

WHY MASONRY?

CASE
STUDY



CHILD DEVELOPMENT CENTER – MARINE CORPS BASE CAMP PENDLETON, CA



SUPPLIER:

ORCO Block Co., Inc

GENERAL CONTRACTOR:

Harper Construction Company

ARCHITECT:

Cass | Sowatsky | Chapman + Associates

MASONRY CONTRACTOR:

Frazier Masonry Corporation

This is a design-build project for a new Child Development Center to serve the children and families of Marines stationed at the Marine Corps Base at Camp Pendleton, CA. The 10,000 sf structure contains 18 classrooms and support space for infant, preschool and elementary aged children.

The overall objective was to create a facility compatible with the existing Base architecture that truly embraced its site as well as the fundamentals of the Reggio Emilia educational philosophy which emphasizes learning through the experience of touching, moving, listening and seeing. The challenge for the team was to develop a design for a child development center at a military base which would evoke a sense of warmth and community and still meet the same high standards that would be expected for this type of building in the private sector.

Although the most logical material for a child development center would be a steel-framed or a wood-framed structure, this design-build team opted for something different. Working in partnership with Naval Facilities Engineering Command Southwest (NAVFAC SW) and the U.S. Marine Corps, the team chose concrete masonry as the dominant construction material because it met all of the client's objectives with its durability, sustainability, ease of maintenance, cost effectiveness and compatibility with the project's surroundings.

This one-story structure was designed and built with buff-colored reinforced concrete precision masonry structural walls with complimentary split-face masonry accents and hipped standing seam metal roofing, making it fully compatible in design with the existing structures at the Base.



At the main entrance, the designers took advantage of the flexibility of CMU by creating a round tower entry structure which contrasts with the adjacent building massing and provides a strong focal point. The use of both split-face and precision units in various colors gave the façade interest, a human scale and a playfulness which is well-suited to the project mission. The precision units were used at the building's base to provide a smooth surface where it would be touched by children and bands of split-face were used higher on the façade. Red brown units, used at the base so the dark color would ground the building, were also used in both precision and split-face textures, giving subtle distinction, while split-face wheat units also provided relief within the overall field of precision sourdough-colored units.

A continuous, covered perimeter courtyard walkway provides protection and is the main circulation element that connects all building spaces. A metal-roofed gazebo occupies the west end of the central courtyard to serve as a flexible, shaded location for unlimited activities and displays. The gazebo form recalls the building form of the main entrance tower that together with the elaborate courtyard landscape features and user furnished elements, helps provide delineation and scale to the courtyard.

The use of concrete block was also instrumental for the project to achieve LEED Gold certification from the U.S. Green Building Council. From the high performance nature of the block, to regional and recycled content qualities, to reducing waste generated on-site, concrete masonry products provided versatile building components that could take advantage of multiple synergies within the LEED program.

CMU units are sustainable in nature due to their high performance qualities. The thermal mass found in concrete masonry units reduces the amount of insulation required to maintain optimal



interior temperature, resulting in less heating and cooling of the building. Concrete masonry blocks are very durable and have a low life cycle cost. CMU walls are virtually maintenance free and do not require painting or chemical treatments and their finish qualities including color, texture, and configuration, promote efficient use of resources.

Concrete blocks proved to be effective components in the calculation of the project's sustainable qualities. Our team worked directly with local manufacturers to fabricate a new line of block that featured an increased amount of recycled content. This also resulted in reduced transportation and shipping costs, as well as the maximization of regional qualities of the materials brought to site. The use of concrete masonry units also allowed the project to substantially reduce the amount of waste generated on site. All unused block units were returned to CMU suppliers, while broken and cut block units were separated from project waste and returned to the manufacturers for incorporation back into the fabrication process.

The use of CMU in this project provided multiple levels of opportunities for sustainability. By working with local suppliers, the project team was able to achieve the highest benchmarks in the LEED program, driving the project to achieve Gold Certification, instead of the Silver level initially targeted.

Additional Photos

