Concrete masonry buildings are aesthetically pleasing with their array of colors, textures, shapes and sizes, which blend well into existing neighborhoods and school, government and business campuses.
ARCHITECT:
Architects Mosher Drew
4206 W. Point Loma Blvd. Suite 200
San Diego, CA 92110
Bill Magnusson, AIA
Principal

STRUCTURAL ENGINEER:
Stedman & Dyson Structural Engineers (SDSE)

GENERAL CONTRACTOR:
C.W. Driver

MASONRY CONTRACTOR:
Modern Masonry

BLOCK PRODUCER:
RCP Block & Brick, Inc.

OWNER:
Grossmont-Cuyamaca Community College District

Architect's Commentary: The project was designed to fit the campus design vocabulary and make use of the site’s natural topography by building the facility on the sloped perimeter of campus. The orientation allows natural canyon valley breezes to cool the lobbies and courtyards while providing picturesque views of Cowles Mountain. The lobbies and courtyards were created to be inviting social interaction spaces to enhance student life for group work or relaxing between classes.

Why Masonry? The locally produced 4" high custom color concrete masonry units (CMUs) tie into the campus vocabulary with deep raked horizontal joints to accentuate the horizontal lines of the building with solid vertical building forms to frame major entries and the lobbies. The concrete masonry also provides a thermal mass that takes advantage of the time lag between the warm and cool times of the day, especially when coupled with the overhangs and balconies for seasonal sun angles. The CMU is used as both vertical and lateral load resisting structure and runs from the exterior into the interior and is expressed in the contact points with people to provide the durability needed for minimal maintenance.

The two-story, 54,200 square-foot building is set into a hillside at the perimeter of campus allowing grade level access to both floors. The building’s program includes a laboratory wing and a classroom/office wing with courtyard and lobby space between them. The courtyard and lobby bring the students together for classroom access and provide opportunity for interaction, group study and outdoor science labs.

The facility provides classrooms, labs and simulation labs for health profession, physical science and forensic studies. The specialized labs include: holography, forensics, occupational therapy, physics and speech pathology. The health professions classrooms and labs simulate hospital and clinical spaces including medical surgical nursing, ICU, respiratory therapy, cardiac catheterization lab, ultrasound, EKG and general nursing. The building and courtyards have many components to enhance the educational programs including a “sensory walk” and rooftop astronomy deck.
**Architect:** WLC Architects, Inc.
2600 Tenth Street, Suite 500
Berkeley, CA 94710

Kevin A. MacQuarrie
Principal

Jackie Bassman
Project Architect

**Structural Engineer:**
Thornton Tomasetti (formerly Dasse Design)

**General Contractor:**
Lathrop Construction Associates, Inc.

**Masonry Contractor:**
Bratton Masonry, Inc.

**Block Producer:**
Basaltic Concrete Products, Inc.

**Owner:**
West Contra Costa Unified School District
Facilities Planning and Construction

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**Architect's Commentary:**
El Cerrito High School is situated on a scenic hill in the East Bay of the San Francisco Bay Area. The original 1934 school campus and subsequent additions had contributed to a campus with a conglomeration of buildings with nooks and crannies that made supervision difficult, coupled with antiquated building structures and systems that desperately needed to be upgraded. After extensive studies and cost analyses, it was determined that it was more cost effective to rebuild the campus to meet current codes and programmatic requirements.

**Why Masonry?** Throughout the design process, an overriding concern for the District was community awareness and participation. The architectural exterior vocabulary specifically requested by the community was that the buildings withstand the test of time, and that the choice of materials and colors complement the surrounding neighborhood. From the District’s perspective, the priorities were that the building materials be durable, easy to maintain, and cost effective. Concrete masonry units fit the requirements.

The design of the 210,000 square-foot new campus incorporates a concrete masonry unit (CMU) veneer base as a plinth and expresses the vertical circulation of the buildings in the same cladding material. At the larger building volumes, the 600-seat theater/administration/library building, the concrete masonry units take on a ribbon-like quality to break up the large mass, as well as framing other elements such as building signage and entrances. At the gymnasium building, CMUs are used for interior structural walls, since it can withstand the activities that occur within this space. The colors and finishes chosen for the exterior veneer were an intertwining of warm tan split face, light gray ground face accent bands, and school color accents of green and brown. Together the colors create an attractive and inviting aesthetic that enhances the image of the school and complements the surrounding neighborhood.

The concrete masonry units, which contain high recycled content, were manufactured locally. All exterior concrete paving utilized “white concrete,” which is lighter in color and reduces the heat-island effect. Additionally, the classroom windows were designed to be flush with the ceiling, allowing natural daylight to be reflected off the ceiling. South-facing windows have horizontal sunshades on the exterior to minimize direct sunlight and heat gain in the afternoon. Classroom lighting fixtures are fluorescent direct/indirect fixtures equipped with dimming ballasts and daylight sensors that enable automatic dimming to reduce energy consumption. A photovoltaic system was installed on the rooftops to generate energy and allow the District to offset some of the school’s operating costs.

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Photo: Genevieve Wolff, WLC Architects, Inc.
The requirement was to create a facility compatible with the existing Marine Base architecture that truly embraced its site, as well as the fundamentals of the Reggio Emilia educational philosophy. The challenge was to do this in a way that would evoke a sense of warmth and community, while meeting the same high standards that would be expected for this type of building in the private sector. The Center was designed in a quad arrangement around a central courtyard with separations in the structure at the corners, effectively creating wings for four distinctive age groups. This allowed easy access to outdoor spaces in the courtyard, while the open corners created a visual connection from the courtyard to the surrounding landscape.

Why Masonry? Concrete masonry units (CMUs) were relied upon as the dominant construction material due to their durability, sustainability, ease of maintenance, cost effectiveness and compatibility with the project’s surroundings. The CMUs easily adapted to the bold, round tower entrance structure. The use of both split-face and precision units in various colors gave the façade interest, a human scale and a playfulness 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; then bands of split-face were used higher on the façade. The darker red brown units in both precision and split-face textures were used at the base to “ground” the building, while split-face wheat units also provided relief within the overall field of precision sourdough-colored units.

The use of concrete masonry was instrumental in achieving LEED® Gold certification for the Child Development Center at Camp Pendleton. From the high performance nature of the units, 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.

Architect’s Commentary: The objective of this design-build Child Development Center is to serve children and the families of Marines stationed at the Marine Corps Base at Camp Pendleton, CA. The 10,000 square-foot structure contains 18 classrooms and support space for infant, preschool and elementary aged children.
LAFAYETTE PARK RECREATION CENTER
LOS ANGELES, CALIFORNIA

ARCHITECT:
Kanner Architects
1558 10th Street
Santa Monica, CA 90401

Stephen H. Kanner, FAIA
Principal

Gerardo Montero
Project Manager

Yukiko Takahashi
Carol Templeton
Project Architects

Mel De Leon
John Mebasser
Project Team

STRUCTURAL ENGINEER:
Miyamoto International, Inc.

GENERAL CONTRACTOR:
Western Alta Construction

MASONRY CONTRACTOR:
Arc-Accucon Construction, Inc.

BLOCK PRODUCER:
Angelus Block, Company, Inc.

OWNER:
City of Los Angeles, Department of Recreation and Parks

Architect’s Commentary: Lafayette Park Recreation Center is the first completed LEED-certified building for the City of Los Angeles. The project is a 15,000 square-foot addition to and remodel of an existing community center resulting in an L-shaped plan. The project includes a gymnasium (with an NCAA regulation basketball court), a large lobby, meeting room, classrooms, an administrative office, community rooms, a kitchen and dining room.

Why Masonry? The design challenge was to deliver an inexpensive public building that would be low to no maintenance, functional and attractive. The solution was to employ inexpensive materials in creative ways to produce a building that is a welcoming destination for the community it serves, which includes over 750 school age children at any given time.

Concrete masonry units (CMUs) were used to complement the brick of the existing building. The CMUs, along with concrete structural foundations, and glass and corrugated metal panels, delivered a durable and easy-to-clean recreational center with a strong visual impact.

In the new building a ramped entry provides access to the gymnasium from the surrounding park. On the northern side of the gymnasium, a glass curtain wall extends up from the floor nearly 30 feet. This introduces natural light into the space and is a visual extension of the park beyond. Around the perimeter of the gym is a concrete masonry unit wall inset with glass block. The lighting effect is dramatic during the day with bright filtered sunlight illuminating the interior spaces. The concrete masonry wall also serves as a structural shear wall element to reinforce the building.

The exterior facades of the gym are clad with corrugated metal siding horizontally banded grey and natural silver, which visually diminishes the height of the building and gives it a pedestrian scale.
Architect’s Commentary: Atwater Crossing is a series of 27 LEED® Platinum certified single family exposed masonry block homes that are under construction in the City of Los Angeles. It is the first of a multi-phase project nestled between Griffith Park and Forest Lawn Memorial Park.

The major design components are four simple, yet enduring, materials: Masonry Block, Concrete, Steel and Glass. These became the solution to the vertically integrated design, providing the strength to allow soaring, open volumes, cantilevered floors, and spectacular uses of the roof. Open spaces extending through all three floors allow natural light to radiate from one floor to another. These homes are to be enjoyed by experiencing the light, shadows, and textures created by the use of these materials.

Finishes and fixtures were carefully selected to enhance the simple nature of the design. Every space is detailed to work in harmony - even the custom garage door integrates into the Mondrian-esque curtain wall facade. Open guardrails provide minimal obstructions, extensive glass, and minimal finishes are used throughout.

Why Masonry? While concrete masonry units (CMUs) are not common in single family home construction in Southern California, they were a natural choice for this uncommon design. Split face CMUs were used on the exterior face of the four-story walls, providing texture and distinctive shadowing. Inside, the precision face of the masonry unit is exposed on more than 50% of walls, proclaiming the material of which it is constructed.

The inherent beauty of cool gray masonry was integral to the design as it allowed the home to express the art collections contained within, while providing the warmth needed in a home. Additionally, the durability of concrete masonry, strengthened by large, exposed steel beams, enhanced the idea that these homes were built for generations to come, not just temporary shelters of wood and gypsum board.

The use of concrete masonry units earned the design team approximately 2 points in the Sustainable Site and Materials & Resources categories of the USGBC LEED® For Homes Checklist. Additionally, CMU greatly streamlined the construction process when compared to other LEED® projects built of wood due to the easy documentation and installation of masonry. Where wood construction sometimes requires unusual methods and additional features to attain LEED® points, such as a material to separate it from concrete, concrete masonry requires only normal installation to attain LEED® points.
ARCHITECT:
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2747 Park Boulevard
Palo Alto, CA 94306
Bill Bocook, AIA
Principal, Design Architect

P. C. Wong
Design Architect

STRUCTURAL ENGINEER:
Nishkian Menninger

GENERAL CONTRACTOR:
W. L. Butler Construction, Inc.

MASONRY CONTRACTOR:
Pacific Bay Masonry, Inc.

BLOCK PRODUCER:
Calstone Company, Inc.

OWNER:
St. Francis Center

Why Masonry? Following the early missions’ use of adobe columns and walls, the use of cost effective, integrally colored, regionally manufactured split face concrete masonry units, was a perfect solution. Concrete masonry is a durable material with lasting finish, which also reflects the strong presence of the Center’s and local sheriff department’s offices on the second floor.

Another important design goal for this project was to integrate natural day-lighting and ventilation into the building design providing occupancy and multiple activities during daytime use without the need for heating, cooling or artificial lighting. This was achieved with large, high gable windows, insulated furred walls at each end of the gymnasium, roof skylights, and a north-facing operable sash over the toilets and changing rooms. Also used are low E tinted insulated glass, an energy management HVAC system, a sloping metal standing seam highly reflective roof, and photovoltaic roof panels with southwest sun exposure.

St. Francis Center and Sister Christina Heltsley, Executive Director, were pleased to receive in early 2012 the Platinum LEED® award achieved for this project.

Architect’s Commentary: The challenge was to design a 10,000 square-foot gymnasium/multi-use facility for a non-profit charitable organization, on a very small site surrounded by a low income community of multi-family and single family homes.

Because a gymnasium requires a high interior sports and activities space, the design team used the early California missions, many of which have stood for centuries, as an inspirational design theme reflecting the goal of durable longevity for the building envelope.
VA SATELLITE OUTPATIENT CLINIC SOUTHEAST
HENDERSON, NEVADA

ARCHITECT:
Patrick Hayes Architecture
14362 Frank Lloyd Wright Blvd., Ste. 2200
Scottsdale, AZ 85260

Patrick C. Hayes, AIA, LEED® AP
Principal

Brian Fish, AIA
Project Manager

Tim Thielke
Project Designer

STRUCTURAL ENGINEER:
PK Associates

GENERAL CONTRACTOR:
Wespac Construction, Inc.

MASONRY CONTRACTOR:
Rafael Construction, Inc.

BLOCK PRODUCER:
Superlite (an Oldcastle Company)

OWNER:
The Hamstra Group

Architect’s Commentary: The VA Satellite Outpatient Clinic Southeast is a 37,565 square-foot clinic space with exam rooms, treatment rooms, pharmacy, laboratory, radiology and related support functions. The architectural character of the exterior facade is intended to provide a modern design aesthetic complemented with durable, natural, and environmentally sensitive materials in an earth toned color palette.

The building envelope is composed of a harmonious blend of integrally colored and patterned concrete masonry units (CMUs), insulated tinted/reflective green glazing units, custom steel shade canopies and arched standing seam metal roofs. A unique combination of horizontal and vertical massing elements such as vertical masonry piers and horizontal color banding imparts a modern vernacular to the elevations while maintaining high levels of thermal protection necessary in the Nevada climate. To further this effort custom steel shade canopies and arched roofs with generous overhangs are provided to minimize the solar exposure to the glazing.

Why Masonry? Concrete masonry units were used for the exterior perimeter wall to minimize the amount of structural columns required and to serve as the aesthetic exterior vernacular and to aid in quicker construction timeframes. All perimeter CMU walls have a steel stud framed interior wall furring to allow for R-19 wall insulation.

The building was designed with several mechanisms to allow natural daylight: The front entry full height glass curtain wall has 1" insulated performance glazing; the vaulted roof over the waiting area has a continuous clerestory window to allow natural daylight to bounce into the open volume during winter months when the sun angle is low on the horizon; and the overhang to the vaulted roof blocks direct solar exposure in the summer months when the sun is at a high altitude to the horizon. Additionally, in many of the doctor and perimeter offices, smaller punched openings are provided high on the wall to allow natural daylight to project into these spaces. The exterior steel shade canopies have been placed on the east / west building facade to block direct solar exposure in the hot summer months yet still provide ambient daylight.

The VA Satellite Outpatient Clinic Southeast is one of four satellite outpatient clinics in the Las Vegas metropolitan area. The identical Southwest Clinic is located in Clark County.

©Photography: Jason Flake, Nomoi Design LLC
CMACN 2012 July Issue of “CMU Profiles in Architecture”
Architect's Commentary: Located in the coastal community of Cayucos in Central California, the Operations and Maintenance Garage designed for the Cayucos Sanitary District was constructed as Phase One of the District’s planned facilities expansion. The project is sited on a small sloping lot currently occupied by the District’s existing administration office building. The first phase provides necessary additional space to house the Operations Department staff, vehicles and equipment. The 3,072 square foot garage includes a workshop, technician work stations, and an accessible bathroom, locker room and shower room.

Why Masonry? Durability, cost effectiveness, aesthetic appeal and context were all reasons for the use of concrete masonry units. Locally sourced, the concrete masonry units were produced only 23 miles from the project site.

For durability, low-maintenance, and cost-effectiveness, concrete masonry was a practical choice for a garage / shop facility of this type and its day-to-day use. The building’s exterior walls are designed with a minimum 4-foot high CMU base for the wood frame walls, which are finished with a stucco exterior and painted plywood interior. The CMU base creates a protective, washable wainscot material around the interior and exterior of the building.

Aesthetically, the burnished block color chosen for the project, “Avila Beach”, is created with aggregates that resemble those found on local beaches, and set the natural color and texture palette for the building’s design.

Contextually, the use of a stacked bond pattern throughout the building and site walls presents a re-stated modern aesthetic, when combined with the architecture of the early 1960’s administration office building.

Other design features include colored interlocking concrete pavers in the parking lot, supplied from the same local producer, operable clerestory windows on both sides of the garage bay space that capture natural light and ventilation, aluminum storefront windows and doors, and perforated galvanized metal railings and sunshades.


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Reno, NV 89509

Carlin Williams, AIA
Principal

STRUCTURAL ENGINEER:
Gabbart and Woods Structural Engineers

GENERAL CONTRACTOR:
Pinecrest Construction

MASONRY CONTRACTOR:
Keystone Masonry

BLOCK PRODUCER:
Basalite Concrete Products, LLC

OWNERS:
SPCA of Northern Nevada

Architect's Commentary: The SPCA of Northern Nevada needed a new animal shelter facility in order to fulfill their mission of providing rescue, adoption, spay-neuter, rehabilitation and education services to the community. The goal was to design a facility that would promote the health, healing and happiness of the animals. Additionally, the new facility was to provide a safe, comfortable work environment for staff and volunteers while projecting a non-institutional and welcoming image that would encourage maximum public participation.

The 17,000 square-foot shelter was designed to separate feline and canine areas, situating them on opposite sides of the building. General operational spaces, as well as a clinic, were positioned between. The canine side consists of 46 indoor/outdoor kennels as well as holding, isolation, and puppy rooms. The feline side includes three 25-cat capacity colonies and 22 cat condos as well as holding, isolation and kitten rooms. A welcome center, a multi-purpose classroom, and administrative areas are also provided.

Why Masonry? Concrete masonry was selected as the primary structural and finish material for the project due to aesthetics, durability, thermal mass, regional manufacturing, and cost. Precision-face concrete masonry units (CMUs) in an off-white color were selected for their cleanability and reflectivity. Exposed CMUs with an exterior insulated finish system were used where maximum durability of interior surfaces was required. Exposed CMUs with furred and insulated interior surfaces were used in other areas. The inside/outside combination of exposed concrete masonry units is an integral part of the design aesthetic for the project.

The building was designed to be energy efficient and environmentally sensitive. Sustainable materials were used to the greatest extent possible. Natural daylighting is provided throughout. The kennel areas have operable clerestory windows for ventilation. Brise-soleil elements provide solar protection for windows and exterior kennels. State-of-the-art HVAC equipment with an energy management system helps to minimize operating costs. An 85 kilowatt ground-supported solar panel array is located adjacent to the shelter facility on the 2+ acre site.
ARCHITECT:
Holt Architects, Inc.
70225 Highway 111, Suite D
Rancho Mirage, California 92270
Timothy Holt, AIA, NCARB
Principal

STRUCTURAL ENGINEER:
Dale Christian Structural Engineer, Inc.

GENERAL CONTRACTOR:
Oakview Constructors

MASONRY CONTRACTOR:
Persall Masonry, Inc.

BLOCK PRODUCER:
ORCO Block Co., Inc.

OWNER:
City of Banning

Architect's Commentary: The 32,000 square-foot Banning Police Department houses the essential services of 911 dispatch, holding cells, booking rooms, evidence storage, administrative spaces, exercise facilities and community meeting rooms. An extensive masonry retaining wall encircles the entire north side of the site, enclosing the upper-level parking and providing added security for squad cars. An additional parking lot across the street to the east of the building is also secured through a perimeter masonry wall and serves employees of both City Hall and the Banning Police Department.

Situated on a sloping site, the architect was challenged with providing all spaces necessary per the scope, while respecting the surrounding natural terrain. Addressing these issues, the design offers various levels of entry on either side. The main public entrance to the south is located on the lower level of the two floors where visitors are directed to the upper level administrative services via a masonry-clad staircase. The north entrance has the appearance of a ground floor entrance but is actually the top level of the building. Underneath, squad cars are given private, secured entry for the transport of persons in custody.

Why Masonry? The Banning Police Department provides the local community with a substantive street front presence that is strongly enforced with ample use of split face and precision masonry both inside and out. Masonry was selected to play such a prominent role in the project for its strength, durability, security-enhancing characteristics and complementary aesthetic of the neighboring City Hall. The building needed to incorporate stringent safety features, while providing easy access to the public.

Masonry was the obvious choice for such extensive integration into the Police Department. Not only is it aesthetically appealing, it also enhances the function of the facility and provides an attractive street-front building for the public to enjoy.
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• Protect and advance the interests of the concrete masonry industry.

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• Coordinate members’ efforts in solving common challenges within the masonry industry.

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