

FIREHOUSE[®] STATION DESIGN AWARDS



2022

Firehouse is pleased to present the ninth annual Station Design Awards showcase of fire and emergency services facilities.



WELCOME TO THE 2022 STATION DESIGN AWARDS



JANET WILMOTH
Special Projects Director

Janet Wilmoth grew up in a family of firefighters in a suburb of Chicago. Wilmoth, who is owner of Wilmoth Associates, worked with *Fire Chief* magazine for 27 years until it closed in 2013. She currently is the project director for *Firehouse*, overseeing the Station Design Conference, Station Design Awards and other projects.

Firehouse is pleased to present the ninth annual Station Design Awards showcase of seven categories of fire and emergency service facilities. Forty-six architectural firms, construction companies and fire departments submitted 61 entries. Among these are 23 from first-time entrants.

The fire stations, shared facilities and training centers include some of the most advanced designs that we ever featured in a Station Design Awards showcase. In addition, considering that it takes an average of four years to design and build a fire station, trends and innovations that were introduced late in the 2010s are standard fare in most of the 2022 award entries. For example, a focus on firefighter/EMS provider health isn't a movement anymore; it's integral.

The Station Design Awards judging once again graciously was hosted by Fire Chief Scott Walker of the Addison, IL, Fire Department. The seven judges include fire chiefs and architects who are experienced in emergency response facilities. In three categories, stations that received Gold recognition were unanimous decisions. Other categories required some of the liveliest conversations ever to determine winners, no doubt because of the high standard of submissions.

It's important to remember that this showcase is a collection of facilities that are located across the United States. Consequently, costs vary greatly. So do styles, including based on locale but also on size, budget and department responsibilities to the community that's served.

The judges were asked to review each entry based on site location, design, operations, functionality and safety for personnel.

It was obvious from this year's submissions that departments did their homework during the design process. There was a definite focus on firefighter health and safety by the incorporation of: the Hot Zone approach; separate, ventilated rooms for turnout gear; and increased air filtration systems in apparatus bays. Decontamination areas were located either on the far side of apparatus bays or at a substantial distance from the transitional (air-locked) hallways to living areas.

Career 1 Gold's Burnsville, MN, Fire Station No. 1 prioritized personnel's "physical well-being and mental release" by including a yoga room and a meditation plaza.

The Charleston, SC, Fire Department Station 11 entry was exceptional to every judge. The station was constructed next to the site of the former Sofa Super Store (now a memorial park), where nine firefighters died in 2007 fighting the store fire. According to the description of the station, the facility wasn't intended to be a monument but to represent the transformation and future of the Charleston department. Station 11's nine tall windows pay tribute to the fallen heroes.

The judges voted unanimously for Charleston Fire Department Station 11 to be recognized for a Special Design Award and the evolution of the department.

Planning a new or renovated fire or emergency facility today can tap into a wealth of resources. Prominent among those is the Station Design Conference, where peer networking, experienced speakers and innovative topics are abundant. Of course, *Firehouse Magazine* and articles at *Firehouse.com* provide basics, trends and specifics in station design.

It might go without saying, but this issue of *Firehouse Magazine* is a keeper. Every entry is a winner for its department and community. Each facility was designed to improve operations, the physical and mental health of personnel, and service to the community. Given that, ideas are there for the taking—not to mention the names of the fire chiefs and the executives of the architectural firms. Go straight to the source with any questions that you might have.

So, whether you are considering, planning to or in the process of building a new station or renovating an existing facility, turn down page corners and highlight ideas. This issue is your resource.

STATION DESIGN CATEGORIES

Career 1 (larger than 15,000 square feet); Career 2 (15,000 square feet or smaller); Renovation (redesigned, repurposed or upgraded facilities); Satellite (additional stations, including headquarters and main offices); Shared Facilities (fire and emergency response facilities that are combined with other agencies or organizations); Training Facilities (facilities that are specific to training); and Volunteer/Combination (stations for a blend of career and volunteer members).

MEET OUR JUDGES



DAVID S. ARENDS, AIA, OAA, is the owner, chairperson and CEO of CR architecture + design, which is a national architecture firm that specializes in public safety, commercial, K-12 education, hospitality and housing, among others. He has worked with fire departments across the United States since 1998 to economically address physical and tactical training needs through innovative designs. Arends combines his technical knowledge with his strong business insights to strategically seek new ways to enhance facilities. His distinguished architecture career spans almost 40 years.



CHRISTOPHER CLARK is the fire chief of the Streamwood, IL, Fire Department. He has served 31 years, having risen through the ranks to fire chief. Clark received a bachelor's degree in broadcast engineering from the University of Wisconsin-Platteville and a master's degree in public administration from Governors State University. He is a credentialed Chief Fire Officer through the Center for Public Safety Excellence and has completed the Executive Fire Officer Program at the National Fire Academy. Clark is an adjunct faculty member at Elgin Community College, where he instructs fire protection courses. He oversaw the construction of a headquarters fire station and major renovations/expansions to two existing fire stations.



RALPH DELUCA is a 33-year veteran of the Oakbrook Terrace, IL, Fire Protection District, where he holds the rank of fire chief. During his tenure with the district, DeLuca attained a Bachelor of Architecture, and he is a licensed architect in multiple states. Throughout his continued education, DeLuca attended numerous building assessment and forensic analysis programs. He also provides instruction on technical rescue and structural collapse response at the Illinois Fire Service Institute. DeLuca is part of a regional response team and holds the position of Structures Specialist on IL Urban Search and Rescue TF-1.



LAURA EYSNOGLE is an architect with Wendel, which is the home of the award-winning Five Bugles Design. She works with clients throughout the design process to balance function, efficiency and durability with future adaptability concerns and aesthetics. Following function, Eysnogle understands the effect that spaces have on their occupants' mental health and strives to create warm and welcoming spaces but also to decrease response times in emergency situations.



DAVID FERGUS is a retired architect who dedicated the past 27 years of his career exclusively to fire districts and municipal fire departments by designing fire stations, training centers, and fleet, logistics and administrative buildings. He authored countless districtwide capital facility plans and often served as an advisor on community outreach and messaging for passing voter-approved measures. For 10 years, Fergus was an elected fire commissioner for his own district, gaining invaluable insights into the everyday operations and administrative challenges that fire districts face. He is a published author on fire station design and a past speaker at Fire Rescue International, Station Style and several state association conferences.



JOHNNY FONG, AIA, NCARB, is a fire equipment operator/engineer of Engine 2 with the city of Reno, NV, Fire Department as well as the owner and principal of FireHouse Designs. He has a bachelor's degree in architecture from the University of California, Berkeley, and is certified by the National Council of Architectural Registration Boards (NCARB) and is licensed to practice architecture in multiple sites. Fong has been judging fire station designs since 2002 and authored several articles on design.



JOSEPH LEONE retired as fire chief from the Addison, IL, Fire Protection District after 30 years of service. He is the deputy fire chief of operations for the Kissimmee, FL, Fire Department. Leone received his master's degree from Southern Illinois University (SIU) in fire service administration and homeland security. He is a professor at SIU, where he educates on emergency management and labor relations. Leone teaches incident command classes for fire and EMS at the National Fire Academy and is a Credentialed Chief Fire Officer through the Center for Public Safety Excellence. He is a veteran of the U.S. Marine Corps.

ARCHITECTS	WEBSITE	ARCHITECTS	WEBSITE
ADW Architects	adwarchitects.com	Grossman Design Build	grossmandesignbuild.com
Allen & Hoshall	allenhoshall.com	GSR Andrade Architects	gsr-andrade.com
Barrett Architecture Studio	barrettarchstudio.com	H2M architects + engineers	h2m.com
BKV Group	bkvgroup.com	HB&A Architecture and Planning	hbaa.com
Bignell Watkins Hasser Architects	bigwaha.com	HGA	hga.com
Breckenridge Group Architects Planners	breckenridgearchitects.com	Hobgood Architects	hobgoodarchitects.com
Brinkley Sargent Wiginton Architects	bsw-architects.com	Hughes Group Architects	hgaarch.com
Brown Reynolds Watford Architects	brwarch.com/fire	Joiner Architects	joinerarchitects.com
Buxton Kubik Dodd Design Collective	buxtonkubikdodd.com	Liollio Architecture	liollio.com
CNH Architects	cnharch.com	Martinez Architects	martinez-architects.com
COAR Design Group	coargroup.com	OPN Architects	opnarchitects.com
COLE Architects	colearchitects.com	PBK	pbk.com
Context Architecture	contextarc.com	Perلمان Architects	perلمانaz.com
CR architecture + design	cr-architects.com	RRM Design Group	rrmdesign.com
Davis Kane Architects	daviskane.com	RRM Architects	rrmm.com
Dewberry Architects	dewberry.com	SchenkelShultz Architecture	schenkelschultz.com
DFDG Architects	dfdg.com	Slattery Tackett Architects	slatterytackett.com
Dore + Whittier	doreandwhittier.com	Stewart-Cooper-Newell Architects	scn-architects.com
DS Architecture	dsarchitecture.com	SVPA Architects	svpa-architects.com
emersion DESIGN	emersiondesign.com	Sweet Sparkman Architecture & Interiors	sweetsparkman.com
FGM Architects	fgmarchitects.com	TCA Architecture + Planning	tca-inc.com
Fleming Architects	flemingarchitects.com	TEN OVER STUDIO	tenoverstudio.com
GatorSkctch Architects & Planners	gatorskctch.com	Triad Associates	triadassoc.net

liollo
architecture

Official Project Name:
Charleston Fire Department
Station 11
Project City/State: Charleston, SC
Date Completed: Sept. 30, 2021
Fire Chief: Dan Curia
Project Area (sq. ft.): 14,500
Total Cost: \$5,800,000
Cost Per Square Foot: \$400
Architect/Firm Name:
Liollo Architecture
Website: liollo.com
Design Team: Liollo Architecture:
Architect: Civil: Forsberg
Engineering: MEP: Live Oak
Consultants: Structural: E+M;
Landscape: Stantec



Charleston Fire Department Station 11, Charleston, SC

Upon initiating the design for the new Charleston Fire Department Station 11, city leaders asked that the building be iconic, with a meaningful presence that would convey transparency of operation and a reverent nod to its significant neighbor: The station was constructed next to the site of the former Sofa Super Store, where nine firefighters perished in 2007 while fighting a fire.

The design team and Charleston Fire Department met at the Charleston 9 Memorial before design began for a discussion of the Sofa Super Store fire, the personal effects of the event and how it has shaped the organization. The new station isn't intended to be a memorial or remembrance of the event; it's seen as a representation of transformation and the future. The department requested that the fire apparatus in the apparatus bay be visible from the Memorial Park, to represent the evolution and future of the organization.

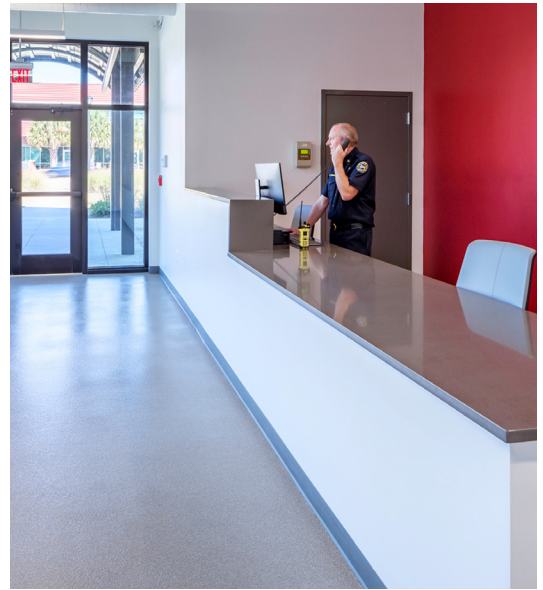
With a design that's inspired by historic Charleston fire station building language, the new station features a monumental arch opening at the apparatus bays. On the façade, which fronts the Memorial Park, nine tall vertical windows pay tribute to the fallen heroes. The building includes a Command Training Center for simulation and remote incident command training, which is a program that was borne out of the losses of the Sofa Super Store fire and underscores the continued effect of that event in transforming the fire department.

In addition to the three-bay apparatus room and the training center, the two-story facility houses administrative spaces and sleeping and living quarters. A bell tower, which is inspired by the old fire watch towers in the historic district, defines the main entry to the building. The historic bell, which is from the former Meeting Street Station, was refurbished and now rings daily.





Station 11's nine tall windows pay tribute to the nine Charleston Fire Department firefighters who died in the line of duty on June 18, 2007.



CAREER 1



Official Project Name:
Burnsville Fire Station No. 1
Project City/State: Burnsville, MN
Date Completed: Dec. 15, 2021
Fire Chief: B.J. Jungmann
Project Area (sq. ft.): 45,023
Total Cost: \$17,226,000
Cost Per Square Foot: \$383
Architect/Firm Name: CNH Architects
Website: cnharch.com
Design Team: CNH Architects:
Quinn Hutson, Principal Architect;
Brooke Jacobson, Principal Architect;
Ashley Klis, Interior Designer; EDI-Dolejs:
Jay Hrub, Electrical; Steve Schreurs,
Mechanical; Larson Engineering: Doug
Hughes, Structural; Matt Woodruff, Civil;
Landscape: Amy Bower, HGGI



Burnsville Fire Station No. 1, Burnsville, MN

The city of Burnsville's Fire Station No. 1 is home to three crews of full-time firefighters, 10 apparatus bays and 12 dormitory suites. The station was designed around the city's guiding principles, including an acute focus on firefighter physical and mental health.

In addition to focusing on Hot/Warm/Cold Zones, multiple contamination zones are located within the apparatus bays. This allows staff to develop a full decontamination flow that starts with the "hot" apparatus entering a designated washdown bay, moving to designated decon showers and decon gear rooms, and, ultimately, transitioning to the operationally clean side of the apparatus bays. All decon areas and bays have constant negative pressure that routes toxins directly out to the exterior.

The floor plan is designed for minimal steps to apparatus bays, regardless of location, while the individual, gender-neutral dorm suites, which are complete with private bed and bath, provide optimal space for rest and relaxation. Multiple layers of sound isolation, including door bottom seals, ensure sleep and shift changes come with minimal disruption. Circadian lighting features that are in residential areas reinforce natural circadian sleep cycles and promote relaxation. These elements are complemented by alert tones and lighting that slowly ramp up to alert only responding staff. Floor-level fixtures emit low light throughout to further maintain firefighter night vision.

Prioritizing mental health continues by providing space for physical well-being and mental release via inclusive indoor/outdoor spaces, including a yoga room, a meditation plaza and a rooftop patio. Artificial turf that connects to the fitness room (via an all-glass overhead door that allows for natural light) provides an open-air transition of workouts. Materials that are used, particularly in the residential zone, are soft materials and relaxing colors.

Fire Station No. 1 incorporates LEED guidelines throughout to meet today's sustainability ideals.

Located in an industrial zone with a residential neighborhood nearby, Fire Station No. 1 is designed with the city's guiding principles, including "Welcoming to the Community," in mind. The facility has a modern aesthetic that features brick, cast stone and composite wall panels and fits in well with the surrounding industry yet strikes a balance with welcoming features and ease of public access.

Many of these features make Fire Station No. 1 appealing to today's career firefighter, which was a conscious design decision that was rooted in the idea of creating job retention and recruitment.

Designed during the height of the COVID-19 pandemic, the layout of Fire Station No. 1 takes into consideration extra space for social distancing as well as wayfinding and flow of traffic. Another guiding principle in the design was





safety and security. Measures include: separate firefighter and public parking areas; designated firefighter-only building entrances; careful zoning of apparatus flow to speed response options while separating from public site access; designated public entrance with secure vestibule; zoning of areas that allow public access, such as the lobby, training classrooms and restrooms, are separate from firefighter operations with access control between; programmable public room access control features; and video cameras around exterior and the public-accessible spaces.

Unique and extensive training offerings include: interior tower features include stair hose advancement, rescue windows, rappelling and standpipe; interior mezzanine that includes confined-space sewer access, a maze that has artificial smoke, and windows and balconies for ladder rescue and bailing drills.



CAREER 1



Ketchum Fire Station 1, Ketchum, ID

The Ketchum Fire Station 1 was a greatly anticipated project for the citizens of Ketchum. The Ketchum Fire Department was looking to accommodate a varied force, with specialization in different forms of rescue—backcountry rescue, wildland firefighting and urban firefighting—into one new facility. It hoped to house its entire team of paid and volunteer firefighters as well as its maintenance facilities in a way that would allow programmatic growth over a 50-year planning horizon.



Official Project Name:

Ketchum Fire Station 1

Project City/State: Ketchum, ID

Date Completed: Sept. 13, 2021

Fire Chief: Bill McGlaughlin

Project Area (sq. ft.): 16,750

Total Cost: \$15,300,000

Cost Per Square Foot: \$913

Architect/Firm Name:

COLE Architects

Website: colearchitects.com

Design Team: COLE Architects:

Matt Huffield, Architect; Allison Gray,

Designer; Fire Station Design: Brian

Harris, TCA Architecture; Structural:

Jordan Terry, KPFF; Musgrove: James

Siefert, Mechanical; Kurt Lechtenberg,

Electrical; The Land Group: Jason

Densmer, Civil; Jyl Glancey, Landscape

With a growing force of volunteer firefighters, member training has increased exponentially over the past several years. During the design process for the new station, the design team was tasked with integrating areas to support training on-site and within the facility. Although many mountain rescue training activities occur at off-site locations, considerations for training at the facility include laddering areas, a training hydrant that allows for hose advancement opportunities, a rear concrete pad for extinguisher training and training props. Internal to the station, the exposed bay allows for rope work, areas to support the demonstration and appropriate containment/decontamination of bloodborne pathogens/infectious disease, a firefighter training room, individual sleep/study areas, and a firefighter radio room that also is used for study and incident command training.

The station carefully was designed around sustainable design practices, with energy-efficient mechanical and electrical systems. As desired by the city of Ketchum, the design team worked to meet LEED Silver Certification and be in line with the city's goals to become Zero Net Energy by 2030 (providing infrastructure for solar panels and a fully electric heating-cooling system).

The site—with constrained dimensions and the need to manage heavy snow loads—incited creative solutions from the design team. The building footprint placed the structure at the front of the property line. This allowed for maximizing vehicle turning, snow storage and work areas toward the rear of the site while maintaining pedestrian walk and cross-traffic safety zones.

The two-story station has four apparatus bays, a community room for public and internal use, and a lobby with administrative offices on the main floor. Firefighter quarters—with dayroom and kitchen, sleeping dormitories and laundry—are located on the upper floor. The design was oriented toward the best mountain views of the famous ski resort in the area, with panoramic views from the main dayroom upstairs.

To best accommodate the various specialized teams that occupy the station, a special signaling system was designed for the sleeping rooms: Each is independently routed to allow for individual calls that only wake members who are needed for each specific emergency response.

The exterior articulation of the facility is based on clean and simple geometric forms that respond to the building program and the selection of durable materials. Exterior materials include dark masonry at the vehicle bay area, warm-colored metal siding at the service and administrative areas, and accent metal siding in service and entrance areas.





DeLand Fire Station 81, DeLand, FL

The city of DeLand's Fire Station 81 has been a prominent community fixture for more than 50 years. What started as a volunteer station became an integral part of the historic downtown landscape. Located two blocks from Main Street, the replacement station creates synergy among the adjacent City Hall, police station and post office, honoring public safety's presence in the heart of DeLand.

The aesthetic brings in a palette of Chicago brick and red arched bay doors that are reminiscent of a historic brigade station, with sloped roofs that complement the residential feel of the neighborhood. The station's interior program blends health, safety and training principles with a design that's centered on rapid response times. With four drive-through apparatus bays, the station can house as many as eight apparatus.

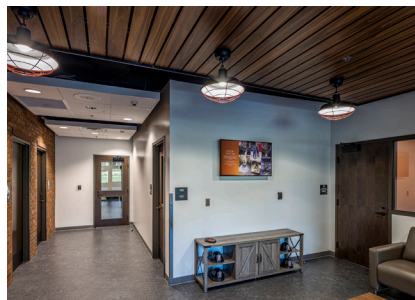
The station segregates the Hot, Warm and Cold Zones with air locks for decontamination. Gear wash and gear storage areas are separated from the rest of the facility. Balancing these essential areas also gives members a warm, comfortable living environment. A modern industrial interior is accented with brick and wood ceiling details, which are highlighted by daylight in the kitchen and lounge. A fitness area, offices and bunkrooms give the crew space to decompress.

Training was an essential part of the vision for the new station. The training tower innovatively utilized the two-story egress stair by adding a third story that has integrated standpipes to allow for confined-space, rappelling, hose and rooftop drills. These built-in components are flexible for future changes in training requirements or practices. The multipurpose space at the front of the facility is used by staff for training and education as well as by the local community for meetings and special events.

The original Fire Station 81 was designed to only accommodate "firemen." The new station expands the station's capacity to field calls and to foster a diverse workforce.

Designed to operate 24/7, the station is an essential, hardened, survivable facility. All utilities have full redundancy through a backup generator.

Designed according to Green Globes requirements, the station incorporates sustainable design elements, including locally sourced building materials, low-flow plumbing fixtures, low-VOC materials, a recycling program and LED light fixtures.



**FIREHOUSE
STATION DESIGN
AWARDS**

CAREER 1



SCHENKELSHULTZ
ARCHITECTURE

Official Project Name:

DeLand Fire Station 81

Project City/State: DeLand, FL

Date Completed: Nov. 10, 2021

Fire Chief: Todd B. Allen

Project Area (sq. ft.): 15,780

Total Cost: \$5,500,000

Cost Per Square Foot: \$348.54

Architect/Firm Name:

SchenkelShultz Architecture

Website: schenkelshultz.com

Design Team: SchenkelShultz

Architecture: Johnnie D. Lohrum Jr., RA,

LEED AP, Principal; Planning: McClaren

Wilson & Lawrie; MEP: TLC Engineering

Solutions; Structural: BBM Structural

Engineers; Civil: Zev Cohen & Associates

Official Project Name:
City of Alvin Fire & EMS Station No. 1
Project City/State: Alvin, TX
Date Completed: Aug. 27, 2021
Fire Chief: Vance Riley
Project Area (sq. ft.): 31,050
Total Cost: \$11,671,270
Cost Per Square Foot: \$376
Architect/Firm Name:
Joby Copley, AIA/Joiner Architects
Website: joinerarchitects.com
Design Team: Joiner Architects:
Joby Copley, Chad Joiner



City of Alvin Fire & EMS Station No. 1, Alvin, TX

The city of Alvin Fire & EMS Station No. 1 was designed to create separation between the fire and EMS departments while ensuring that all public and shared spaces are accessible equally to both departments. The facility's two training rooms are placed strategically directly between each departmental side of the building, so both departments can utilize the spaces. The training rooms are separated by an operable partition, which allows them to be used as one big room when large gatherings are held at the station.

The station includes a complete catering kitchen and multiple storage closets that are located adjacent to this area to serve as many as 100 people.

The administrative sections of both the fire and EMS sides of the building were designed to be on the south side—the entry side—of the building to serve the public as well as to provide as much natural light as possible into the offices.

The heart of the fire department side of the facility is the kitchen/dayroom, where the staff spends time together when not actively working.

Both sides of the building have enough dormitories to house the required number of 24/7 staff and have individual apparatus bays, which makes emergency departure easier on each of the departments.

Joiner Architects went above and beyond to ensure that all of the requirements were met and that the design is both aesthetic and functional for each of the departments. The attention to detail and making sure that every section of the building was thought about carefully helped to create a final product that the city of Alvin could be proud of.





Official Project Name:

Arlington County Fire Station 10

Project City/State: Arlington, VA

Date Completed: Aug. 4, 2021

Fire Chief: David Povlitz

Project Area (sq. ft.): 17,900

Total Cost: \$5,000,000

Cost Per Square Foot: \$279

Architect/Firm Name:

Hughes Group Architects

Website: hgaarch.com

Design Team: Hughes Group

Architects: J. Lynn Reda, Principal; Keith

Driscoll, Project Manager; MEP: Raj

Setty, Setty & Associates; Structural:

William R. McLain, Ehler/Bryan; Civil:

Brad Glatfelter, Bowman; Base Building

Architect of Record: Todd Martin,

Hickok Cole



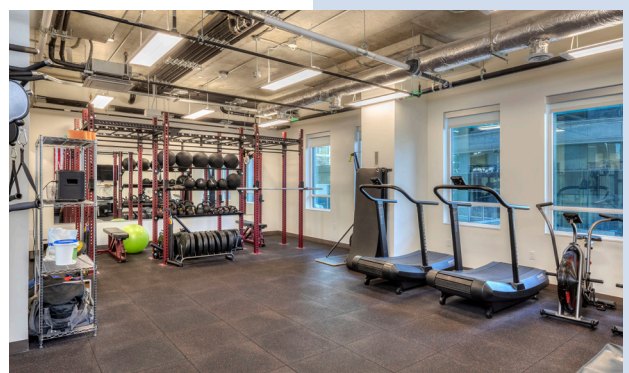
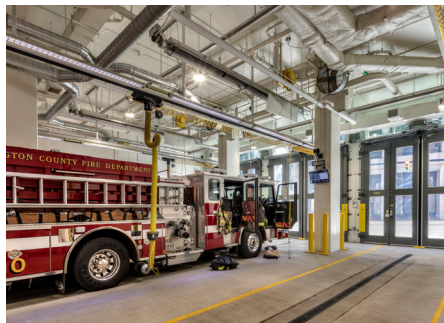
Arlington County Fire Station 10, Arlington, VA

Arlington Fire Station 10 replaces a 60-year-old, single-story station in a dense urban area. The county provided zoning concessions to develop the parcel into three high-rise, mixed-use residential towers in return for a three-bay, drive-through station for as many as 22 personnel to be incorporated into one of the towers. The new facility is two floors, with a mechanical and storage mezzanine sandwiched between.

Hughes Group provided fire rescue design expertise to Hickok Cole, the base building architect. The team collaboratively developed an isolated station that's within the footprint of the overall building, including a dedicated entry lobby, a vertical core connection to the parking garage below and a dedicated rear apron. The station is separated from the balance of the building by three-hour rated construction.

Arlington County required the station to comply with county design standards, including individual sleeping rooms and private bathrooms, offices, a dayroom, a fitness facility and a commercial-grade kitchen. Occupant health initiatives focus on decontamination and containing contaminants on the first floor only, within the apparatus bays and support areas. Gear and equipment decon is handled in the decon room, which is adjacent to the apparatus bays. Personnel decon after calls is addressed adjacent to the bays via a "dirty restroom" and a separate changing room that has a sink, a shower, a washer/dryer and lockers for clean uniforms. The balance of the station is located on the second floor.

Station 10 is the first fire station in the county to incorporate public art into the design of the facility, which is a county requirement. A 26-foot-tall wall-mounted sculpture of a fire nozzle is located on the front of the station. Constructed of bronze and stainless steel, the sculpture contrasts with the dark brick of the station during the day and is illuminated from within at night.



CAREER 1 NOTABLE

HB&A
Architecture
AND
Planning

Official Project Name:

Aurora Fire Station #16

Project City/State: Aurora, CO

Date Completed: Jan. 1, 2019

Fire Chief: Allen Robnett

Project Area (sq. ft.): 15,253

Total Cost: \$6,100,000

Cost Per Square Foot: \$400

Architect/Firm Name: HB&A

Website: hbaa.com

Design Team: HB&A: Steve Powell,

Quality Control: Tino Leone, Project

Manager/Architect: Devon Jackson,

Architectural/Interior Designer:

Structural: Jon Dietrich, MGA Structural

Engineers: Civil: Cameron Knapp, Drexel,

Barrell & Co.; Bridgers & Paxton:

Maggie Robinson, Mechanical: Mark

Bankson, Electrical: Landscape: Mark

Wilcox, DHM Designs



Aurora Fire Station #16, Aurora, CO

The rapidly expanding city of Aurora required a new fire station to provide emergency services to the Gaylord Resort and Conference Center and booming housing developments that are under construction near Denver International Airport. The new Fire Station #16 was built to coincide with the opening of the resort and houses an engine company and a ladder company.

The two-story station separates private sleeping rooms on the upper floor from general living quarters on the ground floor to encourage rest and recovery. A large kitchen and dining room are at the heart of station life and open to a partially covered patio that doubles as an outdoor workout space. The fitness room, which also is adjacent to the patio, has high ceilings that permit good daylighting and natural ventilation. Each officer's suite includes a private office, sleeping room and bathroom. A large community room is open for public use and doubles as classroom space for firefighter training. Health and safety measures include airlocks between living and apparatus areas, dedicated decontamination and laundry rooms, and enclosed bunker gear storage. A mezzanine that overlooks the apparatus bays provides storage and in-station training opportunities.

The station is constructed of durable materials with a modern industrial aesthetic. Horizontal accent bands accentuate the concrete masonry walls, which are surmounted by vertical metal panels at the upper level. Angled exposed steel beams emphasize the building entries and are painted red to match the metal trim. Interior finishes include colored polished concrete floors, metal panel wainscot on corridor walls, and durable metal casework in the kitchen and dining room.



Official Project Name:

Avondale Fire Station No. 175

Project City/State: Avondale, AZ

Date Completed: May 1, 2022

Fire Chief: Ken Gilliam

Project Area (sq. ft.): 17,084

Total Cost: \$7,650,975

Cost Per Square Foot: \$447.84

Architect/Firm Name:

Perlman Architects

Website: perlmanaz.com

Design Team: Perlman Architects:

Ken Powers, Architect of Record; Erik

Thomsen, Designer; Gerrald Adams,

PM; Civil: Bill Gasque, Civil Design

Solutions; Structural: David Schott,

Simply Structural; M&P: George Josephs,

Associated Mechanical Engineers;

Electrical: Sheldon McInelly, Akribis

Engineers; Fire Protection: John

Echeverri, EJ Engineering; Landscape:

Jason Harrington, HP+D



Avondale Fire Station No. 175, Avondale, AZ

Located in the middle of the city, this new fire station fills a response gap and provides call relief to Avondale's four other stations. This neighborhood fire station, which is nicknamed The Oasis, is a modern and durable facility. The project sits on 2.98 acres at West Van Buren Street and 127th Avenue. The site housed temporary quarters for the crew while the team designed and constructed the station. The station was designed and built during the COVID-19 pandemic in less than a year.



The single-story station consists of three bays, 10 gender-neutral dormitories, battalion chief and battalion safety officer quarters, offices, a fitness room, a training room, an exam room, logistics, interior decontamination showers, work/living areas and support spaces. On-site improvements include: an above-ground generator, public art, a secure patio, a fitness patio that has artificial turf and secure parking.

The contemporary Southwest aesthetic that was selected for the station is cohesive with multiple municipal projects that are in the surrounding neighborhood. The use of gray metal shade structures, Cor-Ten metal wall panels, random sizes of light gray, white and dark gray concrete masonry units, glazed overhead doors, and gray and black accents grounds the station on Van Buren Street. In addition, the use of these durable materials provides insulation and sound absorption that's needed because of the station's proximity to Luke Air Force Base.

The overall design strategies increase the health and well-being of the first responders by providing outdoor spaces, natural daylighting, and single-use gender-neutral dorm rooms and bathrooms while promoting fitness and decreasing carcinogens and infectious diseases. Also included are individual spatial comfort controls, such as zoned HVAC, ceiling fans, lighting controls and blackout shades, to provide rest/recovery and to reduce sleep interruption/deprivation.



CAREER 1 NOTABLE



Official Project Name:

Bexar County ESD 2 Fire Station 124

Project City/State: San Antonio, TX

Date Completed: June 25, 2022

Fire Chief: Ralph Rodriguez

Project Area (sq. ft.): 21,087

Total Cost: \$7,717,842

Cost Per Square Foot: \$366

Architect/Firm Name:

Brown Reynolds Watford Architects

Website: brwarch.com/fire

Design Team: Brown Reynolds

Watford Architects: Ray Holliday,

AIA, Principal-in-Charge; Jennifer

Bettiol, RA, Project Manager;

Daniel Pesek, AIA, Construction

Administration Manager; Shelby

Bennett, Associate AIA, Project

Coordinator; Civil: Christopher Allison,

PE, M&S Engineering; Structural: Rick

Robertson, PE, and Ryan Sbrusch,

PE, Dunham Engineering; MEP: Wes

Daoust, PE, DVO Engineering



Bexar County ESD 2 Fire Station 124, San Antonio, TX

Located in a suburban area on the west side of San Antonio, Bexar County Emergency Services District (ESD) 2 is in process of building multiple new fire stations to provide better response coverage to this rapidly growing area of Texas. Fire Station 124 is the first of the new stations to be completed and serves as the ESD and fire department headquarters as well as the emergency operations center (EOC). This investment in new facilities has assisted the ESD in successfully achieving an ISO Class 1 rating.

Careful consideration went into planning not only how to give firefighters privacy but also how these spaces would function daily and during an emergency. The solution resulted in a split floor plan with the four apparatus bays bookended on either side. The main public entrance and all of the community use and administrative spaces are on the left, and the fire station's operational and private areas are on the right. Additionally, each space and the furniture were designed to allow for flexibility and quick activation of the EOC in the event of a public emergency. The community room becomes the coordination room, the conference room becomes the command room, and all six offices are equipped with Murphy beds to provide overnight accommodations.

The physical and mental health of the firefighters was of the utmost importance to the chief and the ESD. The apparatus bays and the support spaces are separated from the living spaces by airlocks, which help to prevent the spread of carcinogens and contaminants from the hazard zone. A decontamination shower room that's adjacent to the airlock as well as walk-off mats and boot wash stations that are in each airlock help to ensure that the decon process is followed easily. The dayroom, the indoor/outdoor fitness center and the adjacent covered patio provide necessary areas for decompression and camaraderie building.





Engine 42/Rescue 2, Boston

Located on a mere 0.7 acres at a busy, city intersection, the very active Engine 42/Rescue 2 is Boston's first new fire station in nearly four decades, and it initiated a long-range plan to upgrade facilities for the city's first responders and set precedents.

The existing facility was grossly inadequate for fleet, equipment, storage and personnel, and it heavily compromised health, safety and performance.

A temporary office trailer that had bunks and a fabric structure for an apparatus were erected nearby. Soil issues that resulted from urban fill at the existing site led to the structural design of a Geopier system that consists of Geo Concrete Columns under foundation footings and grouted aggregate piers for the new LEED Silver Certified station that quadrupled the size of its 1951 predecessor.

Former Commissioner Joseph Finn, who was concerned with firefighter health, sought a responsive design to optimize the firehouse's environmental conditions. Acting Mayor Kim Janey and then-Commissioner John Dempsey acknowledged the project's success and importance at the ribbon-cutting ceremony. Among the facility's key design elements that the speakers noted is the emphasis on the health and safety of staff, which is addressed by the segmentation of spaces for contamination control and various physical and mechanical means to maintain clean environments throughout the station.

The two-story building offers numerous on-site training opportunities: ladder, rappelling, ropes, dry hydrant, hose evolution and confined space, among others. Adjacent to the three and a half apparatus bays are a decontamination area, showers, a turnout gear room that has a dedicated HVAC system and a large meeting/training room. A kitchen, a dayroom, a fitness area, lockers and 14 bunk-rooms for two companies are in proximity on the second floor. A mechanical room that has access to a solar-ready, thermoplastic polyolefin-membrane roof is above the second floor.

A number of design objectives were established by the department and the city's Public Facilities Department: durable, low-maintenance materials; super-high-efficiency glazing and horizontal exterior solar shades to reduce glare and solar heat gain; high-efficiency mechanical system; easily cleanable interior surfaces to help with decon (no porous surfaces); stainless-steel commercial-grade kitchen; open dining/dayroom area that provides visibility to neighborhood activity; large fitness room; training room that can double as another fitness area for floor exercises; and short distances from living areas to the apparatus bays to minimize response times.

Although the building and apron occupy most of the site, several amenities grace the outdoors, and much attention was given to the station's surroundings.

With limited street and municipal parking available, on-site accommodations were a priority. The ultimate layout on the small, constrained site provides parking space for two companies.

Small islands that have attractive, right-sized, low-maintenance shrubs and perennials punctuate the building's perimeter and, with a customized decorative fence, provide a stylish and compatible elevated shoulder along the sidewalk.

Distinctive, concrete planters are eye-catching and effective bollards as well.

A ground-level patio that's adjacent to the training room and a rooftop deck are accessed through the kitchen and provide for training opportunities as well as an outdoor retreat or gathering space.

A generator, a fuel depot, and receptacles for trash and recycling are located on the site, which also was prepared to accommodate future electric vehicle charging.

The front brick façade, which is adjacent to the main entry, is prepared for future artwork.

Official Project Name:

Engine 42/Rescue 2

Project City/State: Boston

Date Completed: Oct. 14, 2021

Fire Chief: District Chief

Robert Dowling

Project Area (sq. ft.): 23,622

Total Cost: \$17,493,000

Cost Per Square Foot: \$740.54

Architect/Firm Name: Dore + Whittier

Website: doreandwhittier.com

Design Team: Dore + Whittier: Donald

Walter, Principal; Alan Brown, Project

Manager; Jason Harris, Programming;

Billy Novotney, BIM Manager;

Margaret Daly, Interior Design; MEP/

FP: GGD; Structural: EDG; Site/

Civil: Nitsch Engineering; Landscape:

Deb Myers; Hazardous Materials:

UEC; Sustainability/LEED: Thornton

Tomasetti; Commissioning: WSP;

Estimating: PM+C



CAREER 1 NOTABLE

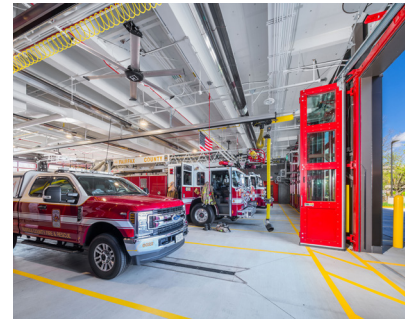
FGM ARCHITECTS

Official Project Name: Fairfax County Fire and Rescue Station 25—Reston
Project City/State: Reston, VA
Date Completed: Jan. 11, 2022
Fire Chief: John S. Butler
Project Area (sq. ft.): 17,386
Total Cost: \$9,887,000
Cost Per Square Foot: \$568.67
Architect/Firm Name: FGM Architects
Website: fgmarchitects.com
Design Team: Architect: FGM Architects; Civil: Urban LTD; Structural: Ehler Bryan; MEP: Brinjac Engineering; Cost Estimating: Axias; Commissioning: Setty & Associates

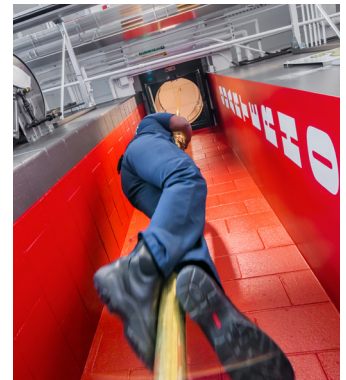


Fairfax County Fire and Rescue Station 25, Reston, VA

Originally constructed in 1972, Station 25 had reached the end of its useful life. With the increase of high-density commercial and residential development in the area, the station lacked sufficient space for existing equipment and the capacity to accommodate additional emergency responders and units that were anticipated for future service demands. Utilizing the existing one-acre site, the county, the fire department and the design team collaborated on a solution to balance the need for a larger four-bay station, with staff and visitor parking, while also meeting the county stormwater management requirements. The resulting design is a two-story station that has sleeping quarters for 20 personnel.



Designed with a contemporary aesthetic, the “Quarter House,” as it’s affectionately referred to by the staff, features an exterior façade of brick, metal panel and glass, which echoes design cues that are derived from the adjacent commercial development and Reston’s historic modernist architecture. The station accommodates six apparatus, including a future engine and medic, which will make Station 25 the first “super station” in the county, housing two engine companies. The building includes updated gear lockers, specialized HVAC/shop/storage rooms and a combined control room/lobby, all of which are immediately accessible to the first-floor apparatus bays.



The living quarters, administrative offices, fitness room, bunkroom and locker room are programmed above the apparatus bays on the second floor of the facility. These spaces are located on exterior window walls, and through the incorporation of interior glass partitions, daylight is allowed to permeate throughout the station. Concepts such as immersive design utilize daylighting and views to improve morale and the behavioral health and wellness of the crew.

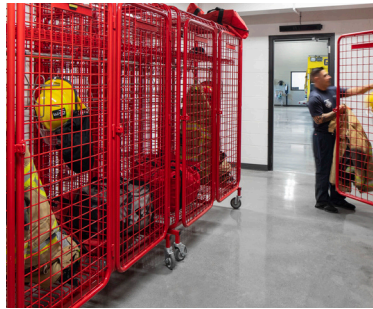
Station 25 is designed to meet LEED Gold Certification via the installation of a photovoltaic system.





Goodyear Fire Station No. 181, Goodyear, AZ

Goodyear Fire Station 181 defines a new class of facility that's designed and built around firefighter health. With the growing understanding of the dangerous exposure to contaminants, carcinogens and high-stress situations, the building was designed to be as clean and safe as possible. The building design began with a zoned approach to designate areas of the building that are related to Hot, Warm and Cold hazardous contaminants exposure. This design approach encourages the separation and control of carcinogens as occupants move through the various spaces. On returning from a call, a large canopy on the rear apron allows the apparatus to be washed down before returning into the bay, which is equipped with both mass extraction and a direct Plymovent exhaust system, to ensure that any contaminants that do enter are evacuated efficiently. Station living spaces are further separated from the apparatus bays with negative pressure vestibules that serve as airlocks. A decontamination corridor that allows firefighters to decon their gear is set opposite from the living areas.



Focused on overall wellness of the station crew, immersive design principles create spaces for recuperation after stressful calls. The kitchen/dining/dayroom area, the fitness area and the dormitories all line the outer edge of the building, which allows in natural light and connection to the outdoors. Critical alert systems and lighting choices were installed to reduce the issue of sleep deprivation.

A 37-foot-tall training tower that has a landing and an interior mezzanine that looks out over the apparatus bays facilitates laddering, rappelling and other routine exercises.

The new station is particularly meaningful for 20-year Goodyear firefighter Gilbert Aguirre, who won a battle with leukemia after being diagnosed five years ago. "Honestly, I think it's changing the fire service in general—not just in Arizona but around the country," Aguirre said. "This building has a special meaning to me, because one of the things that we're doing with these stations is dedicating a lot of the ideas and time to cancer prevention. I've been involved with this project since the very beginning of it, and I'm so thankful that the chiefs allowed me to be involved. It's great for the community all around to have something to protect them and to protect the firefighters that are helping them."



**FIREHOUSE
STATION DESIGN
AWARDS**

CAREER 1 NOTABLE

CORE

DFDG
Architecture

CR
architecture + design

Official Project Name:

Goodyear Fire Station No. 181

Project City/State: Goodyear, AZ

Date Completed: April 29, 2021

Fire Chief: Paul Luizzi

Project Area (sq. ft.): 16,126

Total Cost: \$8,181,841

Cost Per Square Foot: \$507

Architect/Firm Name: DFDG Architects and CR architecture + design

Website: dfdg.com, cr-architects.com

Design Team: DFDG Architecture:

Chad Billings, Principal Architect;

CR architecture + design:

Dean A. Sparaco, Director;

CORE Construction



Official Project Name:

Grand Prairie Fire Station No. 3

Project City/State: Grand Prairie, TX

Date Completed: April 1, 2022

Fire Chief: Robert Fite

Project Area (sq. ft.): 19,360

Total Cost: \$7,985,000

Cost Per Square Foot: \$412

Architect/Firm Name:

Brown Reynolds Watford Architects

Website: brwarch.com

Design Team: Brown Reynolds Watford

Architects: Mark Watford, FAIA, Project

Principal: Stephen Hilt, AIA, Project

Director: Carol Kesler, AIA, Project

Manager: Chris Sano, AIA, Project

Designer: Renee Bean, AIA, Project

Coordinator: Civil: Pacheco-Koch;

Structural: JQ Engineering; MEP: MEPCE;

Landscape: SMR Landscape



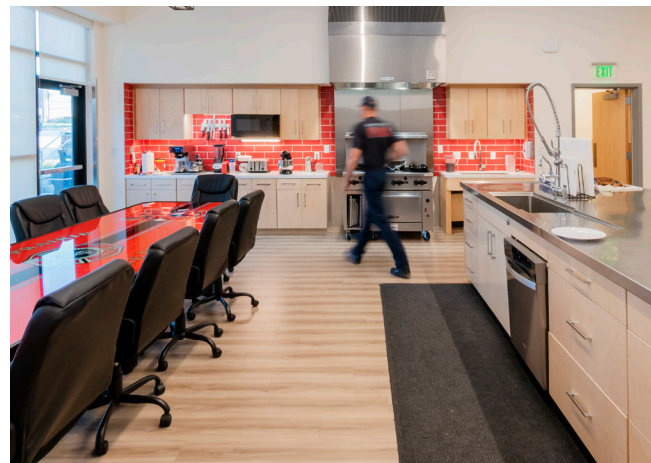
Grand Prairie Fire Station No. 3, Grand Prairie, TX

The Grand Prairie neighborhood around the old Fire Station No. 3 has grown significantly in recent years, including the city's popular Grand Central Park, where a large recreation center and water-park recently opened. The city's efforts spurred other large retail and housing developments along and near to the Highway 161 corridor.

Following up on Brown Reynolds Watford Architects' feasibility and master planning study for the site, the new replacement Fire Station No. 3 and fire training center will serve the growing volume of calls in the area as well as provide a new home for the fire training and quartermaster staff. The original Fire Station No. 3 needed to be replaced not only because of its size and age but also because a replacement water tower was planned at the existing site. A future resource center storage building also is planned for the site in anticipation of the future need to consolidate quartermaster and storage needs.



The new station is designed to fit within its largely industrial-adjacent context. Clerestory windows afford natural daylight into the larger interior spaces without compromising valuable wall space. On the street façade, punches of red accentuate interior programmatic elements, including the apparatus bay and the public entry. The classroom training building provides relief for overcrowding and scheduling issues at the existing police and fire training center by serving the fire department's needs and allowing a space of its own. In addition to the training facilities, emergency operations center and emergency management offices are being considered for future use of the remainder of the site.





Greensboro Fire Station 7, Greensboro, NC

Fire Station 7 is a vision fulfilled through a collaborative effort between the city of Greensboro and Guilford County. The station is a replacement facility for the original building that served the community since 1958. At more than double the size, the new two-story station houses the Greensboro Fire Department (GFD) and the Guilford County Emergency Medical Services Base 1.

Located on the corner of Wendover and Gatewood avenues, a two-story tower and five bays that have large, red, four-fold doors clearly communicate a new and improved Fire Station 7 to the community. The exterior façade includes red brick, stone veneer and architectural precast concrete, which all are iconic materials in the history of fire stations. Paying respect to the original station, many elements were saved and integrated into the new facility, such as the brick, which was repurposed as pavers at the public entrance, and signage that's displayed throughout the interior of the new station. Glazed masonry units that lined the apparatus room now accent the pilasters that are between each new apparatus bay.

The interior includes areas that are dedicated to the GFD and Guilford County EMS. Spaces for the battalion chief, engine company and ladder company include offices, a kitchen, a dining room, a dayroom, a large fitness room, officer bedrooms, a bunkroom, a laundry, and separate men's and women's restrooms and locker rooms. One bay is designated for the battalion chief, and two pull-through bays are for the engine and ladder companies. Space that's dedicated to Guilford County EMS includes sleeping quarters, a kitchen, a dining room, a dayroom and two bays for response vehicles.

The layout of these spaces carefully was considered to provide separation of the departments and critical response times. One key element that's used in this station are two fire poles, to provide quick access from the bunkroom to the apparatus room.



Official Project Name:

Greensboro Fire Station 7

Project City/State: Greensboro, NC

Date Completed: Dec. 17, 2021

Fire Chief: Jim Robinson

Project Area (sq. ft.): 18,594

Total Cost: \$8,922,632

Cost Per Square Foot: \$479.86

Architect/Firm Name: ADW Architects

Website: adwarchitects.com

Design Team: ADW Architects: Jim

Powell, Managing Principal; Keith

Carlyon, Director of Public Safety;

Scotty Smith, Project Architect;

Michael Newton, Lead Designer;

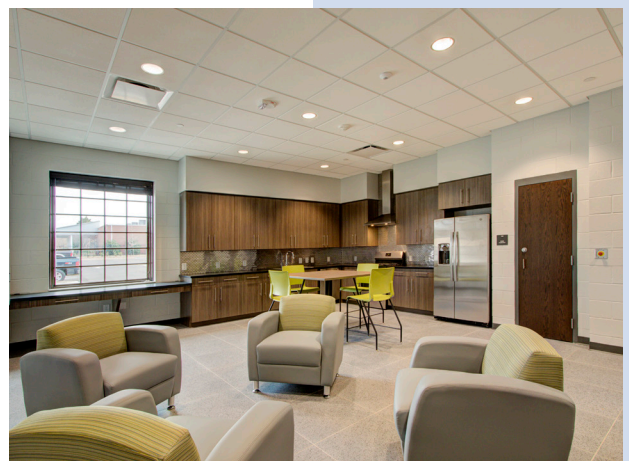
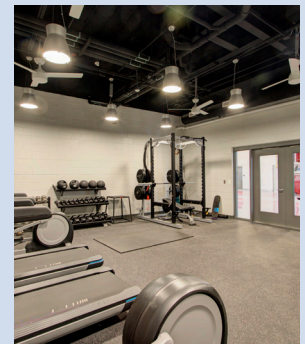
Nicole Goode, Designer; John Kappers,

Construction Administrator; Civil:

JC Waller & Associates; Structural:

Stewart Engineering; MEP: AME

Consulting Engineers



CAREER 1 NOTABLE



Official Project Name: Marion Fire Headquarters & Station No. 1
Project City/State: Marion, IA
Date Completed: July 1, 2021
Fire Chief: Deb Krebill (Ret.)
Project Area (sq. ft.): 20,000
Total Cost: \$7,200,000
Cost Per Square Foot: \$360
Architect/Firm Name: OPN Architects
Website: opnarchitects.com
Design Team: OPN Architects: David Sorg, Principal-in-Charge; Landon Burg, Project Manager; Tate Walker, Sustainability Director; Mindy Sorg, Interior Designer



Marion Fire Headquarters & Station No. 1, Marion, IA

This two-level fire station in a rapidly growing community reduces response time, establishes a strong and transparent civic presence, and uses biophilic design principles to support firefighters' physical and mental wellness.

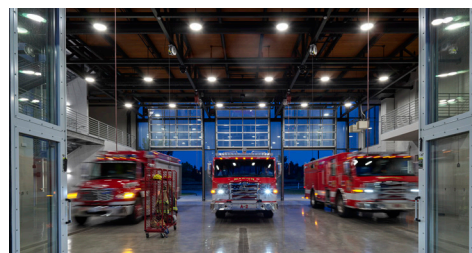
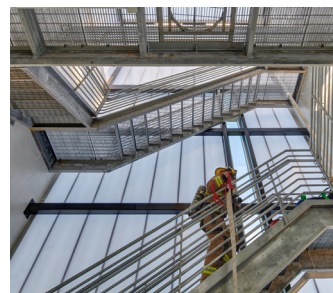
The plan and massing is anchored by a two-story apparatus bay. Full-height glass doors on both the north and south elevation maximize daylight and establish a connection to the community. Extending east, shou sugi ban wood, which is charred using controlled fire, wraps the living and office spaces to add depth, texture and contrast with the smooth plane of the glass. Interior spaces are complemented by two ipe wood terraces that are sheltered by a roof and wall trellis. A green roof surrounds all of the living spaces and sleeping rooms.

The lobby is stretched to become the primary first level circulation; it mediates between a tree grove and a history wall. This welcoming, light-filled space allows direct views into the apparatus bay and displays the department's rich history, pride and tradition.

Strategic sequencing of spaces, including a decontamination clean room, between the bays and the office and living areas mitigates exposure to fire and ash carcinogens. On the opposite side of the bays, the hose-drying tower also serves as a training area to simulate rescues. Training opportunities continue at the exterior, where the retention pond is used to train for ice rescues.

The living areas, which are wrapped in full-height glazing and have exposed wood ceilings, include a full kitchen, a large family-style table, and a TV and gaming area, to ensure that the firefighters have

a variety of space types to relax and recharge. Circadian lighting is used throughout to ensure that the firefighters' wake-sleep cycle is synchronized with natural light.





Fire Station 6 & Administration, Missouri City, TX

This combination fire station/administration facility was designed to provide a visual landmark to a growing mixed-use community. The unique 1.5-acre corner parcel required creative application of drive-ways and public versus apparatus/personnel access through close coordination with local roadway and utility jurisdictions.

In response to budget limitations and projections of future needs, the facility was designed structurally to accommodate the future addition of a fourth apparatus bay without the need to relocate or interrupt

any functions of the station. Programmatically, this required placement of all bay support spaces (SCBA, gear laundry, PPE storage, workshop and decontamination) to be placed on the near side of the bays as a transition zone between the bay and the living/office areas. This transition zone provided an opportunity to utilize a space-efficient Warm-Zone vestibule that has a shower and locker facilities for returning first responders.

Dormitories and open/common living areas are designed with maximum emphasis on safe and quick emergency response time. Response time also is enhanced by utilization of fast-opening bi-fold apparatus bay doors, which were designed as a bid-alternate to provide a flexible approach to meeting the limited project budget. The fitness and kitchen areas share a common and private covered outdoor space that has efficient and low-glare north solar orientation.

The entire administration is placed upstairs to emphasize first-floor fire station response time. The first-floor entry lobby is secured through access-control and security cameras, which provide vertical access to an open second-floor public lobby. The latter provides access to a semipublic conference room but is further secured prior to access to fire marshal and fire administration areas.

Interior materials were selected for durability and low maintenance, with polished concrete throughout the first floor, trench drains in the apparatus bays and high-wear layer luxury vinyl tiles at the administrative areas.

The exterior material palette was selected in conformance with local development architectural guidelines and for durability and low maintenance. Application of the materials accents the building entrances, addresses the two public street frontages and highlights building functionality: The first-floor fire station areas are clad with natural stone and limited fenestration on the public and south/west solar orientations; second-floor offices are designed with large windows to the public sides within a prefinished metal panel cladding, including natural-tone color accents. Building entries and volume divisions that are highlighted with a community-consistent brick blend are consistent with low-slope, parapeted roof areas for roof-top equipment between and beyond the high shed-roof design elements.



Official Project Name:

Fire Station 6 & Administration

Project City/State: Missouri City, TX

Date Completed: June 28, 2022

Fire Chief: Mario Partida

Project Area (sq. ft.): 16,647

Total Cost: \$5,148,884

Cost Per Square Foot: \$309.30

Architect/Firm Name:

Martinez Architects

Website: martinez-architects.com

Design Team: Martinez Architects:

Ricardo Martinez, AIA, Project

Manager; Justin Myers, AIA, Project

Designer; MEPT: DBR Engineering;

Structural: Matrix Structural Engineers;

Civil: S&G Engineering Consultants;

Landscape: Evergreen Design Group



Official Project Name: Port of Long Beach Fire Boat Station 15
Project City/State: Long Beach, CA
Date Completed: July 1, 2021
Fire Chief: Xavier Espino
Project Area (sq. ft.): 29,000
Total Cost: \$50,000,000
Cost Per Square Foot: \$1,724
Architect/Firm Name:
 COAR Design Group
Website: coargroup.com
Design Team: COAR Design Group:
 Jeff Katz, Principal-in-Charge, Architect;
 Christie Jewett, Design Principal;
 Building & Marine Structural/Civil:
 Steve McAmis, PE, Senior Civil Engineer,
 Jacobs Engineering Group; MEPT: Cindy
 Callaway, P2S Engineering; Geotech: Raj
 S. Varatharaj, Earth Mechanics



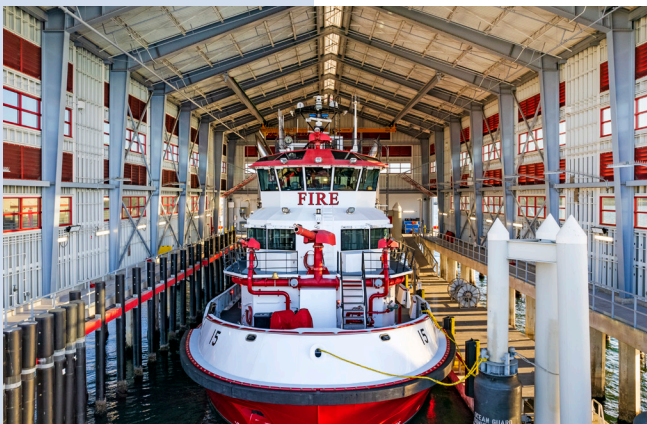
Port of Long Beach Fire Boat Station 15, Long Beach, CA

COAR Design Group was retained by the Port of Long Beach for the design of a new Fire Boat Station 15 project. The result of the cooperative work by the Port, the city of Long Beach Fire Department and Harbor Patrol, this LEED Gold Certified facility accommodates both landside and waterside fire response capabilities. The fireboat station is a replacement for an existing, undersized station and was designed to accommodate two landside fire apparatus as well as a new 108-foot-long fireboat. Key features of the facility include advanced communications technology, a workshop where crews can maintain and repair gear, a conference room, a data room, office space, modern living quarters for a six-member team, a kitchen and dining room, a fitness room, a turnout storage and shop area, and appropriate decontamination and utility space to support the landside operations.



The boat bay, which reaches more than 52 feet above the water's surface, shelters Vigilance, which is one of the Port's state-of-the-art fireboats, from the elements when it isn't in use. The covered dock's equipment includes an overhead crane to perform machinery maintenance on the fireboat and to load necessary firefighting materials and equipment; a deionizing system to remove sea salt deposits that can slow the vessel's speed and corrode the hull; a dive locker; and its own maintenance and repair room.

Personnel and Port safety were paramount throughout the design process. Personnel now have a division of clean and dirty zones within the station. The station floor plan reduces response times by centralizing the apparatus bay entrance, which is easily accessible from anywhere in the station and provides direct access to the adjacent boat bay.





Official Project Name:

City of Raleigh Fire Station 22

Project City/State: Raleigh, NC

Date Completed: Aug. 4, 2022

Fire Chief: Herbert Griffin

Project Area (sq. ft.): 15,765

Total Cost: \$6,580,601

Cost Per Square Foot: \$417.42

Architect/Firm Name:

Davis Kane Architects

Website: daviskane.com

Design Team: Davis Kane Architects:

Jimmy Edwards, Project Architect;

Structural: Jeff Morrison, Lynch

Mykins Structural Engineers; Civil &

Landscape: Zak Pierce, CLH Design;

PME & JP: David Whitney and Brad Felt,

Atlantec Engineers



City of Raleigh Fire Station 22, Raleigh, NC

Since 2010, the Transportation Improvement Plan that was adopted by North Carolina has included several projects that support the potential for a future Southeast high-speed rail corridor through the state. One of these projects is a grade separation at the rail corridor interchange with Durant Road, which fully occupies the previous Raleigh Fire Station 22 site. In August 2017, the North Carolina Department of Transportation indicated interest in an accelerated construction schedule, which prompted staff to develop a proposal for the relocation of Fire Station 22. Davis Kane Architects was selected to provide lead design services for the replacement facility, relocating less than a mile away on a 1.9-acre site.



The two-story station has three pass-through bays. Each is large enough to store a tiller-size apparatus. The station has dormitories for two companies of firefighters, including two captains and a battalion chief, an open-concept kitchen/dining room/dayroom space, a fitness room, a watch desk and administrative offices. The project is targeting LEED Gold Certification, which is fueled by a rooftop photovoltaic system. Efficient design strategies, coupled with sustainable equipment and fixtures, will help with 35 percent in energy savings and a 50 percent reduction in water usage.

The station was designed as a model facility for future Raleigh Fire Department station construction, including the latest in Hot Zone/Cold Zone isolation design for station occupant safety. This includes separated decontamination spaces with showers, isolated PPE cleaning and storage areas, and transition zones that have isolated mechanical supply/exhaust system coordination.

Potential built-in future training opportunities include tie-off rope locations, rappel points and roof anchors. Other notable site features include sustainable stormwater management design, electric vehicle parking, bike racks, apparatus wash-down and passive security measures, including Crime Prevention Through Environmental Design (CPTED) principles.

Because of the accelerated timeline, the fire department was evicted from the existing facility through eminent domain property acquisition. Once the design team was selected, the first order of business included a brief feasibility analysis to create a temporary station. The team expedited building permits and public biddable design documentation for leasable, mobile living quarters and a preengineered metal building apparatus bay at a city water treatment plant. Variances and design adjustments were required by the city's Board of Adjustment.

The construction duration fell at the heart of COVID-19-related supply chain material and product delays. Through a Construction Manager at Risk delivery method, the design team was able to work through temporary solutions and material changes to minimize the project completion delays successfully.



TENOVER

Official Project Name: Mineta San Jose International Airport Aircraft Rescue & Fire Fighting Facility and Fire Station No. 20
Project City/State: San Jose, CA
Date Completed: Jan. 1, 2022
Fire Chief: Robert Sapien Jr.
Project Area (sq. ft.): 18,180
Total Cost: \$20,000,000
Cost Per Square Foot: \$1,100
Architect/Firm Name: TEN OVER STUDIO
Website: tenoverstudio.com
Design Team: San Jose Fire Department; Mineta San Jose International Airport; San Jose Public Works; Lead Design Architect: MarJang Architecture; General Contractor: Overaa; Structural: Biggs Cardosa; Mechanical: Glumac; Electrical/Plumbing: Arora Engineers; Security/Acoustical/AV/Communications: SFMI; TSA/FAA: Ricondo; Geotechnical: Haley Aldrich; Civil/Traffic: BKF; Landscape: TEN OVER STUDIO



Mineta San Jose International Airport Aircraft Rescue & Fire Fighting Facility and Fire Station No. 20, San Jose, CA

The Aircraft Rescue and Fire Fighting (ARFF) facility and Fire Station 20 provide the city of San Jose and the Mineta San Jose International Airport with a modern facility to meet the demands of a rapidly expanding international airport. Utilizing a collaborative design/build project delivery method, the entire project team participated in structured partnering sessions throughout the project.

The new, dynamic location for the ARFF replacement facility accommodates future expansion of the airport terminals, which improves response not only for the airport but also for the surrounding community.

Comprising four ARFF bays for airside service and one bay for landside service, the dual functions of the facility created security challenges. The design team had to balance requirements to maintain the boundary of the airport operations area while delivering the response times that are essential for landside and airside operations. Alignment of the new site entrance with the existing intersection was instrumental in helping to address these constraints.

The facility features administrative offices and firefighter living and sleeping quarters for landside and airside crews. There are specialized spaces for equipment, aviation rescue and firefighting response. Near to the operations storage rooms for turnouts, clean-up and medical are workspaces for SCBA, nitrogen and foam storage.

Exercise rooms and an outdoor patio are situated so that the prevailing winds across the airfield are blocked by the building, which offers a comfortable outdoor space for the firefighters.

To meet the city's and the airport's progressive sustainability goals of zero net carbon, the equipment is all-electric, and municipally supplied recycled water is used for landscape irrigation. The city required this project to achieve LEED Silver Certification.

Because of the project's location between a busy street and airport taxiways, there was concern regarding indoor air quality. The project improved indoor air quality using high-performance building envelope and sealing and superior mechanical filtration of the outside air.





CAREER 1 NOTABLE

Perlman
Architects

Official Project Name:

Tucson Fire Station No. 9

Project City/State: Tucson, AZ

Date Completed: Aug. 15, 2022

Fire Chief: Charles Ryan

Project Area (sq. ft.): 19,250

Total Cost: \$7,695,352

Cost Per Square Foot: \$399.76

Architect/Firm Name: Perlman Architects

Website: perlmanaz.com

Design Team: Perlman Architects:

Ken Powers, Architect of Record; Erik

Thomsen, Designer; Gerald Adams, PM;

Civil: Greg Vega, Dibble Engineering;

Structural: David Schott, Simply

Structural; M&P: George Josephs,

AME; Electrical: Sheldon McInelly,

Akribis Engineers; Fire Protection: John

Echeverri, EJ Engineering; Landscape:

Jerry Moar, LSD; Energy Analyst: Greg

Kinkel, Quest Energy Group

Tucson Fire Station No. 9, Tucson, AZ

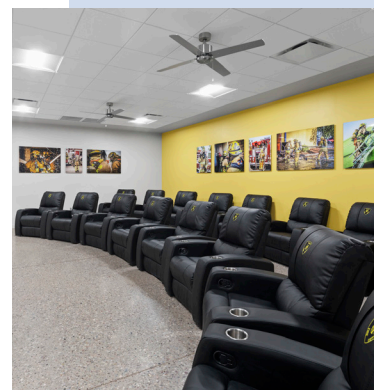
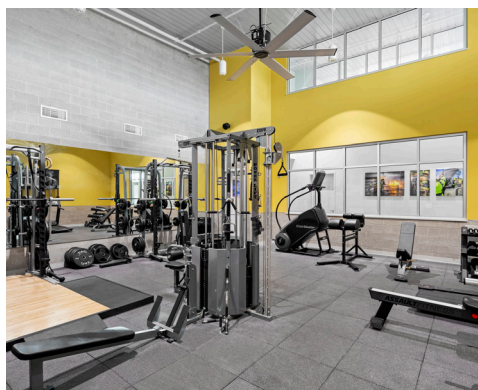
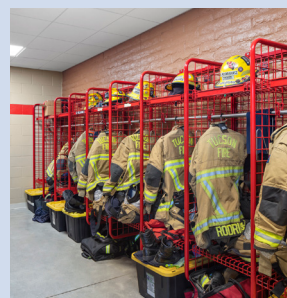
The original station, which was built in 1966 and nicknamed “House of Pain” for being the busiest and one of the oldest fire stations in Tucson, now is replaced by a modern facility. It is an energy-efficient (LEED Silver Certification), safe and durable facility that the surrounding neighborhood can be proud of. It consists of a split-bay configuration, with four main bays and four secondary bays, 17 gender-neutral dormitories, battalion quarters, a fitness room, a training room, offices, an exam room, work/living spaces, exterior decontamination showers and support spaces.



Construction phasing consisted of five phases: demolition of the existing fire station, relocation of the crew to temporary quarters, construction of the new fire station, demolition of temporary quarters and completion of staff parking.

The contemporary desert aesthetic complements the surrounding community by combining neutral hues with “Spanish gold” slump block that traditionally was found in homes that were built in the 1960s. Tan concrete masonry units, red slump block, white and gray metal wall panels and glazing intertwine effortlessly with homes and businesses. A combination of flat and sloped roofs creates a simple but elevated aesthetic with a strong civic presence and inviting public entry.

Utilizing a holistic design approach, Hot Zone design strategies organize areas according to their level of exposure to carcinogens. In addition, an 8-inch painted red line at eye level on the walls of the most contaminated regions acts as a visual cue to firefighters to reduce exposure and wash quickly. This type of signage stands out against a neutral painted wall and is stronger visually than the traditional letter-size signs that are found at transition zones. Additional strategies that were implemented include enlarged Warm Zones, walk-off mats, exterior access, a push-pull vehicle exhaust system, hand washing stations and nonabsorbent, easily cleanable materials, to result in a cleaner fire station and healthier fire responders.





Official Project Name:
Woodlawn Fire Station 24
Project City/State: Alexandria, VA
Date Completed: Dec. 20, 2021
Fire Chief: John S. Butler
Project Area (sq. ft.): 15,080
Total Cost: \$9,608,800
Cost Per Square Foot: \$637
Architect/Firm Name: BKV Group
Website: bkgroup.com
Design Team: BKV Group: Mark Manetti and Craig Carter, Project Managers; Brandon Adams, Project Architect; Margaret Lafferty, Interior Designer; Kyle Olson and Jian-Jian Parks, Structural; Gbenga Ogunbor, M/P; Chad Kurdi and Kanar Sarraj, Electrical; Firematics Consultant; H2M; Civil: ADTEK; Sustainability Consultant: SBP



Woodlawn Fire Station 24, Alexandria, VA

After studying ways to renovate/expand the existing 9,140-square-foot station, the department selected an option for a two-story replacement that was squeezed between the existing station and the property line. This option was less disruptive to the firefighters and the most cost-effective, because the construction timeline was simpler, and there would be no need for temporary components. The selected concept still required detailed phasing plans to facilitate construction approximately eight feet away from the operational fire station and to phase the parking lot and apparatus return loop after demolition of the old station.



The building houses 17 first responders who staff a medic unit, an engine and a ladder and an EMS supervisor. The second floor houses a bunkroom, lockers, shower spaces and a physical conditioning room. There are two stairs between levels, which align with entry points at the front and rear of the apparatus bay. A fire pole provides speedy access to the apparatus floor.



The first floor places the offices toward the street for quick access into the bays and public entrance. Apparatus support spaces occur between the bays and the other first-floor spaces. The kitchen/dining/dayroom space is located at the rear of the building, with direct access to a north-facing firefighter patio and quick access to the rear of the apparatus bays. A tower for training and hose drying is located off of the rear apron but saves cost by not extending above the main roof.

The building massing uses brick and composite metal panels to create two major volumes for the bays and the office/bunk spaces. Between those is a receding, solid volume that contains apparatus support and locker spaces. Public art is a significant feature, with murals on the exterior and interior of the front stairwell. Each space was designed carefully to support mental well-being and camaraderie, particularly the kitchen/dining/dayroom area.



The project required right-of-way dedication that whittled the 1.5-acre site down to 1.2 acres. With a 16-foot front setback, a 25-foot rear setback, a 10-foot side setback and 8 feet of clearance to the existing building, the actual buildable area was about 130 feet wide x 130 feet deep. The bays are built up to the setback line and are four feet shorter than county standard to get the rear turning radii to work.

Per the county standards, bunk spaces are grouped into two-bed and four-bed rooms. There are separate men's and women's locker/shower facilities, with carefully controlled sight lines. The EMS supervisor has a suite downstairs, which includes an office and private bunk, lockers and shower.

Per the county standards, there is no air-lock between the contaminated and clean spaces. However, there is an air-pressure differential to keep contaminants from entering the living quarters.

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CAREER 2



Official Project Name:
New Braunfels Fire Station No. 3
Project City/State: New Braunfels, TX
Date Completed: May 20, 2022
Fire Chief: Ruy Lozano
Project Area (sq. ft.): 11,597
Total Cost: \$4,766,053
Cost Per Square Foot: \$410.97
Architect/Firm Name:
Brown Reynolds Watford Architects
Website: brwarch.com/fire
Design Team: Brown Reynolds Watford Architects: Ray Holliday, AIA, Principal-in-Charge; Daniel Pesek, AIA, Project Manager; Meredith Hayford, Project Coordinator; Civil/Structural: Shaun Hanson, PE, Melissa Thomas, PE, Nikolas Gomes, PE, and Erick Hernandez Roque, Gessner Engineering; MEP: Wes Daoust, PE, DVO Engineering



New Braunfels Fire Station No. 3, New Braunfels, TX

Located one mile from the beloved Gruene Historic District and the Guadalupe River, New Braunfels Fire Station No. 3 is one of the busiest stations in the city, responding to nearly 3,000 calls in 2021. To maintain adequate turnout times to the tourist-driven response area, the new station was built on the same site where the station that it replaces was located.

The prime yet small and very narrow site necessitated a multistory, elongated station. Utilizing every square foot within the building and on the site was a critical component of this design solution. One example of maximizing space efficiency can be seen in the combination fire pole/stair/airlock space that meets all egress requirements while also preventing carcinogens and contaminants from entering the first- and second-floor living spaces. The two firepoles that are at either end of the building also ensure swift access from the second-floor bedrooms to the apparatus bays.

The interior design approach focused on creating a healthy station for the crew through the promotion of both mental and physical health. In addition to reducing the spread of carcinogens and contaminants, the station is designed with copious indoor daylighting to assist with stress-reduction and decompression. The light-hued paint colors on the interior ease the mind; the reds and browns of the exposed brick exude home-like warmth into the space and encourage camaraderie. To reduce the noise levels when the shared kitchen, dayroom and indoor/outdoor fitness center are occupied, the team designed a wood ceiling that has recessed acoustical felt and insulation.

A grand oak tree that's located on the street view of the site grants the station much-appreciated shading from the Texas sun. This cherished tree was planted by a former firefighter and his son, who followed in his father's footsteps and now is a New Braunfels firefighter.





CAREER 2



Official Project Name:

Madera Fire Station No. 58

Project City/State: Madera, CA

Date Completed: Dec. 9, 2020

Fire Chief: Matt Watson

Project Area (sq. ft.): 8,900

Total Cost: \$7,150,487

Cost Per Square Foot: \$803

Architect/Firm Name:

RRM Design Group

Website: rrmdesign.com

Design Team: RRM Design Group:

Mike Scott, Principal-in-Charge;

Charles Dellinger, Project Manager;

Darin Cabral, Assistant Project Manager;

John Perrin, Job Captain; Kathryn Hicks,

Project Architect; Structural Consultant:

Thoma Electric and Cornerstone

Engineering; MP Consultant: BMA;

Civil Consultant: Bedrock Engineering



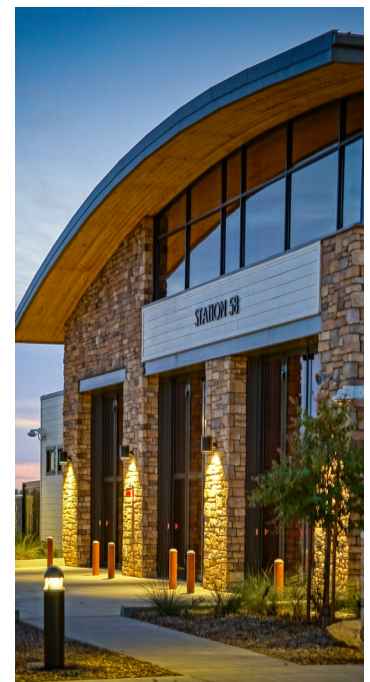
Madera Fire Station No. 58, Madera, CA

Over the past several years, the Madera community has been invested in prioritizing public safety for its residents. So, when the postponed ribbon-cutting ceremony finally took place, the long-anticipated celebration of Madera’s newest fire station, Fire Station No. 58, was truly one to remember.

The city of Madera hired RRM Design Group to design the city’s first new fire station since 1978 to be adjacent to the municipal airport. Inspired by that facility, the station includes three apparatus bays, sleeping areas, and a living area for two companies and a battalion chief. The site is extensive and consists of secure firefighter parking, operational facilities, and space for a forward return and bypass from the apparatus bay. This provides capacity for visiting engines to use the portion of the site that’s set aside for a future training facility with live fire training props.

The RRM team worked closely with the city to explore the station’s architectural character and style. The curved roof form that’s over the apparatus bay was selected in reference to the airport, while stone and large-scale post and beam elements were utilized to maintain cohesion with other civic architecture that’s in the area. The station was designed to separate firefighters’ living and sleeping areas from the equipment and apparatus to protect firefighters from harmful contaminants. Combined with amenities, such as an exercise room and a well-lit dayroom, the station is intended to support a balance of health, wellness and continual development.

The facility utilizes high-durability materials throughout for a building that will stand the test of time and reduce maintenance needs. Since its operational opening in December of 2020, the station already has proven to reduce response times and to increase protection services for all of the residents throughout the community with promise to do so for decades to come.





FIREHOUSE STATION DESIGN AWARDS

CAREER 2



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ARCHITECTS

City of Dallas Fire Station No. 46, Dallas

City of Dallas Fire Station No. 46 is a new one-story building in Oak Cliff, which serves as the city's first cancer-fighting station. Replacing an outdated facility that was built in the 1960s, the modern station includes three full apparatus bays, an ICC-500 tornado shelter and a state-of-the-art transition zone. The facility also houses a wildland team and high-technology surveillance equipment for emergencies and wildfire prevention.

The station's design is centered on decontamination and firefighter health. To reduce firefighters' exposure to carcinogens that they might track in from the field, the negative-pressure transition zone is positioned in between the apparatus bays and the living quarters.

Fire Station No. 46 reflects the city of Dallas' sustainability goals and is designed for LEED certification. It follows eco-friendly practices, such as high energy and water efficiency, reduction of lightpollution, and

reduction of the heat island via reflective roofing and paving. Native water-efficient landscaping and innovative irrigation are included as a means of limiting the use of potable water for the site.

Tubular daylighting and clerestory windows are placed strategically throughout the facility in an effort to promote tenant wellness. Sound-absorbing panels mitigate acoustical reverberation that's caused by the high-volume exposed ceilings. Practical interior finishes and red accents offer a minimalist yet welcoming atmosphere for members and visitors alike.

The exercise room provides outdoor access to the patio and canopy, which leads back to the central kitchen and watch room. This layout is designed for 15 firefighters per 24-hour shift and promotes team building while allowing direct access to the apparatus bay from any area.

Located on a major high-traffic road, the station helps to build community pride and invests in the health and safety of the surrounding neighborhood. The front entrance is ornamented with local art that was commissioned by the city of Dallas.



CAREER 2



**SWEET
SPARKMAN**
ARCHITECTURE & INTERIORS

Official Project Name:

Longboat Key Fire Station #92

Project City/State: Longboat Key, FL

Date Completed: Aug. 12, 2021

Fire Chief: Paul Dezzi

Project Area (sq. ft.): 9,594

Total Cost: \$4,251,085

Cost Per Square Foot: \$443

Architect/Firm Name: Sweet Sparkman Architecture & Interiors

Website: sweetsparkman.com

Design Team: Sweet Sparkman Architecture & Interiors: Todd M. Sweet, AIA, LEED AP, Principal-in-Charge/Architect of Record; Jenna Albers, AIA, NCARB, Project Manager; Elizabeth Lee, Associate AIA, Project Designer; Shirley Quinlan, Interior Designer



Longboat Key Fire Station #92, Longboat Key, FL

Located on a barrier island that's between Sarasota Bay and the Gulf of Mexico, this fire station's site posed several unique design challenges.

The station is one of two that serve the island community of 7,650 full-time residents. The coastal island swells to more than 10,000 residents during the busy winter season. Only one road travels the island's length from the north to the south. While providing the standard functions of a fire station, the building acts as a storm shelter and an emergency clinic. The structure must withstand hurricane-force winds and flooding, so it was built to emergency operation standards, which makes it one of the most resilient structures that are on the island.

The station incorporates a comprehensive plan for the health and safety of the firefighters and EMS personnel by using the most up-to-date cancer prevention recommendations that were developed by the IAFF. The program is organized into "dirty" and "clean" spaces to prevent carcinogens from entering the living quarters. The apparatus bays and the support spaces are considered "dirty," or contaminated, spaces. Firefighters pass through a series of decontamination spaces when they return from a call and before they enter the station's "clean" living quarters.

Both interior and exterior materials were selected for their simplicity and ease of maintenance. The clean lines and smooth surfaces that are assembled on the front of the structure are monumental, and they build up in height, leading to the main entrance on the south side of the building. Exterior materials are simple and easy to maintain in this coastal environment—stucco that has painted accents and staggered aluminum composite panels at the front façade. The station hosts many communitywide health events, which inspired the designers to enhance the building entry.





Official Project Name: Cypress Creek Fire Department Fire Station No. 25
Project City/State: Houston
Date Completed: Jan. 17, 2022
Fire Chief: Richard Lieder
Project Area (sq. ft.): 14,627
Total Cost: \$6,720,516
Cost Per Square Foot: \$459
Architect/Firm Name:
 Joby Copley, AIA/Joiner Architects
Website: joinerarchitects.com
Design Team: Joiner Architects:
 Joby Copley, Chad Joiner, Ray Nikel

Cypress Creek Fire Dept. Fire Station No. 25, Houston

Cypress Creek Fire Department Fire Station No. 25 was built in response to the growth of the southern part of Harris County Emergency Services District 13, which in the past few years has seen the addition of multiple residential neighborhoods as well as many commercial buildings, such as restaurants and a hotel. The area desperately needed a new station that was closer to the southern part of the district to respond faster on emergency calls. The station also had to provide a low-maintenance exterior as well as room for two or three shifts of responders to be able to stay at the station at the same time in case of an emergency.



In response to these requirements, the exterior of the building was designed as a simple rectangle and to include a single shed roof. Moreover, multiple different colors of brick veneer were added to the exterior to provide for dimensionality design.



For the functional requirements, it was ensured that there were 12 dormitories, two of which being for the fire and EMS captains. Additionally, four pantries, one for each of the three fire shifts and one for the EMS shift, were provided, in an attempt to make the members' lives much easier while working different shifts.



The addition of the open-concept kitchen/dining/lounge area helped to increase the camaraderie of the staff in the main living area.

In the end, a building was design carefully to check off each of the client's requirements, to add to the community and to exceed all expectations.





Official Project Name:

Fairview Fire Station No. 1

Project City/State: Fairview, TX

Date Completed: June 10, 2021

Fire Chief: Jeff Bell

Project Area (sq. ft.): 14,542

Total Cost: \$6,501,797

Cost Per Square Foot: \$447.10

Architect/Firm Name:

Brinkley Sargent Wiginton Architects

Website: bsw-architects.com

Design Team: Brinkley Sargent

Wiginton Architects: Hal Sargent,

Principal-in-Charge; Doug Edney,

Project Manager/Exterior Designer;

Antoine DeHon, Concept Designer;

Matt Friesz, Project Architect; Whitney

Womble, Interior Designer; MEP:

Michael Smith, MD Engineers; Civil: Tate

Braun, Pacheco Koch; Structural: Luc

Dewailly, L.A. Fuess; Landscape: Michael

Kendall, Kendall Landscape Architecture



Fairview Fire Station No. 1, Fairview, TX

Interaction, flexibility and security were the design directives that were embraced for the town of Fairview’s “Chicago-style” Fire Station No. 1.

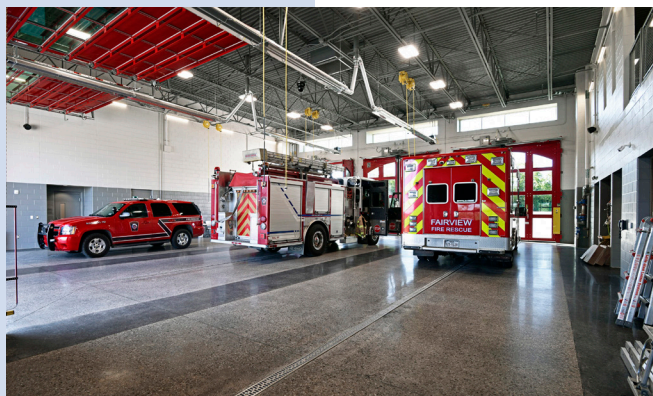
The brick-and-cast-stone station uses a great room layout for the kitchen, dining room and dayroom to promote staff interaction. Solid-surface counters, a stainless-steel-topped island, deep sinks, high-end appliances and separate shift pantries accommodate cooking needs. A covered patio that has a ventilated screen wall provides a breezy, private space for grilling. There are private dormitory rooms for seven and single-user toilet facilities. An alerting system provides call dispatch via status panels and integrated lighting controls. Three drive-through bays feature four-fold exit doors, standard sectional return doors and high windows for daylight. The station also includes a fitness room, a decontamination/extractor room, a workroom and an SCBA service/fill station.

Flexible spaces include a climate-controlled PPE storage room that doubles as an ICC-500-compliant tornado shelter.

Training features are integrated into the facility and include removable railings, and window openings allow for ladder training inside of the apparatus bay. The apparatus bay roof has a training platform for rope rescue and rappelling training.

The station was designed for expansion. The building can add two additional apparatus bays of 3,000 square feet and a 7,000-square-foot administration/training wing.

Exterior doors and the doors from the bays to the living quarters have a card-access system. A security camera system monitors the site and critical interior areas. (About eight months after the station opened, an individual purposely drove a stolen SUV through a four-fold door in the middle of the night. The secured doors kept the intruder out of the living area, and security footage allowed for the individual’s identification and arrest.)



Official Project Name:

Harrisburg Fire Station No. 2

Project City/State: Harrisburg, NC

Date Completed: Nov. 1, 2017

Fire Chief: Bryan Dunn

Project Area (sq. ft.): 10,726

Total Cost: \$2,099,539

Cost Per Square Foot: \$195

Architect/Firm Name: Stewart-Cooper-Newell Architects

Website: scn-architects.com

Design Team: Stewart-Cooper-Newell Architects



Harrisburg Fire Station No. 2, Harrisburg, NC

Fire Station No. 2 serves the people and businesses of this the rapidly growing suburb of Charlotte.

The station includes three drive-through bays, a decontamination room, a commercial-grade kitchen, a dayroom, a private patio, individual showers and dormitory-style bedrooms to accommodate as many as 10 members.

The facility is designed to last at least 50 years. It can expand to add additional bays or sleep rooms as needed. The city wanted the floor plan to be easily adaptable to other site conditions, which allows the city to use Fire Station No. 2 as a prototype for future fire stations.

Both interior and exterior finish selections were made for their durability, with abuse-resistant wall treatments, high-impact tile flooring, and masonry details that lend an aesthetically pleasing and protective quality to the facility.

This project utilized the Construction Manager at Risk delivery method. Stewart-Cooper-Newell Architects worked side-by-side with the general contractor to complete this showcase project for the city of Harrisburg.





CITY OF HOOVER

Official Project Name:
Hoover Fire Station 11
Project City/State: Hoover, AL
Date Completed: Nov. 12, 2021
Fire Chief: K.C. Bentley
Project Area (sq. ft.): 8,845
Total Cost: \$3,007,300
Cost Per Square Foot: \$304
Architect/Firm Name: Barrett
Architecture Studio
Website: barrettarchstudio.com
Design Team: Barrett Architecture
Studio, Signature Homes, Hoover Fire
Department



Hoover Fire Station 11, Hoover, AL

Hoover Fire Station 11 is a state-of-the-art facility that integrates a fire station into the residential fabric of its neighborhood. The station is home to Quint 11, Rescue 11 and District 2. It serves 7.2 square miles of the west side of Hoover and divides a previous territory to enhance fire protection and emergency services to the growing community of Hoover.

The station has a three-bay pull-through design and polished concrete flooring. The bay is equipped with a vehicle exhaust removal system.

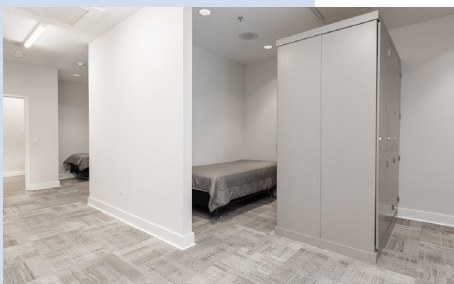
A decontamination room has a PPE extractor/equipment drying area, including a climate-controlled PPE storage area.

The living quarters offer a large kitchen/dining/dayroom area and an outside gathering area. The sleeping quarters are divided by individual personnel lockers for each shift.

There are offices for a duty officer and rescue personnel. A large physical fitness room is equipped with a roll-up door. This design element enables personnel to conduct functional fitness into the bay and outside areas.

The station has two outside storage/maintenance areas for tools and equipment.

After the facility's completion, Fire Station 11 was gifted to the city of Hoover by Signature Homes. This fire station was awarded the 2022 AIA Birmingham Direct Communications Citation Award and the 2022 Hoover Beautification Award, Commercial Award Winner.



Official Project Name:

JIPSD Fire Station #1

Project City/State: James Island, SC

Date Completed: Dec. 17, 2020

Fire Chief: Thomas Glick II

Project Area (sq. ft.): 12,400

Total Cost: \$6,099,373

Cost Per Square Foot: \$492

Architect/Firm Name:

Liollo Architecture

Website: liollo.com

Design Team: Liollo Architecture:

Jennifer Charzewski, AIA, Principal;

Sarah Glass, AIA, Architect; Tommy

Schimpf, Associate AIA, Contract

Administrator; Civil: Bob George, GRGA;

MEP: Raquel Deschler and Dennis

Sepavich, RMF; Structural: Bill Ussery,

E+M: Landscape: Warren Pruitt, ADC

Engineering; Contractor: Chris Spach,

SouthCon Building Group



JIPSD Fire Station #1, James Island, SC

This fire station is three things: a reflection of local culture, a community hub and a place for respite.

Culture: Through form, materials and siting, the station reflects the area's low-country/sea island character. The north roof line is asymmetrical: On the north façade (closest to the neighborhood), the height is lower in deference to neighboring homes and opens up toward the larger-scale portions of the apparatus bay.

Sustainable elements, such as the use of natural daylight, pervious pavers and rainwater collection, are integral to the design. A large array of solar panels, which is located on the largest south-facing roof plan above the apparatus bay, is used to create clean energy and to help to offset the amount of power that's needed from the grid.

Community: This station is a community hub. With a state-of-the-art training room, family living room and a welcoming screened porch, it supports gathering.

Located on the coast, it's critical that the station supports the community during natural disasters. The building is upgraded structurally to a Category IV essential facility to withstand high-wind storm events and is fully equipped to help first responders to serve the neighborhoods as soon as it's safe for them to activate.

Respite: Most importantly, the station is a place of respite for firefighters. First responders deal with high-stress, dangerous situations that often are traumatic. Mental health is in the forefront of the industry's concerns and is addressed here through open bunks, a large, open family room, natural daylight and outdoor areas, including a screened porch that's tucked under large trees.



**SLATTERY
TACKETT
ARCHITECTS**

Official Project Name:

Katy Fire Station No. 2

Project City/State: Katy, TX

Date Completed: March 1, 2019

Fire Chief: Kenneth Parker

Project Area (sq. ft.): 12,997

Total Cost: \$3,644,327

Cost Per Square Foot: \$280.40

Architect/Firm Name:

Slattery Tackett Architects

Website: slatterytackett.com

Design Team: Slattery Tackett

Architects: David Slattery, Principal;

David Rosen, Project Architect; Troy

Grant, Project Designer; Structural

Consultant: Pinnacle Structural

Engineers; MEP Consultant: T&D

Engineers; Civil Consultant: Terra

Associates; Construction Manager at

Risk: Bass Construction



Katy Fire Station No. 2, Katy, TX

Katy Fire Station No. 2 was built in response to increasing demands for fire and emergency medical services in a rapidly growing area of the Katy community. The station features three pull-through apparatus bays and living quarters for full-time fire and EMS crews. The exterior design of the station reflects the “small town” feel of Katy via features of Texas limestone, timber trusses and metal roofing. The wood-framed station is designed to remain operational during hurricane-force conditions, so concealed coiling storm doors can be lowered during extreme weather events, which allows the station to remain fully operational.

The station is designed to provide a safe, comfortable, and healthy environment for fire and EMS personnel, which was a crucial concern of the department. Dormitory rooms are organized into three “pods,” or suites, to localize station alerts for specific crews, to reduce sleep disruptions and to improve camaraderie among crew members.

Establishing direct access to the apparatus from common areas and dorms while simultaneously providing physical and environmental separations from hazard areas were of paramount importance. Indirect lighting and warm finish materials in the dorms were selected deliberately to create a quiet and comfortable retreat for firefighters, while other amenities, such as a fully outfitted exercise room and a private exterior patio, provide additional opportunities for fitness, interaction, and respite. The open concept kitchen/dining/dayroom area promotes interaction among members.

In keeping with the department’s desire for a safe and healthy environment, the station is fully sprinklered and incorporates a direct-connect vehicle exhaust removal system for the apparatus. HVAC systems are zoned to isolate hazardous areas and to minimize cross-contamination within living spaces. A secure entry vestibule has bullet-resistant walls, and glazing was added, completing the safe, cohesive station.





CAREER 2 NOTABLE



Memphis Fire Dept. Fire Station No. 5, Memphis, TN

Memphis Fire Department (MFD) Station No. 5 is a replacement for the original station that shared a Front Street building with the fire headquarters that's located by the Mississippi River. The design team was tasked with designing separate replacement facilities for the headquarters on Avery Avenue and the Fire Station No. 5 on Adams Avenue. The MFD property on Adams Avenue housed the Fire Maintenance building. The team designed a new two-bay drive-through station in the small southeast corner of Adams Avenue by removing an aging structure.

The station sits in a historic district area that's called Victorian Village. The mid-1800s saw a rise in popularity of Victorian style houses. It was important that this project be designed to fit the architectural style of those houses that line Adams Avenue. Brick veneer with arches were the main defining elements that helped to achieve this cohesive relationship.



The two-story structure includes a FEMA safe space, an emergency backup generator, 10 individual bunkrooms and an open-concept dining room/dayroom. Early designs incorporated the separation of the Hot (hazard) Zones and the Green (low-hazard) Zones. The transition spaces include wash areas that have boot and hand washing stations that are positioned in the hallways that lead to the stainless-steel kitchen and dining areas. A new washer/extractor removes harmful carcinogens from 10 sets of saturated turnouts in eight hours. A new HVAC dehumidifier dries the turnouts in lieu of heat.

Officer quarters include an office, a bedroom and a personal bathroom. The general quarters include a conference room for any training and educational needs, including via a quick-share monitor feature. Other amenities include a fitness room and a patio that has a grill.

Official Project Name: Memphis Fire Department Fire Station No. 5
Project City/State: Memphis, TN
Date Completed: Oct. 21, 2021
Fire Chief: Steve Chastain
Project Area (sq. ft.): 11,960
Total Cost: \$5,360,796
Cost Per Square Foot: \$448.23
Architect/Firm Name: Fleming Architects
Website: flemingarchitects.com
Design Team: Fleming Architects: Ellen Wadley, Architect; Kari Conrad, Project Manager; Veronica Tansey and Samantha Campbell, Interior Design; Aaron Patrick Architects: Aaron Campbell, Architect; Contractor: Zellner Construction; Civil/Survey: Fisher Arnold; Structural: Chad Stewart & Associates; Mechanical/Plumbing/Fire Protection: Barham Cain Mynatt; Electrical: DePouw Engineering; Landscape/Irrigation: Kersey/Wike





Official Project Name: Fire Station 9
Project City/State: Ontario, CA
Date Completed: Jan. 1, 2022
Fire Chief: Ray Gayk
Project Area (sq. ft.): 10,476
Total Cost: \$7,894,760
Cost Per Square Foot: \$754
Architect/Firm Name: PBK
Website: pbk.com
Design Team: PBK: Kelley Needham, Principal-in-Charge; Shih-Jing Yen, Project Architect; City of Ontario: Dan Beers, HMFIC; Ontario Fire Department: Brian McFarlane, Battalion Chief; Civil: MSL Engineering; Structural: K.B. Leung & Associates; Mechanical: Optimum Energy Design; Electrical: Glumac; Landscape: RJM Design Group

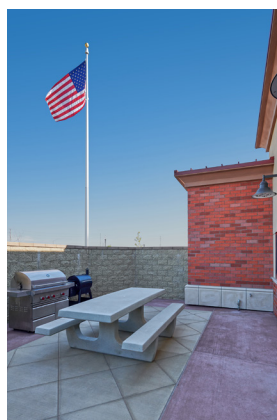


Fire Station 9, Ontario, CA

Fire Station 9 is a new fire station that was built by the city of Ontario. The 1.2-acre site is located in a new residential development in the southern portion of the city.

The station is designed to accommodate eight firefighters in an individual dormitory setting. A Jack and Jill-style toilet room/shower is incorporated into each dorm. Other station features include a three-bay, double-deep apparatus room, an administrative office, a kitchen, a dining room, a dayroom, a physical training room, a laundry room and various support spaces that are required for a facility of this type. Site features include visitor parking, secured firefighter parking, a hose tower and an above-grade fuel station.

Architecturally, the station is designed to present a more historical appearance. Plaster, brick veneer and precast concrete elements combine with traditional turn-of-the-century detailing. Sloped roof forms are used in conjunction with parapet areas to screen mechanical equipment.





Breckenridge
g r o u p
a r c h i t e c t s
p l a n n e r s

Official Project Name:

Scottsdale Fire Station 616

Project City/State: Scottsdale, AZ

Date Completed: April 30, 2021

Fire Chief: Ryan Freeburg

Project Area (sq. ft.): 7,100

Total Cost: \$4,131,038

Cost Per Square Foot: \$582

Architect/Firm Name: Klindt

Breckenridge, AIA/Breckenridge

Group Architects Planners

Website: breckenridgearchitects.com

Design Team: Breckenridge

Group Architects Planners; Klindt

Breckenridge, Principal-in-Charge;

Carlos De Alva, Project Manager; Civil:

James M. Griffin, EEC; Structural:

Thomas Griffis, MW&G; LSW: Russel

Betz, Mechanical; Mark Ralston,

Electrical; Landscape: Brian Sager,

Norris Design; LEED Consultant: Cindy

Quinn, Ecological Environments



Scottsdale Fire Station 616, Scottsdale, AZ

Station 616 was designed to fit in with the natural topography of the site and to blend in with areas that surround the facility.

The two-apparatus-bay station includes six dormitories, an industrial kitchen, a dayroom, a dining area and a gym. Breckenridge Group Architects Planners led the team to incorporate the fire department requirements, to achieve the city council's goals and to respond to neighborhood concerns. It was important to the city of Scottsdale to follow a transparent process that included public meetings with the Development Review Board and the city council.

The station is placed in a highly developed suburban ranch community. Drastic topography encompasses the site area, with a high ridge toward the northeast and low valleys surrounding it, which serve as natural washes. Because the site presented itself as the major challenge, much of the natural features were preserved. The building was placed at the base of the peak, where it mimics the slope with a large, sloped roof form of a rust color to blend into natural color tones of the site. The large overhangs shade the building to prevent heat gain during the summer months. The natural washes that surround the building are preserved through culverts under the roads that lead to the building.

The main ingress point off of Cave Creek Road integrates a deceleration lane to minimize the disruption of traffic as apparatus return to the station. Natural vegetation surrounds the road. Pedestrians and cyclists are walked into the site through a decomposed granite path from the main road to the front of the building.

Passive solar methods reduce energy cost and carbon footprint. Window covers prevent direct sunlight from entering the building while still allowing natural diffused light to enter. Landscape was added in exposed areas that could contribute to large heat gain. Water-collection areas capture rain runoff and properly distribute the excess water to plants that are around the site. Materials for the project were selected with longevity in mind and a minimal maintenance approach for years to come.

No mechanical equipment is placed on the main roof, which is sloped. Equipment is placed on the northeast flat-roof area, and parapets and screens are integrated to prevent undesired views. All other mechanical equipment that's required is within the mechanical yard or behind screens and vegetation.

Exterior lighting is of minimal effect to adjacent properties. All lighting fixtures provide down light at low light levels. The lighting only guides visitors through the entrance road and along paths to allow for pedestrians to see where they are stepping. Roadside signage makes use of natural earth tones to not detract from natural views.



RENOVATION

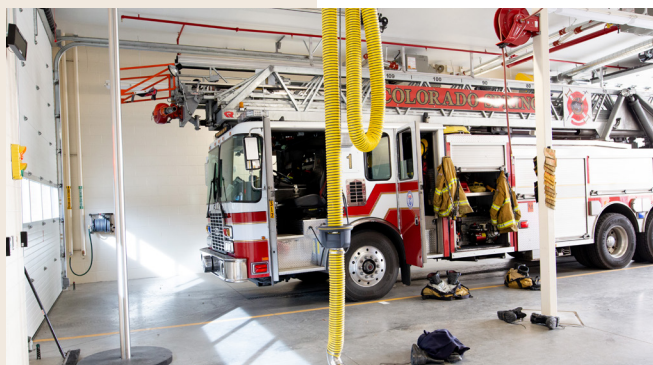


HB&A
Architecture
AND
Planning

Official Project Name:

Colorado Springs Fire Station #1
Project City/State: Colorado Springs, CO
Date Completed: Jan. 3, 2018
Fire Chief: Randy Royal
Project Area (sq. ft.): 14,570
Total Cost: \$3,900,000
Cost Per Square Foot: \$267
Architect/Firm Name: HB&A
Website: hbaa.com
Design Team: HB&A: Gene Leavines, Project Manager; Tino Leone, Project Architect; Devon Jackson, Interior Designer and Job Captain; Civil: Andrew McCord, Kiowa Engineering; Structural: Mike Gaines, MGA Structural Engineers; Farris Engineering; Lyle Hubl, Mechanical; Jerry Pasley, Electrical

AFTER



AFTER

Colorado Springs Fire Station #1, Colorado Springs, CO

The Colorado Springs Fire Department (CSFD) initially sought to update and expand its historic 1925 Fire Station #1 by renovating an adjacent 1970s-era office building to produce new living quarters. Early in the design process, the CSFD recognized that to meet the operational goal of serving the central business district for the next century, living quarter improvements weren't enough. The development of new residential complexes downtown places an increasing demand for fire response in taller buildings.

In response, the station renovation includes a two-story addition that's situated north of the historic station, with sleeping quarters above two drive-through apparatus bays that are large enough for ladder trucks. Ten private sleeping rooms meet the need for firefighter rest and recovery space and are a significant improvement over the original open bunkroom. The original living quarters were completely reconfigured to more than double the size of the kitchen and to provide expanded dining and lounge areas. Near the new kitchen, a secure second-floor exterior deck houses a grill and patio chairs and serves as an area for ladder training evolutions.

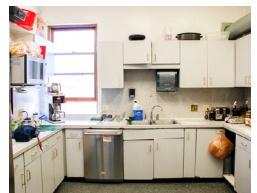
The two original back-in apparatus bays were repurposed. They now provide space for battalion chief and reserve vehicle parking and for bunker gear storage.

Upgrades to address health and safety include dedicated decontamination space, separate clean and dirty laundry facilities, and significantly improved ventilation and exhaust systems.

The addition is similar in massing and scale to the original station and uses a special blend of bricks to match the original brick colors. The joining of the old and new is pronounced by a tower of red metal panels and glass, which also serves as the new public entrance. Original brick details are preserved and exposed inside of the station as a reminder of the historic character of the station.



BEFORE



BEFORE



AFTER





**FIREHOUSE
STATION DESIGN
AWARDS**

RENOVATION NOTABLE



Everman Fire Station, Everman, TX

Everman is a small suburb that's south of Fort Worth. It's a growing city that needed to upgrade its existing fire station facilities. Budget was a driving factor in this design, and the city elected to remodel its station rather than build a new one. The original station didn't provide adequate housing for a growing staff nor the office area that was needed to facilitate running the program.



Everman also needed to maximize its storage space around the apparatus bay. The apparatus were getting larger, and space that could accommodate equipment, hoses and extractors was paramount. Furthermore, the movement toward the safety and long-term health of firefighters was taken into account when consideration of the design of the revised station took place.

The first floor of the existing station was converted into a larger conference room and two offices for the lead fire personnel. Two ADA-compliant bathrooms were added to the station to provide adequate facilities for those people who would require it.

One of the challenges that was inherent to the existing station was that there wasn't a proper entry to the station that was secured. A new main entry that displays trophies and other accolades for the station now allows patrons to enter the station in a controlled environment that is secured with a property-badged entry system and security cameras.

The second floor houses the firefighters and has a common dormitory-style bunk area for six beds and a separate private bunk area for two beds. Kitchen renovations provide the staff with a proper area to feed the team as well as to bond. Separate pantries provide members of each shift with their own lockable storage area. The dayroom was opened up to provide the staff with more usable living space.

Official Project Name:

Everman Fire Station

Project City/State: Everman, TX

Date Completed: Sept. 1, 2021

Fire Chief: Landon Whatley

Project Area (sq. ft.): 5,872

Total Cost: \$895,735

Cost Per Square Foot: \$152.54

Architect/Firm Name:

Grossman Design Build

Website: grossmandesignbuild.com

Design Team: Grossman Design Build:

Gary Grossman, Principal; Eric Grossman,

Partner; Brian Grossman, Partner; MEP:

Jose LaBautista, Meyer Engineering

AFTER



SATELLITE



ARCHITECTURE + PLANNING + DESIGN

Official Project Name:

Kirkland Fire Station 24

Project City/State: Kirkland, WA

Date Completed: Dec. 16, 2021

Fire Chief: Joe Sanford

Project Area (sq. ft.): 11,975

Total Cost: \$10,609,038

Cost Per Square Foot: \$885.90

Architect/Firm Name:

TCA Architecture + Planning

Website: tca-inc.com

Design Team: TCA Architecture +

Planning: Brian Harris, AIA, Principal-

in-Charge; Forest Hooker, AIA, Project

Architect; Structural: Mike Armstrong,

Coughlin Porter Lundeen; Civil: Charlie

Chen, KPFF; Mechanical: James

Whigham, Sider+Byers; Electrical:

Michael Case, Case Engineering;

Landscape: Meredith Sessions, AHBL



Kirkland Fire Station 24, Kirkland, WA

The needs of the city of Kirkland's Fire Station 24 were determined by a facilities assessment and master planning effort, which commenced in 2011. Based on extensive programming, test-to-fits, GIS modeling and site rankings, the site of the station was selected from 25 considered properties. The two-and-a-half-acre site is located between business and residential uses, and an elementary school is directly across the street. The site area allowed for the development of Fire Station 24 at the parcel's southern half and for the future use of the northern half as a fire department training facility (infrastructure for this future utilization was included in the Fire Station 24 project).



Community and firefighter health and safety were central to the design and planning of Fire Station 24. Zones were developed for community gathering, work, recovery and contamination mitigation. Turnout travel paths were optimized based on schedule analysis, daily routines and operational activities. Laddering and rope training areas were integrated into the apparatus bay and rear apron. The firefighter courtyard and fitness room provide secure indoor/outdoor connections. Transparency in the building's envelope increases in public areas and in response to residential/business zoning transitions, and the glass corner of the southeast apparatus bay showcases Fire Station 24's function. In addition to extensive right-of-way improvements (e.g., protected bike lanes), the station's civic front offers a public art plaza. The plaza encourages community engagement and hosts educational tours for neighboring school students. The project incorporated a solar array and will achieve LEED Silver Certification.

The health and safety design approach was stress-tested as design documents were developed in March of 2020, when the city of Kirkland came into national focus as COVID-19 emerged in the United States. Being among the initial first responders to face the pandemic, the fire department worked with the design team to ensure that equipment, systems and spatial sequencing optimally supported decontamination procedures and policies.

As part of protracted land acquisition efforts, the city agreed to maintain an access drive through the site for public and commercial utilization. The drive, along with the existing public school access to the south, led to the development of a four-leg, fully signalized intersection. The design of the apron, the intersection, signals, channelization and the pedestrian crosswalk ensures safe and efficient control for responding and returning apparatus.

The design team developed conceptual programming for a future training center at the parcel's north half. The Fire Station 24 project included utility connections and storm detention for integration of the future development.





Official Project Name: City of Kannapolis Fire Stations No. 2 and No. 3
Project City/State: Kannapolis, NC
Date Completed: June 1, 2019
Fire Chief: Tracy Winecoff
Project Area (sq. ft.): 12,185
Total Cost: \$5,190,810
Cost Per Square Foot: \$426
Architect/Firm Name:
 Stewart-Cooper-Newell Architects
Website: scn-architects.com
Design Team: Stewart-Cooper-Newell Architects



City of Kannapolis Fire Stations No. 2 and No. 3, Kannapolis, NC

The city of Kannapolis sought to improve its public safety sector with the design of two new fire stations to serve the rapidly growing neighborhoods and commercial developments in the area. Stewart-Cooper-Newell Architects partnered with the city to achieve this task by first implementing a site study and building layout that would best fit the needs and budget of the department. The partnership with fire department leadership found that the most effective choice would be to demolish the existing Fire Station No. 2 and replace it on the same site and to build a new Fire Station No. 3 on a new site.

The two new stations were designed by Stewart-Cooper-Newell Architects to be distinctive prototype facilities to be used on both the existing and new site. The prototype design can be utilized easily in the future as the basis for additional stations for the city of Kannapolis.

The prototype design includes office space, a tool and equipment room, a small, private conference room and an exercise room. A mechanical mezzanine allows easy access for equipment servicing. The front tower element was incorporated into the design as a city requirement of the exterior and serves multiple purposes: mechanical space, additional storage and a training area. The building's materials, gable roof, masonry details, logo, signage and other characteristics were selected to complement the surrounding area and the client's desired design aesthetic.

Fire Stations No. 2 and No. 3 both are 12,185 square feet. They include two drive-through bays, eight single-occupant bunkrooms and four private bathrooms. A large dayroom and kitchen complete the interior, while an adjacent outdoor patio space extends the usability of the facility and serves as room for staff to gather, to share meals and to grill and as additional exercise space.





FIREHOUSE STATION DESIGN AWARDS

SATELLITE



emersion
DESIGN

West Chester Township Fire Station #73, West Chester Township, OH

West Chester Township Fire Station #73 is a new satellite station that serves the industrial area of the southwest portion of the township. The facility is staffed with four personnel and is designed to accommodate future growth of as many as six members. The station's design blends into the surrounding industrial area, while the bold, red, four-fold apparatus bay doors identify the building's purpose as a firehouse.



The entry to the station includes a secured vestibule, with sight lines from the reports room. A watch office has open views of the bay area. The communal living area includes a dayroom, a fully equipped kitchen that has three refrigerators and pantries, a dining area and a large fitness room that has windows for visual safety. The sleeping quarters boast private bunkrooms and showers and are buffered from common areas with highly insulated walls (STC 53) and doors to minimize noise disruptions during critical sleep time. Additionally, each bunkroom features double-sided, pass-through lockers, which allow firefighters to access their belongings without disturbing the previous shift. These small details have a positive effect on sleep deprivation and allow firefighters the opportunity to recharge, maintain mental and physical balance, and be healthier for themselves and the community.

The facility features polished concrete floors and durable materials, such as quartz countertops and solid surface shower panels, for longer life spans and easy maintenance. Large windows that are in the common area bring in an abundance of natural light to enhance circadian rhythms and improve energy efficiency.

The station's interior is designed to keep hazardous materials out of the living quarters. Airlocks separate the living quarters from the bay, and the living quarters are under constant positive pressure, pushing contaminants out of the space. The turnout gear room has its own exhaust.

Official Project Name: West Chester Township Fire Station #73
Project City/State: West Chester Township, OH
Date Completed: Oct. 15, 2021
Fire Chief: Rick Prinz
Project Area (sq. ft.): 9,600
Total Cost: \$3,500,000
Cost Per Square Foot: \$365
Architect/Firm Name: Tim Wiley/emersion DESIGN
Website: emersiondesign.com
Design Team: emersion DESIGN: Tim Wiley, Project Manager/Architect; Steve Ricci, Structural; Rick Fussner, Lead Designer; Amy Green, Senior Interior Designer; MEP: Pete Rasche, IMEG; Civil: Tim Foster, IDE



Official Project Name:

Andover Ballardvale Fire Station

Project City/State: Andover, MA

Date Completed: June 11, 2021

Fire Chief: Michael Mansfield

Project Area (sq. ft.): 11,400

Total Cost: \$7,163,000

Cost Per Square Foot: \$628

Architect/Firm Name:

Context Architecture

Website: contextarc.com

Design Team: Context Architecture:

Jeff Shaw, AIA, LEED AP BD+C, MCPPO,

Principal-in-Charge; Ellen Light,

AIA, LEED AP BD+C, MCPPO, Project

Manager



Andover Ballardvale Fire Station, Andover, MA

A new fire substation in the Ballardvale Historic District of Andover was built to replace a historic one-bay station, thus tripling the district's capacity. The substation contains a three-bay apparatus room, a training and community room, a wellness center, an administrative office and firefighter living quarters. The training room was designed to accommodate firefighter training and to serve a vital role as a community meeting room for the surrounding historic district. The residential area of the station includes a sunlit kitchen/dayroom, seven dormitories, two showers, and both stair and fire pole access to the apparatus room.

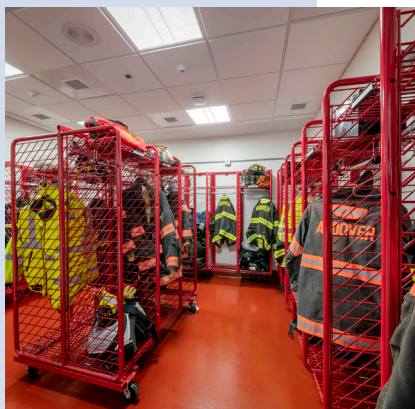
Because of the intersection of two major roads (Clark Road and Andover Street) in a residential neighborhood that has a heavily used municipal playground across the street, the site area was extremely limited. The project was built adjacent to the existing fire station, which needed to stay in operation until the new station

was completed. Work was phased to allow the later construction of drainage and parking after the historic station was demolished. Because of site constraints, there was limited space for contractor staging/parking.

Energy and sustainability are important to the community. The building includes a high-performance insulated and air-sealed envelope as well as high-efficiency variable refrigerant flow (VRF) heating and cooling, with a 100 percent dedicated outdoor air energy recovery ventilation system. The parking area was designed with permeable paving to assist structured drainage with infiltration on a small site.

The design team worked closely with the town's Historic District Committee. The town's Design Review Committee participated in this process, and during the planning stages several three-way meetings were held, with all of the stakeholders participating in a design charrette.

Context Architecture assisted the town with the public approval process. This effort included attending dozens of public meetings and assuring that the tight-knit Ballardvale neighborhood felt heard and well-informed.





Allen & Hoshall
engineers-architects-surveyors

Official Project Name:

Arlington Fire Station No. 2

Project City/State: Arlington, TN

Date Completed: Oct. 1, 2021

Fire Chief: James Harvill

Project Area (sq. ft.): 13,025

Total Cost: \$4,300,000

Cost Per Square Foot: \$330

Architect/Firm Name: Allen & Hoshall

Website: allenhoshall.com

Design Team: Allen & Hoshall: Michel

Lebel, AIA, Project Manager/Architect;

Mike Collins, PE, Electrical; Daniel

Longserre, PE, Mechanical; Structural:

Sarfraz Kathawala, PE, Tom Robinson &

Associates; Civil: Steven Hill, PE, Powers

Hill Design; Landscape: Joel T. Parker Jr.,

ASLA, Kersey/Wike Associates

Arlington Fire Station No. 2, Arlington, TN

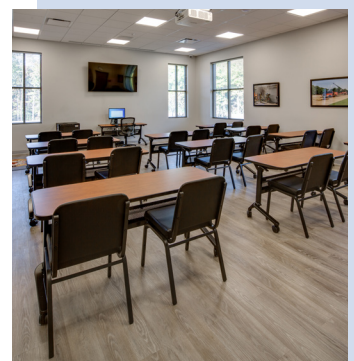
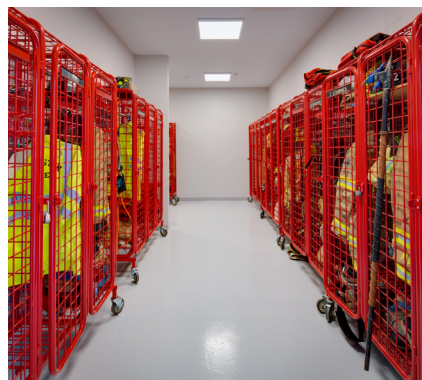
As the first new fire station for the town of Arlington in 23 years, Arlington Fire Station No. 2 isn't just a fire station. The facility also provides emergency help for traffic accidents on nearby Interstate 40 and TN-385, offers medical help for people who live in nearby neighborhoods, and supports community involvement via public meeting spaces and assistance.

The challenge for this project was to provide a state-of-the-art facility that complies with town design standards. Allen & Hoshall designers navigated the project through demanding site conditions during a period of time when supply chain delays and inflation were on the rise.

The design goal was to present the look of a 21st-century station that still was compatible with local growing and existing residential neighborhoods. The use of stone and brick veneer, a silver standing-seam metal roof and overscale glass windows was integral in the design concept. The facility also features a tower at the entrance and glass doors, which provide a modern look and a major focal point for drawing the eye toward the entrance.

Also included are administrative offices; a 24-seat, community-based, classroom training space; a fitness center; a laundry area; and an 11-bed sleeping hall to accommodate the station's two active crews of four to five personnel.

The success of the project was evident when the town pronounced the station as the new standard for future civic buildings in characteristics and design.





Official Project Name: Comal County ESD 3 Canyon Lake Fire & EMS Station No. 56
Project City/State: New Braunfels, TX
Date Completed: Oct. 9, 2020
Fire Chief: Darren Brinkkoeter
Project Area (sq. ft.): 8,177
Total Cost: \$2,822,827
Cost Per Square Foot: \$345.22
Architect/Firm Name:
 Brown Reynolds Watford Architects
Website: brwarch.com/fire
Design Team: Brown Reynolds Watford Architects: Ray Holliday, AIA, Principal-in-Charge; Leslie Tijerina, Project Manager; Lisa Andel, Project Coordinator; Hayden Roberts, Project Designer; Structural: Rick Robertson, PE, Dunham Engineering; Dawson Van Orden: Jason Dawson, PE, Civil; Wesley Daoust, PE, MEP



Comal County ESD 3 Canyon Lake Fire & EMS Station No. 56 New Braunfels, TX

Canyon Lake Fire & EMS Station No. 56 was built to provide the necessary response coverage to multiple newly developed subdivisions in this rapidly growing portion of the Texas Hill Country. The two-story, residential-style satellite station is accentuated by a wrap-around porch and framed operable windows. The board-and-batten-style Hardie siding and exposed rafter tails are a nod to



the region's rich German history, while the locally quarried limestone and heavy timber columns and trusses reflect the Texas vernacular style of the surrounding neighborhoods.

Although the budget was very tight for this station and its sister station, Canyon Lake No. 54, efficiency and safety were prioritized in every decision. The station features four-fold bay doors that open more quickly than sectional doors and are more visible to the drivers. The bunker gear is stored strategically on the opposite side of the bays from the living spaces and adjacent to the decontamination room and dedicated decon shower room. A coiling garage door from the indoor/outdoor fitness center provides an opportunity for different types of workouts and for larger groups to work out together.

On the opposite side of the bays, an airlock and a custom-made door protects the crew from exposure to contaminants and carcinogens while they are in the living areas. An open-concept kitchen/dining/dayroom area encourages camaraderie, while the adjacent covered patio is the perfect place to decompress. The second floor hosts four semiprivate bunkrooms and one private dormitory; the five-person crew can access the apparatus bays swiftly via a fire pole.

Comal County Emergency Services Districts No. 2 and No. 3 provide coverage to more than 250 square miles around the picturesque Canyon Lake. Since Station No. 56 opened to calls on Oct. 9, 2020, average call response times have decreased to 10 minutes or less from 25 minutes.





Harris Co. ESD 1 EMS Station 97, Humble, TX

Station 97 provides emergency medical services only. It's located behind a fire station that provides fire/rescue services only. The two stations are operated by separate entities, which required detailed coordination during design in regard to utilities, site access and security. The design goal for Station 97, which is located off of the main road, was to provide an efficient, durable structure to accommodate quick emergency response rather than to serve as public showpiece.

A highly efficient single-slope shed roof and a preengineered metal building structure were utilized, with a stone wainscot below the windows and prefinished metal wall panels above. The two volumes (ambulance bays and living areas) have opposite-sloping roofs. The ambulance bay roof slopes up to the south to accent the main façade, which is visible from the roadway, and to accommodate large louvers for cross ventilation; the roof that's above the living area slopes up toward the north to capture appropriate daylight for the common spaces without heat gain or glare.

Glazing and blackout shades are provided for full lighting control.

The interior layout is organized simply, with an open-concept kitchen/dining/dayroom area and report-writing stations. Direct access to a covered patio area is integral to the overall building and roof structure. Individual sleeping rooms are segregated from the common areas for noise control to promote uninterrupted sleep. Gender-neutral restrooms are provided between the dormitory rooms and bays along a quick and direct route for emergency response. A larger sleeping room that has several bunk beds is provided for less common instances of extra personnel who are required for major response events.

The interior materials that were selected provide durability and low maintenance, while the dynamic floor patterns energize the main activity hub of the station. The exterior entrance is highlighted by brick pavers, a simple canopy that provides signage and weather control and a building-mounted flag that omits the need for a flag pole(s).



Official Project Name:

Harris Co. ESD 1 EMS Station 97

Project City/State: Humble, TX

Date Completed: Dec. 15, 2020

Fire Chief: Jeremy Hyde

(Executive Director)

Project Area (sq. ft.): 4,028

Total Cost: \$1,755,650

Cost Per Square Foot: \$435.86

Architect/Firm Name:

Martinez Architects

Website: martinez-architects.com

Design Team: Martinez Architects:

Ricardo Martinez, AIA, Project Manager;

Justin Myers, AIA, Project Designer;

MEP: LTY Engineers; Structural: Matrix

Structural Engineers; Civil: S&G

Engineering Consultants; Landscape:

Evergreen Design Group; Technology

Consultant: Tyto Solutions



**BUXTON KUBIK DODD
DESIGN COLLECTIVE**

Official Project Name:

Logan-Rogersville Fire Protection District Station 6

Project City/State: Rogersville, MO

Date Completed: Aug. 1, 2018

Fire Chief: Richard Stirts

Project Area (sq. ft.): 8,100

Total Cost: \$1,881,428

Cost Per Square Foot: \$232.28

Architect/Firm Name: Buxton Kubik Dodd Design Collective

Website: buxtonkubikdodd.com

Design Team: Buxton Kubik Dodd Design Collective; Jonathan Dodd, AIA, NCARB, Principal-in-Charge; Eric Street, AIA, Project Architect; Larry Phillips, PE, Project MEP Engineer; Joyce Buxton, ASID, NCIDQ, Project Interior Designer



Logan-Rogersville Fire Protection District Station 6, Rogersville, MO

Logan-Rogersville Fire Station 6 is a new, two-story firehouse that's located on State Highway VV in the city of Rogersville. The station was designed to address quick response times as well as to provide a comfortable, modern living area for the firefighters who serve the response area.

The exterior design incorporates a modern style, utilizing a variety of smooth and ribbed metal wall panels that blend with a traditional fire station's red brick and glass wall systems.

The main floor of the firehouse is primarily public/staff use areas that include an open-concept kitchen/dayroom, with an adjacent covered outdoor patio area. There are two drive-through apparatus bays, tool storage, work areas, a staff office and an exercise room that opens into the apparatus bay. The turnout gear storage room is centrally located and functions as a hardened safe room for inclement weather conditions.

In addition to the living and apparatus areas, the station includes a 600-square-foot public community/training room that has after-hours access and a public restroom.

The second floor includes three private bunkrooms that have three independent beds and closets for all three shifts; laundry facilities; restrooms; and a captain's office that connects to a captain's bunkroom. Also included is access to the roof patio that's above the community room.

The building serves as a training tool for firefighters through access to the different roof levels via ladders, to utilize roof hatches for simulated rooftop-entry training.

A traditional brass fire pole was included in the design and was located at the front of the station between the public entry and the apparatus bay. This location was chosen to give firefighters quick and direct apparatus bay access directly from the second-floor bunk while also being visible from the exterior as a public design feature.





SATELLITE NOTABLE

Montgomery Co. ESD 2 Fire Station 55, Montgomery, TX

Station 55 represents a design approach of constraint and simplicity, maximizing cost-efficiency in structure and utilizing simple forms and subtle accents and a limited material palette to produce an appropriate design that fits within the community as a visual landmark. For example, the two large roof planes of the firehouse take advantage of long-span qualities that are available to the economical preengineered metal building super-structure.

The interior design complements the minimal and functional exterior design approach, with durable and low-maintenance polished concrete flooring throughout the living, office and apparatus bay spaces. The open-concept kitchen/dining/dayroom area is column-free thanks to the preengineered metal building structure. The area creates a space-efficient environment that promotes an intimate and team-oriented community feel where those who prepare meals can interact easily with those who are at the dining table or are watching TV. Aesthetically, the interior's subtle accents and high-end residential kitchen appliances soften and create a home-like atmosphere.



The site plan is simply and economically designed within a narrow site to encourage efficient emergency response, to provide separation of public and secure parking areas, to accommodate apparatus turning radii, and to provide simplified access to the standby emergency generator and trash receptacle enclosure. Landscape is restrained and low-maintenance to reduce both upfront and long-term costs while allowing the surrounding heavily wooded areas to serve as the natural backdrop.

Natural daylight and interior glazing provide emotional wellness via connection to adjacent spaces both inside and out, including in the living areas and individual dormitories, which are designed minimally to reduce construction cost and to promote members spending awake time together. A report-writing area that's in the dayroom/dining space also promotes personnel interaction.

Other than the locally sourced limestone and burnt-orange horizontal metal building paneling, functional building elements are utilized for design in lieu of extraneous or costly aesthetic-only features. Examples include the prefinished aluminum louver systems that are applied to the front and back porches, which functionally serve as sun-control devices. Similarly, the exhaust louvers that are over the bay doors are enlarged and designed to complement the entry-feature louvers. The exhaust louvers are part of the overall approach to diesel exhaust removal from the apparatus bays, which supplements a hands-free, ceiling-hung, automatic air filtration system that has a carbon monoxide-sensor-tied cross-ventilation exhaust fan system.



Official Project Name: Montgomery Co. ESD 2 Fire Station 55
Project City/State: Montgomery, TX
Date Completed: Nov. 29, 2021
Fire Chief: Brian Edwards
Project Area (sq. ft.): 10,732
Total Cost: \$3,341,787
Cost Per Square Foot: \$311.38
Architect/Firm Name: Martinez Architects
Website: martinez-architects.com
Design Team: Martinez Architects: Ricardo Martinez, AIA, Project Manager; Justin Myers, AIA, Project Designer; MEP: DBR Engineering; Structural: Matrix Structural Engineers; Civil: S&G Engineering Consultants; Landscape: Evergreen Design Group





Official Project Name:

Seagoville Fire Station

Project City/State: Seagoville, TX

Date Completed: Oct. 5, 2021

Fire Chief: Todd Gilcrease

Project Area (sq. ft.): 5,690

Total Cost: \$1,100,000

Cost Per Square Foot: \$193.32

Architect/Firm Name:

Grossman Design Build

Website: grossmandesignbuild.com

Design Team: Grossman Design

Build: Gary Grossman, Principal; Eric

Grossman, Partner; Brian Grossman,

Partner; MEP: Jose LaBautista, Meyer

Engineering; Civil: Angel Sanchez, MAS

Engineering; Structural: John Isaac,

Accessible Buildings



Seagoville Fire Station, Seagoville, TX

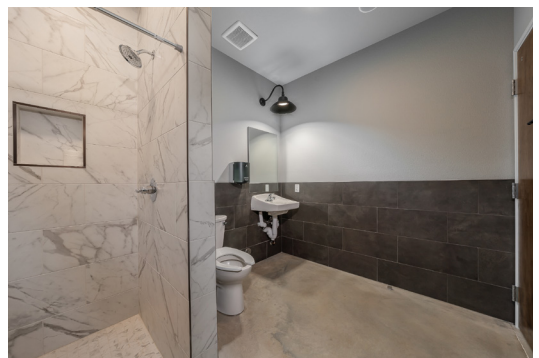
Seagoville is a small town that's about an hour southeast of Dallas. The community of about 17,000 is experiencing quite a bit of growth and new homes. The city decided to build a police and fire station complex on some land northeast of town. The project's first phase was the construction of the fire station to help to serve the new population. The existing station is along Highway 75, which is the major thoroughfare through the city.

The budget was a major concern on the project. The challenge was to provide the maximum space that would be needed while staying within budget. Preengineered metal building frame was used to help to maximize the space.

The building was designed to be as functional as possible. The living area has four bunkrooms and a kitchen/dayroom that's quite modern for the city of Seagoville. There are two pull-through bays and one back-in bay. The back-in bay is used for a smaller brush truck and also allows areas for workout equipment, gear storage, and tools and equipment.

There is adequate workspace as well as a watch room.

The ceilings are all an open-style concept and are blacked out with exposed rafters and beams to help to provide a modern and industrial feel. The exterior façade was broken up with a complementing use of gray lueders, brick and horizontal metal panels. The bright red sign gives the station a much needed contrasting color.





**FIREHOUSE
STATION DESIGN
AWARDS**

SATELLITE NOTABLE

Sevierville Fire Station No. 3, Sevierville, TN

This mountain town's original claim to fame was being the birthplace of country superstar Dolly Parton, but it quickly has become a top family vacation spot in East Tennessee. The new fire station will support the growing number of calls that firefighters face as a result of increasing tourism and the expansion of the local population.

The station is located on the original site of the Sevierville-Sevier County Fire Department from the 1960s. In addition to its historic relevance, the location on Prince Street allows for faster response times and better service to West Main Street, Old Knoxville Highway, Gist Creek and downtown areas.

The station replaces the former main station. The facility includes three apparatus bays that have pull-through capabilities, a dormitory area that has six bedrooms, an open-concept kitchen/dayroom, lounge areas and a fire pole. The station houses six firefighters, an engine, a ladder truck and a quick-response apparatus.

Early in the design process, there was a strong desire for the station to be compatible with the existing downtown environment and history. Because of the small size and unique shape of the site, the design solution footprint was defined by not only the shape of the site but also the setback requirements, so the square footage was maximized. The need for a partial second floor to fill out program requirements helped to balance out the massing of the taller three-bay apparatus portion of the building. The result is a striking design that balances traditional forms with 21st-century requirements, via arched apparatus door openings, four-fold doors, red large-scale brick and an attractive, arched main welcoming entrance.

The building required approximately two feet of fill to raise the site above the new flood plain requirements.



Allen & Hoshall
engineers-architects-surveyors

Official Project Name:
Sevierville Fire Station No. 3

Project City/State: Sevierville, TN

Date Completed: May 1, 2022

Fire Chief: Matt Henderson

Project Area (sq. ft.): 11,672

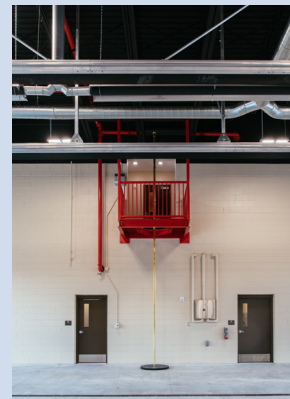
Total Cost: \$3,880,000

Cost Per Square Foot: \$332

Architect/Firm Name:
Allen & Hoshall

Website: allenhoshall.com

Design Team: Allen & Hoshall:
Michel Lebel, AIA, Project Manager/
Architect; Mike Collins, PE, Electrical;
Ron Thompson, PE, Mechanical; Mike
Sheridan, PE, SE, Structural; Roy
Lamica, PE, Civil



SHARED FACILITIES



Official Project Name:
Lawton Public Safety Facility

Project City/State: Lawton, OK

Date Completed: April 1, 2021

Fire Chief: Jared Williams

Project Area (sq. ft.): 100,178

Total Cost: \$32,178,248

Cost Per Square Foot: \$326

Architect/Firm Name:
Dewberry Architects

Website: dewberry.com

Design Team: Dewberry Architects:
Larry Hlavacek, Principal/National
Director of Public Safety Architecture;
Jon Tallman, Regional Director of Public
Safety Architecture; Bruce Henley,
Principal; Jon Crump, Director of
Design/Lead Designer; Katie Vondrasek,
Public Safety Project Architect; Chris
Allred, Security Designer



Lawton Public Safety Facility, Lawton, OK

To address significant operational, security and space deficiencies, the city of Lawton sought a comprehensive municipal facility to house courts, police, jail and Fire Station No. 1. The city's desire for consolidated resources and improved facilities outlined the specific project needs. The design discussion began with a focus on the narrow five-acre site.

With greater visibility, the new facility extends the existing cultural and civic presence in downtown to this northeast gateway site. The site is organized with public access, parking and bike trails on the west; staff secured entry and parking on the east; and deliveries, additional parking and stormwater detention to the south.

The building design is uniquely Lawton. The city of Lawton rests at the foothills of the Wichita Mountains. The soft geological forms that are seen in the distant views of these mountains formed the design inspiration for the lobby roofline. The roof caps are the most public components of the campus—the public plaza, lobby and courtroom—serving both functional and aesthetic design goals. The north edge of the roofline drops to integrate with the entry plaza, where the combination of terrace walls, building massing and landscaping creates a micro-climate buffer for the northwest-facing entry doors. The south edge raises over the courtroom, introducing daylighting to this space in a secure manner. The five central columns in the lobby are representative of the five branches of the United States Armed Services, offering an opportunity to recognize Fort Sill U.S. Army base, which has more than 20,000 military personnel and is as an integral part of the Lawton community. The transparency of the lobby is welcoming during the day and a beacon of light at night. As a public safety facility, this gives the community a sense of security and openness.





SHARED FACILITIES



Official Project Name:
Clive Public Safety Center
Project City/State: Clive, IA
Date Completed: Nov. 17, 2021
Fire Chief: Rick Roe
Project Area (sq. ft.): 46,000
Total Cost: \$11,010,000
Cost Per Square Foot: \$239.15
Architect/Firm Name:
SVP Architects
Website: svpa-architects.com
Design Team: SVP Architects: Thad Long, Principal-in-Charge; Robert Ormsby, Municipal Specialist; Pierce Coady, Architect; Anne Nilsson, Interior Designer; Sidekick Development: Angie Pfannkuch, Owners Representative; DCI Group: Michael Steen, Senior Project Manager; Adam Byrne, Project Engineer; Seth Riggs, Project Superintendent; Structural: Raker Rhodes Engineering; Civil: Bishop Engineering; Landscape: Confluence



Clive Public Safety Center, Clive, IA

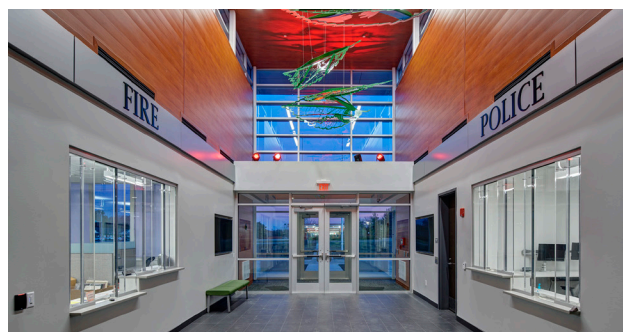
The new Clive Public Safety Center opened and was dedicated in November of 2021. This was a significant time for the city of Clive. The facility is the first ground-up building in more than 30 years for the city. The Clive Public Safety Center houses both the police and fire departments. Shared uses were incorporated into the center portion of the building, with police and fire on either side to maximize efficiency. Common spaces include the main lobby/public entrance, a training/conference room and a fitness room. The lobby includes a public art commission, which is a mobile structure that has color-changing LED lighting.

The constraints of the center's site required a very compact and linear building that provides carefully planned vehicular circulation for fire and police vehicles. Site design included sustainable features, such as bioswales with perennial plantings as well as porous pavers in portions of the parking area. Even though the site was situated extremely tightly between two different uses and despite the existence of more than 20 feet of fall across the site, the fire department has adequate space for training, hose management and proper vehicle turning radius.

Fire department staff created a step-down process from gross decontamination to medium decontamination and to then safely entering the living areas of the station. Through the process of pressurizing spaces, Hot, Warm and Cold Zones were created in conjunction with the aforementioned step-down procedure.

To break up the long building of the center, the exterior design alternates the use of precast concrete, brick masonry, translucent polycarbonate panels, woodgrain metal panels and aluminum curtainwall. This construction approach creates a more contemporary design. Police and fire logos that are on the front of the building are backlit at each end of the building as identification.

The project included solar panels to provide electrical for the facility, which became the city's main data center. This green approach to providing power allows the building to be an emergency services location for the city of Clive and surrounding communities.





Fire-EMS Station 10 and Logistics Support Center Chesapeake, VA

Although the original Station 10 served its community proudly and well during its more than three decades of service, the city of Chesapeake recognized the critical need to design and construct a new Fire-EMS station and logistics support center that would meet the requirements of today's emergency service and fire department. The overall project comprises two public safety buildings, which are co-located on the same property. Both of the facilities serve the fire department.

The first building is a four-bay fire station (16,000 square feet) that's designed to accommodate today's increased staffing needs and to achieve critical emergency response objectives. The station includes a prominent main public entrance that conveys a strong visual civic presence. The exterior design pays tribute to the deep-rooted history and traditional architecture of the local Sunray Historical District, and it seamlessly integrates within the community.

In addition to having a modern fitness room, the station has an integrated tactical training mezzanine in the apparatus area and includes specialty training props that enable the firefighters to practice simulated rescue drills, window-door breach training and other rescue training scenarios.

The station includes individual bunks and toilet-shower rooms, which provide a gender-friendly environment for all staff members. The kitchen, dining room and dayroom were designed as an open space, to encourage staff interaction and social engagement.

The second building is a logistics support center (15,000 square feet), which includes a large warehouse that's used for managing and storing emergency apparatus and equipment and provides space for staff offices, a records room, EMS storage, a PPE repair room and a large training room. The facility also includes a certified indoor CPAT course.

Both facilities were designed as high-performance buildings and include hurricane-resistant building envelopes, a heat-pump HVAC system that has smart-technology controls, LED lighting, a state-of-the-art fire alerting system, and indoor air-quality strategies that provide a clean and healthy environment.



Official Project Name: Fire-EMS Station 10 and Logistics Support Center
Project City/State: Chesapeake, VA
Date Completed: Jan. 15, 2021
Fire Chief: Edmund E. Elliott
Project Area (sq. ft.): 31,000
Total Cost: \$8,100,000
Cost Per Square Foot: \$261.29
Architect/Firm Name: RRMM Architects
Website: rrrmm.com
Design Team: RRMM Architects: Architect; Civil: MSA; Structural: NRW Engineering; MEP: Hickman-Ambrose





Official Project Name:
Atlantic Beach Public Safety and Administrative Complex

Project City/State: Atlantic Beach, NC

Date Completed: March 8, 2022

Fire Chief: Michael J. Simpson

Project Area (sq. ft.): 22,500

Total Cost: \$7,000,000

Cost Per Square Foot: \$311

Architect/Firm Name:
Hobgood Architects

Website: hobgoodarchitects.com

Design Team: Hobgood Architects:
Patrick Hobgood, Principal; Alan Tin, Project Architect; Mo-Kuan Lin, Architect; David Ji, Architect;
Structural: Scalene Design; MEP: Optima Engineering; Civil: Cullipher; Contractor: Thomas Construction



Atlantic Beach Public Safety and Administrative Complex, Atlantic Beach, NC

The town of Atlantic Beach Public Safety and Administration Complex houses five departments and is designed with beauty, functionality and strength in mind.

Atlantic Beach is a coastal town that's located in the southern portion of North Carolina's outer banks. The previously haphazardly stitched together fire, police and town administrative offices were a collection of buildings that lacked performance and safety.

The new Public Safety and Administration Complex merges the previously separate entities into a unified whole and to serve as an emergency operations center (EOC) during North Carolina's weather emergencies.

Architects were tasked with creating a civic complex that has the look and feel of the surrounding beach cottages while remaining a highly functional municipal building. The solution: Break the massing down to create a

roofline on the second floor that references the scale and material of local cottages.

The complex features a second-floor EOC that's equipped with multiple viewing screens, video conferencing equipment and radio communications that's supported by a 250kW diesel generator.

The new fire station has three drive-through bays, a Plymovent exhaust capture system, and increased living space to accommodate men and women firefighters. Special consideration was given to the residential quarters. Located on the second floor, these spaces are flooded with natural light and views of the Atlantic Ocean. Along with the bunkrooms and private captains offices, there is a new open kitchen, dining area, break room, two shared training spaces and an exterior balcony. Adjacent to the complex, an accessory structure serves as a shared gym space and Ocean Rescue headquarters.

Originally installed in the old fire station in 2008, the fire pole was refurbished to complement the traditional spiral staircase that's in the new building. The Atlantic Beach Fire Department remains the only fire station that's in Carteret County that has a fire pole.





Groveland Public Safety Complex, Groveland, FL

The city of Groveland's new Public Safety Complex features a fire station that has administrative offices and a police station that has emergency dispatch. The building also serves as Groveland's emergency operations center. Space to accommodate the future growth of the fire and police departments is temporarily utilized by the city's building and permitting departments, which will relocate when a new City Hall is constructed.

Groveland needed an iconic building to highlight its transition from an agricultural town to a rapidly growing modern city. Glass-curtain-wall entry towers on the building frontage serve to invite and to house the public areas. Adjacent concrete tilt-wall construction provides appropriate separation and security for fire and police operations. The glass entry pavilion will provide transit shelter for the planned Coast-to-Coast bicycle trail and a future bus stop.

The two-story building provides separate entrances and facilities for the fire and police departments. Fire operations are housed on the first floor. Separate bunkrooms, kitchen and dayroom accommodate a six-person crew (three shifts). There is a watch office and a turnout room that are separated from the decontamination room, laundry and showers. Four apparatus bays are flanked by an SCBA fill station and bottle storage room. Space for a Lake County Emergency Medical Services three-person crew is provided, including separate bunkrooms, dayroom and kitchenette. Providing these local accommodations for county EMS ensures rapid response for city inhabitants. Fire administration offices and a conference room are provided on the second floor.

Shared facilities within the complex include a large training room that can be used for community meetings as well as a fitness center that has locker rooms.

The first floor of the complex includes police dispatch and patrol. Police administration, detectives and crime scene investigations have offices that are on the second floor.

The site is landscaped with environmentally sensitive, drought-tolerant, native plant species.



**FIREHOUSE
STATION DESIGN
AWARDS**

**SHARED FACILITIES
NOTABLE**



GatorSkitch
ARCHITECTS & PLANNERS
gatorskitch.com

Official Project Name:

Groveland Public Safety Complex

Project City/State: Groveland, FL

Date Completed: Feb. 1, 2021

Fire Chief: Kevin Carroll

Project Area (sq. ft.): 33,490

Total Cost: \$9,250,000

Cost Per Square Foot: \$276.20

Architect/Firm Name: GatorSkitch
Architects & Planners

Website: gatorskitch.com

Design Team: GatorSkitch Architects & Planners: Mike Latham, President/Project Manager; Alex Busto, AIA, VP/Architect of Record; Carissa Latham, VP/GM; Bill Guidry, Construction Administration; Tamara Levell, Senior Designer; Amy McDaniel, Interior Designer; Bret Dodd, Design Architect; Andrew Benavides, Architectural Intern; Jim Warner, Landscape Architect; Civil: Highland Engineering; Structural: Gutherman Engineering; MEP: Matern Engineering



Official Project Name: Tri-C Public Safety Simulated Scenario Village
Project City/State: Cleveland
Date Completed: Jan. 15, 2020
Director of Fire Training:
Daniel Waitkus
Project Area (sq. ft.): 47,330
Total Cost: \$13,000,000
Cost Per Square Foot: \$274
Architect/Firm Name: DS Architecture
Website: dsarchitecture.com
Design Team: DS Architecture;
Legat Architects; Knight & Stolar;
Thorson Baker & Associates; Karpinski
Engineering; Infinity Construction



Tri-C Public Safety Simulated Scenario Village, Cleveland

The Cuyahoga Community College Simulated Scenario Village was designed to provide critical training for first responders so that they can encounter an array of simulated emergency situations before they join their local fire, EMS or police department. The project expands the capabilities of the existing apparatus bays and burn tower to include a training center and several multistory prop buildings, which replicates an urban environment.

The first building that trainees encounter as they enter the village is Building A, which is the main control building and centerpiece of the training village. The three-story structure resembles an office building that one might encounter in Anytown, USA. The building contains a virtual reality simulator, a training room that has wall-to-wall mats for physical training and a training control room that has an observation deck that oversees the entire village.

Four separate prop buildings can transform into numerous configurations, which gives students the opportunity to simulate various scenarios on any given day. Movable wall systems and multiple entry points allow for an array of simulated environments. For additional stress components, the facilities can introduce other distractions, such as sirens, traffic noises, flashing lights, crowd sounds and nontoxic smoke. The building roofs are reinforced with tie off points and are lined with padding to allow for rappelling practice and training with ladders on multiple stories. Two hundred feet from the retail area is a wood-framed house. Located on a 110-foot-wide cul-de-sac, fire, EMS and police vehicles can drive right up and begin their simulated exercises.

The existing fire station was expanded, to provide another 4,000 square feet of space for classrooms and training of the fire safety students. A pavilion was added to serve as an outdoor classroom. Signature red poured resinous floors and red chairs accent the space.







FGMARCHITECTS

Official Project Name:
City of Fairfax Station 33
Project City/State: Fairfax, VA
Date Completed: Sept. 21, 2021
Fire Chief: John O'Neal
Project Area (sq. ft.): 22,000
Total Cost: \$11,148,438
Cost Per Square Foot: \$506.74
Architect/Firm Name:
FGM Architects
Website: fgmarchitects.com
Design Team: FGM Architects,
Architect: Civil: Timmons Group;
Structural: Ehler Bryan; MEP: Brinjac
Engineering; Cost Estimating: Axias;
Commissioning: Setty & Associates



City of Fairfax Station 33, Fairfax, VA

When the city of Fairfax received funding in 2014 to replace its existing 1970s-era vintage station, it wanted a facility that would be “ready for the future.” With this in mind, the first phase of design included programming and site feasibility studies to evaluate whether a new state-of-the-art facility that has larger apparatus bays and greater staff capacity would fit on the small existing site. The study concluded that site constraints effectively reduced the buildable area by one-third, which resulted in the conceptual plans focusing on a multistory structure that has a small footprint that maintains the existing resource protection areas encroachment.

The subsequent design of the building is a three-bay station that currently accommodates as many as eight firefighters per shift and as many as 14 firefighters per shift in the future. The dormitory areas, including bunkrooms, a fitness center, a kitchen, a dining room and a dayroom, are located on the third level, which spans the apparatus bays. The adjacent outdoor roof terrace overlooks the tree canopy and provides a place for the crew to relax and decompress while allowing daylight to flood interior spaces. The poles and stairs were located intentionally between the day spaces and the night/bunk spaces to ensure quick and efficient response regardless of staff location.

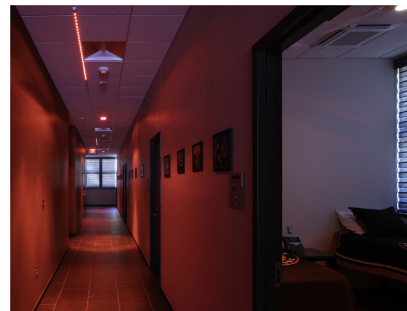
The administrative offices that are located on the second level of the building are situated to provide quicker access to the apparatus bays for improved response times during daytime hours. Practical training areas are provided on a mezzanine that’s open to the apparatus bay below.

The first-floor functions include the apparatus bays, bay support spaces and a lobby/control room.

The design also represents the latest development in Hot Zone principles to support the decontamination of personnel and equipment after operational events.

The exterior aesthetic is a blend of modern and traditional styles that reflects the city’s rich history and historic downtown.







Official Project Name:

Waterford Fire Station

Project City/State: Waterford, NY

Date Completed: Dec. 1, 2021

Fire Chief: Donald Baldwin

Project Area (sq. ft.): 15,732

Total Cost: \$5,964,500

Cost Per Square Foot: \$379.13

Architect/Firm Name:

H2M architects + engineers

Website: h2m.com

Design Team: H2M architects +

engineers: David Pacheco, Designer/
Senior Architect; Dennis Ross, Director
of Emergency Services Market; Eric
Neiler, Project Manager; Clark Davis
Engineering & Surveying; Ryan Biggs;
Spring Line Design Architecture
+ Engineering; W-P-S Consulting
Engineers



Waterford Fire Station, Waterford, NY

In the wake of Hurricane Irene and Superstorm Sandy, the village of Waterford needed to improve its emergency services infrastructure. The village's three aging fire stations were too small to meet their needs, and they were operationally unsafe, too. Partially funded by the Governor's Office of Storm Recovery, Waterford's new station is a consolidated, centralized location that meets the community's emergency response needs.

Goals for the new station included: siting it outside of the 500-year flood plain, designing an emergency shelter for the community, incorporating both classroom and hands-on training spaces and creating a clean environment to prevent cross-contamination.

The 1.63-acre site is one of a few properties that are in Waterford that are outside of the flood plain. Siting allows for future expansion. This includes the fact that the bays and support spaces are set back from the adjacent train tracks.

The station includes four bays that fit as many as 11 vehicles; a 924-square-foot mezzanine that's equipped with training regimens, including tie-offs, a sewer access for confined-space training, ladder evolutions and bail-out windows; a multipurpose meeting room that meets the needs of state-sponsored trainings and short-term emergency sheltering for 100 people; full kitchen and shower facilities for emergency sheltering or responder overnights; a bunkroom that doubles as a disaster staging area; and an emergency operations center that's designed to coordinate as many as 160 responders during natural disasters.

The building is fully sprinklered and ADA-accessible and has a highly efficient HVAC system and an emergency generator that powers the entire facility.

The onset of the COVID-19 pandemic caused several complications during the project. For most of the project's design, meetings were held virtually. Extensive logistical design team coordination surmounted difficulties that are inherent in digital communication and kept the project focused. An additional complication was the fact that state of New York regulations restricted the number of construction workers who could be present at the site at one time.





**FIREHOUSE
STATION DESIGN
AWARDS**

VOLUNTEER/COMBINATION



Prince Frederick Volunteer Fire Department Station 2, Prince Frederick, MD

Station 2 is the station for the Prince Frederick Volunteer Fire Department. It was designed to a high-value/low-maintenance/high-function standard that has earned multiple awards since its completion in 2021. The station has five drive-through apparatus bays and truck wash bays. The spacious floor plan includes administrative office space, bunkrooms, a catering kitchen, a dining area, a training room and support space to accommodate shift personnel. The first-floor museum, which is seen prominently from Route 4, proudly displays the volunteers' 1955 American International engine.

The station is designed for the health and well-being of the personnel stationed there using Hot Zone/Cold Zone design standards, self-contained and ventilated PPE storage areas, physical fitness training rooms, and gender-neutral bunks and shower rooms. The station includes on-site decontamination and SCBA maintenance, filling and storage.

The original station was constructed in 1960 as a one-story, four-bay firehouse. It quickly became an integral part of the community. Therefore, the new facility is designed with the community in mind and as a landmark to the entry to the town of Prince Frederick. The volunteer members welcome the community to use their meeting rooms, museum, and apparatus bay for public meetings and gatherings. The facility is equipped with a commercial warming kitchen and fully accessible toilet room/facilities.

The firehouse also includes an in-house training space for confined-space operations, laddering evolutions, sprinkler training and shoring exercises. The open windows allow for practice of building entry and elevated patient extrication.

The station façade is designed with the use of traditional masonry, red brick and concrete masonry units as well as arched openings at the bi-fold apparatus doors. Metal roofing was used for longevity and to withstand high winds.



Bignell Watkins Hasser
ARCHITECTS P.C.

Official Project Name:

Prince Frederick Volunteer
Fire Department Station 2

Project City/State:

Prince Frederick, MD

Date Completed: June 8, 2021

Fire Chief: Willie Gray

Project Area (sq. ft.): 29,929

Total Cost: \$10,319,480

Cost Per Square Foot: \$344.79

Architect/Firm Name:

Bignell Watkins Hasser Architects

Website: bigwaha.com

Design Team: Bignell Watkins

Hasser Architects: Greg Gilbert, Vice

President; Michael Matula, Project

Manager; Civil: Nelson Arocho, Bay

Engineering; Century Engineering:

Andrew Jun, M&P; Matthew Steiner,

Electrical; Richard Beard, Structural



Official Project Name:
Baileys Harbor Fire and Rescue
Project City/State: Baileys Harbor, WI
Date Completed: Dec. 5, 2020
Fire Chief: Brian Zak
Project Area (sq. ft.): 15,750
Total Cost: \$3,400,000
Cost Per Square Foot: \$215.87
Website: baileysharborwi.org/fire-rescue
Design Team: Baileys Harbor Fire and Rescue: Brian Zak, Fire Chief; Eric Peil, Assistant Chief; Sean Moroney, Captain; Brad Rasmussen, Captain; Bill Reifsnnyder, Crew Chief-Emergency Medical Response



PHOTOS COURTESY OF KELLER BUILDERS

Baileys Harbor Fire and Rescue, Baileys Harbor, WI

Baileys Harbor is located in the popular Door County peninsula. Its population of 500 rises to more than 6,000 visitors in summer. The volunteer department has 36 paid-on-call members. The department's original two-bay station, which was built in 1957, was outdated, and its 10½-foot-tall bay doors restricted the purchase of new apparatus. In addition, noncompliance to NFPA standards and concern for cancer-causing carcinogens resulted in overwhelming community support for a new station.

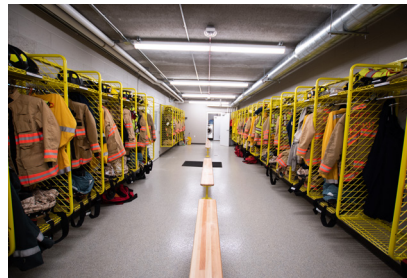


The stone-vener façade on the station was selected to create harmony with the historic village hall and library. The arched front entrance opens to a 40-seat room for training sessions and is surrounded by a small conference room, four offices for the fire chief and officers, and a kitchen. Two storage rooms can be converted for future full-time staff.

The station houses three engines, two tenders, two brush trucks and a command vehicle and allows future expansion to 10 vehicles. The drive-through bays have direct capture of apparatus exhaust and industrial airflow fans above. Transitional doors reduce carcinogens between the bay and administration area. The PPE room provides a personal locker for each firefighter. A decontamination shower is located off of the locker room, as are a washroom and a laundry area that has a commercial washing machine and dryer. The second-floor mezzanine has storage and an area for training, including exterior doors. A fitness area is located on half of the mezzanine level.

A fitness area is located on half of the mezzanine level.

The five-bay station has heated floors and aprons to counter heavy Wisconsin snowfalls. The rear bay includes a wash area that has a system for removing salt deposits from the underside of apparatus in winter. The bay also features a hose-drying rack that's designed for this station.





Official Project Name: Bastrop County ESD 1 Fire Station No. 4
Project City/State: Cedar Creek, TX
Date Completed: April 8, 2021
Fire Chief: Brandon Bancroft
Project Area (sq. ft.): 10,800
Total Cost: \$4,233,452
Cost Per Square Foot: \$391.99
Architect/Firm Name: Brinkley Sargent Wiginton Architects
Website: bsw-architects.com
Design Team: Brinkley Sargent Wiginton Architects: Don Greer, Project Manager; Laurie Ackerman Greer, Project Architect-Interiors; David Achterberg, Construction Administration; MEP: Byron Hendrix, Hendrix Consulting Engineers; Civil/Landscape: Robert Scholz, HALFF Associates; Structural: Doug Rothermel, JQ Engineering



Bastrop County ESD 1 Fire Station No. 4, Cedar Creek, TX

Efficiency, economy and public visibility led to the Fire Station 4 design. Its location on the rapidly developing Highway 71 corridor permits quick response times and a recognizable service presence. The large site, which is shaped by a creek drainage swale and deficient soils that are closer to the creek, drove the linear design and proximity to the road and provided a physical separation between emergency operations egress and the administrative and public entry. This design helped to minimize foundation costs over the grade drop and provided separation between emergency operations egress and the more administrative functions at the public entry.



Members were involved in the conceptual/final design phases to ensure that a station that depicted a community service facility and met firefighters' request for a great room layout to allow easy interaction between staff was created. These spaces use the volume to open the space to the roof's ridgeline.

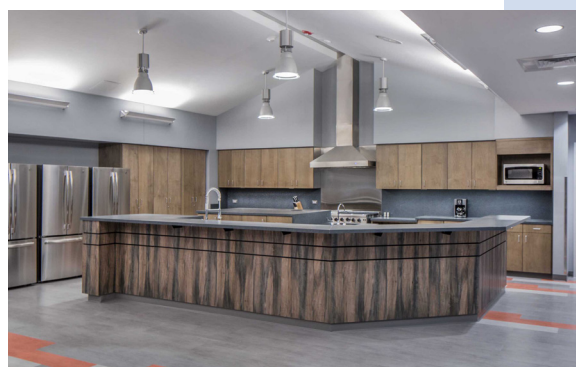
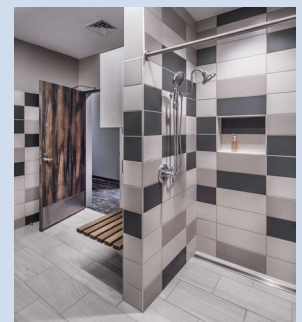
Volunteer staff come and go at irregular hours, so the bunker gear and backpacks are at the rear entry corridor to isolate personnel interchange and reduce noise. Because firefighters use the fitness room at odd hours, that space is at the back entrance, so users can come and go without entering the central part of the station. The dormitory rooms are off of the corridor, with sound-isolating doors on either end. The rooms to promote a quiet area to sleep, rest and recover.

The station is zoned with public access administrative functions at the front for plan review and training events. The watch room is a bridge between the public and staff sides.

The primary wall material palette includes concrete masonry units (CMU) as a base to protect against abuse and wear. Heavy corrugated metal panels conceal fasteners for the upper layer material to provide low maintenance and a contrast to the lower-level CMU. A glossy red, structural glazed tile is at the front and the back staff entry. The durable tile reinforces the fire service aesthetic.

A direct corridor to the bay from the heart of the station allows for quick response times. A positively pressurized airlock suppresses cross-contamination from Hot Zones to the bay. Exhaust fans that are tied to thermostats and CO detectors manage vehicle exhaust and bay ventilation.

At the request of fire staff, the administrative and living areas of the station are fully sprinklered.





Triad Associates, Inc.
ENGINEERING • ARCHITECTURE

Official Project Name:

City of Ligonier Fire Station

Project City/State: Ligonier, IN

Date Completed: July 30, 2022

Fire Chief: Jeremy Weaver

Project Area (sq. ft.): 23,969

Total Cost: \$6,150,000

Cost Per Square Foot: \$256.58

Architect/Firm Name:

Triad Associates

Website: triadassoc.net

Design Team: Triad Associates: Lou

Savka, Principal; Jonathan Moen, PE,

Engineer; Michael Grove, Architect; Tom

Montgomery, Structural; Jerry Jacobs,

MEP; Brandy Francisco, CAD PM; John

Nelson, Resident PM



City of Ligonier Fire Station, Ligonier, IN

Chief Jeremy Weaver and Assistant Chief Gerald Sprague did their homework in planning the new station by visiting other facilities that are in the region. The two men knew what they wanted for the new station and had floor plans sketched even before the initial meetings with the consultants took place. Final plans were detailed during the COVID-19 shutdown of all nonessential businesses in the state of Indiana. The construction prebid meeting was conducted online and included 53 attendees via a Zoom conferenc call.



The station was constructed on an old industrial property that had old foundations, debris and spoil material. Two hundred and thirty-four rammed aggregate Geopiers were installed to support the foundations and slabs of the station.

An 11,467-square-foot garage consists of six bays that have front folding doors, back-in assist lighting and 10 vehicle exhaust drops. The garage also has a training tower that doubles as hose drying with an electric hoist and rigging up the center of the stairwell. The station also provides areas to conduct confined-space and skills training.

A fully equipped radio/command room is located strategically adjacent to the station's apparatus bays. Furnished offices and meeting rooms complement the first floor, as do a kitchen, a dining area and a dayroom. A 39-unit locker gear room, an SCBA room, a decontamination room and a laundry are part of the first floor layout.

The second floor consists of a dayroom, five bedrooms, full bathrooms, and a 1,140-square-foot meeting/training room that has audio and visual equipment. A 640-square-foot fitness area is accessible through a raised mezzanine that includes a circular slide.

The station includes a Baby Box, which is allowed under Indiana's Safe Haven Law that legally permits a mother in crisis to safely surrender her newborn. An exterior door automatically locks upon placement of a newborn inside, and an interior door allows staff to secure the newborn from inside the building.

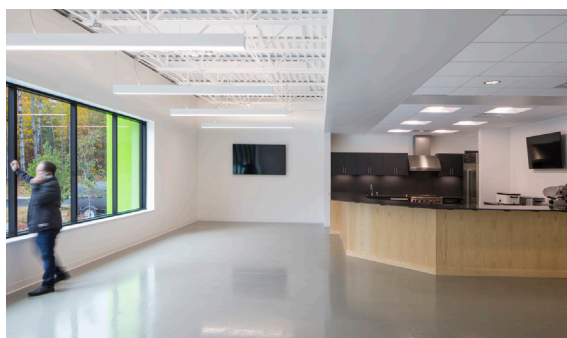




Manitowish Waters Fire Station, Manitowish Waters, WI

HGA

Manitowish Waters is a small community that's located in rural northern Wisconsin. The town population of fewer than 600 swells in the summer season with tourists and temporary residents from around the region who are drawn to the town's nearby chain of lakes and variety of outdoor activities. As a rural emergency response hub, the Manitowish Waters Fire Company must respond to a wide range of situations in a varied landscape. It is one of the last remaining fire companies that are in the state of Wisconsin. The self-funded fire company is staffed by volunteer firefighters who provide the rural community with fire, rescue and EMS services. Funds that were required to build the new fire station were raised through donations and a tax levy (to purchase the land, building and equipment).



This economical project replaces the town's obsolete and outdated facility with a new station to support a nimble and wide-ranging emergency response. The exterior of the building is clad in custom architectural precast concrete panels. The panels create random vertical shadows that are reminiscent of the shade and silhouettes that are found in a Northwoods forest—juxtaposed by a striking acid green, steel canopy that matches the apparatus branding and yellow safety color.

An engine, a ladder truck, ATVs, boats, trucks and an ambulance are housed in the building's four drive-through apparatus bays, which allows for year-round maintenance of vehicles. Turnout gear lockers and cleaning/decontamination equipment are housed in the apparatus bay to keep contaminants contained and separated from the clean office/training side of the building.

The office/training side of the building houses offices, a training/events area, a kitchen, a fitness center, bathrooms and showers. The training space doubles as a flexible public meeting space and is accessed easily without disturbing the activities in the offices or apparatus bay, which allows the building to function as a community hub.

Official Project Name:

Manitowish Waters Fire Station

Project City/State:

Manitowish Waters, WI

Date Completed: July 31, 2020

Fire Chief: Bob Skrobot

Project Area (sq. ft.): 10,300

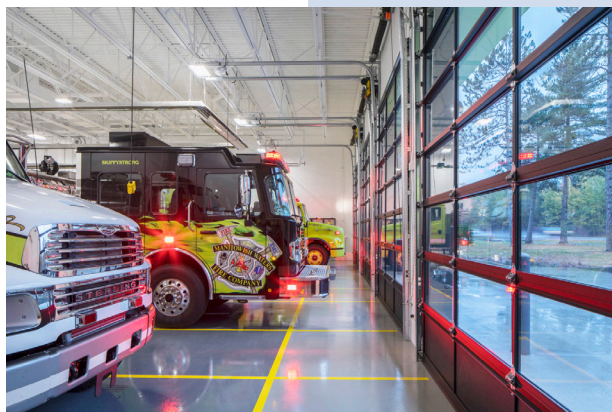
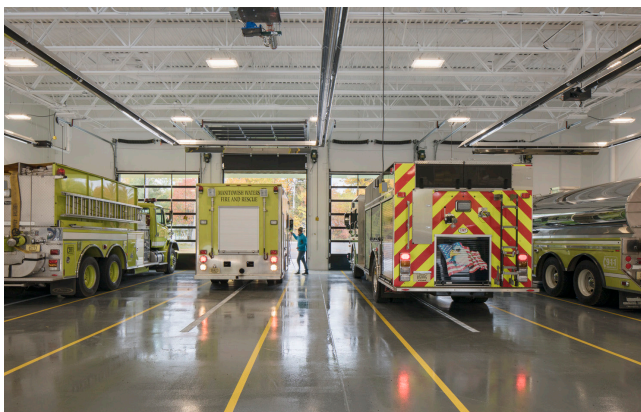
Total Cost: \$3,075,000

Cost Per Square Foot: \$298

Architect/Firm Name: HGA

Website: hga.com

Design Team: HGA: Josh Stowers, Principal; Sam Edelstein, Project Manager; Glenn Waguespack, Lead Project Designer; Andrew Holmgren, Project Designer; Mari Ansera, Interior Designer; Nate McCoy, Electrical; Lauren Piepho, Structural; Geoffrey Balistreri, Mechanical; Kenny Horns, Civil; Kayla Molkenthin, Lighting





Official Project Name: Waller-Harris Co. ESD 200 Prairie View Fire Station
Project City/State: Prairie View, TX
Date Completed: May 5, 2022
ESD Director: Tim Gibson
Project Area (sq. ft.): 13,486
Total Cost: \$4,149,464
Cost Per Square Foot: \$299.69
Architect/Firm Name:
 Martinez Architects
Website: martinez-architects.com
Design Team: Martinez Architects:
 Ricardo Martinez, AIA, Project Manager;
 Justin Myers, AIA, Project Designer;
 MEP: DBR Engineering; Structural:
 Matrix Structural Engineers; Civil:
 Weisser Engineering; Landscape:
 Evergreen Design Group



Waller-Harris Co. ESD 200 Prairie View Fire Station, Prairie View, TX

The angular and area-limited site parcel for the Prairie View Fire Station was the main driver of the form-follows-function two-story design of the building. The offset volumes of the apparatus bay and house-side functions allow for just enough space within utility easement, secure-access and turning-radius parcel constraints to accommodate a drive-through apparatus arrangement, segregated secure parking and an emergency generator. Utilizing these offset volumes, the building massing is designed efficiently with two large shed roofs over the main building blocks and a membrane-roof lower area between that houses mechanical equipment in an easily accessed yet hidden area. (The site limitations prevented ground-mounted equipment.)

Living, working and sleeping areas are on the ground floor and have immediate adjacency to the apparatus bays. Hot Zone design principles are applied to the transition zones and gear storage design approach.

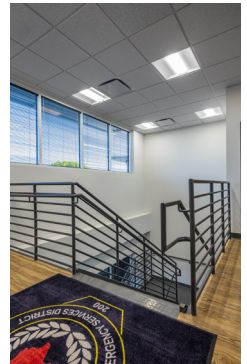
The facility houses district administration offices and a community board room on the second floor, which is accessed through a first-floor secure entry lobby.

Interior design is functionally and efficiently organized to reduce circulation space, to increase response time, and to provide access control and a comfortable second-floor lobby to accommodate public visitors to the administrative areas. The two-story volume public stair and lobby is wrapped with high-efficiency exterior glazing. This approach facilitates an inviting and visually connected interior environment. The district board room provides a raised podium for district commissioners as well as secondary access for breakout during executive sessions of board meetings. Carpet (in modular tiles) is utilized only on the second-floor administrative areas, while maintenance-free durable surfaces are utilized throughout the first-floor fire station.

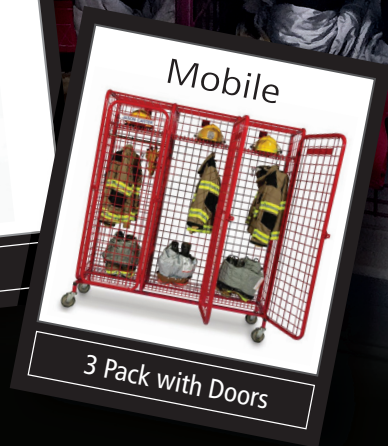
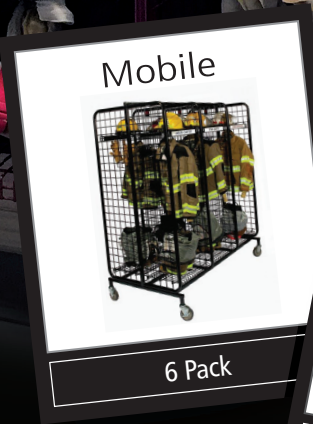
Building materials were selected for durability, local resourcing and surrounding environment appropriateness. The two main volumes are treated similarly, with natural stone protecting high-traffic around the lower heights, with economical metal paneling above. The central lower volume is accented with color and texture to pronounce the main entry and to define the functional separation of the building form and structure.

The rear of the facility provides a two-story stacked patio feature, with the administration wing second-floor balcony providing shade and rain cover for the lower-level fire station patio below.

Interior colors are simple, to complement the open common area layout of the fire station living area, with warm natural tones used in similar fashion to the exterior entry feature. Individual dormitory rooms provide personnel and bedding lockers for privacy and gender-neutral design, which also is applied to the single-use restroom/shower compartments, which are accessed easily in the response flow from the living areas to apparatus bays.



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