Strange Bedfellows: All About Station Bunkrooms

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How bunking occurs in a Firehouse is not a universal concept!

By Ken Newell

In the forty-plus years that our firm has spent designing stations, we've learned that there are several operations-based design concepts that are fairly universal regarding how departments want their stations to function. How bunking occurs is not one of those universal concepts! It seems that every department has their own unique set of goals and policies (written and unwritten), which have led to a multitude of different approaches for providing sleeping accommodations for the emergency worker.

Many of the variances have to do with department classification…career, volunteer, combined, etc. Understandably, career stations provide for in-house sleeping. The only career departments that do not request sleeping facilities are the rare organizations that run twelve-hour shifts. Since shift definitions are likely to change in a fifty-year life span of the facility, we always recommend planning for future bunking ability. A number of volunteer departments provide limited bunking ability in hopes that some will "volunteer" to stay overnight, thus vastly improving call response time. Other volunteer departments provide space that can be easily converted into bunk areas during an emergency or weather event. Again, understanding the life span of a station and the possibility of transitioning into a career department during that life span, we always recommend planning for future bunking ability. Combination career/volunteer departments sometimes have two totally different approaches to bunking within the same building, more private separation for the career members and a more open bunkroom setting for volunteers.

Bunkroom Location

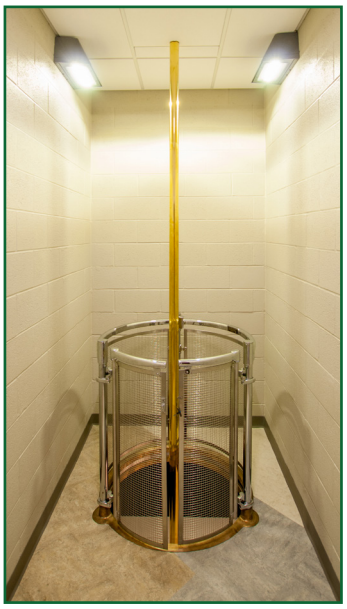
Assuming you'll have dedicated bunkrooms, let's talk about where in the building they should be located. Most would consider the bunkroom as a private function, and therefore would not locate them in an area of the facility where the visiting public may have easy access. If we sub-divide the private station functions even further into "day" spaces and "night" spaces, the bunk rooms would fall into the night spaces, while areas like day-rooms and kitchens would be classified as private day spaces.

This is an example of a multi-story station with bunkrooms on the lower level for quick response and administrative spaces above.

Toano Fire Station No. 1
Bruton VFD, James City County, VA

Departments tend to have two opposing, yet equally valid approaches as to where they prefer the day and night spaces to be located in relation to the apparatus bays, particularly in a single-story station. About half of the departments see the day spaces as being occupied roughly 16 hours per day and prefer to decrease the average response time to the apparatus bays by putting these non-bunk areas closest to the bays. The opposing philosophy says that while the bunkrooms are only occupied one-third of the time, the response time from them is significantly hindered due to the emergency workers having been awakened from sleep. Therefore, they prefer that the bunkrooms are closer to the apparatus bays.

Similarly, where stations are multi-story with public functions (offices, training/community rooms, etc.) on one floor and private functions (living) on another, some prefer to preserve the privacy of the living spaces through their remote locations on the upper floor. This normally results in a fire-pole response. Other departments opt for a less dangerous emergency response path by locating the living spaces on the same floor as vehicle storage and pushing the lesser accessed public areas to the upper floor.



Critical Routes

When determining the most functional path-of-travel needs from the bunkroom to the apparatus bay, experience is the best teacher. Most would recognize the need for having the toilet rooms adjacent to the bunkrooms. But go one step further, and plan access to the toilet room on the travel path to the bays. When the alarm comes during the night, you will want your "pit-stop" to be on the way to the vehicles, not in the opposite direction.

Open-style bunkroom

At least two site proximity issues should also be considered. The first is the location and access point from staff parking to the bunkroom. Emergency workers will typically want to bring their duffel bag directly from their vehicle to their bunkroom, even before their shift starts. Secondly, try to protect the bunkroom from sources of sleep-interrupting noise, such as generators, compressors, dumpsters, etc. And don't forget interior sources of noise, such as day-rooms, kitchens, and exercise rooms.

Group Bunks vs Separated Bunks

While the male/female ratio among fire-fighters and EMS departments does not yet match the ratio in the general population, the number of females in most departments has increased by several hundred percent over the past few decades. The gender accommodation issue has most substantially affected the bunkroom areas and the lavatory areas.

Sleeping accommodations in older stations were usually in the form of one large room with four to thirty beds lining the walls…much like military barracks. We still encounter departments who prefer this method for all personnel in a new facility. Most departments that use this approach will provide some means of visual separation between sleepers, such as low, partition or cubicle walls.

Other departments provide complete gender separation by planning for two separate bunkrooms, one for male and one for female. While this approach does accomplish its task, efficiency failure is built into it. On design day you must project the ratio of male to female personnel so that the two rooms can be sized appropriately. Do you plan for a ratio of 90/10? 80/20? 50/50? One thing is guaranteed. Whatever ratio you select, you will be wrong. The male/female ratio will likely change each year and possibly, each shift. The result of this approach is usually an over- crowded male bunk room and a near empty female bunk room.

Another approach is providing several, multi-person (2-6 beds) bunkrooms. The theory is that at least one of the rooms will be for females. Then as the female population grows, more of the smaller bunk rooms will be utilized by females. This approach can still produce an inefficient occupancy ratio similar to the two-room approach.

The solution we are seeing most departments implementing is an approach that not only satisfies the male/female issues, but also provides privacy for all personnel. That approach is to provide bunking with individual sleep rooms. No matter what the male/female ratio is or will become, this approach will always satisfy the need and provide privacy to all. Not to mention better sleep when you don't have a snoring bed-neighbor who sounds like a freight train!

Individual Sleep Room

This approach adds approximately 30% more space to the sleeping areas of the station. For an average station that sleeps six, this cost could be approximately $30,000 in today's construction costs. While $30,000 is nothing to sneeze at, it represents less than 2% of the construction cost for the average station.

Example of individual, "cold-bunk" sleep room

Bunkroom Contents

So what are departments putting in their new bunkrooms? Most provide one bunk for the number of sleepers in the station at any given time. This is considered "hot-bunking" which means you sleep on the bunk that the person on shift before you slept. Less than ten percent of our clients provide for "cold bunking" where each emergency worker has a bed that only they use. Cold bunking in individual bunkrooms results in a room with three beds, but only one occupant at a time. Raised beds with built-in storage beneath are increasingly popular.

One wardrobe locker is normally provided for each sleeper – typically three - that utilizes the room. Some provide a fourth locker to the swing-shift or off-shift worker utilizing the room. Wardrobes with flat tops are often seen as beneficial as extra space for bin storage, while others request a sloped top so as to keep visible clutter from accumulating. Most provide space for a desk which may, or may not also double as the night stand and serves as a quiet study location.

Flat-top wardrobes allow for extra storage on top

A computer connection is often provided at the desk location if WI-FI is not available in the station. If the night stand is not provided, a shelf near the head of the bed is convenient for a lamp, clock and cell phone.

Departments with individual sleep rooms are usually providing an upper-wall TV connection, even if they currently don't allow TVs in private rooms. They see it as a good way of inexpensively adding in future flexibility in case their policy ever changes.

Ceiling or wall-mounted fans are often provided to better meet the varying air flow preferences of different occupants. Station telephones are typically only provided at officer bunkrooms.

The technology behind station alerting systems becomes more sophisticated every year. Night time calls can allow the lighting levels to begin at a dim level and brighten as the personal initiate their response routine. Audio and visual devices that begin with low volume and intensity in the bunkroom make for a less stressful response and a healthier responder. The proper alerting systems and grouping of sleepers also limits sleep interruptions to emergency workers who are receiving the call. Many of the alerting systems can also control the intensity of the lighting on the responder's path of travel to the vehicle bays.

Separation of Officers

It is not all that uncommon to address officer bunk areas differently than the rest of the responders. We are sometimes requested to place a particular officer at the most remote of all bunkrooms or spaces so that on their way to the vehicles the officer can make sure that all personnel have responded. Some departments will provide an open bunkroom for line firefighters, but provide individual sleep rooms for the officers.

A practice that we see increasing is to design one or more officer suites which house an office, a sleep room, and a toilet/shower room for the particular officer. These officer suites are often located in the administrative area of the station instead of the private, night areas.

An officers suites which house an office and a sleep room

Code Considerations

If you have a dedicated space for sleeping in the station, the building code will require that the area be fire protected with sprinklers. This may be accomplished with residential (R13) type sprinklers that only address the bunkroom(s), particularly in rural settings where public water service is not available. However, most departments consider the safety results and insurance premium savings as adequate incentive to protect the entire building. The building code also requires rated walls between each bunkroom, and between the bunkroom and other spaces.

One misconception that we often hear is that the building code still requires operable windows in each bunkroom. Adding sprinklers to the building did away with the operable window requirement. Actually, some departments prefer not to have any windows in the bunkroom, thus darkening the room for responders that are sleeping during the day due to an overnight response.

Americans with Disabilities Act (ADA)

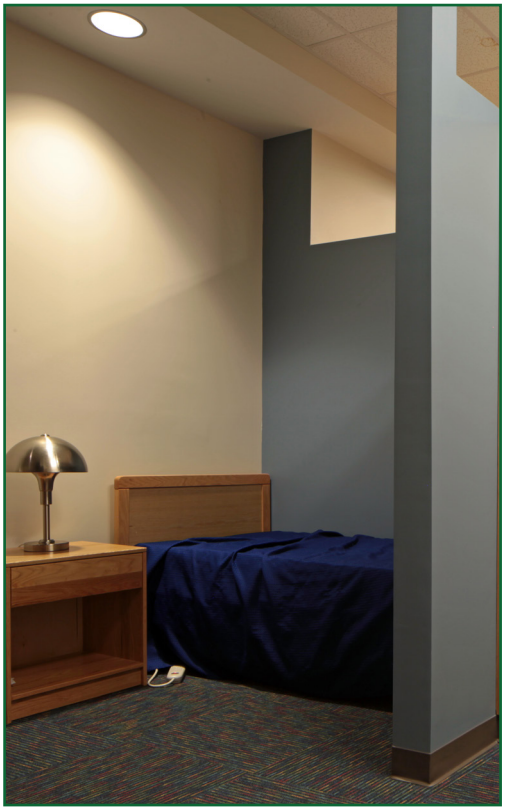
Many station owners have the impression that the ADA does not apply to public safety facilities, or at least doesn't apply to the living quarters of public safety facilities. That simply isn't true! The ADA applies to all public buildings – including Fire and EMS stations. It is certainly possible that local building inspectors have allowed stations to be built without all or portions of the station following the guidelines of the ADA. However, each building owner can be held liable by the US Department of Justice for not following the ADA. So how does the ADA's application affect the bunkroom?

Typically, at least one bunk area must be able to accommodate a handicapped person with the proper clearances, door swings, etc. If that results in one space being larger than the rest, we often see the department using the larger space for officer bunking.

There is one important side note regarding the ADA. It is a federal law that is required in every local jurisdiction. However, besides being combined with required building codes, the most common means of ADA enforcement results from you being sued by anyone who discovers that you have not followed the ADA in your facility.

Conclusion

As you've seen, there are many ways in which departments address their particular bunking needs and policies. The bunkroom is a critical component in almost every station. Get it right and the in-house emergency responders will love you. Get it wrong and they will "rise up and speak all manner of evil against you" for the next fifty years!



There is a variety of bunking examples to think about!