SANTIAGO CANYON COLLEGE STUDENT SERVICES, BUILDING E
ORANGE, CALIFORNIA

The first completed project of the new Facilities Master Plan for Santiago Canyon College is a student services and classroom building, known as Building E. The building program resulted in a three-story, 37,034 square-foot facility that includes admissions & records, cashier’s office, financial aid, and student programs on the first floor. The second floor and third floor consist of various sided lecture classrooms and computer labs, with the testing center and faculty offices on the third floor.

Building E, in conjunction with the library, forms a new gateway into the campus. Being the master plan architect, the responsibility of the design team included discovering a campus architectural language that establishes the standard for future buildings. Building E is the first structure to initiate the new master plan loop road.

The design utilizes the cost-effective nature of scored concrete masonry block as the primary building material in a burnished charcoal color and sand-blasted beige. The charcoal block represents the “enriched” material that gives identity to building edges engaging the loop road. The burnished finish of this block produces a texture that resembles granite and expresses the multi-color aggregate. The Sand-blasted beige block is oriented toward the interior of the campus to blend with existing context. Energy efficient green tinted, low-e glazing, perforated metal solar fins, and the deep metal panel canopy all help protect the south-east facing main entry façade, while allowing natural daylight to permeate into the building interior and inversely becoming a beacon in the darkness.

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BLOCK PRODUCER:
Angelus Block Company, Inc.

OWNER:
Rancho Santiago Canyon College District

Photography: Costea Photography
Foresthill grew up as the home of a thriving Georgia Pacific timber mill. When the mill left Foresthill, it left a literal “hole” in the landscape, the economy and the town. Placer Union High School District filled the hole by purchasing the site, creating a partnership with the elementary school district as well as a 50 acre Forestry Education Center. The small community is embracing innovative technology, strong contextual themes, and sustainable design for the new Foresthill High School. Sacramento based Lionakis Beaumont Design Group Inc., (LBDG), successfully integrated these forward thinking concepts into a design that combines the community’s history and landscape with a “high tech” feel.

The building structure and interior design elements reinforce the high-tech timber mill concept. Heavy timber columns and trusses, steel bracing, and exposed concrete block walls and pilasters tie the hi-tech and traditional timber mill themes together. Roll-up glass doors were incorporated into an oversized hallway, providing a strong connection to the outdoors in good weather and bad. A “silo”, representing the water tower of the original timber mill, becomes a rotunda of sorts, connecting future phases and marking the intersection of circulation spines.

The high school design reinforces the concept of sustainability and education. The timber mill theme sustains the history of the site and ties in with the forestry education center. Sustainable building measures include natural day lighting and ventilation, the use of green building materials, and site responsive planning. The design team incorporated these measures to support the concept of environmental responsibility valued so much within the community. The design enhances student learning through an “open systems” approach where structural systems such as concrete masonry, timber trusses and steel frames are integrated and mechanical distribution systems – piping and ductwork – are exposed, teaching students to value and understand their built environment.

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BLOCK PRODUCER:
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OWNER:
Placer Union High School District
CATHEDRAL CATHOLIC HIGH SCHOOL
SAN DIEGO, CALIFORNIA

Responding to the moderate coastal climate, the 54-acre campus is planned around several major piazzas, reminiscent of Italian hill towns. Individual academic buildings are clustered to provide varied perspectives and vistas. Collectively, their composition reflects the character and scale of a small village. A gradual rise in elevation towards the chapel distinguishes it as a dominant feature and projects a readily visible Catholic identity. As the primary focal point, the chapel’s bell tower identifies the campus and offers a sense of direction and place.

The goal of the Diocese was to create a campus that fulfills significant educational and spiritual needs in the community, while enhancing the physical presence of its setting. Careful consideration was given to the design and placement of each building using both landscaping and site grading as linking and unifying elements.

Housing a variety of functions, each of the 11 masonry buildings, totaling 260,000 gross square feet, is linked through a common palette of finish materials. Materials include: pre-cast concrete, textured concrete masonry, cement plaster and clay roof tiles. The overall character exudes importance and permanence, strength and durability, as expressed through organic colors and building materials, sensitively arranged in a well-disciplined vocabulary of architectural forms.

Following a detailed analysis of various structural systems, an integrated system composed of load-bearing, shear resisting concrete masonry units with interior steel frames proved most efficient and cost effective, saving approximately $1 million. Approximately 3,300,000 blocks, 5,300 cubic yards of grout and 500,000 pounds of rebar, as well as pre-cast trim were used.

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OWNER:
Diocese of San Diego

Photography: Gohlich Photography, Inc.
Steve McClelland Photography

Cathedral Catholic High School
San Diego, California

Concrete Masonry Association of California and Nevada
Profiles in Architecture
The design was driven by two factors: an accelerated timeline and a proposed site significantly smaller than the District’s traditional standard. The planning groups created an end result uniquely tailored to the needs of the students and the District, and one that fits within, and enhances the context of this new community.

The separation of student and vehicular traffic was paramount in the placement of buildings. Parking, parent drop off and bus loading were separated to allow for a safe student entry and exit. The hard courts and fields are set against a greenbelt, which includes a canyon and nature trails. The outdoor learning environments provide a facilitation tool for the teachers offering small, medium, and large activities, with both passive and active learning.

Concrete masonry block was selected as the dominant building material for its numerous benefits, which include attractiveness and design flexibility, energy efficiency, durability and maintenance, safety and speed of installation. Concrete masonry was installed as soon as footings were in place, taking only three months and using average crew sizes of 15-20 workers. Concrete masonry was used for all buildings totaling roughly 116,000 square feet.

The use of concrete masonry units (CMU) allowed the designers to add simple, but striking design elements at a lower cost. A final benefit is the fire resistant quality of block. Oak Valley Middle School is just below brush-filled hills, and among natural valleys susceptible to wildfires; using CMU provided a safe solution. Additionally, this resulted in lower insurance premiums for the school district – yet another cost saving benefit.
Pioneer Middle School was designed and constructed in two phases; the first phase was a 55,750 square-foot facility completing the major portions of the school campus. The second phase consisted of a 7,438 square-foot addition of the shower and locker rooms, expansion of the cafeteria, and expansion of the parking lot. The total campus of 63,188 square feet was built for a total construction cost of $9,752,039 equating to $151.49 per square foot.

With its limited budget and strict guidelines, this California State Funded Project gave the campus its greatest challenge for a sustainable, complete facility for a Middle School curriculum. A mixed-use of construction methods for each building provided a solution, using the most sustainable building materials that would take the most abuse. Concrete masonry was selected for its sustainable and durable properties. This material was primarily used for the gymnasium/cafeteria, the toilet buildings, science/art classroom wing, and the music building. The remainder of the campus, administration building, library/computer lab building, and standard classroom buildings, were constructed of wood frame and stucco. This blend of construction gives this campus a unique flavor and architectural vernacular that is most appropriate for a middle school.

The selection of concrete masonry units for the buildings mentioned consisted of blending three types. Precision units at the base of the buildings allowed utilities to flush up to the block, i.e., hose bibs, electrical boxes, drinking fountains, etc. Split face block with its starting course at plus 4'-0" gave the campus texture, color, and the look of its natural material. The use of ground face masonry units was used to accent and focus attention to the areas of the campus that highlighted the use, i.e., the stage at the exterior amphitheater, the interior stage, art building courtyard and the ends of the science/art and band room buildings.

The blending of the building methods and building materials for their specific use and budget restraints gives Pioneer Middle School its unique sustainable and award winning stature.
JOSEPH E. THIRIOT ELEMENTARY SCHOOL
LAS VEGAS, NEVADA

Due to the decreasing size of available sites for new urban schools, Clark County School District has developed new prototype plans for 2-story elementary schools. The anticipated site sizes for these more compact facilities will be roughly 5 acres, with smaller sites potentially in tighter urban areas of Las Vegas. The program for the new 2-story prototype elementary school includes 720 students in kindergarten through 5th grades and is identical to the District’s one-story prototype schools, many of which have been built on 10 to 12 acre sites.

One of the first of these 2 story schools is the Joseph E. Thiriot Elementary School, located at 5700 W. Harmon Avenue in Las Vegas, Nevada.

Some key goals of the design of the elementary school include functional similarity with the District’s one-story elementary school design, safety and security, clear way finding throughout the facility, welcoming to visitors and the community, efficiency and economy, durability and easy maintenance, and site adaptability. In addition, the building is designed to take advantage of natural daylighting following District Guidelines for energy efficiency.

An essential component of the building design is its strong, linear organizational strategy. The resulting circulation spine is articulated with bands of clerestory glass shaded with an undulating roof structure. This brightly colored structure provides shade for the centrally located courtyard space. The form of this feature is intended to reflect the mountainous horizon surrounding the relatively flat Las Vegas valley while also enlivening the school’s image for elementary students.

Masonry was chosen for the exterior skin over other materials for quick erection of the exterior walls. Pre-colored block was used to reduce long term maintenance. One main color was chosen for the body of the building. Honed block of this same color was used at the base of the building. This provided a surface at a low level that was easy to the touch. A continuous white split face course at mid point of the walls was included to tie all the horizontal elements together.

The site amenities include parking for 100 cars, loading and unloading for 6 buses, on-site parent drop-off, a secured play area for kindergarten students, and a variety of other paved and turf play areas.

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BLOCK PRODUCER:
Cind-R-Lite Block Company, Inc.

OWNER:
Clark County School District
This building has been designed to fit comfortably with the vocabulary of materials on the campus of Harvey Mudd College. The campus designed by Edward Durell Stone in the 1960’s and 70’s employs a 12x12x8 beige concrete masonry block adorned with applied square cast dentils on fascias and columns. This vocabulary has been repeated in the design of the Residence Hall.

Masonry provides warm natural colors, durability and particularly, reduction of sound transmission between adjoining student rooms. Privacy for study is an important objective in this new residence hall.

The masonry load bearing walls provide support for short span concrete floor and roof systems and complete the structural envelope with durable low noise transmission elements in an economical, but durable structure.

The building is organized around a courtyard, and an existing historic structure, which encloses pumps and storage tanks for the local water district. The curved approach and landscaping turn this “obstruction” into a personalizing asset to the residence hall. The main lounge is set at the courtyard level to facilitate access and provide a higher ceiling than allowed in the room wings.

This 32,000 square-foot project has a mix of single and double rooms in the apartments providing 42 singles and the balance in double rooms for a total occupancy of approximately 77. Apartment units consist of five bed suites, a common living room, a kitchen alcove, and a bath.
The Berryessa Youth Center – an innovative joint-use project between the Berryessa Union School District and the City of San Jose – is living up to its mission to improve the quality of life for children in an underserved neighborhood of East San Jose.

The 20,225-square foot facility features a 1,200-seat gymnasium, a conference room, three classroom-size activity rooms, a lobby, restrooms, and administrative offices. Used as a gymnasium by Morrill Middle School students during the day, the whole facility is programmed for both recreational and educational activities during non-school hours. For example, one of the activity rooms supports the community-based Berryessa Chinese School. Neighborhood youth participating in Youth Center activities experience a greater feeling of community connection, increase their awareness of the neighborhood’s cultural diversity, and interact with strong peer and adult role models.

The building establishes a dynamic presence on a busy thoroughfare, yet remains welcoming to the neighborhood. Sloped wing walls facing the street help make the 30-foot high gymnasium seem less imposing, while structural supports expressed on its exterior enliven the design. The entry canopy above the west-facing main entrance reduces solar gain throughout the year.

Concrete masonry unit construction was crucial to the success of the project because it withstands rigorous daily use, while respecting the Youth Center’s budget and maintenance considerations. As a design feature, the split face block provides an interesting visual and textual contrast to the metal wall panels and plaster finishes, and also complements the design of the large church across the street.
EAST WEST ICE PALACE
ARTESIA, CALIFORNIA

The East West Ice Palace is the realization of Michelle Kwan, the nine-time U.S. and five-Time World Figure Skating Champion, and her family’s vision to give back to the sport of skating by bringing a sustainable skating facility to the neighborhood and community. They wanted to offer a serious training facility to accommodate figure skaters, hockey players, and others, but still make it a fun place for families to come for a multitude of recreational activities.

The 43,000 square-foot East West Ice Palace houses an Olympic size skating rink, fitness area, and a gallery for all the trophies Michelle has won over the years. Since the facility was built on a limited lot size, every square inch of the lot had to be used. In order to utilize the height of two-level ice rink area, the fitness center was built on the second-story around the ice surface in a mezzanine type space. This use of the upper level provided an open design that allows everyone to look down at the ice surface, while training through enclosure of clear glass.

The architect selected concrete masonry for all exterior load-bearing walls and interior partitions. Split face units are used as a primary material for exterior walls with smooth face units as horizontal accent bands. Exterior masonry walls provide good energy savings, a permanent structure with low maintenance, which is also environmentally sustainable. The earth-toned split face concrete masonry exterior walls blend with colors and textures of the existing neighborhood. Minimum wall openings were provided for energy savings except at north entry where two-story high store front glass emphasizes the main entry. Black granite, steel space framing, and colorful, graphic sign boards with flag poles along the front elevation excite and inspire the young audiences.

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OWNER:
East West Ice Palace

Photography: Tom Zepko
Between Lancaster and Palmdale, California there is an area known as Mid-City. It is an older industrial area, filled with a sea of faceless metal and mixed use commercial buildings. Out of this sea, emerged a building of timeless beauty. When the owner of BLF Real Estate, John Brooks, a well respected general contractor and developer in the area, first contacted our firm to design the building, he wanted something different and wanted to be involved in the design. The idea of the building was to create a simple, but elegant building, using a rich blend of form color and texture. Initially, the concrete masonry block material was chosen for the building for speed, ease of construction and durability. It also turned out to be economical and most of all beautiful.

The rich colors of this building tend to anchor the building into the desert landscape. Since the building is on a corner, the design of the front and sides were equally important. To address the corner, a forty-five degree wall was used as a focal point into the two spec lease spaces. The other entry faces the street to increase the exposure and signage visibility. The peer size (the space between the windows) was limited to maximize the glass size. This was important because, at the time the building was designed, only one tenant was known. This tenant (Johnstone Supply) required approximately 10,000 square feet of industrial warehouse and retail showroom. A twenty-five foot high warehouse was designed with a storage mezzanine above the restrooms. In front of the warehouse, a seventeen foot high showroom adds a human scale to the enormous warehouse. The remaining portion of the building (approximately 4,200 square feet) was designed to have maximum flexibility for any kind of use.

The design of the building starts out with using an 8"x8"x16", half-score, oak color, split-face concrete masonry block (CMU) at the base. This gives the illusion of an 8"x8"x8" CMU. Then an accent band was added using an 8"x4"x16", slate color, burnished, CMU. This narrow band made a huge impact on the distinctive caricature of the building. Less is definitely more in this case; your eye is drawn directly to the band. Above the band, 8"x8"x16" harvest color, split-face, CMU extends to the EPS cornice at top of the building. Care was given to use precision CMU under the cornice, to provide a smooth straight edge between the cornice and the building. To give the building its classic appeal, a series of 6"x8"x16," half-score, oak color, split-face, CMU’s were used above each set of windows. This difference of block size created a recessed look. At each support for the metal canopies an 6"x8"x8"oak color, precision, CMU was used. This ensured that the metal bracket plate would have a smooth surface to attach the canopy bracket to the CMU. As a finishing touch, painted steel canopies were added over the large storefront windows to shade the tinted, low “e” squared glass from the harsh desert environment. One-inch threaded rods and turn-buckles were used to support and level the canopies. A panelized wood roof system was used to provide the required structural ties and to minimize cost.

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GENERAL CONTRACTOR:
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MASONRY CONTRACTOR:
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BLOCK PRODUCER:
Desert Block Company, Inc.

OWNER:
BLF Real Estate, LLC
Functionality, security, ease of maintenance and longevity as client goals led immediately to the use of reinforced concrete masonry and structural steel as the principal design materials for the Justice Facility. Perimeter reinforced concrete masonry walls along with a structural-steel framing system maximizes the opportunities for future interior spaces and volumes to evolve as needs change over time, while continuously maintaining the building’s iconic presence with the public. As the cornerstone of the civic campus, the masonry provides multiple layers of security to the courts, court personnel, detention services and for the citizenry the facility services each day.

The exterior faces of the reinforced concrete masonry are virtually maintenance free and the building’s structure allows it to provide a functional service life of more than two hundred years to the community. Various colors and surface treatments of masonry are incorporated to enhance the visual imagery of the building, yet keep it as simple as possible in terms of labor and material installation requirements. All of the masonry stairs provide excellent life-safety provisions for emergency exiting.

Perimeter screening is used around the building to protect the windows from direct solar radiation, reducing the requirements for air-conditioning significantly.

The interior of the ground floor of the detention services area is constructed entirely of reinforced concrete masonry, left either with a clear sealed textured finish or a brightly painted surface, minimizing the traditional institutional environment of incarceration facilities. The sealed and painted surfaces are exceptionally easy for staff to clean and maintain.
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