat outdoor amphitheatre was designed to host festivals, concerts and community events. The materials selected to build this structure needed to complement the church and be strong enough to stand the test of time.

Based on these requirements, CJK Design Group selected the Country Manor retaining wall system from The Keystone Group and Belgard pavers from Bosse Concrete Products – both companies are under the Oldcastle Architectural Inc. umbrella.

Country Manor offers the appearance and craftsmanship of hand-laid stone with the advantages of segmental wall construction and design. In addition, Country Manor units are incredibly versatile because of their unique one square end and three-textured side design.

Some outdoor amphitheatres have rocks or grass in between the seats, but the church leadership team opted for a complete stone structure. Belgard's Dublin Modular three-piece pavers were used in between the risers and on the amphitheatre floor to complete the authentic look. Belgard pavers are also antiqued and the color blends are variegated throughout the units to produce the rich, authentic look of Old-World natural stone.

Getting the Job Done

The amphitheatre's assembly took five weeks. The builders placed different sized Country Manor products in a random layout to recreate the texture, color and appearance of an 8th century structure. While the high-strength concrete modules look like natural stone, they have the industry leading Keystone pin-assured connection technology that creates perfectly straight walls where needed, or simplifies the creation of gracefully curved walls.

Once the amphitheatre was underway, Key Masonry, the selected contractor began construction on the church using DUFFERIN Stone for the first time. Per the design, brick was worked in only as an accent material to the DUFFERIN Stone, horizontally at 2'8" vertical intervals. Since DUFFERIN's modular design requires little onsite alteration, labor costs are significantly lower than an installation using natural stone.

The Dream Realized

The church leadership team could see that the finished project would exceed their expectations even before it was finished.

“Our original decision called for an all-brick church, and we are certainly glad we used a combination of DUFFERIN Stone and brick instead,” said Alex Miltiades, the construction committee chair. “We want our ‘Byzantine Jewel’ to be timeless. We built this church to last for hundreds of years like the ancient structures that have inspired us.”

Kamages predicts DUFFERIN Stone will be used increasingly for Old-World inspired structures around the country. He says, “DUFFERIN Stone is an excellent high performance material that is not only cost-effective and beautiful, but also connects the church with its ancient roots. We look forward to using it on other projects throughout the United States.”