Profiles in Architecture
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CMU
Why Masonry?
www.whymasonry.org
Concrete Masonry Association of California and Nevada

Inside this issue:
Schindler Residence 2
Menlo Park Residence 3
Child Development Center at Twentynine Palms 4
Blossom Plaza 5
Moonlight State Beach 6
Fr. Allen DeLong Center for Arts and Athletics 7
Architect’s Commentary: This historically recognized midcentury modern home, originally designed by Architect Francis Joseph McCarthy in 1949, was remodeled and expanded with a deep appreciation and respect for the original design. The Secretary of the Interior’s standards for historic preservation and the federal standard for preservation were maintained in the design of this project. Key elements of the original home that were restored included: vertical privacy louvers, floor to ceiling wood window walls, and interior and exterior wall finishes. The additions followed the fundamental formal and spatial language of the original design, while introducing new materials and detail.

Embracing the formal and spatial precedent of the original, the new additions form stacking and shifting ‘L’ shaped plan elements floating above the courtyards. These courtyards enhance the original inside-outside lifestyle desired for this home. Midcentury design features such as louvers, a simple shed roof and an abundance of glass, were highly valued and maintained in the new design.

Why Masonry? At the front of the house, the desire to elevate the third floor addition above a light included the introduction of a polished concrete masonry unit (CMU) wall, both for structure and to add strength, and for quiet sophistication and levity to the courtyard. Balanced with raw concrete with rough formwork, the concrete masonry units stand out with a smooth, polished finish, and the red rock in the mix married well with the clear finish cedars that were used to add warmth.

At the side of the house, CMUs created a strong base for the widened garage floor, both structurally and aesthetically. The introduction of concrete masonry units enhanced the original angle of the structure when juxtaposed with the ordered lines of the stacked block.

At the rear of the house, the tall, polished CMU wall provides privacy from the street for both the hot tub and the outdoor shower. The ordered block provides a strong backdrop for the delicate plantings in the yard, and the introduction of polished concrete masonry units into the material palette of the home was critical to giving the design of the additions strength and polish.

Other Sustainable features include:
- Solar orientation of the spaces
- Wood or frosted glass louvers for sun control
- Natural cross ventilation
- Natural daylighting in every room
- FSC-certified lumber and cedar siding
- High efficiency insulations, windows and lighting
- Cool roof/green roof ready
- Photovoltaic solar power
Architect’s Commentary: A remodel and addition to an early midcentury modern Eichler home in Menlo Park was motivated by the owners’ love of the original house. The decision was made to maintain as much of the original house as possible, while expanding strategically out and up in a modern language compatible with and inspired by the original.

Understanding that renovations can be the ultimate in sustainable architecture, the center portion of the house was carefully dismantled and repurposed while leaving the private spaces at the ends of the original house to be restored. This allowed the expansion of the public spaces: entry, kitchen, dining and living in the center. Taking advantage of the temperate climate of Menlo Park, the modern ideal of indoor/outdoor living is achieved at the double height great room that completely opens to a patio with the help of a large seven-foot tall by 22-foot long multi-panel pocket sliding glass door.

Custom polished concrete masonry units (CMUs) were used at the entry of the home and move from the outside to the inside. Outside, the polished block is up-lit and holds the house numbers. Inside, a recessed nook in the CMU holds a wooden carving.

To the right of the entry was a large old tree with roots that rose above the ground. There was a desire to build the concrete masonry wall all the way to the property line, but there was also a great interest in saving the tree. In a strategic manner, a large, raised concrete beam was built above the roots of the tree to give them space to grow and move. This allowed the CMU wall to be continued on top of the beam, and was a simple and fun solution.

Why Masonry? The polished concrete masonry units add a level of sophistication and elegance while being durable and strong - the perfect material for a family with young children who are notoriously hard on surfaces!

Other Sustainable features include:

- Solar orientation of the spaces
- Broad eaves for shade
- Natural cross ventilation
- Natural daylighting
- FSC-certified lumber and cedar siding
- High efficiency insulations, windows and lighting
- Thermal mass polished concrete floors with radiant heating
- Cool roof
- Photovoltaic solar power ready
The Child Development Center (CDC) at the US Marine Corps base in Twentynine Palms aspires to demonstrate that design of the built environment can provide rich learning opportunities for young children’s actively developing minds as they discover, explore and develop their level of understanding of their world.

The CDC’s Child Activity Rooms are organized around a sheltering Courtyard plan, oriented to the cardinal north-south-east-west directions, creating a shared outdoor common space protected from the harsh desert environment with intentionally placed views out to the surrounding desert, mountains and principal landmarks.

Within the Courtyard, a shared ‘Atelier’ children’s studio provides an open, light and airy place for children’s creative play and artwork with work-tables, benches, supplies and exhibit spaces.

The Architectural form of the Twentynine Palms Child Development Center responds to the Mojave Desert’s extreme climatic and environmental conditions, providing a variety of shaded and sheltered interior and outdoor spaces designed and constructed with the owner’s stated intention to redefine what Marine Corps families can expect from a Marine Corps Child Care facility.

Design elements were incorporated to offer opportunities for engagement and stimulation of the children’s natural curiosity and capacity for learning both about nature (things growing and responding to the energy of the sun and the rhythmic cycles of the earth) and architecture (exposed structure, various materials, textures and colors, the varying qualities of sound produced by changing ceiling heights within connected interior spaces and the visual contrasting qualities of sunlight vs. shadow vs. filtered light vs. shade).

**Why Masonry?** Among other accomplishments, this project was the Navy’s first net-zero facility, generating as much renewable electrical energy from its artfully-designed photovoltaic ‘tree structures’ as it consumes over the course of a year from both natural gas and electricity. With quality building materials such as concrete masonry units (CMUs), even in a harsh desert climate the building can easily maintain a consistent temperature and withstand weather, wear and tear and everyday use to ensure an enriched learning environment for many generations of Marine Corps children. The project was awarded LEED® Silver by the US Green Building Council, incorporating a highly insulated building envelope made of CMUs, a high performance mechanical system, a natural daylighting system, photovoltaic panels and sustainable materials with low volatile organic compounds.
Architect’s Commentary: Located on a two-acre infill site in the heart of Los Angeles’ Chinatown, Blossom Plaza is a vibrant and culturally rich mixed-use, transit oriented, gateway development. The project serves as the main pathway from Chinatown’s Historic District to the elevated METRO Gold Line station through Blossom Plaza’s Cultural Plaza and Commercial Paseo. 19,000 square-feet of public space accommodates neighborhood events and features paving marked by patterns that reflect historic Chinese geometries.

The architecture of Blossom Plaza, while contemporary, is defined by shape and color panels drawing inspiration from the signature elements of traditional Chinese architecture. A wide range of environmental building, site, and construction strategies led to a LEED® Gold certification for the project.

20,000 square-feet of retail space looks onto Blossom Plaza’s Commercial Paseo and North Broadway - Chinatown’s “Main Street”. A Hong Kong orchid tree provides brilliant seasonal color in a dedicated planter centered in the main Paseo Plaza, while a series of pedestrian bridges soar above the commercial arcade where views of the suspended colorful lanterns seem to hover in mid-air.

There are 237 apartments, including 53 affordable units, resulting in a density of 118 units per acre. A diverse array of residential amenities includes a spacious and well-appointed clubroom, a state-of-the-art fitness center, an outdoor courtyard with water and fire features, two barbecues, a children’s play area and a pool terrace.

A combination fog and water feature with granite boulders imported from China forms a focal point in the public Cultural Plaza leading to the MTA light-rail station. California’s requirement to capture and feed rainwater back into the storm sewer system was met with several large planters positioned around the project site. These concrete masonry unit vessels hold the first ¾” of rainfall and release it slowly, thus easing the load on the City’s sewer systems.

Why Masonry? Blossom Plaza utilizes a variety of concrete masonry unit (CMU) patterns and thicknesses to enhance the overall aesthetic of this mixed-use project. From the beginning, the design team saw the maintenance of the three-color banding ‘stripe’ pattern, as well as the stepping in and out of the blocks on the below podium wall on the sloping College Street façade, as critical to the aesthetic they were striving for. Due to concerns over wall thickness where the concrete masonry units were to ‘cover’ a concrete shear panel behind, the CMUs in those locations were changed to an anchored veneer to ensure a seamless look. This veneer is essentially the exterior wall of the concrete masonry units. This maintained the look, minimized the thickness and cost of the wall, and satisfied everyone involved.

Along College Street, a freestanding feature wall (clipped only at the top, to the podium above, and anchored at the bottom) enables the stepping in and out of CMUs. This necessitated some clever problem solving utilizing custom CMUs with sealed tops and bottoms for half the width, and the extent to which the steps could be pushed given gravity, aesthetics, structural and seismic concerns and the proximity to the project’s property line at the back edge of the sidewalk. In the end, a two-inch step in and two-inch step out was the agreed upon dimension with three widths of block: six, eight and ten-inch.

5. CMACN 2017 April Issue of “CMU Profiles in Architecture” 5.
ARCHITECT’S COMMENTARY: The Moonlight State Beach renovation consisted of removing the existing concession and restrooms, which were half a century old, and creating a new facility with modern features. Moonlight State Beach is made up of a 3,600 square-foot restroom and concession stand. It also includes a 950 square-foot garage that is used for storing equipment and lifeguard trucks. The top of the garage serves as a public outlook area to the ocean.

The new restrooms, concession and lifeguard storage facilities bring new life to the City’s beach gem. Naturally lit and ventilated, the new restrooms are very family friendly and can accommodate a crowd, especially with the newly added family stalls. The buildings are recessed into the hillside, creating more usable beach space, better supervision of the playground and greater public views of the ocean. The public view deck is located above the lifeguard garage, and creates a community asset from what could have been an obstruction. Materials and roof forms resemble area bluffs and wave forms, creating playful architecture at home in this beach town.

WHY MASONRY? This project is situated in an environmentally sensitive coastal area, which is in close proximity to coastal bluffs and subject to ocean forces. For this reason, concrete masonry units (CMUs) were selected to provide strength and durability. The CMUs are weather resistant and will hold up to storms, heat and U.V. degradation.

Selecting a building material that was low maintenance was another important factor. Concrete masonry units will provide a long-lasting, attractive finish. In addition, concrete, sedimentary walls were poured in lifts of alternating colors, with varying surface treatments, to mimic nearby coastal bluffs. Subtle curves further enhance the beach experience.
Architect's Commentary: This facility was programmed and designed as a combination of assembly seating and a gymnasium for basketball and volleyball. The east wing holds coed locker rooms, toilets and physical education offices. The west wing houses band and choir classes with direct access for performances on the stage.

Between the wings lies the lobby with public restrooms, concessions and a donor wall. Light enters this area through a high semi-circular clerestory window that admits high light to express the marble donor wall and matching floor tiles.

The primary façade of the building is composed of split-face concrete masonry units (CMUs) with bands of scored split-face units. The breadth of the building encompasses an outdoor amphitheater for student activities and outdoor evening entertainment. The semi-circular seating between four lighted split-face CMU pylons was designed as a transitional element between the upper campus and the lower athletic fields. Each pair of pylons buttress against concrete stairways leading down to the building entry level.

Why Masonry? The buildings were designed of split-face concrete masonry units with face-brick veneer accents. Split-face CMU continues into the public areas to repeat exterior themes.

Concrete masonry units were specifically selected for this project due to their fire resistance for the large assembly occupancy. Likewise, these high traffic buildings are used for high impact sports activities for middle school students, which are notorious for being hard on wall surfaces. CMU will withstand the abuse from these uses for many years. Furthermore, concrete masonry units were not only selected for their durability, but because of their split-face, rustic natured appeal.
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- Providing technical information on concrete masonry for design professionals.
- Protecting and advancing the interests of the concrete masonry industry.
- Developing new and existing markets for concrete masonry products.
- Coordinating Members’ efforts in solving common challenges within the masonry industry.

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