project #NVA18429

station 13
The design approach to station 13 looked to both the unique programming and circulation requirements of a firehouse and public community center and its desert site on the corner of Maryland Parkway and St. Rose Parkway to draw inspiration.

The site itself is nothing extraordinary, instead it presented a fairly standard Henderson view of actively growing subdivisions and retail projects, ringed by the distant Black Mountain range. Adjacent to a busy thoroughfare and bordered to the back of the property by Henderson Executive airport, this provided excellent access during emergency calls but noise concerns had to be addressed as well.

Foremost, the fire station had to function extraordinarily well for the firefighters. This was accomplished by prioritizing emergency egress and the quality of life they would experience during shifts that last several days at a time. A central interior courtyard was utilized as an organizational tool to route circulation quickly and without impediment into the support and apparatus bay during calls, and serves as a private outdoor space for the firefighters, blocking out traffic noise and bringing a source of natural light and ventilation through the extensive plan. At the heart of their home away from home lies a large kitchen, a communal gathering space bridging the gap between the private sleeping and bathing areas with the areas of daily activity.

Private spaces were buffered for noise and daylighting via recession in the plan and a built up landscape bio-swale, where rain runoff from the roof and truck drive could be directed.

To secure the station while still creating a welcoming space for the public, the community center was elevated, the central entrance directing the visitors to the second floor. Large, lowered windows look down to the apparatus bay and front drive so that children and adults alike can enjoy the unique experience of watching the trucks come and go.
Sustainable Design Intent and Innovation

The project addresses sustainable design starting at the landscape, where decomposed granite is used throughout rather than asphalt. In addition to creating a unique park-like experience starting in the parking lot, it helps combat the heat-island effect of impermeable surfaces. A bio-swale at the back of the property buffers traffic noise from sleeping areas while shading the building and catching and draining rainwater runoff.

As the primary building material, insulated CMU block is locally sourced for a low footprint, and its insulation properties help moderate the energy usage of the building. The folded plate metal is fully recyclable and will last the lifetime of the building.

The window boxes provide a shading source for the glazing, and their size was determined by completing a sun study to determine how to best prevent direct sunlight from hitting each location.
Materials

The material palette draws inspiration from the rugged volcanic rocks of the Black Mountain range in the distance, the textural characteristics and solidity of the CMU block and folded steel paneling paying homage to the siting of the fire-station, gaining only beauty with age.

The glass of the entry way, reminiscent of a fire house vernacular hose-tower, is shading by an art piece created by using up-cycled firehosing that has gone out of service.

To minimize the heat-island effect, the only paving on the property is the firetruck drives - out of necessity - while the rest of the landscape space is decomposed granite and restored natural desert landscape, giving the area surrounding the station a park like feel and connecting it visually to the adjacent public bike trail.
1. public entry
2. courtyard
3. training room
4. day room
5. kitchen
6. laundry
7. bedrooms
8. bathrooms
9. gym
10. apparatus bay
11. support
12. offices
13. mechanical room
second floor plan

1. public entry
2. restroom
3. restroom
4. community room
public community space

While the public is welcomed into the fire station, keeping their circulation paths separate and the station secure is required for both the public visitors and the employees. Public access is granted via a prominent central entry, reminiscent of the hose towers required in historic firehouses and an iconic image of the building's vernacular. They may then proceed to the community room on the second floor via stairs or elevator. The community room boasts large, lower windows that offer adults and children alike views into the fire truck shed and out the front drive, allowing them to watch the action as the firefighters respond to calls with lights and sirens blazing.

semi-private live/work space

For several days at a time, the fire station becomes home to the firefighters that work there. The heart of this station is the large kitchen, a large communal gathering space located centrally and separating out the sleeping spaces from the activity areas, like the training room and the day room. Abutting the kitchen and lying central in the station, a large open courtyard provides the firefighters with ample natural light and air in what could otherwise become a very warehouse-like space, and provides them with a private, quiet outdoor recreation and dining space. The chief's office lies adjacent to the apparatus bay for easy access in case of a call, as well as to the front entry for interaction with the public. The fire-fighter's primary entrance is located near their secure parking area at the back of the truck shed.

emergency circulation

When emergency calls come in, the firefighters have between 90 seconds to 2 minutes to be geared up and out of the door, depending on the call type. Because of this, it is imperative that the layout provides fast and unimpeded access to the apparatus bay and support areas. Locating the courtyard centrally provides a way of organizing a fast, direct egress from any location in the building. The location of the fire truck drive assures they don't have to worry about crossing circulation paths with the public as they move quickly out of the apparatus bay, and provides access onto Maryland Parkway, where then can then use the intersection lights to merge onto the busy St. Rose Parkway, which will be the main route to their destination.

circulation zones
entry sequence
parking integration with public bike trail
front drive from apparatus bay
enclosed courtyard
secured parking, maintenance and recreation area
fire callout egress
front entry ‘hose tower’