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Photo by Alan Carville/www.alancarville.com (Valletta, Malta)

The exterior facade of the tiered three-story Chancery that is part of the new U.S. Embassy compound in Valletta, Malta, features a base of local Franka Rockface limestone paired with honed Galala Classic limestone from Egypt.

Maltese limestone anchors U.S. Embassy to community

In addition to contributing to LEED certification, the use of local limestone for the new U.S. Embassy compound in Malta demonstrates the U.S.'s commitment to the local people and government

by Jennifer Adams

Stationed in the middle of the Mediterranean Sea — directly south of Sicily and north of Libya — is Malta, a group of seven islands of which three are inhabited. The largest of the three is Malta. With low rocky terrain and sandy soil, the

land is rich in limestone. Recently, a new U.S. Embassy compound was built in the island's capital of Valletta — featuring an extensive showcase of stone, including Maltese limestone. The use of the local limestone not only reflects the style of the island's existing

architecture, but contributed to overall LEED certification.

Under contract with the U.S. Department of State, Bureau of Overseas Building Operations, the U.S. Embassy Compound was designed by Karn Charuhas Chapman & Twohey



Photo by Alan Carville/www.alancarville.com (Valletta, Malta)

One of the primary reasons for selecting Maltese limestone was because it fell within the 500-mile radius that would qualify the material towards LEED certification. The architects also liked the idea of using a local stone that would tie the Embassy to the region.

Contrast is added to the building's exterior design with polished Imperial Red granite.



Photo courtesy of Karn Charuhas Chapman & Twohey

(KCCT) Architects of Washington, DC — a firm specializing in U.S. Embassy design. The project team included Principals John Chapman, AIA and Paul Phillips, AIA, LEED® AP, Project Designer Daniel Lavoie and Construction Administrator Shokouh Amin-Khalilian, LEED® AP, CDT.

“When we begin a design in a foreign country — especially ones we haven’t been to before — we team up with a local contractor and design firm,” explained Phillips. “We explore the country and look at the local surroundings to get a sense of the vernacular architecture. We visit the nicest buildings such as hotels, resorts, office buildings and talk to the property managers to see where their stone finishes originate from — find out if there are regional sources available.”



Joints were sealed with Sika Sikasil WS-355 sealant and the stone was sealed with Sika Conservade-5 sealant. The stone pieces were secured to the building with an anchor system.

According to Phillips, stone represents the baseline of quality for U.S. Embassy designs. "Embassies should be portrayed as diplomatic facilities," he said. "Stone represents the engagement of the U.S. Department of State and the designers to the permanence and timelessness of these diplomatic missions, as well as the U.S. commitment to diplomacy in these countries."

"We have a stone consultant in Alicante, Spain who understands the different strengths, availability, cost and fabrication methods of stone around the world," Phillips continued. "We consult with him on regionally available stone types and finishing techniques and he facilitates visits to fabricators for inspections and mock-ups."

Choosing local limestone

From the start, the decision had been made to use local stone for the new U.S. Embassy compound, which consists of eight buildings, including the Chancery, three compound access control buildings and marine quarters as well as utility, warehouse and recreation facilities. While the tiered three-story Chancery is built of stone, the ancillary buildings are buff-colored stucco.

"We wanted to use local stone from the beginning — not only because it is such a prominent element in the local architecture, but because it provided great benefits for sustainability in this LEED certified project," said Paul Phillips, AIA, LEED® AP, Principal at Karn Charuhas Chapman & Twohey Architects in Washington, DC.



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The roughness of the Maltese limestone pieces brings texture and character to the design and displays the craft of stone working.

tainability, with LEED in mind," said Phillips. "We wanted to use stone from within a 500-mile radius. In Malta, we have a pretty good range of resources. We could have utilized stone from other countries, but we decided it made more sense to use the local limestone because of its beauty and locality."

"Another good reason to have used regional and Maltese materials is because of the diplomatic nature of Embassies," continued the architect. "It's very nice when U.S. representatives discuss with local officials about the design, and they can say that it used local materials, local laborers and local methods of installation. The decision was made early on to use Franka Rockface limestone, [also called Maltese limestone], for the base of the building."

Phillips explained that there are two primary types of regional limestone. "There is one on the great island of Malta, which is very soft, and one on the neighboring island of Gozo that is extremely dense and very hard, but doesn't have the vibrant color," he said.

"We were concerned about the softness of the Franka limestone," the architect went on to say. "However, by working with the fabricator and the testing lab we were able to increase the thickness of the stone to achieve the desirable stone sizes which were mechanically supported to the concrete facade."

According to Phillips, the design team was introduced to many fabri-



Imperial Red granite clads the exterior facade of the controlled access building.

"Stone represents the baseline of quality for U.S. Embassy designs," said the architect. "They don't like to use cheap materials. They want to create a sense of permanence and timelessness that represent the engagement and commitment the U.S. has made to these countries."

cators in Malta. "They are more like artisans," he said. "They showed us how they hand carve heavy pieces of stone. They sculpt the stone. I think it is a much better look. The handcrafting is interesting and better displays the craft of stone work than machined blocks."

"There were stone engineers that put together mock-ups on site," the architect went on to explain. "We couldn't polish the limestone because it was too soft, but it could be honed, split-face or rock-face. The rock-face was selected as it represented nicely the way stone is used in Malta."

Additional consideration had to be given to how many installers would be needed for the project and the best method to install the limestone. "We did a sealed facade instead of open joints," said the architect. "The sealant was very critical, as it could bleed into the stone and discolor it. That's why we used a silicone sealer that was tested on the limestone to prevent this."

Joints were sealed with Sika Sikasil WS-355 sealant and the stone was sealed with Sika Conservade-5 sealant. The stone pieces were secured to the concrete building with a mechanical anchor system.

Extending the stone palette

In addition to Maltese limestone, a variety of stone from Egypt as well as other countries was also chosen for the design of the 98,000-square-foot facil-



Photos by Alan Carville/www.alancarville.com (Valletta, Malta)



For the flooring and monumental stair in the atrium of the office building, a combination of Sunny Light and Khatameya (Sahara Beige) marble — both from Egypt — and Rojo Alicante marble from Spain were employed.



The coloring of all of the stone varieties used in the Embassy design creates a warm feel and reflects the surrounding landscape.



The limestone employed for the interior floor was quarried in Sinai, Egypt.



The wall behind the monumental stair features Frank Rockface limestone and honed Galala Classic limestone.

ity, which sits on nearly 10 acres. "We utilized other stone that came from Egypt," said Phillips. "We chose stone from quarries in the Sinai area."

Complementing the Franka Rockface limestone base of the facade is Egyptian Galala Classic limestone with a honed finish and polished Imperial Red granite. For the flooring and monumental stair in the atrium of the office building, a combination of Sunny Light and Khatameya (Sahara Beige) marble — both from Egypt — and Rojo Alicante marble from Spain were employed. The wall behind the monumental stair features Frank Rockface limestone and honed Galala Classic limestone. Moreover, the countertops in the common bar area in the office building and entrance building are fabricated from

Anarello Capri limestone.

The design team chose the stone varieties because they complement Valletta's landscape and vernacular architecture. The site plan is organized around Bronze Age and Roman archeological remains that were discovered during excavations. "The building sits on an old archeological site," explained Phillips. "We had unearthed burial chambers carved into the limestone strata." A central stone garden features several of the rare structures.

Approximately two-thirds of the site is designed as a xeriscape — with the remainder utilizing native plant species adapted to minimum water consumption. Large underground cisterns capture rainwater on the site for irrigation and other non-potable uses. "There

is a good marriage between the building and the landscape," said the architect.

The design of the U.S. Embassy Compound began in late 2007 and construction commenced in 2008. The facility was ready for occupancy by July of this year. □

U.S. Embassy Compound Valletta, Malta

Architect: Karn Charuhas
Chapman & Twohey (KCCT)
Architects, Washington, DC
General Contractor: American
International Contractors, Inc.
(AICI-SP), Arlington, VA
Landscape Architect: Rhodeside &
Harwell, Alexandria, VA