

Profiles in Architecture

October 2017 Edition



Why Masonry?

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Concrete Masonry Association of California and Nevada



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Hawthorne Cat Dynamometer

San Diego, California

ARCHITECT:

Macias Conwell Architects

1550 Hotel Circle North, Suite 140
San Diego, CA 92108

Walt Conwell, AIA, NCARB, IFMA

Principal-in-Charge

STRUCTURAL ENGINEER:

GSSI Engineers, Inc.

GENERAL CONTRACTOR:

Barnhart-Reese Construction, Inc.

MASONRY CONTRACTOR:

S&S Masonry

BLOCK PRODUCER:

RCP Block & Brick, Inc.

EQUIPMENT SUPPLIER:

Taylor Dynamometer

OWNER:

Hawthorne Cat

©PHOTOGRAPHY:

Bryan Macias, Macias Conwell Architects



Architect's Commentary: Hawthorne Cat, the exclusive Cat equipment dealer in San Diego, required a new state-of-the-art engine, generator and vehicle testing facility. This 5,000 square-foot dynamometer building allows for indoor and outdoor generator testing, engine dynamometer testing and a large in-ground truck dynamometer.

Macias Conwell Architects worked closely with the contractor (Barnhart-Reese Construction, Inc.) and the client's equipment supplier (Taylor Dynamometer) throughout the duration of the project's design and construction to assist with the integration and placement of the testing equipment and piping within, on top of and below the building.

Complexities in this project included larger volume exhaust systems, fuel and lube oil process piping, a 10,000-gallon underground cooling reservoir, external fuel tanks and a multi-levelled floor design to accommodate the existing site conditions. This building's interior test bays include a series of trenches to accommodate a variety of piping and testing systems.

Why Masonry? With the need for a series of large open work bays, durability of the walls (both interior and exterior) and the industrial nature of the site, concrete masonry units (CMUs) were the most desirable building material.

Split-face CMU block was used to provide some exterior relief for the building. Additionally, 12 inch-wide concrete masonry units were used on the front-face of the building to provide substantial lateral resistance to accommodate the series of high bay roll up doors. CMU allowed the structural engineer to design a nearly eight-foot parapet to screen the large mechanical equipment on the roof.

Vacaville Fire Station 75

Vacaville, California

ARCHITECT:
Jeff Katz Architecture
6353 Del Cerro Boulevard
San Diego, CA 92120

Jeff Katz, AIA, NCARB
Principal-in-Charge

STRUCTURAL ENGINEER:
Orie2 Engineering, Inc.
GENERAL CONTRACTOR:
T.B. Penick & Sons, Inc.
MASONRY CONTRACTOR:
Cal-Tex Masonry, Inc.
BLOCK PRODUCER:
Basalite Concrete Products, LLC
OWNER:
City of Vacaville
©PHOTOGRAPHY:
Jeff Katz Architecture



ARCHITECT'S COMMENTARY: The new 8,300 square-foot Fire Station 75 is placed in the heart of Vacaville's developing community. The station staffs five full-time fire fighters, however it is built to sleep nine. Jeff Katz Architecture worked closely with the City of Vacaville as well as T.B. Penick & Sons, Inc., the design build partner and general contractor, to provide construction documents for bidding, including specifications, cost estimates and construction administration services, all while meeting an aggressive schedule and keeping the project within budget. The site includes a backup generator, fuel station, trash enclosure and an area for engraved memorial bricks. The building includes a two-bay drive-thru apparatus bay, turnout area, hose storage, workshop, storage areas, laundry areas, medical storage, decontamination room, exercise room and patio, kitchen and day room, office and copy room, five bunk rooms, three restrooms and a tech room. The construction was phased to include a grading submittal package and separate building submittal package in order to meet the stakeholder's timelines for the project. There were no claims on this project and the Department is extremely pleased with how the end product operates.

WHY MASONRY? Concrete masonry units (CMUs) were selected because of their highly durable properties and the fact that this is a fire station that will take a lot of abuse over the course of its 50+ year life. The CMU also aids in mitigating the micro-climate's temperature extremes by creating a more efficient building envelope. This project incorporates sustainable strategies including locally sourced recycled materials, LED lighting, highly efficient HVAC systems, low water use and indigenous landscape, on-site storm water retention and treatment, a cool roof that decreases the heat island effect, and skylights for natural daylighting. Additionally, this project exemplifies modern fire station design which prohibits both bacteria growth and the cross contamination of work and living areas.





James V. Adams Center for Innovative Learning

Chatsworth, California

ARCHITECT:
 JP Darling Associates/Architects
 20331 Irvine Avenue, Suite E-6
 Newport Beach, CA 92660

James Paul Darling
Principal-in-Charge

STRUCTURAL ENGINEER:
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GENERAL CONTRACTOR:
 EPI Construction, Inc.
MASONRY CONTRACTOR:
 Ross Concrete & Masonry, Inc.
BLOCK PRODUCER:
 Angelus Block Company, Inc.
OWNER:
 Chaminade College Preparatory
©PHOTOGRAPHY:
 Erik Lieu, JP Darling Associates/Architects



ARCHITECT'S COMMENTARY: The program which utilizes this project required a new and innovative classroom environment that allows individual instruction as well as collaborative learning by permitting students to “break out” into group learning spaces. The plan pairs each classroom with an open project space where students gather and discuss the assignments in a group manner.

The building is constructed of split-face concrete masonry units (CMUs) with accent walls on the interior of the classroom and split-face CMU exposed in the breakout areas. Extended, raised walls double their usefulness by serving as HVAC screens.

The breakout rooms are adjacent to an angled classroom and separated by a glass overhead door that is concealed in the ceiling. The classrooms have suspended acoustical “clouds” adding different ceiling heights which vary and add a playful nature to the learning space. The tile flooring has a variegated pattern that extends beyond the door opening into each classroom to further enhance the flexibility of breaking out into groups.

WHY MASONRY? Students, especially in the middle school years, are famously hard on wall surfaces. Concrete masonry units were selected for their durability to withstand years of abuse. Specifically, split-face CMU was selected for its rustic nature.





Earthwood Lane Industrial

San Luis Obispo, California

ARCHITECT:
RRM Design Group
 3765 S. Higuera, Suite 102
 San Luis Obispo, CA 93401

Scott Martin
Project Architect

Pat Blote
Architect-of-Record

STRUCTURAL ENGINEER:
 Stork, Wolfe & Associates
GENERAL CONTRACTOR:
 Sansone Company, Inc.

BLOCK PRODUCER:
 Air Vol Block, Inc.

OWNER:
 Earthwood Lane Properties, LLC
©PHOTOGRAPHY:
 Matt Carver, RRM Design Group

ARCHITECT'S COMMENTARY: The Earthwood Lane Industrial Mixed-Use project is located in San Luis Obispo, California. The project includes a total of approximately 13,000 square-feet on two separate lots. The ground floors have a 6,500 square-foot microbrewery which includes a tasting room, brewery and storage space along with a 4,500 square-foot beverage flavoring manufacturer with two 1,000 square-foot residential, caretaker units on the upper floors.

WHY MASONRY? The project has extensive use of concrete masonry units (CMUs) for the walls of the ground-floor industrial spaces. Exposed CMU is both the exterior and interior finish of those industrial spaces. Concrete masonry was favored for its load bearing capacity and ruggedness in an industrial environment. The CMU walls are approximately 20 feet tall and support the load from the caretaker units on the second floor. As a primary design statement to compliment the shape of the buildings and unify the properties, the owners chose three colors of CMU that was installed in a random pattern, thus giving the project a modern, industrial design style and striking contemporary look. The concrete masonry is complimented by select areas of Corten weathering steel panels installed over a rain screen. The caretaker units are wood frame with plaster exterior walls and metal roofs.

Green features include Low Impact Development features such as the use of pervious pavers for the entire parking lot and ground level patios. Pervious pavers overlay a pre-release storm water filtration basin. Water efficient landscaping and micro spray or drip irrigation are used throughout. The CMU was locally sourced and locally manufactured from Air Vol Block, Inc., located only a few hundred yards from the project. Interiors of the caretaker units have high, loft ceilings and generous exterior decks. They incorporate dual pane insulating windows and doors, and the south-facing openings have generous overhangs for climate control.

Perry Street Remodel

San Diego, California

ARCHITECT:

Stephen Dalton Architects, Inc.
444 South Cedros, Studio 190
Solana Beach, CA 92075

Stephen Dalton, AIA, LEED® AP
Principal-in-Charge

STRUCTURAL ENGINEER:

HTK Structural Engineers, LLP

GENERAL CONTRACTOR:

Derks Construction, LLC

MASONRY CONTRACTOR:

Onofrio Iacobelli Masonry

BLOCK PRODUCER:

ORCO Block and Hardscape

OWNER:

Perry Street Residents

©PHOTOGRAPHY:

“Photos by Dave Ness”



ARCHITECT'S COMMENTARY: Stephen Dalton Architects, Inc. transformed this 1,600 square-foot “not-so-modern” house into a home filled with light and views. While accommodating stringent coastal regulations and a modest budget, the design converted the small, dark and disconnected space into an open and airy floor plan.

WHY MASONRY? A delicate aesthetic balance was struck by alternating solid concrete masonry unit walls and glazed openings. The second floor addition captures a panoramic harbor view and directs natural light into the new living area through clear story windows without compromising the owners' privacy. Though the footprint remains unaltered, the design interventions seamlessly connect with exterior spaces and create an easy indoor/outdoor living experience. The concrete masonry, glass, glazed openings and color schemes subtly reflect the home's ocean environment while providing low maintenance and resistance to salt air. Interior details complete the contemporary look, balancing clean lines with the warmth of a family home.

South Buffalo Springs Animal Hospital

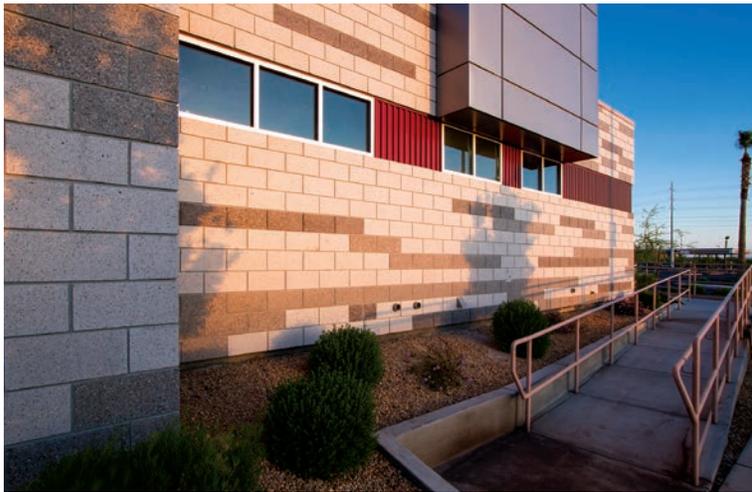
Las Vegas, Nevada

ARCHITECT:
Pacific Design Concepts
6725 Eastern Avenue
Las Vegas, NV 89119

Gerald Garapich
Clarence Jones
Principals-in-Charge

Karen Gravlin
Project Manager

STRUCTURAL ENGINEER:
Keegan Engineering, Inc.
GENERAL CONTRACTOR:
JLR Construction, LLC
MASONRY CONTRACTOR:
Stonescapes
BLOCK PRODUCER:
Superlite (An Oldcastle Company)
OWNER:
South Buffalo Springs Animal Hospital
©PHOTOGRAPHY:
Taube Photography



ARCHITECT'S COMMENTARY: Located in Clark County, Nevada, South Buffalo Springs Animal Hospital is a full service veterinarian hospital located in a densely populated area of homes on a potential major street. The appearance of the project was a critical factor as the commissioners of the county approval process are very sensitive towards any commercial project.

WHY MASONRY? It was important to utilize a product that could stand up to the harsh desert climate yet have a pattern of softness that would reflect the southwest colors in a contemporary permanence. Concrete masonry units (CMUs) offered permanence and were able to tie together all other materials utilized in the design of the building. The unique pattern designed for the CMU allowed the other colors and materials to compliment each other without compromising the building as a whole design element. Likewise, the CMU mass wall on the exterior where the kennels are located greatly enhanced thermal control in an economic and aesthetic fashion.



Suddhavasa Buddhist Meditation Center

Jurupa Valley, California

ARCHITECT:
IDAS, Inc.
3903 10th Street
Riverside, CA 92501

Shawn Chinudomsub, AIA, NCARB, CCS, LEED® AP
Principal-in-Charge

Anh Nguyen, LEED® AP
Project Designer

STRUCTURAL ENGINEER:
ABS Consulting
GENERAL CONTRACTOR:
Dalke & Sons Construction, Inc.

MASONRY CONTRACTOR:
Contract Administrator, Inc.

BLOCK PRODUCER:
Angelus Block Company, Inc.

OWNER:
Suddhavasa Buddhist Meditation Center

©PHOTOGRAPHY:
SBMC - Exterior Photos
IDAS, Inc. - Interior Photos



ARCHITECT'S COMMENTARY: This two-level, approximately 12,000 square-foot meditation center is a modern adaptation of traditional Asian architecture through the utilization of contemporary materials and a local construction team. Split-face concrete masonry units (CMUs) were selected for their complementary appearance and longevity. CMU is featured in the elevator shaft, the lower level exterior walls and the dentils (decorative pop-outs). Along the center's perimeter, the concrete masonry units are exposed on the exterior and interior.

WHY MASONRY? As the first step in the multi-phased construction, with an integrated project delivery method, the CMU was not only selected for its aesthetics and lifespan, but also for its integral role as a load-bearing structure, weather-tight enclosure and part of the building's passive heating and cooling, and security systems. The thermal mass of the concrete masonry units keeps the occupants cool during the dry, hot summer days and retains heat during the winter nights. Mechanical air conditioning and heating is rarely activated during typical daily use, which reduces the operating expenses. The insulating glass windows located around the upper level worship hall are often left opened, allowing for passive ventilation and a natural breeze in the room.

The CMU serves as a defense-in-place system; its fully grouted reinforcement is designed to withstand earthquakes, winds and acts of violence. The heavy concrete masonry also serves as the base for the other lighter materials on the upper level: wood studs, stucco and gypsum wallboard. Other sustainable strategies include the upper level clerestory windows for letting in natural light and releasing the rising heat via the stack effect, and a double-layered roof that allows heated air at the underside of the roof tiles to be vented through the ridge which keeps the floor below at a cooler temperature. Altogether, the CMU helps establish the Meditation Center as a highly-regarded, spiritual sanctuary for the community.



The Center for Naval Aviation Technical Training Complex (CNATT) Camp Pendleton, California

ARCHITECT:

cass | sowatsky consulting architects
3569 5th Avenue
San Diego, CA 92103

Edward Cass, AIA
Principal-in-Charge

STRUCTURAL ENGINEER:

SMR Consulting Group

GENERAL CONTRACTOR:

Harper Construction Company, Inc.

MASONRY CONTRACTOR:

Haxton Masonry, Inc.

BLOCK PRODUCER:

ORCO Block & Hardscape

OWNER:

NAVFAC Southwest Division

©PHOTOGRAPHY:

Pablo Mason Photography



ARCHITECT'S COMMENTARY: The Center for Naval Aviation Technical Training (CNATT) is a state-of-the-art aircraft training facility serving as a template for future military hangar training projects. The distinctive architectural design makes the facility a stand-out on the Chappo Area (22) of MCB, Camp Pendleton. The selected site consists of several physical constraints requiring a reorganization of vehicular and pedestrian circulation for convenience and allowances for Anti-Terrorism design criteria. These site constraints resulted in a multi-story resolution (with adjacent parking structure) to accommodate full Marine Corps requirements.

The training and support program consists of an operational hangar (for aviation mechanics that repair Huey and Cobra Helicopters), a large auditorium, classrooms, offices and support spaces, lobbies, restroom/shower/locker rooms and associated M, E and communication spaces totaling 130,751 square-foot (parking structure not included). The applied instruction functions consist of electronic classrooms, aviation training laboratories and high bay composite maintenance training spaces for up to 400 students.

WHY MASONRY? The four-story building mass is organized and articulated through façade recesses, architectural columnar forms, multi-faceted roof elements and a pallet of coordinated field and accent concrete masonry unit (CMU) textures and colors to aesthetically blend with the existing Chappo community. CMU provides temperature regulation and upholds to salt erosion from coastal climate and high traffic impact. Textures, materials, patterns and colors are balanced with a variation in the exterior wall planes to reduce the visual impact and scale of CNATT within the campus.

The exterior fenestration conveys a consistent rhythm across the façades with shading elements that enhance depth, shadow, and human scale. The large exterior windows and skylights maximize natural daylighting and views. The companion multi-level parking structure features an extensive PV array as one element in support of the project's LEED® Gold Certification. The facility's architectural character is both dynamic and exciting while respecting the surrounding context. Exterior balconies, horizontal metal window shade awnings and roof overhangs further relate to the prevailing architectural character of the campus.



Annunciation Hellenic Center

Sacramento, California

ARCHITECT:
Comstock Johnson Architects, Inc.
10520 Armstrong Avenue
Mather, CA 95655

Daniel P. Eriksson, AIA, NCARB
Principal-in-Charge

ASSOCIATE ARCHITECT:
Lionakis
1919 Nineteenth Street
Sacramento, CA 95811

Nicholas Docous, AIA, NCARB, LEED® AP
Principal-in-Charge

STRUCTURAL ENGINEER:
Lionakis

GENERAL CONTRACTOR:
A.P. Thomas Construction, Inc.

MASONRY CONTRACTOR:
Wilkie Masonry, Inc.

BLOCK PRODUCER:
Basalite Concrete Products, LLC

OWNER:
Annunciation Greek Orthodox Church

©PHOTOGRAPHY:
John Swain Photography



ARCHITECT'S COMMENTARY: For over 60 years, Greek Orthodox Christians have worshipped and celebrated their culture in facilities located at the Annunciation campus at 600 Alhambra Boulevard in Sacramento. Founded by a handful of immigrant families from Greece, the Annunciation Greek Orthodox Church has become a thriving parish of over 500 families. To meet cultural and ministry needs, a new Family and Education Center was commissioned to replace aging infrastructure and facilities – and build for the future. Organized around the campus courtyard, called the Plateia in Greek, the new Center is a modern facility for an ancient faith. The Center provides needed space for social, cultural, educational and religious activities.



WHY MASONRY? A major design requirement was to develop the facility in Byzantine style to reflect the Parish's proud heritage, legacy and culture. The Byzantine style employs concrete masonry units (CMUs), brick and stone in striated forms that express the permanence and importance associated with religious buildings. Sustainability, energy efficiency and low maintenance were likewise important design requirements. In response, concrete masonry units (CMUs) were selected for the Center and the Plateia because their characteristics ideally met these critical design goals. Using a variety of CMU types – including Spec-Brik and concrete masonry pavers – allowed for the design of a contemporary facility that harkens back to the Byzantine style.

The detail and intricacy associated with the Byzantine style, which CMU expresses so well, is characterized in the arched openings and stoas around the Center. These elements provide passive solar control along the perimeter of the building, reducing HVAC loads and delivering reflected natural light into the interior of the building. The building boasts a high performance building envelope and a cool roof, both of which enhance its energy efficiency. The use of concrete masonry units were also an appropriate choice for Sacramento as striated CMU buildings are common throughout the city and the parish's neighborhood.



Monterey Regional Waste Management District's Truck Yard and Compressed Natural Gas Fueling Facility

Marina, California

ARCHITECT:

J.R. Miller & Associates
2700 Saturn Street
Brea, CA 92821

Clark Davis, AIA, LEED® AP
Principal-in-Charge

STRUCTURAL ENGINEER:

J.R. Miller & Associates

MASONRY CONTRACTOR:

Patania Masonry

BLOCK PRODUCER:

Calstone Company, Inc.

OWNER:

Monterey Regional Waste Management District

©PHOTOGRAPHY:

J.R. Miller & Associates



ARCHITECT'S COMMENTARY: As owner/operator, the Monterey Regional Waste Management District (MRWMD) wanted to create an integrated collection truck hauling facility to meet the solid waste collection needs of the surrounding communities. J.R. Miller & Associates (JRMA) was contracted to design and support the construction of a new Truck Maintenance Facility, a Truck Wash and Administration Office Building with associated site parking and storage. The facility was also designed to be integral with a new state-of-the-art Compressed Natural Gas (CNG) fueling system utilizing landfill gas and gas from an anaerobic digestion facility (designed by JRMA). When designing the facility, MRWMD requested that the structures be durable and able to withstand the wear and tear associated with a heavy industrial site.

MRWMD likewise requested the design incorporate sustainable features to extend the operational life of the building and reduce its impact on the surrounding environment. Sustainable features include water efficient fixtures, low energy LED lighting and daylighting, drought tolerant landscaping, storm water management features, low VOC paints/coatings/adhesives, and reflective surfaces. The facility was built using materials with recycled content that was locally sourced when available. Outside the building, bike racks were installed, and preferred parking for fuel efficient vehicles was incorporated to encourage alternative transportation options.

WHY MASONRY? Concrete masonry units (CMUs) were the natural choice for this facility as it requires a material that can stand up to the heavy wear and tear of a solid waste facility while being aesthetically pleasing, low maintenance and architecturally compatible to the other buildings on the MRWMD site. Dark gray CMU placed in a stack bond pattern was used to present an architectural contemporary texture which contrasts with the vertical pattern of the light-colored metal wall panels. The stack bond horizontal grid also matches the same pattern of the translucent daylighting panels used on the walls.

With solid waste operations involving moving equipment in large open areas, exposed CMU provides acoustic properties best suited for the operations, while providing durability for the interior environment. The interior of much of the Truck Maintenance Facility and Wash Buildings has exposed concrete masonry surfaces for design and durability.





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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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NOTE: Some Photos may have been altered to fit the page format.

