

## **BONSACK/460 FIRE STATION PRELIMINARY PROGRAMMING & DESIGN CONSIDERATIONS**

### **Building Architecture:**

#### Single Story Station

- Station Staffing
  - Six full-time personnel
    - Engine
    - EMS Medic Unit
    - Utility
  - Two part-time personnel
    - EMS Medic Unit
  - Station personnel totals
    - 24 personnel
      - Three different shifts with six personnel on each shift A, B, C and includes two PT personnel for an additional EMS Medical Unit
- Open Floor Plan
  - Ease of transition
  - Efficient travel lines throughout the building
  - Preference is to have egress doors leading into the apparatus bay to be push/pull without a latch if allowed
- Mezzanine
  - Located above Clean Quarters
  - Storage area
  - HVAC equipment
  - Double door access
  - Comm/IT
  - Water heater
  - Similar layout to Co. 1
- NFPA 13 Sprinkler System
  - Provide sprinkler head protection cages where needed
- Dirty Quarters – located on one side of the apparatus bays, away from Clean Quarters
  - Weight room
    - 750 S.F. minimum
    - Flooring
      - Concrete with rubber gym floor covering
    - Exterior entrance door
      - Large double opening door for better insulation
      - Concrete pad at exterior entry
    - Windows on exterior wall
    - Include Locution Alert – visual and audio
    - Pullup bars are permanent outside
    - Ceiling fans

- Mirrors
- Wall protection for lower 4 feet
- Power and cable outlets for elevated hanging TV
- Large window to the apparatus bay
- Electrical in the floor and walls for workout equipment
- Phone Jack
- Exercise Equipment
  - Treadmill
  - Stair Stepper
  - Rowing Machine
  - Stationary Bike
  - Squat Rack (2)
  - Bench (2)
  - Dumbbells 5lbs to 100lbs plus rack
  - Plate Tree
  - Jump Box 30" x 24"
- Bay Toilet
  - Watercloset
  - Urinal
  - Lavatory
  - Locate near the Weight Room
- PPE Gear Storage
  - 24" width Gear grid lockers, a total of 30 (which includes three for travel in personnel from other stations)
  - Extra exhaust/ventilation due to moisture and odor concerns
  - Exhaust fan controlled by a timer with manual override
  - Electrical outlets throughout
- Air Room
  - Station Compressor
  - Cascade/compressor system SCBA
  - SCBA air compressor in a separate room from the gear extractor and dryer because the heat off of the dryer will make the compressor less efficient
- Decon Room
  - Location to be close to PPE Storage
  - Full standup shower in proximity to Decon Room and PPE Storage
  - Gear washer and dryer
    - Provide plumbing and electrical connections
  - Slop sink
  - Large floor drain/grate against a wall for washing off equipment and with pegs to hang equipment so it can dry
- Sprinkler Room
  - Located on the first floor

- Shop
  - Minimum 200 S.F.
  - Workbench
  - Storage and area for flammable liquids
  - Pre-piped air shores
- Electric Room
  - Locate on Mezzanine?
- Apparatus Bays
  - Three Bays – 80' Deep
    - Fast Open Roll Up Fire Station Doors
    - Approximately 14'-8" door height
    - Large floor drains centered per apparatus bay (see Co. 2, Co. 5 & Co.9)
    - Diesel exhaust removal for apparatus
      - Similar to Co.1 and Res 2 but with a quieter fan
    - Spacing between apparatus bay doors approximately 6 feet
      - Wider spaces between bay doors (like Co. 1) so you can open truck doors easily and not so close together that to get in one truck, the other truck doors need to be closed
      - USB and USB-C charging ports in some of the electrical outlets
    - Battery charging station
      - Rip-n-run
      - Electrical to handle Zoll/life pak/portables/TIC/SCBA/flashlight/etc.
      - Approximately 25 S.F.
    - Multiple water hookups with hose reels for hoses with one (1) faucet located somewhere in the Bay with a standard garden hose connection
    - Planned electrical drops at each Bay near the engineer side
    - Phones on both sides of the Bay
    - Two BAF ceiling fans
    - Area designed for printer/stereo/multiple batteries charging spaces
    - Minimize overhead obstructions
    - Radiant heating
      - Consider hydronic radiant floor heating
    - 1 ½" water connections for attaching hose line to clean bay floors/equipment
    - Water fountain with bottle filler near Weight Room
    - Wash alcove with floor grates and water supply
  - Hose Tower
    - 35 feet high hose drying rack
    - Dedicated nook for hose rack for storage
    - Prefer to have the hose tower in the middle of the work area, against the wall where it is still under the peak of the roof
    - Consider pricing hose tower as an option
      - If there is no hose tower, a hose dryer is required
  - Dirty Storage/Lawn Mower Storage
    - Exterior entrance

- Flammable container, ladders, push mowers, riding mowers, weed eaters, fuels
  - Easy access through a double door to the exterior. Same as Co. 1
- Clean Quarters – located on the opposite side of apparatus bays, away from Dirty Quarters
  - Vestibule
    - Toilet Room with water closet and lavatory
    - Doorbell throughout station
  - Kitchen/Dining
    - Open floor plan from Kitchen to Dining and Day Room
    - Large commercial 3-compartment stainless steel sink
    - Commercial grade cabinets
    - Stainless steel Countertops and backsplash (full height)
    - Gas range top and griddle with hood
    - Electric double wall oven
    - Microwave
    - Large dishwasher
    - Garbage disposal
    - Island with bar seats
    - Under and over cabinet lights
    - 3 refrigerators
    - 3 large pantries (three shifts at the station, each shift would have its own food pantry (3' wide x 3' deep in a convenient location, possibly located across the hall into nook IT/Day Room)
    - With 3 large pantries, we do not need a whole lot of cabinets (St. 1 has way too many)
    - Planned coffee area, cabinet with water supply
    - Cast iron skillet hanging area
    - Magnetic knife holder
    - Ice machine
    - Movable stainless steel prep table
  - Captain's Office
    - Captain's desk with computer
    - Window into Apparatus Bay with shade
    - Storage cabinets, bookshelf, small individual mailboxes
    - File cabinets for 24 personnel (we would prefer to find another location for the files)
    - Large dry erase board
    - TV with AV and ethernet connection
    - Additional computers (3 preferred)
  - Bunkrooms (see PDF of preferred layout)
    - 7 Individual dorm rooms
    - Warm Sheet = two beds per dorm room
    - Desk w/ chair between the beds to double as a nightstand

- Wall outlets with USB beside beds to be raised above desk height for easy access for cell phone charging
- Ceiling Fan
- Carpet floors
- Efficient travel lanes from Bunkrooms to Apparatus Bays
- If 7 dorm rooms are cost prohibitive, possibly consider a large bunk room with:
  - Individual cubicles
    - Do not extend to ceiling height to allow for airflow and use of one thermostat
  - Provide the same furnishings as in the individual dorm rooms
  - Provide sliding doors so that personnel can have privacy
- Changing Rooms
  - Located across from Bunkrooms and beside the bathroom
  - 7 large wardrobes per changing room
    - Size similar to St. 2
    - Total of 21 wardrobes (7 each per Changing Room)
  - Bench centered in the changing room
  - Smooth tile flooring similar to Co. 2
- Restrooms (see PDF layout)
  - Single sink with water closet and walk-in shower
  - No shower curtain or doors (like St. 1)
  - Small bench
  - Do not attach Toilets to the dorm rooms
  - Recommend a minimum of 3 full bathrooms and two ½ baths (Vestibule and Bay area)
  - Have at least one urinal possibly located in the toilet in the Bay
- Day Room
  - AV hookup
  - Dimmable overhead lights
  - TV electric and cable connection mounted behind wall mounted TV. (no visible wires)
  - Large window looking into apparatus bays
  - Stadium seating with a walkway between (preferred)
    - Space for seven recliners (alternate)
  - Provide solid blocking in the wall for hanging heavy items (TV, etc.)
  - Dry erase board, and a camera for Zoom calls separate from a computer located for ease of training (unless a training room can be included in the space program; preferred)
  - Provide AV connections so a laptop can be connected to the TV
  - Several recessed floor outlets
- Janitor
  - Located centrally between living quarters and kitchen
  - Floor drain
  - Storage for janitorial supplies

- Slop sink and low tub for bucket filling
  - Exhaust fan
- Laundry
  - Cabinets with Countertop
  - Slop sink
  - Ample storage for supplies
  - Washer and dryer
- Patio
  - Covered Patio
  - Gas hookup for grill
  - Patio furniture
- EMS Storage Room
  - Adjacent to the bays
- Architectural
  - No automatic unlocking doors (like Co. 10 and Station 1)
  - Low maintenance flooring in high traffic areas (Corridors, Kitchen, Day Room)
    - Epoxy resin
    - Polished concrete
    - Stained concrete
  - Windows
    - Aluminum storefront type
    - Provide aluminum storefront type operable windows in Dorm Rooms
  - Wall corners
    - Covered with stainless steel
  - Water fountains to include bottle filler
  - Ceilings
    - Generally, 2 x 2 reveal edge acoustical tile ceilings and/or gypsum board ceilings are anticipated for most non-apparatus bay areas.
- Electrical
  - LED lighting throughout with dimmable controls in certain locations
    - Provide dimmable controls in Day Room, Training Room, Captain's Office, Dorm Rooms
    - Simple operating light switches
    - No motion sensors
  - USB-USB-C Charging ports incorporated with outlets
  - Doorbell to be programmed into Locution
    - Audible in all occupied spaces and have individual tones for different doors
- AV/Technology/Security/Phone
  - Radio/dispatch speakers throughout the building for all occupied rooms
  - Security cameras covering the exterior of the structure, linked to the Office and Captain's Bunkroom
  - Exterior phone linked to dispatch – 911 box

- No automatic unlocking doors like Co. 10 and Co. 1
- Plumbing
  - Simple operating faucets
    - No motion sensors on lavatories, water closets, urinals
  - No waterless urinals
  - Individual shut-offs for bathrooms
    - Manifold system
- HVAC
  - Chiller/Boiler with digital valves
  - Thermostats that personnel can control – BAS system (understood that every room is not realistic)
  - With boiler/chiller, consider ductless units as a backup in the Day Room, Kitchen/Dining areas, Captain's Office, Training Room, Dorm Rooms.
  - Chiller – consider placing it by the bunkrooms or the electrical room and turning it longways from the building. Either location would consider a wall built or some other sound insulation around the unit for noise reduction. Would like outdoor units in an area close to the clean side of the building but far enough away so it will not disturb personnel when operating.
  - Consideration should be given to providing gas radiant tube heaters in the apparatus bays that would not be connected to the boiler.
- Training Props
  - Incorporated into hose tower
  - FDC/Standpipe
  - Ladder crash zones inside and out
  - 2<sup>nd</sup> story locking window (door) for bailouts to the exterior of the building
- Building Exterior
  - Design Look = Fire Station
  - Focused Front Entrance
  - Large signage with Roanoke County Fire and Rescue Station #\_\_\_
  - Arched apparatus bay entrances
  - Pitched roof with standing seam metal (preferred) or architectural roof shingles
  - Awning or roofed area over walk areas and entrances
  - Banners outside of bays with apparatus listed (semi-permanent)
  - Dusk to Dawn lighting on building and parking areas
- Site
  - Concrete pad for all truck traffic areas
  - Commercial dumpster area
  - Parking spaces for 20
  - Fuel Island in the direction of travel
    - Driver fill-ups are on the vehicle's driver's side
    - Ability to fuel trucks without backing up
  - Station Generator
    - Locate generator away from sleeping quarters
    - Fueled from a direct line to fuel island tank to confirm fresh diesel

- Bollards located on both the inside and outside of bay doors
- Building-mounted sign
  - Back lite
- Fire Hydrant
  - Non-metered
  - Installed on-site for easy access for fire trucks to fill up