



City of Seattle

## Fire Station Program Manual



“Making Seattle the most prepared City in America.”

- Seattle Mayor Greg Nickels



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## 1. INTRODUCTION

### 1.1 Purpose of the Program Manual

***Streamlining the Process.*** A primary objective of this manual is to streamline Seattle's fire station design process. By documenting specific program criteria and standardizing certain design features, Seattle's fire stations will gain operational consistency and efficiency. The intended beneficiaries are the architects and engineers tasked with renovating, remodeling, or rebuilding Seattle's neighborhood stations, City staff managing these projects, and the station crews who will be operating out of them.

***Standardizing the Results.*** Described in this manual are standardized concepts, products and materials that have been successfully utilized in the design of other fire stations and other City of Seattle public works projects. This critical evaluation of other projects is expected to continue, as is the periodic updating of this manual with "lessons learned." The result will be a more informed and efficient design approach, which in turn will produce well designed fire station facilities.

***Respecting Neighborhood Diversity.*** It is NOT the intent of this design manual to dictate aesthetics or building appearances in any way. Nor is it the intent of this manual to homogenize Seattle's fire stations. Seattle is a city with rich and diverse neighborhoods. Seattle's neighborhood fire stations are often times icons in those neighborhoods and a symbol of community pride. It is for this reason that the look and feel of each station should be developed individually in response to its neighborhood and station crew.

***Maintaining Station Culture and Tradition.*** The Seattle Fire Department was organized in 1894, just five years after the Great Seattle Fire. In 2006, the department now numbers over 1,000 personnel responding to emergency needs out of 33 fire stations. Each station was built in response to the needs of a particular community and evolved with the accomplishments and tragedies they responded to. Culture, tradition, and pride run deep. When remodeling or replacing Seattle's neighborhood stations, this premise must be recognized by the design team and responded to thoughtfully.

***Previous Documents.*** This manual has been commissioned as a part of Seattle's Fire Facilities Levy Program, approved by Seattle voters in November, 2003. The information contained in this manual builds upon the City of Seattle's Fire Facilities Framework, dated December 18, 2002, and the Seattle Fire Stations Operational Plan, dated May 5, 2003. It is intended that this manual be an "evolving document" that is updated annually as the City of Seattle undertakes and completes their fire facility projects.

***Seismic Safety Projects.*** The primary focus for 15 of the fire station levy projects is to structurally retrofit the existing building to create a seismically sound fire station and safe working environment for the firefighters. The 2003 Fire Levy planning and funding strategy did not intend to bring these existing fire stations to the same operational standards applied to new fire stations. For these seismic retrofits, it is intended that designers, working closely with a comprehensive understanding of the program requirements will be able to identify opportunities to maximize the operational efficiency of their design and incorporate many of



the strategies contained in this Program Manual for the Renovation/Expansion and Replacement Projects.

## 1.2 Process and Committee Members

This fire station program manual has been authored through a collaborative effort of the Seattle Fire Department, City of Seattle Fleets and Facilities Department, and Rice Fergus Miller Architecture & Planning.

Over the course of a ten week period, representatives from the below noted organizations met weekly to discuss, evaluate, and document the standardized program criteria that are applicable to all of Seattle's Fire Facilities Levy projects.

### Core Committee Members:

Molly Douce	Battalion Chief; Fire Levy Liaison	Seattle Fire Department
Dove Alberg	Capital Program Division Director	Fleets and Facilities Department
Frank Coulter	Senior Project Manager	Fleets and Facilities Department
Teresa Rodriguez	Senior Project Manager	Fleets and Facilities Department
Linda Colasurdo	Senior Project Manager	Fleets and Facilities Department
Debra Lewis	Senior Real Property Manager	Fleets and Facilities Department
Ray Ely	Facilities, Maint., Operations Manager	Fleets and Facilities Department

### Additional Participants:

Patty Kunitsugu	Tech Manager	Seattle Fire Department
Joe Zdenek	Carpenter Crew Chief	Fleets and Facilities Department
Chris Villanuela		Fleets and Facilities Department
Tony White	Electrical Crew Chief	Fleets and Facilities Department
Kelly Bills	Building Operating Engineer	Fleets and Facilities Department
Lynne Barker	Strategic Advisor I	Department of Planning and Development
Dwight French		Department of Information Technology
Josh Kilfoyle	Telephone System Technician	Department of Information Technology
Sheila Shelton	Infrastructure/Cable Supervisor	Department of Information Technology
Marilyn Brockman	Architect	Bassetti Architects
Don Brubeck	Architect	Bassetti Architects
Ross Parker	Architect	Bassetti Architects

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## 1.3 General Design Criteria

**Operations First.** Most importantly, Seattle's fire stations must be effective in their fundamental purpose; the prompt, efficient response for protection of life and property. Building and site layout that promotes operational efficiency is of utmost importance. No design decisions should compromise this fundamental purpose.



***Safe Working and Living Environment.*** The design of the facility must provide for a safe working and living environment for the building users. Stairways and circulation routes should be direct and unencumbered, and provide safe and efficient circulation during emergency and non-emergency operations. Building areas where personnel could be exposed to health hazards such as blood and air borne pathogens should be located where the risks can be minimized. Other safety standards can be found in the State of Washington WAC 296-305, Safety Standards for Fire Fighters, a copy of which has been included in the appendix of this manual.

***Maintaining Security.*** Maintaining the security of the station and its contents, particularly when crews are away from the facility, is very important. Operable windows, apparatus doors, and people-doors need to be secure at all times. ***Crews do not have time to secure the building when leaving on an emergency call.*** Likewise, staff parking areas and entrances need to be well lit, well seen, and discourage unwelcome behavior.

***Cost Effectiveness.*** Because a fire station is a civic statement, the design should reflect a cost effective use of taxpayer's dollars. The selection of materials, products, and systems should be based on reasonable initial cost and a cost effective life cycle. All SFD facilities should be designed to a 50-year building life with minimal requirements for routine maintenance and repair. Durable materials are of high importance. Flexibility and adaptability with regard to building expansion and the changing needs of fire and rescue, as well as the community, should also be considered.

***Design Excellence.*** Seattle's fire stations are to be a reflection of the values of the Fire Department and the City of Seattle. Excellent design can be borne out of these values, which include sustainable practices, and architecture inspired by the function of the station. Seattle's fire stations should be operationally based, economical, sustainable, and welcome additions to the city.

***Building Flexibility.*** The Seattle Fire Department operational goal is "dynamic deployment", which means: "any rig, any station, anytime." All apparatus bays should be sized and constructed to accommodate any apparatus in the Department's fleet. Additionally, each station needs to be flexible enough to change as equipment, apparatus, training, and operations change over time. However, it may be necessary to consider alternatives to this goal when project constraints dictate.

## 1.4 Organization of the Program Manual

This manual is divided into four primary sections: Site Design Criteria, Building Program Design Criteria, Overall Design Objectives, and Specifications.

***Site Design Criteria.*** This section discusses general design concepts that relate to the overall site design and layout. These concepts address external and internal site relationships, program requirements for specific site design elements, and how these design elements should be organized on the site.

***Building Program Design Criteria.*** This section identifies the different types of fire stations, as well as detailed staffing, programming, and area requirements for each. It further details how building spaces should be organized, and provides basic design concepts and required parameters for individual spaces. It also addresses the Seattle Fire Department's supporting



operations, cache program, and strategies for accommodating potential future growth. A tabulated program summary for each of Seattle's Fire Levy projects is included.

***Overall Design Objectives.*** This section describes Seattle's goals with regard to sustainability, the Americans with Disabilities Act, and Seattle's 1% for Arts program. It also reiterates the Seattle Fire Department's goals and expectations for designing gender-neutral facilities, strategies for increasing fire station security, and how training opportunities can be incorporated into the facility design.

***Specifications.*** This section provides general design requirements for particular products and systems for Seattle's fire stations. These special requirements have been developed from City of Seattle's experience on their other fire stations and public facilities. They reflect the City's extensive experience in the development and maintenance of their existing facilities, and for compatibility with existing City systems.

For ease of use, this section is organized according to CSI Masterspec 2004 Specification system. They are intended as a guide, not a bid specification. The intent is to convey to fire station design teams the level-of-quality expectations of the Fleets & Facilities Department. In some cases, specific products have been listed to standardize those products throughout Seattle's fire stations. In other case, a choice of comparable products has been listed to assist architects and engineers in preparing their specific project specifications.

***Appendix.*** Following these four sections is an appendix of documents that further describe and/or supplement the requirements noted in this Program Manual.





## 2. SITE DESIGN CRITERIA

### 2.1 External Site Criteria

***Offsite Considerations.*** Because many of Seattle's fire stations are being replaced and/or significantly enlarged in an existing neighborhood, designers must consider impacts that a fire station project may have on the neighborhood. Major concerns include noise from vehicles and alarms, changes in traffic patterns, views, scale of new structures, blocking of sunlight, and pedestrian and vehicular safety when fire apparatus leave the station in an emergency. These items must be addressed during the site design process so that the fire station project is perceived as a welcome addition to the neighborhood.

***Points to Consider:***

- When possible, locate fire station activities that could impact adjoining properties so as to minimize those impacts. It is recognized that many of Seattle's neighborhood station sites are urban and small and may afford few options when it comes to operations of the station.
- Consider vegetation buffers and site obscuring fencing to block direct visibility of activities that could impact adjoining properties. Consider masonry walls where noise could impact an adjacent property. However, blocking visibility of any station activity must be balanced with maintaining the safety and security of the station personnel and property.
- Provide a clear separation between public and non-public areas of the site for the safety and security of station personnel, property, and the public.
- Utilize Crime Prevention through Environmental Design (CPTED) as a design tool. The basic premise of CPTED is to promote design principles and strategies for our built environment that reduce the incidence and fear of crime. For more information on CPTED, visit <http://www.cpted.net>.
- Give consideration to the nighttime impacts of vehicle headlights on properties directly across from the fire station when emergency vehicles are leaving the apparatus bay.
- Design fire vehicle circulation on and off the station property so as to minimize impacts on existing roads.
- Avoid directing emergency vehicles through residential areas wherever possible, and design all emergency vehicle routes on and off the station property to maximize pedestrian and vehicular safety.



- Traffic controls may be required to allow emergency vehicles to enter the flow of traffic in a safe and rapid manner. All traffic control measures will be project site specific and subject to recommendation of SFD and approval of SDOT and FFD.
- Seattle Fire Department has a stated policy that emergency vehicles are allowed to drive the wrong way on a one way street for up to one block for emergency operations. While this is not preferable, some Seattle fire stations face onto one-way streets where travel in the opposite direction of traffic may be necessary given the particular site layout. However, caution should be taken in this regard and only when recommended by SFD and approved by SDOT and FFD.
- Provide standard warning signs to notify drivers that they are approaching a fire station.



## 2.2 Internal Site Criteria

***Maintain Desirable Site Amenities.*** Every fire station site is unique and many contain desirable features which should be maintained and protected. Care should be taken during site planning to document favorable site features such as existing waterways, valuable trees, historical remains, and any other unique site characteristics. As these features are often considered neighborhood amenities, their preservation can assist in lessening objections to a new or expanded fire station. If desirable features must be removed, effort should be made to explain this necessity to local civic groups. This work shall be coordinated with the FFD Public Information Officer to ensure a communications plan is developed to inform and work with the community.

***Operational Safety and Efficiency are Critical.*** A primary concern of fire station site design is achieving a layout which promotes the highest level of safety and efficiency during emergency operations. When fire and rescue vehicles are responding from the apparatus bay, it is important that there is fast and efficient access to adjacent roads, with adequate sight lines for pedestrians and oncoming traffic.

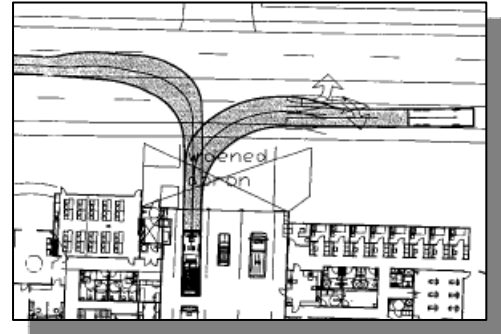
***Apparatus and Vehicle Routes and Turning Requirements.*** Consideration must be given to the travel path of returning vehicles that have to back into the apparatus bays. When designing vehicle routes through the site, the minimum turning radius and maximum slope of roadways must be carefully considered too. While vehicles can obviously maneuver on roads built to more extreme conditions, the on-site vehicle route should be designed to more desirable conditions.



The following standards may be used as a guide for on-site vehicle routes. However, variations in vehicle type, wheel base, and bumper overhang will all have an effect on these dimensional standards.

<i>Minimum drive width:</i>	<i>24'</i>
<i>Minimum outside radius:</i>	<i>50'</i>
<i>Minimum inside radius:</i>	<i>30'</i>
<i>Maximum slope/cross-slope:</i>	<i>2%</i>

SFD will confirm these minimum standards with each design team on a station specific basis. SDOT and WSDOT standards should be followed for other site design guidelines and regulations.



***NOTE: Fire station designers are cautioned about maneuvering space required for fire apparatus given the wide variations in turning room due to vehicle type, length, wheelbase, and overhangs. For each fire station project, the turning radius of the particular station vehicles must be tested to ensure adequate maneuverability leaving and returning to the station.***

***Standard Vehicle Specifications.*** Included in the appendix of this manual is the Seattle Fire Department's Vehicle Specification Table, which includes overall dimensions, gross vehicle weight, and other specific details for all of their emergency vehicles.

***Driveway Width at Apparatus Aprons.*** City of Seattle's current standard for driveway curb cuts is that they may not exceed 35' in width without City Council approval. It is the desire and intent of SFD that fire station curb cuts and driveway approaches for apparatus aprons match the width of the stations' apparatus bay. This will, in many cases, exceed the maximum 35' width. As of the date of publication of this Program Manual, SFD and FFD are working directly with Seattle DPD for an exemption to the maximum 35' driveway width for fire stations.

***Other Points to Consider:***

- The public "front door" needs to be obvious and welcoming to the public. Public access to the fire stations is a community expectation for blood pressure checks, first aid, and school tours. However, ALL public access to the station is by permission only. Seattle fire stations are locked and secure at all time, including the front door, where the public can notify station crews of their presence by a door bell.
- Locate non-station vehicle areas (such as visitor parking and trash services) to minimize travel through the site.
- Locate staff parking toward the rear of the station, together with a staff-only building entrance.
- The apparatus bay apron areas should not be used for ingress, egress, or parking, except for emergency vehicles and apparatus.



- Concrete paving should be provided for all internal roads that will be used by emergency vehicles and areas where apparatus could potentially drill.
- When organizing site circulation, it is sometimes necessary to have passenger vehicles share on-site traffic routes with emergency vehicles. This is not desirable and should be avoided, or at least minimized if shared traffic routes are unavoidable due to site specific circumstances.
- All exterior doors (people doors and apparatus doors) shall be painted RED per Seattle Fire Department standard.
- All landscaping at Seattle fire stations is maintained by the individual station crews. Plant materials should be native, drought tolerant, and simple to maintain.

## 2.3 Site Design Components

### A. Apparatus Bay Aprons (also referred to as “Ramps”)

*Function:* Outdoor area adjacent to the Apparatus Bay to pull all the apparatus onto for equipment checks. Apron length needs to accommodate the longest vehicle in the fleet. The ability to meet this requirement may be site dependent.

*Adjacencies:* Apparatus Bay

*Design Issues:* Length: 55' from apparatus bay doors to property line is preferred; 55' to back of sidewalk is acceptable; 55' to street edge is permissible.

Material: Concrete.

Slope: No more than 2% in either direction

Utilities: Provide hose bib and drainage.

Vehicle Washing: At new stations, vehicle washing will be done inside the Apparatus Bay rather than on the apron. At existing stations where washing currently occurs on the apron, this practice will continue. Project civil engineers need to familiarize themselves with the most current regulations regarding treatment of vehicle wash water.

A yellow line will to be painted on the apron by FFD at each bay door as a backing guide for apparatus drivers. SFD will paint a similar yellow line on the floor at each bay inside the Apparatus Bay. The specified concrete/finish shall be compatible with paint.

At the sidewalk that crosses the apron driveway, design teams should consider a change in color, pattern, and/or texture between the apron concrete and sidewalk concrete to differentiate the two. Purpose: Increased pedestrian awareness of the path for emergency vehicles leaving the station.



## B. Rear Apron / Drive Through

*Function:* Rear entrance to apparatus bays which allows returning apparatus to avoid having to back into the Apparatus Bay. Apparatus customarily deploy only through the front doors of a drive-through apparatus bay, but may on occasion deploy through the back doors.

*Adjacencies:* Apparatus Bay

*Design Issues:* Preferences: While not required, drive-through bays are highly desired for personnel safety, operational efficiency, and to lower the risk of accidents due to backing. Drive-through bays should always be considered where the site layout can accommodate them and when the project budget can support them.

Rear aprons, when provided, should be combined with training and drill court functions when the station program includes those elements or as an amenity when the project budget can support them.

Dimensional Requirements: Adequate for apparatus turning radius into bays.

Materials: Concrete. In some cases, asphalt may be acceptable as a cost trade-off, but would not be desirable.

Slope: No more than 2% in either direction.

## C. Visitor Parking

No public parking is to be provided at any of Seattle's fire stations, unless required by City of Seattle DPD by Master Use Permit, or required for compliance with accessibility standards.

## D. Staff Parking

*Function:* Parking for fire station personnel.

*Adjacencies:* By station employee entrance, typically at rear of station (back door).

*Design Issues:* Quantity: Although no staff parking was included in the levy program, it would be highly desirable to have 1-1/2 times the number of on-duty shift personnel\* for the particular station:

- Neighborhood I: 6 parking stalls, minimum
- Neighborhood II: 12 parking stalls, minimum
- Neighborhood III: 15 parking stalls, minimum
- Battalion: 17 parking stalls, minimum

\* Additional parking demands may add to the above noted minimums for Special Support Units deployed from particular



*stations. See Table 3A for the number of on-duty shift personnel on a station by station basis.*

Signage: "Staff Parking Only", or other as requested by SFD and approved by FFD.

Location: Behind the station is the general preference.

Security: Securing of staff parking by perimeter fencing would be highly desired. However, unsecured staff parking would be acceptable if secured parking is cost-prohibitive. If fences and gates are installed, it is highly desired that they be operated by the City's proximity card system.

Lighting: Good lighting at night is needed for security. All lights needs to be shielded to contain light on-site.

Visual Screening: Provide as required by zoning regulations. Balance screening requirements with security needs.

## **E. Trash / Recycle Areas**

*Function:* Enclosed area for trash dumpsters and recycling bins.

*Adjacencies:* Location acceptable to trash/recycle company and convenient for staff access, particularly the Beanery as it generates the most garbage. Station staff does not roll dumpsters to the curb.

*Design Issues:* Location: As above; not in secured areas, and not off Apron.

Screening: As required by zoning code.

Construction Materials: Provide concrete dumpster pad in lieu of asphalt.

Dimensions: Dimensional requirements to be confirmed on a station-by-station basis with adequate space considered for dumpster and multiple recycle bins. Check requirements with Seattle Public Utilities.

## **F. Fueling Facilities**

*Function:* Facilities and equipment for refueling apparatus and other SFD vehicles; gasoline and/or diesel; located at the fire station.

*Design Issues:* Existing fueling facilities and equipment to remain as is. No new fueling facilities will be provided under the levy program. No budget is available to relocate existing fueling facilities to different locations on the station property.

No change shall be made to any existing below-grade fueling systems, equipment, access, or spill containment.

Card reader system: Maintain existing card-reader system and data connection to Fleets and Facilities' Fuel Desk.



## G. Utility Areas and Station Generator

*Function:* Mechanical unit and generator location and access.

*Adjacencies:* As noted below.

*Design Issues:* Exterior Mechanical Units: Roof mounting preferred; provide stair access to roof and good maintenance access around the units.

NOTE:  
*This section regarding emergency generators is pending additional clarification from Seattle FFD.*

New Generators: All new stations shall have new standby emergency generators, which shall be pad-mounted outdoor units. Sound enclosure and visual screening is required. City of Seattle standard is for separate above ground fuel tanks as opposed to belly tanks. Tank and generator shall be located on the site where convenient for fuel refilling and in close proximity to the stations primary electrical room.

Existing Generators: Where existing stations have existing emergency standby generators of adequate size and service life, those generators shall remain as is. At existing stations that do not currently have an emergency generator, priority will be given to providing one if the station project budget will allow.

Rolling Generators: For redundancy, all stations with generators will be provided with a plug for connecting a portable rolling generator in case of a station generator failure. Provide adequate space for parking the rolling generator next to the primary generator.

Additional mechanical and generator requirements are noted in the Specifications chapter of this Program Manual.

## H. Site Lighting

*Function:* Exterior lighting for station safety and security.

*Design Issues:* At a minimum, provide lighting at the following locations:

- All building entrances
- Apparatus bay doors
- Aprons
- Parking
- Sidewalks and site pathways
- Exterior Beanery Area

Provide glare-free lighting at apparatus bay aprons so returning apparatus can back in without glare in their rear view mirrors.

Provide multiple light levels at back apron areas. Routine nighttime level should be between 0.5 and 1 foot candles. A higher light level is required occasionally for after-fire clean up of hose and equipment. This light level should be approximately 20 foot candles.



Control off-site glare. Design teams to comply with all applicable codes and regulations regarding light pollution.

Additional technical requirements are noted in the Specifications chapter of this Program Manual.

## I. Drill Areas

*Function:* Paved area behind station that can be used by station crews to practice basic skills without traveling to other locations. Area is also used for washing hose and other equipment.

*Adjacencies:* Generally located behind the station as site configuration permits.

*Design Issues:* Drill area shall be provided at Battalion Stations and would be highly desirable at Neighborhood II and III Stations if budget allows.

Combine drill area with rear apron and drive-through bays where site configuration allows.

Hose Lay: Provide area for station crews to wash hose and perform pressure tests. Ideal size would be a 120' x 30' paved area with a hydrant in close proximity. SFD hose is in 100' lengths. Overall size and dimension of drill areas will be project site dependent.

Laddering: Provide an area of the station that crews can use to practice basic ladder skills; paved; durable wall surface; 2-story height minimum; fall protection anchors required. SFD's standard anchor point detail for fall protection has been included in the appendix of this manual.

Water for Drilling and Vehicle Washing: If cost effective, consider providing a cistern system to capture used water (and/or rain water) for recycling it for both drilling and/or apparatus washing. If cistern is not feasible, water used for training purposes will need to be directed to the sanitary sewer system rather than to a storm water system. Project civil engineers must be familiar with the most current standards regarding disposal and treatment of water used for washing and training purposes.

Vehicle Maneuvering: Per apparatus standards noted in Section 2.2.

Hydrants: Provide at least one for training activities and refilling apparatus.

Visual Screening from Public: As required by zoning code.

Outdoor Speakers: Required; must be tied to house PA and alert tones. See Chapter 5 Specification Section 27 00 00 for additional requirements.

Radio Interference: Project electrical engineers need to ensure that drill areas are free from interference for 800 MHz and CDMA coverage. Potential radio interference issues shall be coordinated with Seattle Department of Information Technology (DoIT).





## J. Exterior Beanery Area

*Function:* Outdoor space used in connection with kitchen and dining areas of the station.

*Adjacencies:* Beanery

*Design Issues:* If natural gas is being provided to the station for building heating systems and/or other infrastructure, then consider providing one natural gas connection for a portable BBQ, with shutoff activated by alert system.

Amenities: Portable BBQ's may be provided by assigned station personnel.

## L. Other Site Features/Accessories

**Flag Pole:** Provide one at each station. Pole height will be site specific depending on size of the station and neighborhood context. All flag poles shall be illuminated (subject to LEED considerations).

**Address Numbers:** Near front door, facing the primary street. Approved font: "Arial". Size as required by code.

**Fire Hydrants:** Provide at least one at each station in a location suitable for tank filling and drilling, if budget allows.

**Fencing / Security Measures:** Minimize opportunities for inappropriate activities.

**Mail Box:** Provide near front entrance. Size and type dependent on individual neighborhood context and level of security appropriate to specific location.

**Red Emergency (911) Phone:** Provide near front door. ADA accessible, with good lighting.

**Public Pay Phone:** Do not provide!

**Doorbell:** Provide at front door to summon station staff.

**Hose Bibs:** Provide keyed type yard hydrants at all locations.

**Signage:** "Seattle Fire Department" near flag pole. "Fire Station XX" above apparatus bay doors. Any signage identifying assigned parking spaces will be provided by SFD. City of Seattle standard font is "Arial" which shall be used at all signage locations, unless signage is replicating historic lettering.

**Bike racks:** Provide as required by zoning code or LEED.

**Yard Equipment Storage:** Lawn and garden equipment is site specific. Storage preference: Inside of station, with convenient exterior access.



### 3. BUILDING PROGRAM DESIGN CRITERIA

#### 3.1 Station Staffing Standards

Station sizes are determined by the quantity and type of equipment each will contain, and the number of staff required to staff the particular equipment. City of Seattle's current staffing levels are as follows:

##### 2007 Staffing Standards \*\*

<u>Equipment</u>	<u>On-Duty Personnel</u>	<u>Assigned Personnel</u>
Engine Company	4 *	6
Ladder Company	4	6
Aid	2	2
Medic	2	0
Battalion Chief	1	1
Fire Boat	4	6
Air Unit	1	1

*\*\* Staffing levels at each station are noted on a station-by-station basis in Table 3B, Program Area Summary, included at the end of this chapter.*

*\* As of January 1, 2007, all engine companies for City of Seattle are 4-person companies, whereas a few stations had been noted as 3-person companies in previous, pre-levy documents.*

**SFD operates on a four platoon system.** An individual is on-duty for 24-hours, off for 48 hours, on for 24 hours, and off again for 96 hours. To fully staff a station with a four platoon system, it requires four crews over an eight day period taking to complete the rotation.

**"On-duty Personnel"** (also known as run strength) is the number of individuals on duty, in the station, on any given shift. This number is important in designing program spaces affected by the number of building occupants. This number is used to determine the quantity of beds, toilet facilities, showers, parking stalls, and the like.

**"Assigned Personnel"** is the total number of individuals it takes for a company to provide the on-duty staffing level given vacations, holidays, disabilities, and other time off. This number is important because it represents the number of individuals who will have personal items, gear, and equipment that needs to be stored at a particular station. This number is used to determine the quantity of food lockers, gear storage, and the like.

*Example: For a station with an "Assigned Personnel" of 12, a minimum of 48 food lockers would be required (i.e., 12 assigned personnel x 4 platoons = 48).*



### 3.2 Station Types, Square Footage Summaries

The Seattle Fire Department has identified four baseline station types that represent the core operations of the department. They provide space for the assigned company or companies at each location. Additional space is required, beyond the baseline, for supporting operations (Hazardous Materials, Technical Rescue, Marine, Air, etc.), reserve units, emergency cache program, and accommodations for potential growth. These supporting operations are described in detail in section 3.6.

#### Neighborhood I

- Engine Company
- 4 Personnel on-duty per shift (*with 6 assigned*)

#### Neighborhood II

- Engine Company
- Ladder Company
- 8 Personnel on-duty per shift (*with 12 assigned*)

#### Neighborhood III

- Engine Company
- Ladder Company
- Medic/Aid Company
- 10 Personnel on-duty per shift (*with 14 assigned*)

#### Battalion Station

- Engine Company
- Ladder Company
- Medic/Aid Company
- Battalion Chief
- Drilling Classroom
- 11 Personnel on-duty per shift (*with 15 assigned*)

Detailed square footage summaries are provided on a station-by-station basis in Table 3B, Program Area Summary, that tally baseline and support operation square footages.

### 3.3 Station Area Relationships / Adjacencies

All Seattle fire stations are comprised of three primary functional areas within the station. These areas are referred to in this Manual as Core & Operations, Administrative, and Crew Areas. Battalion Stations include a fourth functional area, Training.

**Core & Operations:** Includes the Apparatus Bay and areas that directly support operations, such as hose storage and drying, decontamination, maintenance, gear storage, and the like.

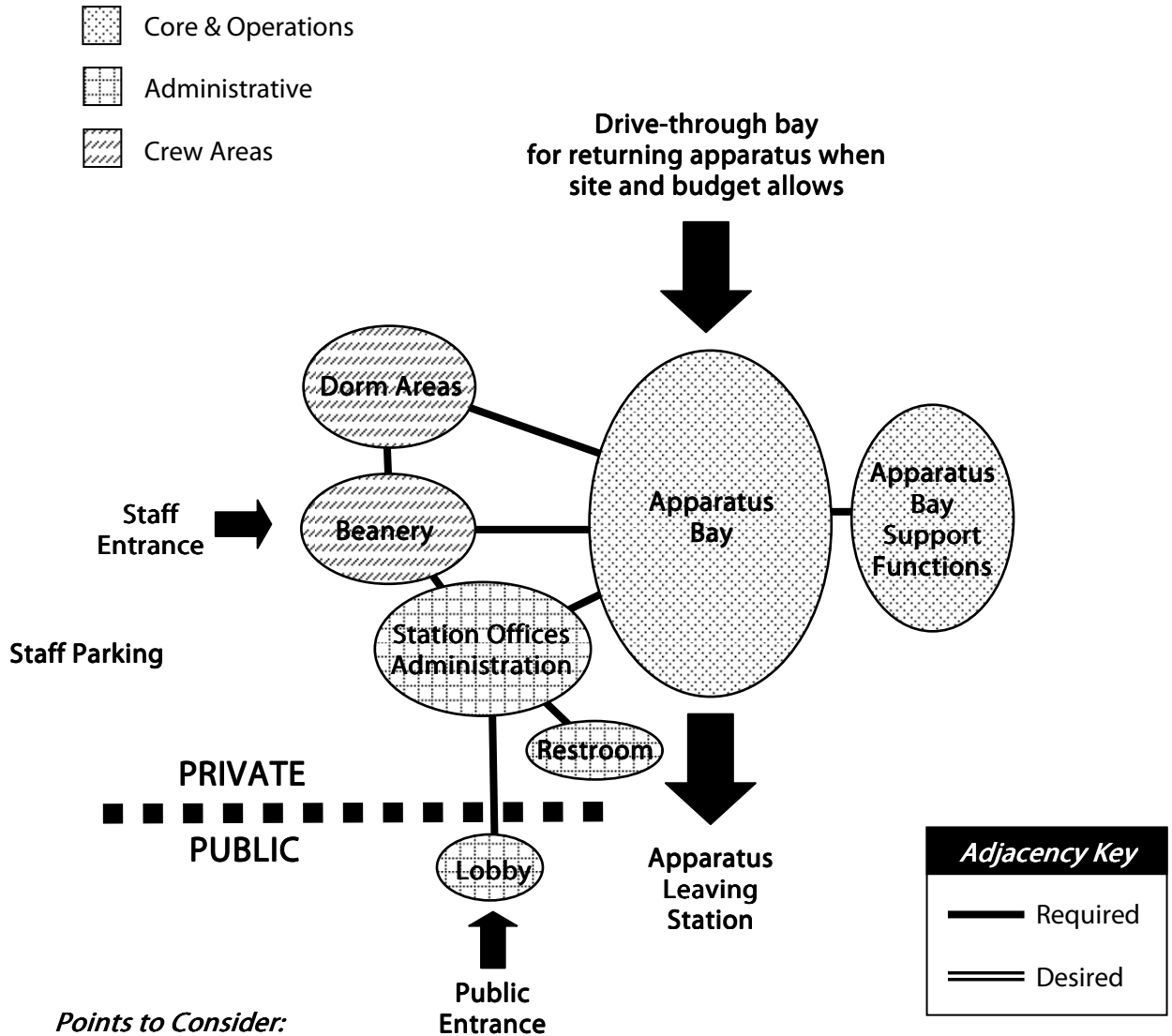
**Administrative:** Includes the public lobby, all offices, office supplies and storage, and officer quarters.

**Crew Areas:** Includes kitchen and dining areas (referred to as “Beanery”), living quarters, sleeping areas, physical fitness, laundry, lockers, and personal hygiene areas.



**Training (Battalion Stations only):** Includes a training classroom, shared by all the stations within the Battalion, and the supporting storage and equipment.

*Typical Neighborhood Station Layout:*

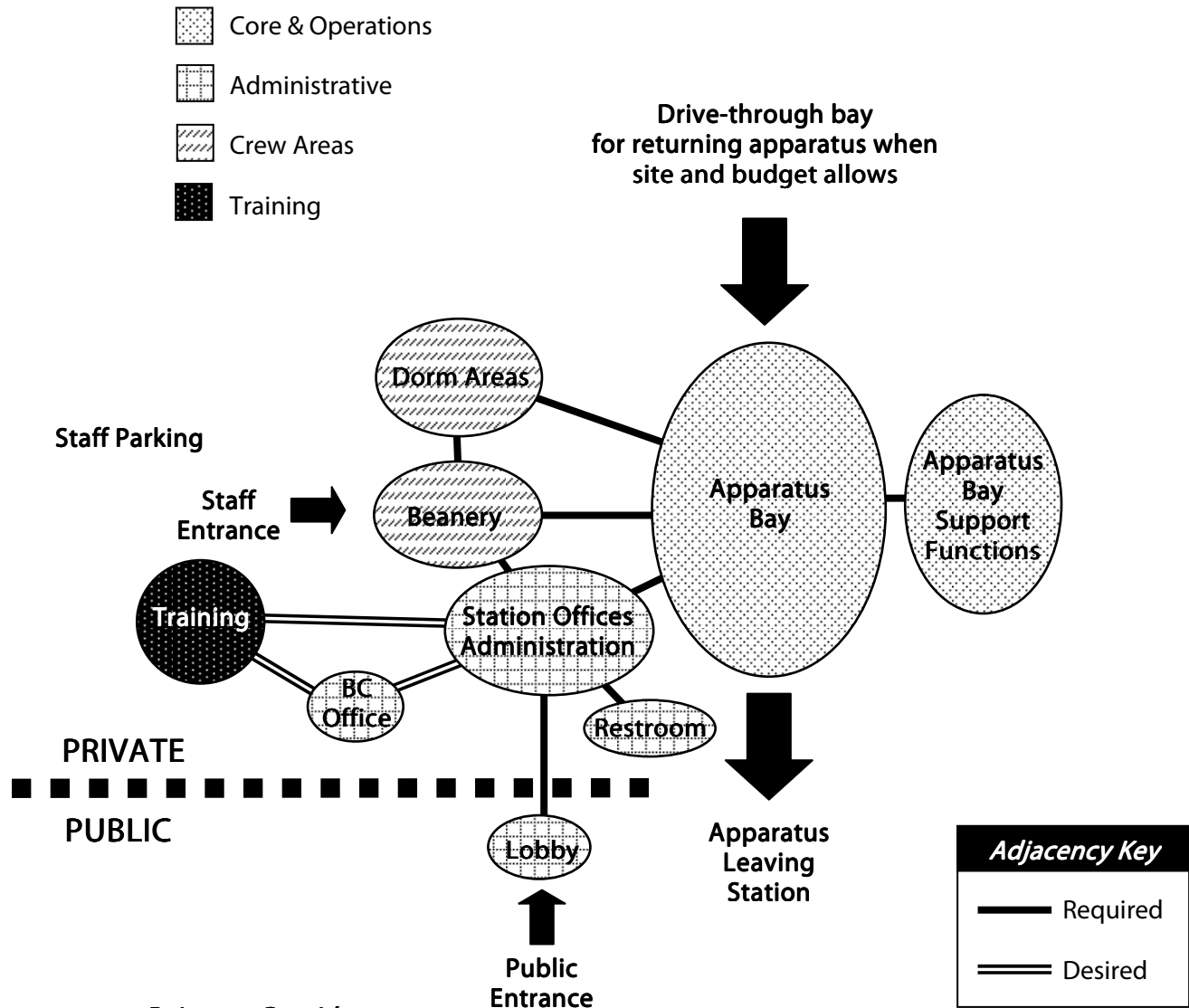


*Points to Consider:*

- Station offices must be able to visually monitor the public lobby and apparatus bay. Visual monitoring of vehicles entering and leaving the site is required.
- Provide clear and unobstructed circulation routes to the apparatus bay from the Administration area, Beanery, and Dorm Areas. These routes should be as straight of line as practical to aid in the rapid deployment of emergency personnel.
- Separate entrances for staff and public are required.



### Typical Battalion Station Layout:

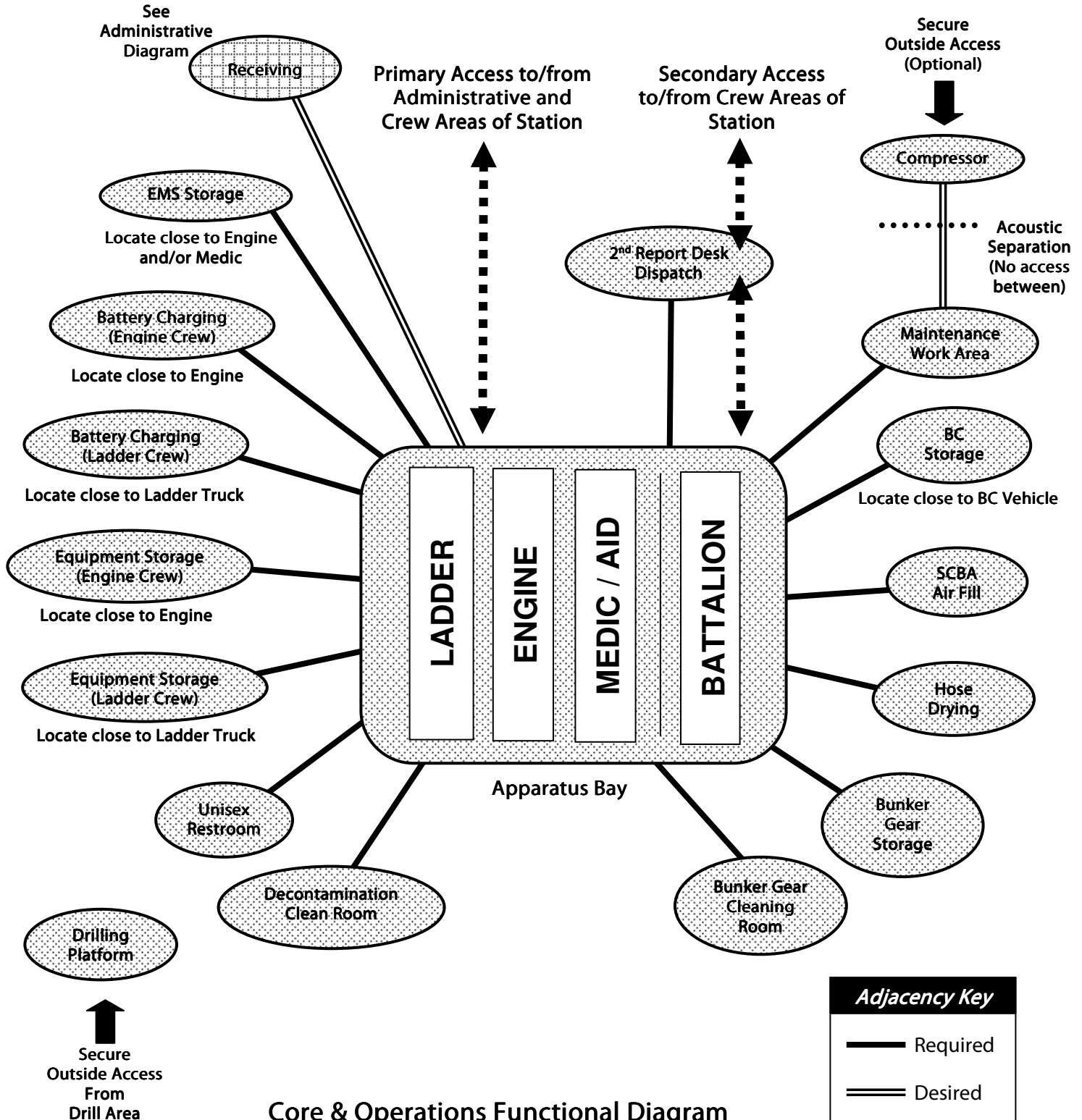


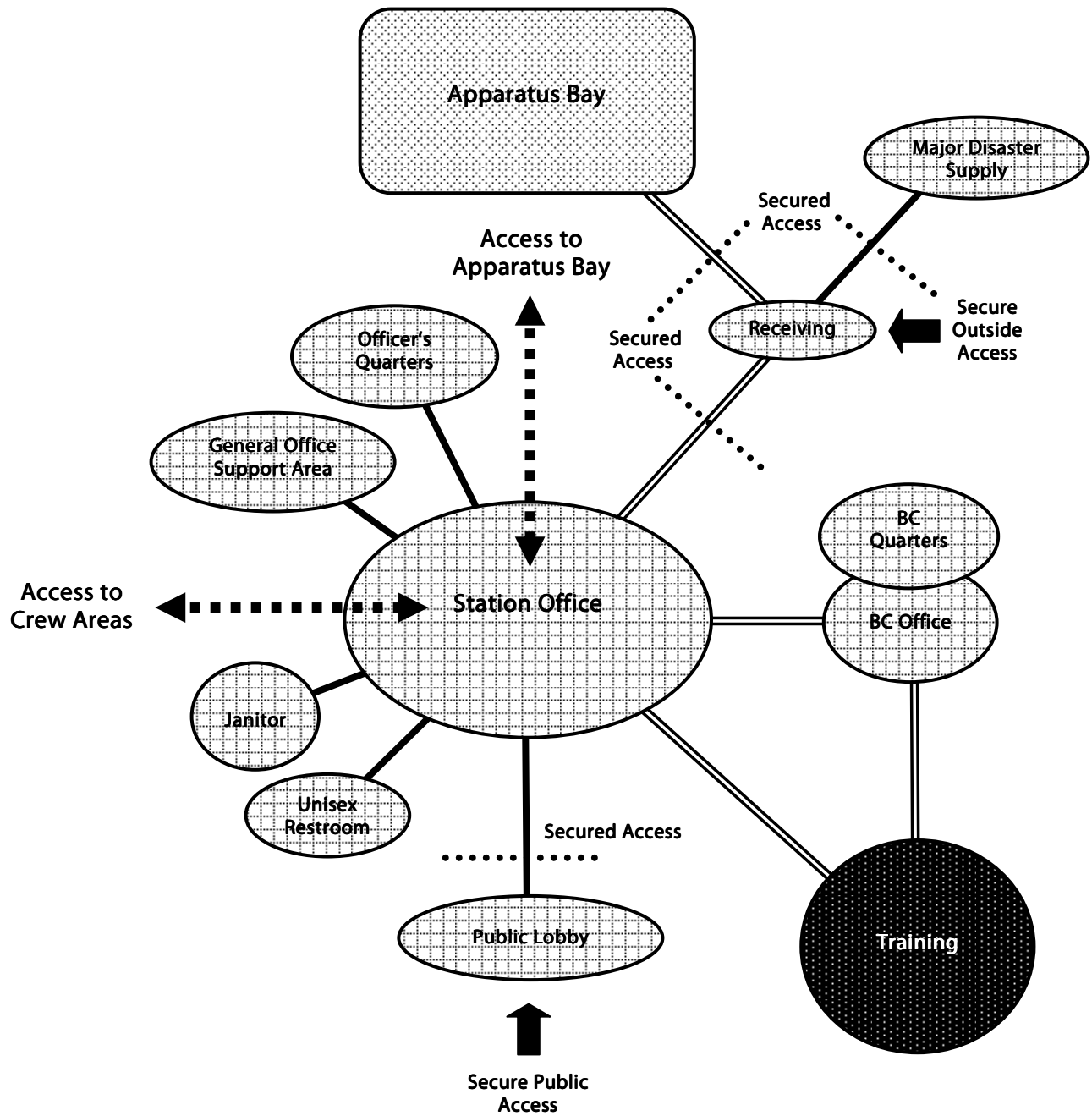
### Points to Consider:

- Locate BC Office away from the all Crew Areas --- Beanery, Sleep Rooms, Day Room, and other private areas.
- Locating the BC Office and the Station Offices in close proximity to each may be desirable, but not required.
- Station Offices must be able to visually monitor the public lobby and apparatus bay. Visual monitoring of vehicles entering and leaving the site is required.
- Provide clear and unobstructed circulation routes to the apparatus bay from the Administration area, Beanery, and Dorm Areas. These routes should be as straight of line as practical to aid in the rapid deployment of emergency personnel.
- Separate entrances for staff and public are required



### 3.4 Station Area Concept Diagrams

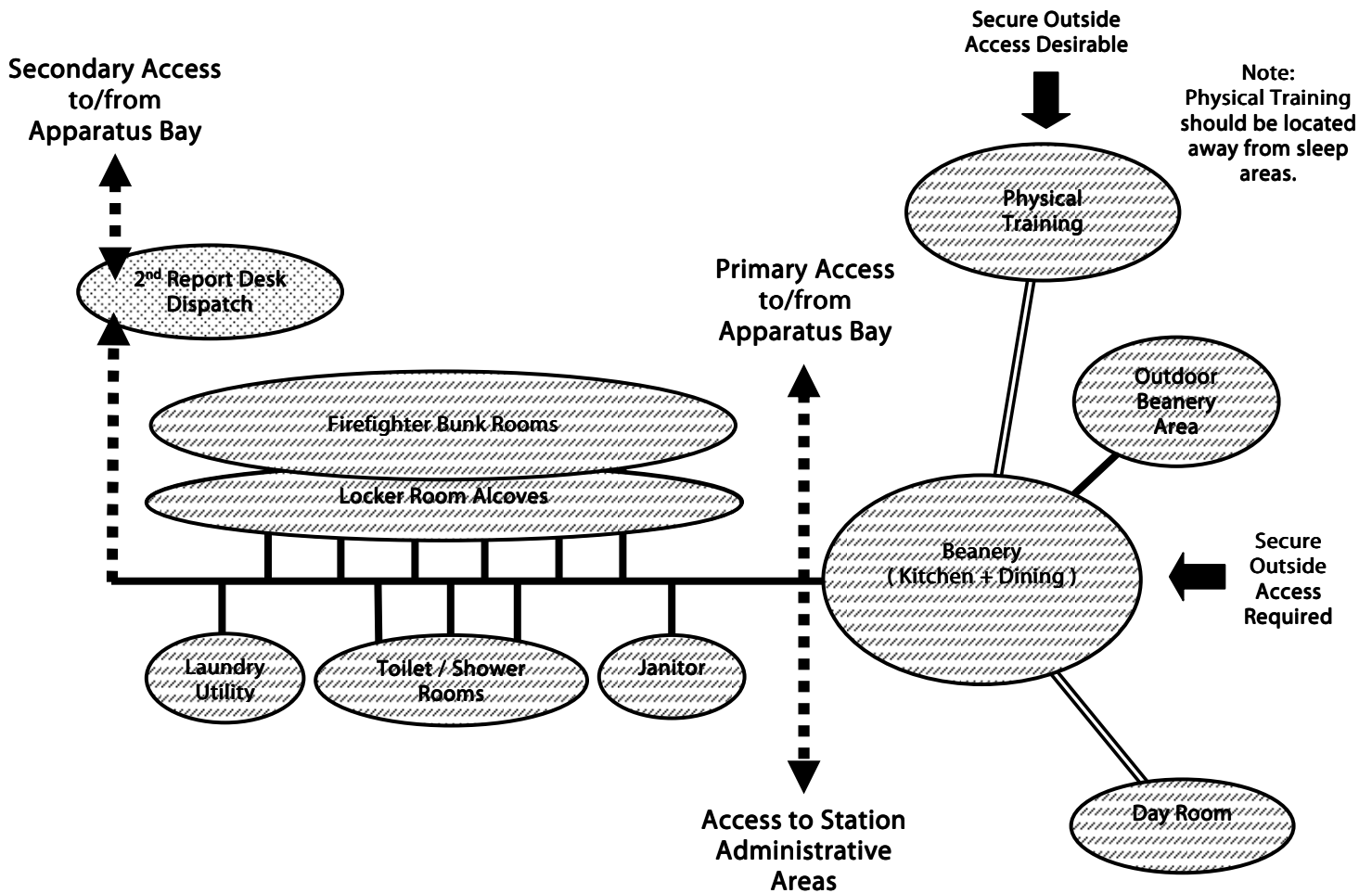




**Administrative Functional Diagram**

**Adjacency Key**

- Required
- Desired

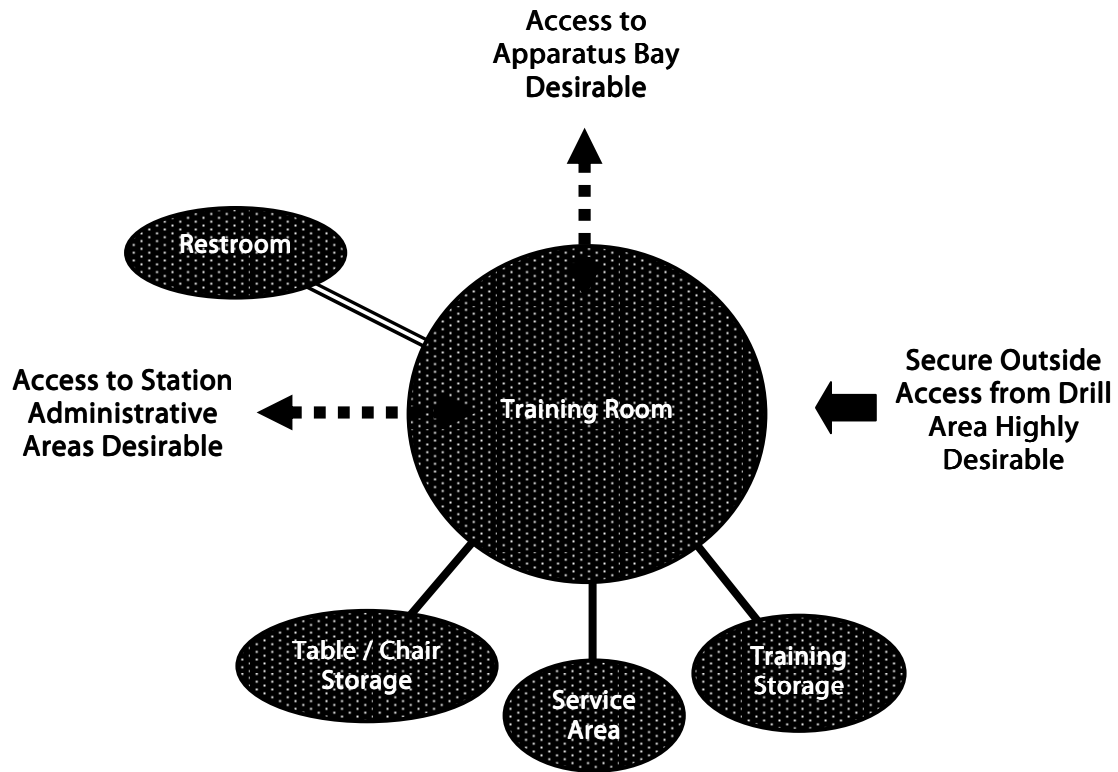


Crew Area Functional Diagram

**Adjacency Key**

- Required
- == Desired





Training Functional Diagram

**Adjacency Key**

- Required
- ==** Desired



### 3.5 Supporting Operations

Within the Fire Department's large Operations Division, there is also a Special Operations Division which is comprised of several specialized response teams that handle a wide variety of both high-risk and low-frequency type events.

The Special Operations Division began in 1980 with the formation of the department's Hazardous Materials Response Unit. Over the years, other specialized units were added such as the Marine Response and Technical Rescue units.

These specialty units are not intended as a replacement for first-line Engine and Ladder companies, but rather, to compliment them.

Beyond the core company operations, additional space requirements are required for supporting operations. The placement of these supporting operations is critical. Consequently, they have been strategically located throughout the City to ensure continuity of service in the event of segmentation of the City by a major disaster.

#### A. Hazardous Material Response Teams

The Hazardous Materials Response Team (Unit 77) began in 1980 and was the first of several specialized units that the department has in operation today.

A hazardous materials incident is generally described as the intentional or accidental release of toxic, combustible, illegal or dangerous nuclear, biological or chemical agents into the environment. Hazardous material responses are generalized under three categories:

**Intentional Releases.** This type of hazardous materials response is created when individuals and/or companies knowingly and illegally emit or dump toxic waste into landfills, waterways, the atmosphere and the environment in general. An example of such a release would be the illegal "cooking" of methamphetamine in clandestine drug labs.

**Accidental Releases.** This is the most common type of incident that the Hazardous Materials Team responds to. These incidents include the release of all types of spills and leaks of toxic agents resulting from collisions, container breakage or failure, fires, floods and simple human error.

**Domestic Terrorism.** Domestic Terrorism is the intentional release of deadly biological or chemical agents, such as Anthrax or Nerve Gas, into the general population. Hazardous Material Response Teams are responsible for the detection, containment and neutralization of such deadly agents as well as the medical treatment of the innocent victims that this type of terrorism targets.



### Station Locations for Hazardous Material Response Teams:

The following Hazardous Material Units were identified in the Seattle Fire Stations Operational Plan, dated May 5, 2003. Additional design requirements will be further identified and confirmed with SFD and the design teams selected for these stations.

#### Hazardous Materials

*Station Locations:* 10: South Haz-Mat Unit  
31: North End Haz-Mat

*Design Requirements:* 1,462 square feet have been allocated for each Hazardous Material Response Team as a general guideline; program requirements and vehicle specifics to be verified.

#### Decontamination

*Station Location:* 27: Decon 27, Flatbed, Crane Truck

*Design Requirements:* 1,206 square feet have been allocated for Decontamination at Station 27 as a general guideline; program requirements and vehicle specifics to be verified.

#### Mass Casualty Incident Unit

*Station Location:* 21

*Design Requirements:* 1,206 square feet have been allocated for Mass Casualty Incident Unit as a general guideline; program requirements and vehicle specifics to be verified.

## B. Technical Rescue

Emergencies that require dispatch of a Technical Rescue Team occur infrequently but they are also the incidents that pose the highest safety risk to both victims and firefighters.

Seattle Fire Department staffs Rescue Technicians 7 days a week, 24 hours a day. These Technicians are also a valuable resource for training other firefighters in the skills of technical rescues.



### Examples of Technical Rescues

- Collapsed buildings
- Trench cave-ins
- High angle rope rescues
- Marine accidents requiring the Dive Team
- Confined space emergencies
- Heavy machinery & transportation incident

Members of the Technical Rescue Team also participate in FEMA's Urban Search and Rescue Team (USAR).

### Station Locations for Technical Rescue Units:

The following Technical Rescue Units were identified in the Seattle Fire Stations Operational Plan, dated May 5, 2003. Additional design requirements will be further identified and confirmed with SFD and the design teams selected for these stations.

#### *Special Rescue*

*Station Locations:* 14: South Rescue Unit w/Rescue Van and storage  
39: North Rescue Unit

*Design Requirements:* 1,462 square feet have been allocated for each Rescue Unit as a general guideline; program requirements and vehicle specifics to be verified.

#### *Tunnel Rescue*

*Station Locations:* 14: Tunnel Rescue  
17: Tunnel Rescue

*Design Requirements:* 1,206 square feet have been allocated for each Tunnel Rescue team; program requirements and vehicle specifics to be verified.

#### *Urban Search and Rescue (USAR)*

*Station Locations:* 28

*Design Requirements:* 5,400 square feet have been allocated to USAR and the Metropolitan Medical Response System (MMRS) as a general guideline; program requirements and vehicle specifics to be verified.



### C. Marine Emergency Response Team

The Marine Response Team had its early beginnings in the 1970's as a joint venture between the Seattle Fire Department and the United States Maritime Administration (MARAD).

In 1983, the MARAD project was transformed into the present day Marine Emergency Response Team.

Marine Response Team personnel provide technical support to Incident Commanders at marine incidents. Such emergencies include fires, confined space rescues, hazardous material releases, flooding, and pollution incidents.

Marine Response Team personnel are cross trained with other special operations units. For example, they respond to confined space incidents along with the Technical Rescue Team. They also respond with the Hazardous Materials Team and provide assistance with decontamination equipment.

#### Station Location for Marine Emergency Response Team:

The Marine Emergency Response Team was identified as follows in the Seattle Fire Stations Operational Plan, dated May 5, 2003. Additional design requirements will be further identified and confirmed with SFD and the design teams selected for this station.

#### **Marine Firefighting**

*Station Locations:* 36: Marine Specialty (Unit 99)

*Design Requirements:* 1,206 square feet have been allocated for Marine Specialty as a general guideline; program requirements and vehicle specifics to be verified.

### D. Other Supporting Operation Locations

The following supporting operations were identified in the Seattle Fire Stations Operational Plan, dated May 5, 2003. Specific design requirements for each supporting operation will be further identified and confirmed with SFD and the design teams selected for these stations.

#### **Air Support**

*Station Locations:* 9: Includes quarters for 1 air unit support personnel  
26: Mobile Air Compressor



*Design Requirements:* 1,206 square feet have been allocated for each Air Unit as a general guideline; program requirements and vehicle specifics to be verified.

### **Dive Team**

*Station Location:* 14

*Design Requirements:* 400 square feet have been allocated for Dive Team as a general guideline; program requirements and vehicle specifics to be verified.

### **Marine Support Unit**

*Station Location:* 20

*Design Requirements:* 256 square feet have been allocated for Marine Support Unit; program requirements and vehicle specifics to be verified.

### **Incident Command**

*Station Location:* 22: Incident Command Vehicle

*Design Requirements:* 1,206 square feet have been allocated for Incident Command as a general guideline; program requirements and vehicle specifics to be verified.

### **Reserve Apparatus Units**

*Station Locations:* See Table 3B, Program Area Summary, for specific station locations for reserve apparatus.

*Design Requirements:* 1,206 square feet have been allocated for each reserve vehicle as a general guideline; program requirements and vehicle specifics to be verified.

### **Hose Tenders**

*Station Location:* 25: Hose Unit with Storage

*Design Requirements:* 1,206 square feet allocated for Hose Unit



### 3.6 Emergency Cache Program

As a primary responder in the case of a natural or manmade disaster within the City, the Seattle Fire Department's Emergency Cache program is recognized as an important operation that requires program space at certain stations. As with the supporting operations, each emergency cache is strategically located in order to deploy as needed in cases where the City is segmented during a crisis.

There are four types of emergency caches included in the Fire Station Levy Program:

#### A. Equipment Cache

This includes federal and locally sponsored/co-sponsored equipment designated for use for large-scale events both locally and across the country. These include Urban Search and Rescue (USAR) and the Metropolitan Medical Response System (MMRS). The current compliment of these resources includes two 80-foot semi-trailers, two tractors to move the trailers, and 3,000 sq ft of secured, climate-controlled storage.

*Station Location:* 28

*Design Requirements:* Specific design requirements for USAR and MMRS will be identified and confirmed with SFD and the design team selected for the Fire Station 28 project.

#### B. SFD Special Operations Cache

There are four general categories included within this group: Hazardous Materials, Decontamination, Marine Firefighting, and Rescue. The Rescue component includes: High angle rescue, confined space, heavy rescue (building collapse), and water rescue. All units are staffed with cross-trained fire operations personnel.

*Station Locations:* 10, 14, 17, 21, 27, 31, 36, and 39

*Design Requirements:* Specific design requirements for the Special Operations Caches will be identified and confirmed with SFD and the individual design teams selected for the stations noted above.

#### D. SFD Fragmentation Cache

The City may be divided into at least four large fragments after an earthquake. The duration of this fragmentation is unpredictable. Pre-staging operations equipment in three of the four fragments allows each area to handle large scale and/or long duration emergencies. The identified locations for SFD Caches are: One north of the Ship Canal, one in West Seattle, and two in the fragment comprised of the area from Magnolia to SE City limits. The space required for these four caches is 800 square feet per cache.

*Station Locations:* 2, 32, 39, and the Commissary



*Design Requirements:* Specific design requirements for the Fragmentation Caches will be identified and confirmed with SFD and the individual design teams selected for the stations noted above.

#### **E. SFD Disaster Cache**

Each fire station shall have supplies and equipment to allow the firefighters at each station to be self-sufficient for 72 hours.

*Station Locations:* All

*Design Requirements:* 80 to 240 square feet have been allocated at each station depending on station type and size. See Table 3B, Program Area Summary, for station specific requirements.

### **3.7 Potential Growth Locations**

Seattle Fire Department's long-range strategic planning work has indicated a trend that suggests that the City of Seattle should anticipate future growth in EMS (Medic/Aid) companies. This growth would likely occur mostly in the downtown area of the City. To address this trend, potential growth was included in Seattle's Fire Station Operational Plan, dated May 5, 2003, for Stations 2, 6, 14, 17, 25, and 31.

Over the course of implementing Seattle's Fire Levy Program, space allocations for future EMS companies have been eliminated and are therefore not included in the station square footage summaries included in this Program Manual.





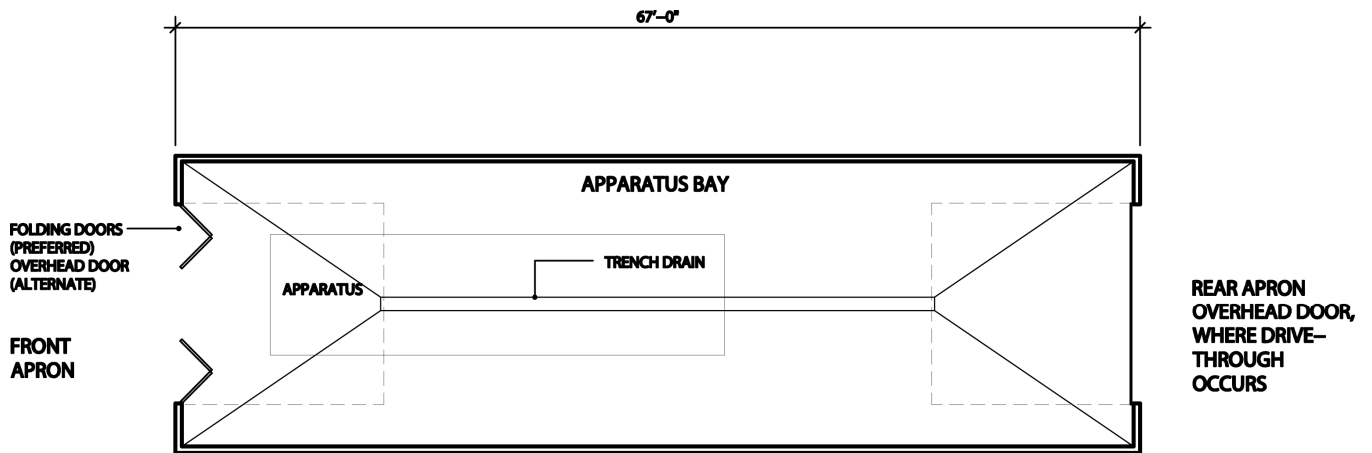
## TABLE 3A – Room Diagrams

The room diagrams on the following pages have been included in this program manual for illustrative purposes only. They are intended to aid fire station design teams in understanding the spatial requirements of the various operational and functional components of Seattle's fire stations.

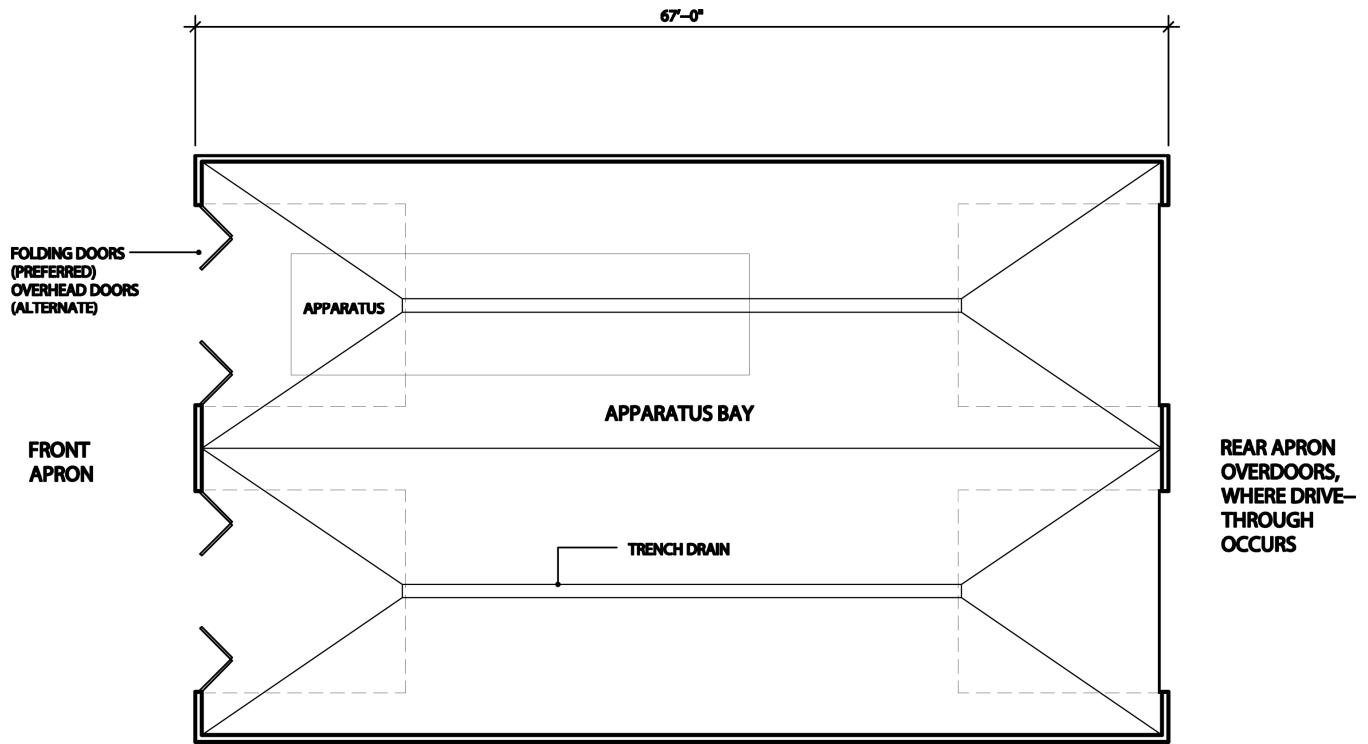
Where room dimensions are fixed for operational reasons they are noted as such and may not be deviated from without SFD acknowledgment and FFD approval.

Room areas are noted as a guide for the design team. Discretion in the length and width proportion of most rooms is acceptable, within reason, so long as the functional and operational requirements noted are not compromised.

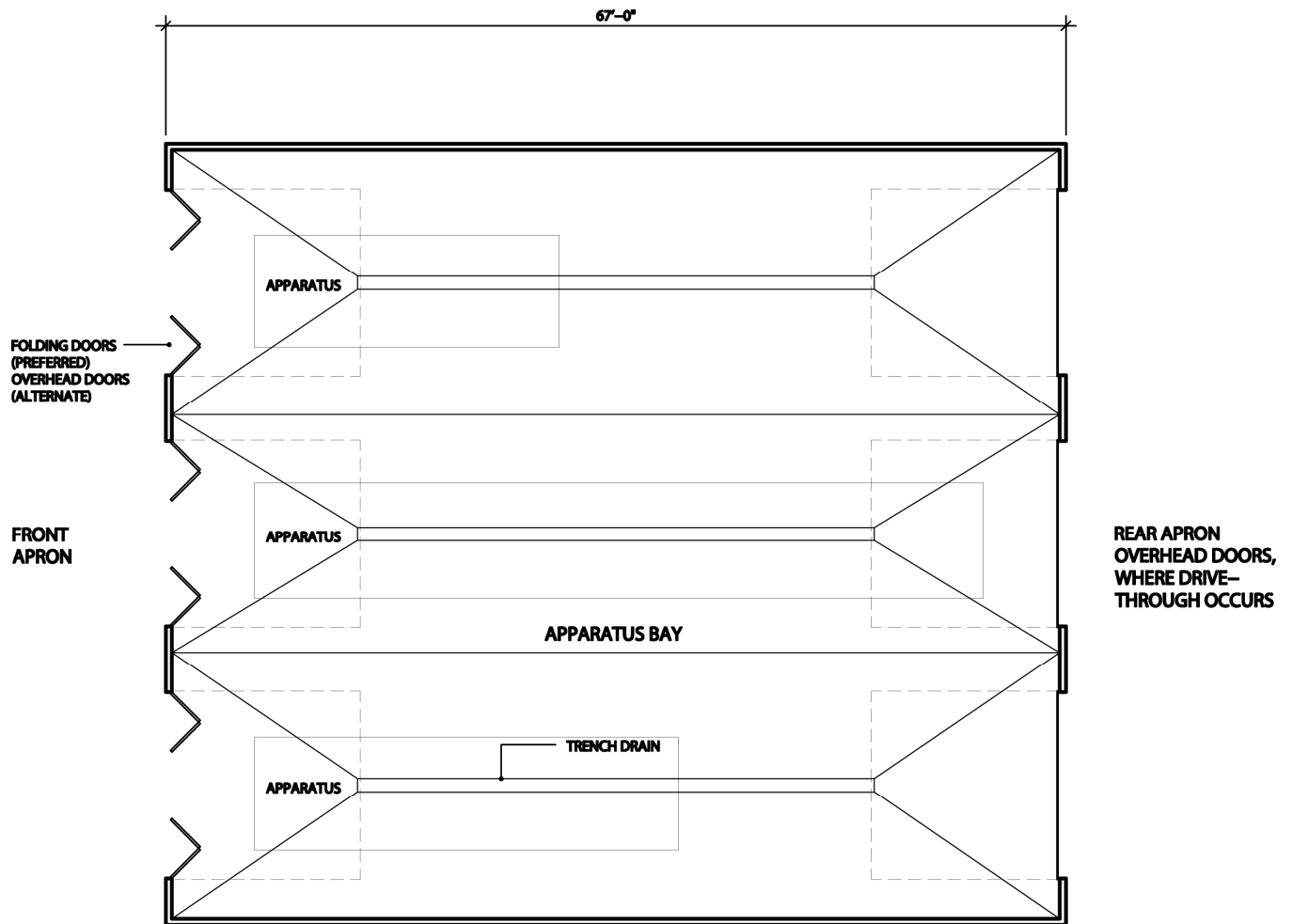
For renovation projects, it is recognized that room areas and strict dimensional requirements may be more challenging due to existing building layout and configurations. Again, room areas should be used as a guide with any deviations in noted areas or dimensions being acknowledged by SFD and approved by FFD.



Bay Width: 20'-0"  
Bay Depth: 67'-0"



Bay Width: 40'-0"  
Bay Depth: 67'-0"

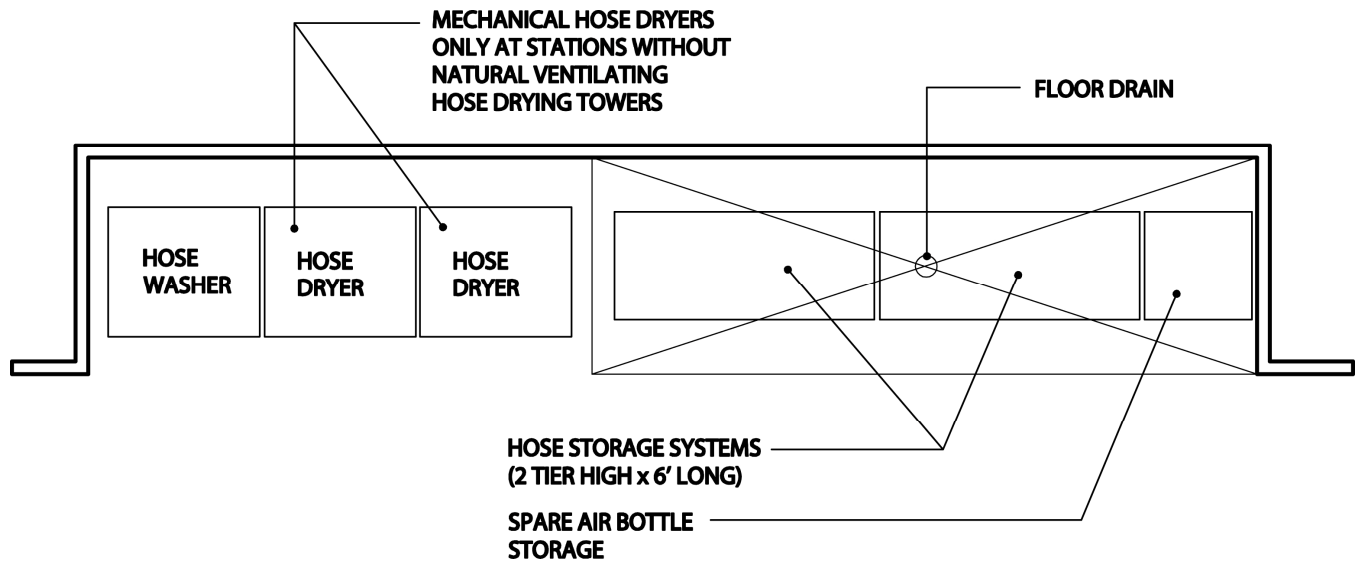


Bay Width: 58'-0" (20'+18'+20')  
Bay Depth: 67'-0"



## A. Apparatus Bays

<i>Area:</i>	Single Vehicle Apparatus Bay: 1,340 square feet. Two-Vehicle Apparatus Bay: 2,680 square feet. Three-Vehicle Apparatus Bay: 3,886 square feet.
<i>Function:</i>	Indoor parking area for station apparatus.
<i>Adjacencies:</i>	Station office and administration areas, beanery, dorm areas, apparatus bay support functions.
<i>Design Issues:</i>	
Security:	Key card access at exterior doors.
Furnishings:	One 4'x6' dry erase board to be provided; furnished and installed by contractor.
Finishes:	See Chapter 5 Specification Section 09 00 00, Type A
Doors:	Personnel Doors: See Chapter 5 Specification Section 08 11 00. Apparatus Bay Doors: See Chapter 5 Specification Section 08 36 00.
Plumbing:	Sink or disinfection station near doorway from apparatus bay to station administration areas. Wall mounted stainless steel sink with gooseneck faucet and wrist blade handles. Trench drains: 40' long, centered at all bays to accommodate washing inside building. Hose bibs for apparatus washing, with hose reels. Compressed air drops with quick release fittings for tire filling, etc.
HVAC:	See Chapter 5 Specification Section 23 00 00.
Lighting:	UV filtered fluorescent or incandescent required (Bunker gear is UV sensitive). Consider natural lighting as a sustainability strategy.
Power:	(2) 30A circuits at each vehicle location, driver's side. Hardwire to ceiling mounted j-box above vehicle and provide a flexible power drop cord with a 12" break-away pig-tail.
Communications:	House PA must be loud enough to hear announcements. Provide data drops at all vehicle locations, driver's side.
Equipment:	Nederman vehicle exhaust system: Exhaust catch is most typically located on driver's side of vehicle. Confirm vehicle specific locations.
Other:	<ul style="list-style-type: none"> <li>Drive through verses back-in bays to be based on operational needs and on-site constraints for each station. Drive through configuration preferred, but not required.</li> <li>Bay dimensions are established to provide consistent width and depth. Depth is held to house largest apparatus in fleet (ladder w/tiller) and accommodate move-up coverage.</li> <li>Spaces at the rear of shorter apparatus to be used for daily equipment checks, training, and drills.</li> <li>Space for reserve apparatus is noted in Table 3B for each station.</li> <li>Typical bay width is 20'. Inside bays of multi-vehicle Apparatus Bays may be reduced to 18' in width.</li> </ul>





## B. Hose Dryer and Storage Alcove

*Area:* 120 square feet.

*Function:* Storage, wash, and drying area for hose.

*Adjacencies:* Apparatus Bays, preferably near an apparatus bay door for convenient hose loading.

### *Design Issues:*

Security: No requirements.

Furnishings: Rolling steel racks are preferred if budget allows, but racks may be site fabricated otherwise. Provide one 4'x6' dry erase board.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: No requirements.

Plumbing: Plumbing connection for hose washer.  
Industrial hot and cold hose bibb.  
Floor drains.  
Gas connection if required by hose dryer.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

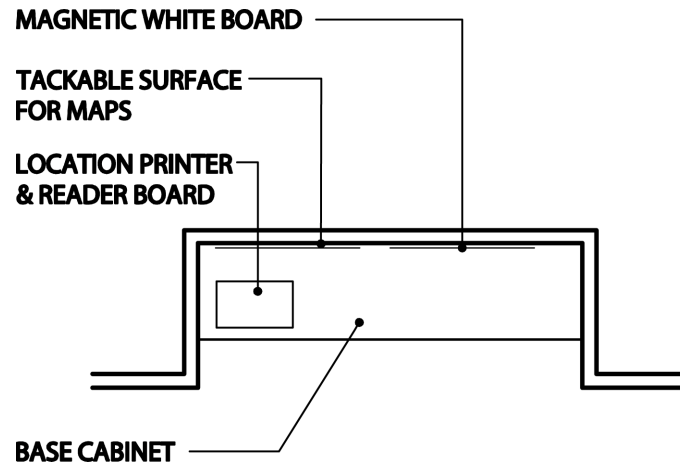
Power: Hose Dryer: 120/208V, 3-phase.  
Hose Washer: 120V, 1-ph.

Communications: House PA must be loud enough to hear announcements.

Equipment: Hose Dryer  
Manufacturer: Circul-Air  
Product: Drying Cabinets.  
Quantity: 2  
  
Hose Washer  
Manufacturer: Circul-Air  
Product: Roto Jet Hose Washer  
Quantity: 1

### Other:

- Size of area is site specific and based on quantity of hose. Verify hose quantity and racking requirements with SFD.
- Provide area adjacent to hose dryer for loading and unloading hose.







### C. Second Report Desk/Dispatch Counter

*Area:* 24 square feet

*Function:* Used only in multi-story stations when access to the apparatus bays is from a location or stairway that does not pass through the Station Office.

*Adjacencies:* Apparatus bays.

*Design Issues:*

Security: No requirements.

Furnishings: Cabinets and countertop for storage of printer supplies.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: No requirements.

Plumbing: No requirements.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: Provide good lighting for maps.  
See Chapter 5 Specification Section 26 50 00.

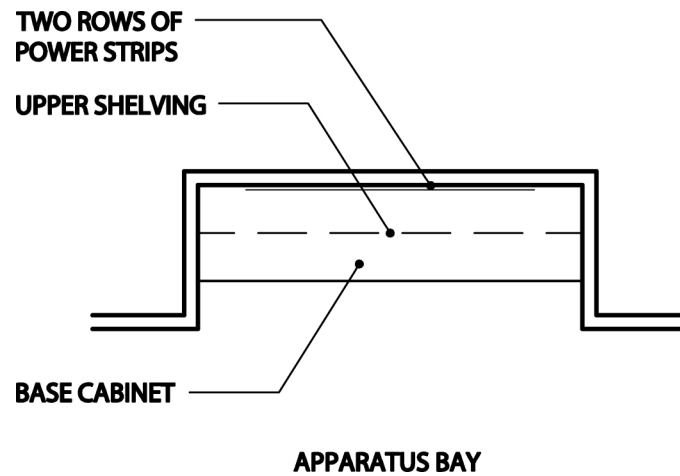
Power: As required by dispatch printer and base radio.

Communications: Phone.  
Data connections as required by radio base and dispatch printer.

Equipment: No requirements.

Other:

- Preferred location: in vestibule adjacent to apparatus bays.
- Provide open wall space above cabinet for map hanging.





#### D. Battery Charging Alcove

*Area:* 24 square feet

*Function:* Dedicated space for charging batteries for handheld equipment.

*Adjacencies:* Apparatus Bays.

*Design Issues:*

Security: No requirements.

Furnishings: Cabinets, countertop and 12" deep upper cabinet shelves.

Disposal bin for batteries that need to be recycled.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: No requirements.

Plumbing: No requirements.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

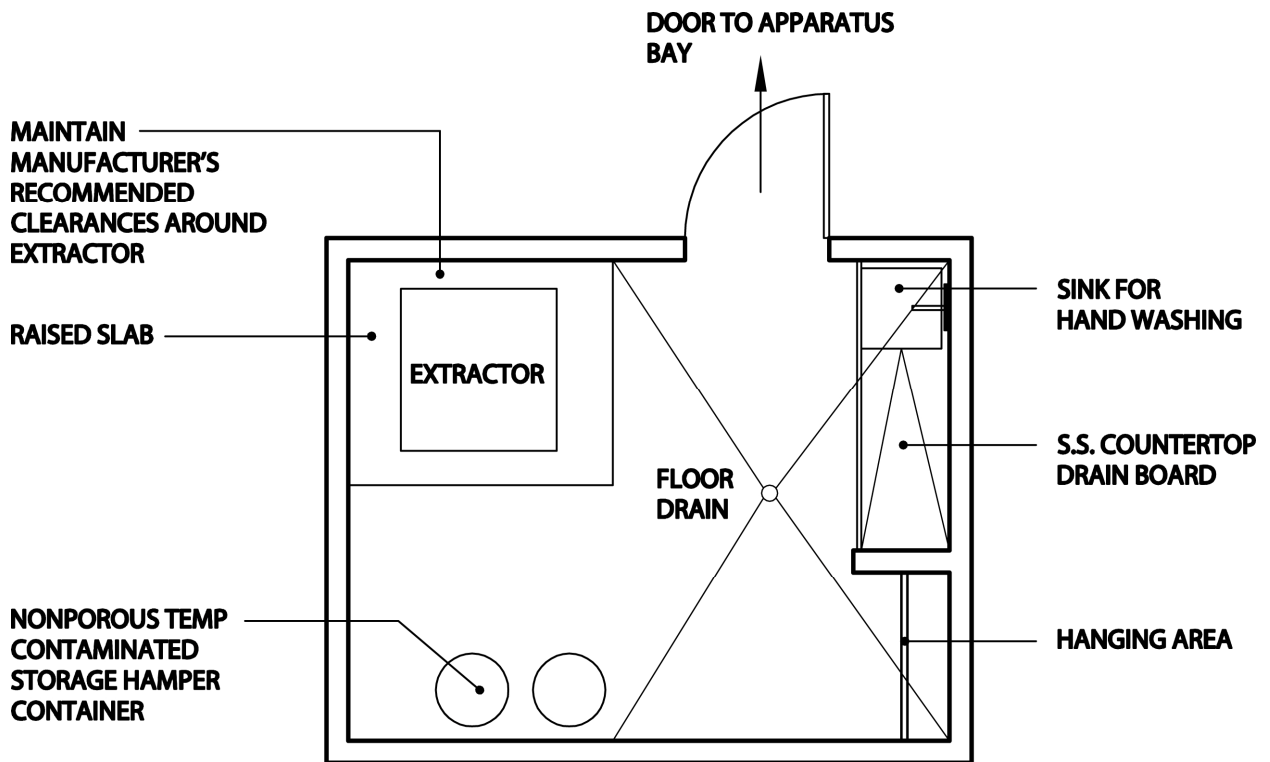
Power: (2) rows of power strips with lots of outlets at counter and shelving height for battery chargers. Provide multiple circuits.

Communications: No requirements.

Equipment: No requirements.

Other:

- Provide two alcoves at Battalion Stations.
- Countertop and shelving for medical equipment and battery charging for radios, flashlights, life packs, air monitors, thermal imagers, sawzalls, etc.
- Base cabinets to store extra batteries, radios, flashlights, etc.
- Protect area from apparatus washing overspray.





## E. Bunker Gear Cleaning Room

*Area:* 130 square feet

*Function:* Cleaning of bunker gear and equipment.

*Adjacencies:* Direct access to Apparatus Bays. Provide direct exterior access so that contaminated items may be brought directly to the cleaning room without going through the station.

*Design Issues:*

Security: No requirements.

Furnishings: No requirements.

Nonporous bins for biohazard collection.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: See Chapter 5 Specification Section 08 11 00.

Plumbing: Plumbing connections for extractor.

Eye wash station with tempered water.

14 Ga. stainless steel single bowl (30"x24"x14") scullery sink with integral sloped drain board, 12" backsplash, full support legs.

Floor drain; sloping floor

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

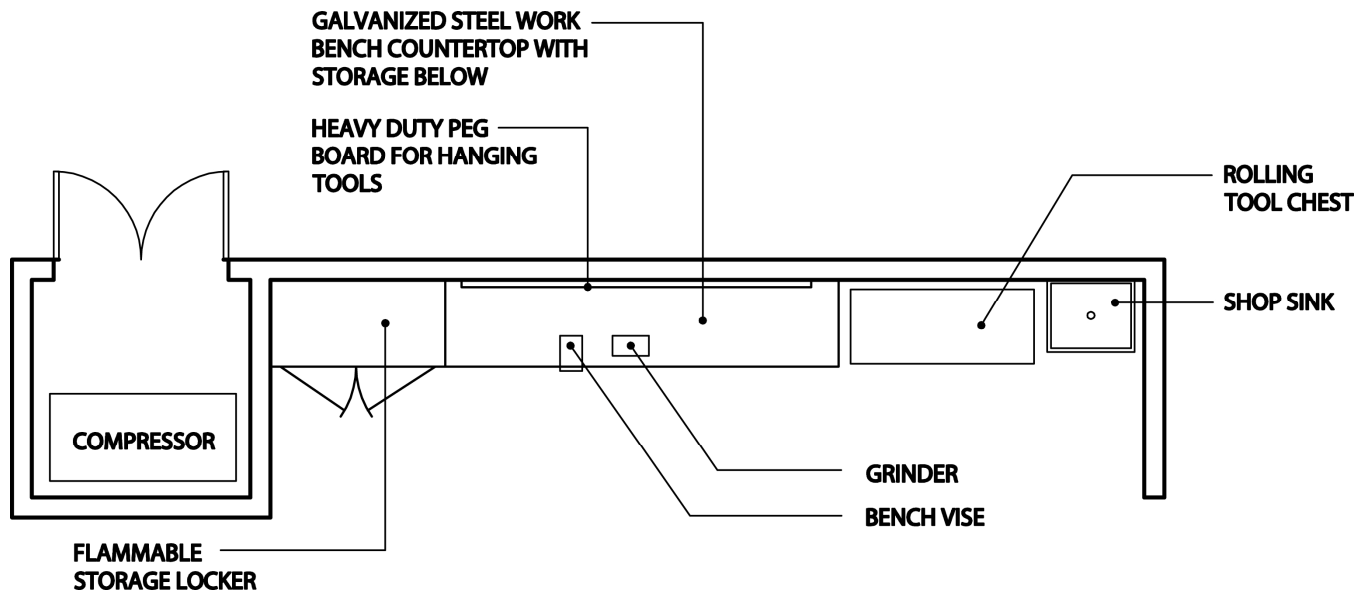
Power: Provide GFI outlets at wet areas.

Communications: House PA

Equipment: Bunker gear extractor on 6" high concrete housekeeping pad.

Other:

- Clothes washing to be done at station laundry room.





## F. Neighborhood Station I Maintenance Work Area

*Area:* 100 square feet, plus 20 square feet for station compressor.

*Function:* Workspace for equipment checks and maintenance.

*Adjacencies:* Apparatus Bay.

### *Design Issues:*

**Security:** Lockable cabinets; maintenance work area at Neighborhood Station I may be an alcove.

**Furnishings:** Cabinetry to store parts and supplies. Verify storage needs with SFD.

**Finishes:** See Chapter 5 Specification Section 09 00 00, Type C and D.

**Doors:** No requirements.

**Plumbing:** Shop sink.  
Compressed air drops.

**HVAC:** See Chapter 5 Specification Section 23 00 00.

**Lighting:** See Chapter 5 Specification Section 26 50 00.

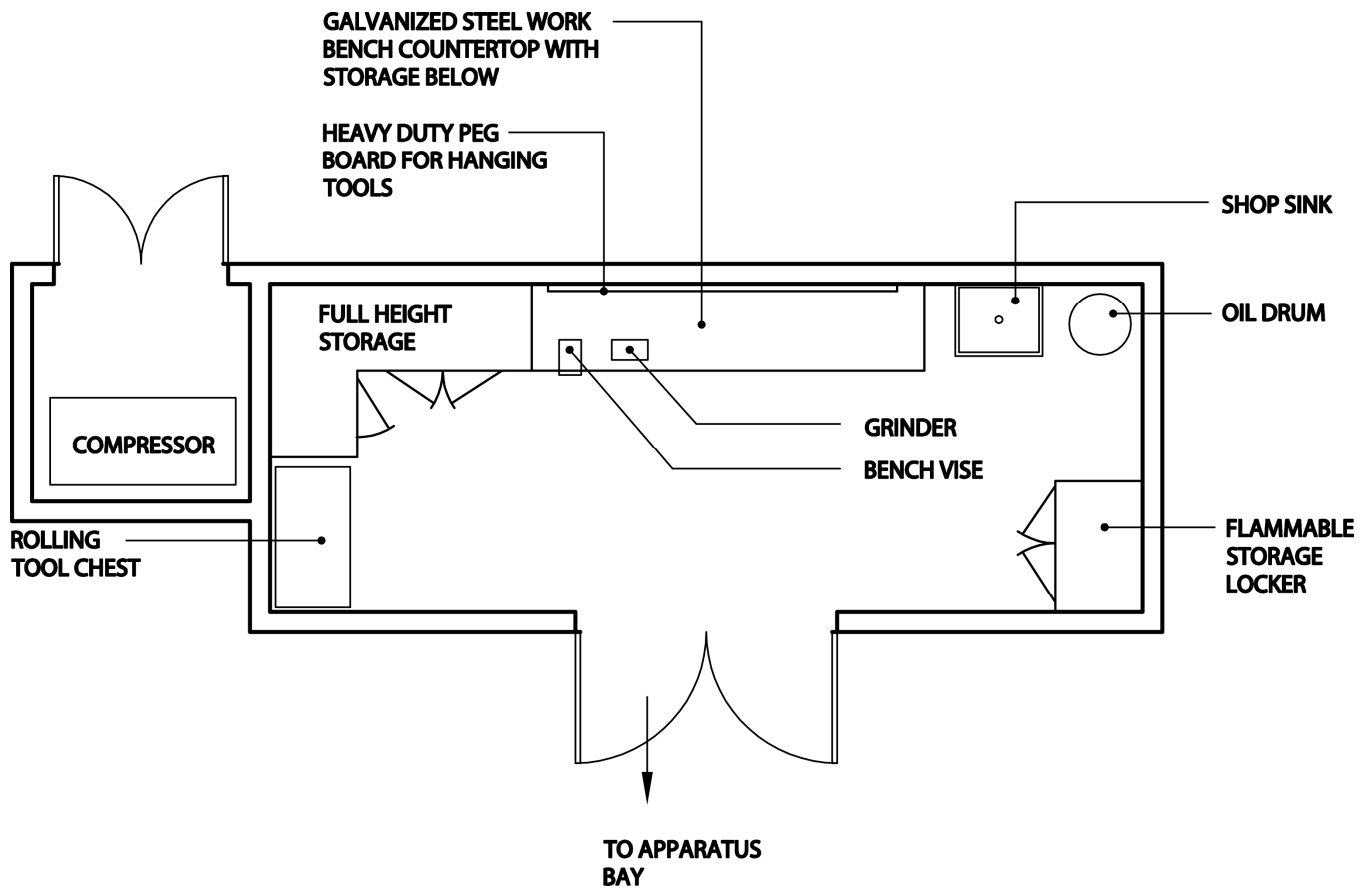
**Power:** Per equipment requirements.

**Communications:** House PA.

**Equipment:** Flammable storage locker.  
  
Shop air compressor sized to provide air supply for power tools in shop, and outlets in apparatus bays for tire fill and cleaning compartments and equipment.  
  
Other equipment varies by station and apparatus, so verify requirements with SFD.

### **Other:**

- Enclose compressor in a room to minimize noise impacts, but ensure adequate ventilation to prevent overheating.







## G. Neighborhood Station II Maintenance Work Area

*Area:* 160 square feet, plus 20 square feet for station compressor.

*Function:* Workspace for equipment checks and maintenance.

*Adjacencies:* Apparatus Bay.

*Design Issues:*

Security: Lockable cabinets.

Furnishings: Cabinetry to store parts and supplies. Verify storage needs with SFD.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C and D.

Doors: See Chapter 5 Specification Section 08 11 00.

Plumbing: Shop sink.

Compressed air drops.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

Power: Per equipment requirements.

Communications: House PA

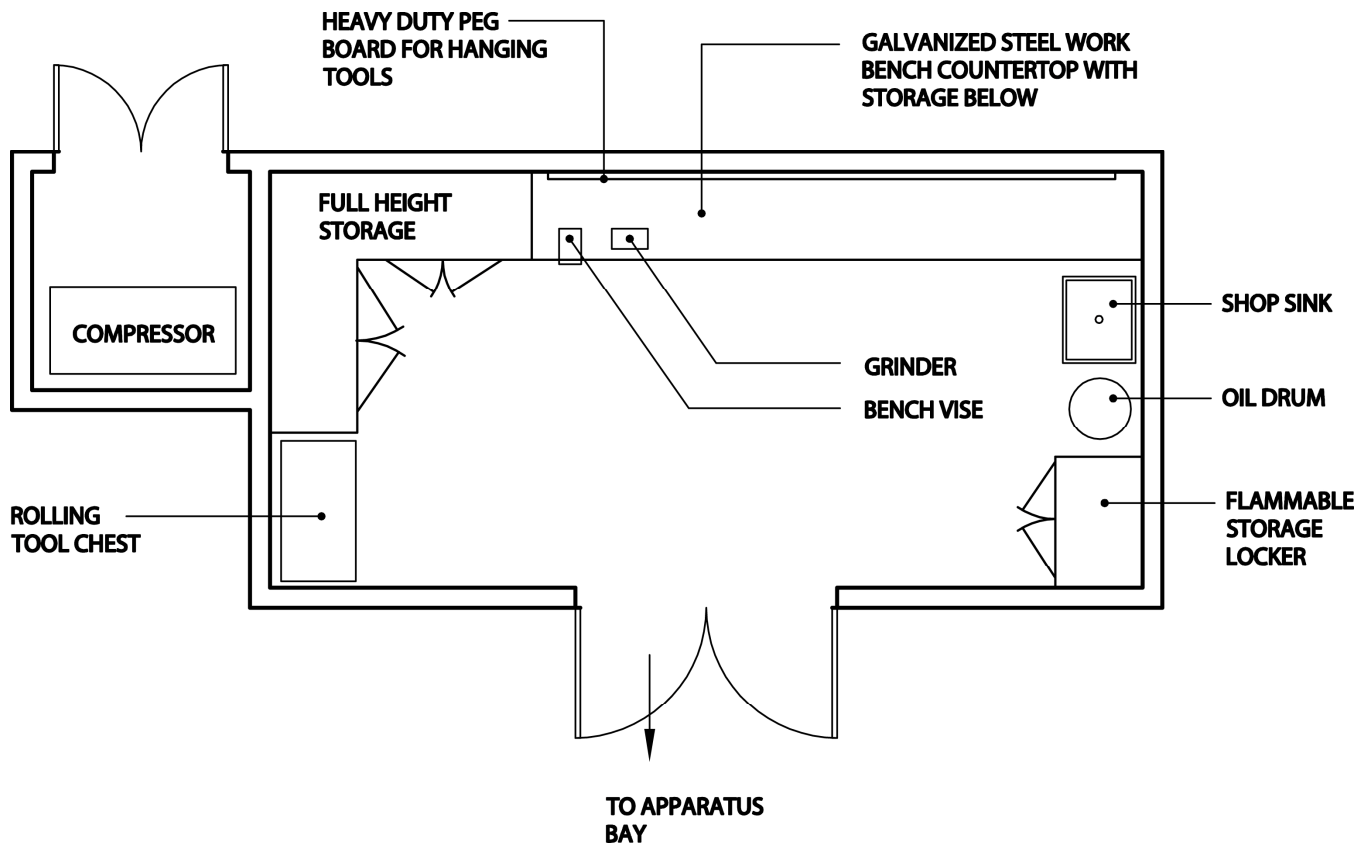
Equipment: Flammable storage locker.

Shop air compressor sized to provide air supply for power tools in shop, and outlets in apparatus bays for tire fill and cleaning compartments and equipment.

Other equipment varies by station and apparatus, so verify requirements with SFD.

Other:

- Enclose compressor in a room to minimize noise impacts, but ensure adequate ventilation to prevent overheating.





## H. Neighborhood Station III and Battalion Station Maintenance Work Area

*Area:* 200 square feet, plus 20 square feet for station compressor.

*Function:* Workspace for equipment checks and maintenance.

*Adjacencies:* Apparatus Bay.

### *Design Issues:*

Security: Lockable cabinets.

Furnishings: Cabinetry to store parts and supplies. Verify storage needs with SFD.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C and D.

Doors: See Chapter 5 Specification Section 08 11 00.

Plumbing: Shop sink.

Compressed air drops.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

Power: Per equipment requirements.

Communications: House PA.

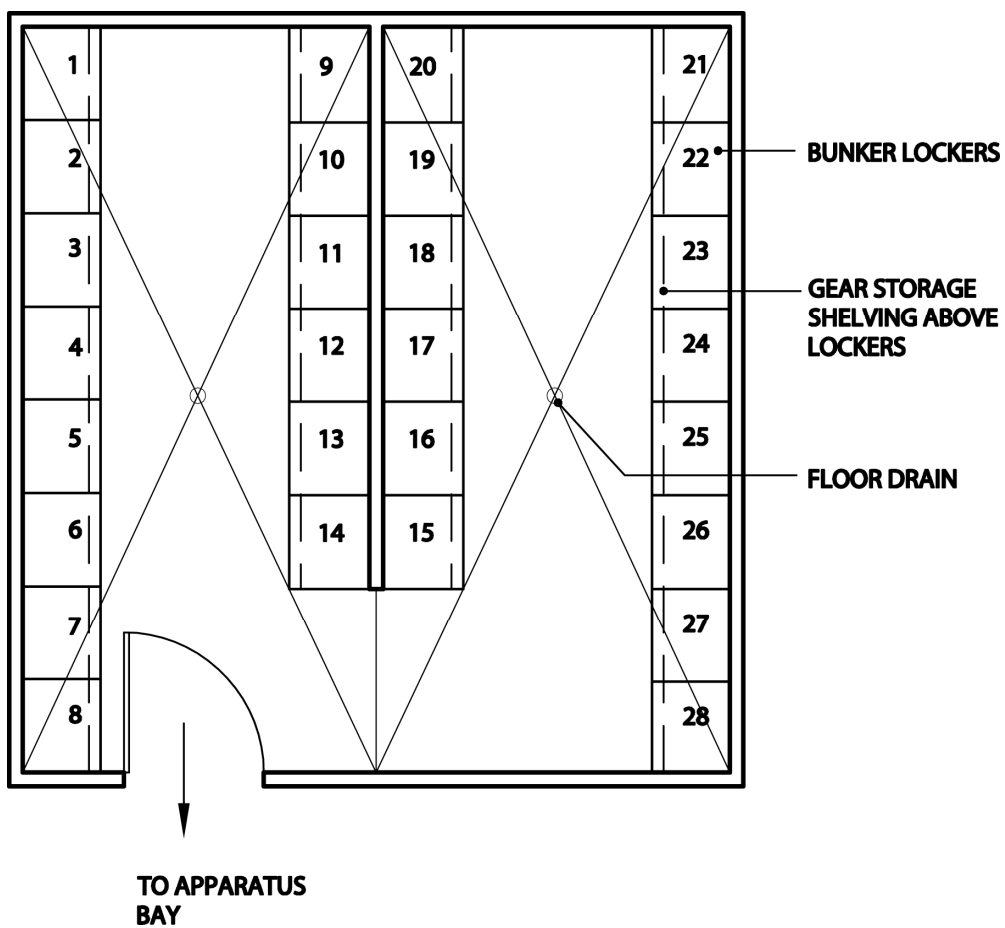
Equipment: Flammable storage locker.

Shop air compressor sized to provide air supply for power tools in shop, and outlets in apparatus bays for tire fill and cleaning compartments and equipment.

Other equipment varies by station and apparatus, so verify requirements with SFD.

### Other:

- Enclose compressor in a room to minimize noise impacts, but ensure adequate ventilation to prevent overheating.





## I. Bunker Gear Room

**Area:** Neighborhood Station I: 243 square feet\*  
Neighborhood Station II: 460 square feet\*  
Neighborhood Station III and Battalion Station: 620 square feet\*

*\* Areas noted are approximate. Size of room must accommodate the required number of bunker lockers which are based on the number of assigned staff. Number of assigned staff at each station may be found in Table 3B, Program Area Summary, at the end of this chapter.*

**Function:** Storage and drying area for personal bunker gear.

**Adjacencies:** Apparatus Bays.

### *Design Issues:*

**Security:** No requirements.

**Furnishings:** Bunker gear storage system locker manufacturer: Gear Grid.  
Size: 24" wide x 20" deep.

Cubbies for "red bags" (second set of bunker gear). Size to be confirmed by SFD and approved by FFD.

**Finishes:** See Chapter 5 Specification Section 09 00 00, Type C.

**Doors:** See Chapter 5 Specification Section 08 11 00.

**Plumbing:** Floor drains.

**HVAC:** Provide ventilation and heating system such that wet bunker gear will be dry within 24 hrs.  
See Chapter 5 Specification Section 23 00 00.

**Lighting:** Provide UV-filtered or non-UV producing lighting as bunker gear is UV sensitive.  
See Chapter 5 Specification Section 26 50 00.

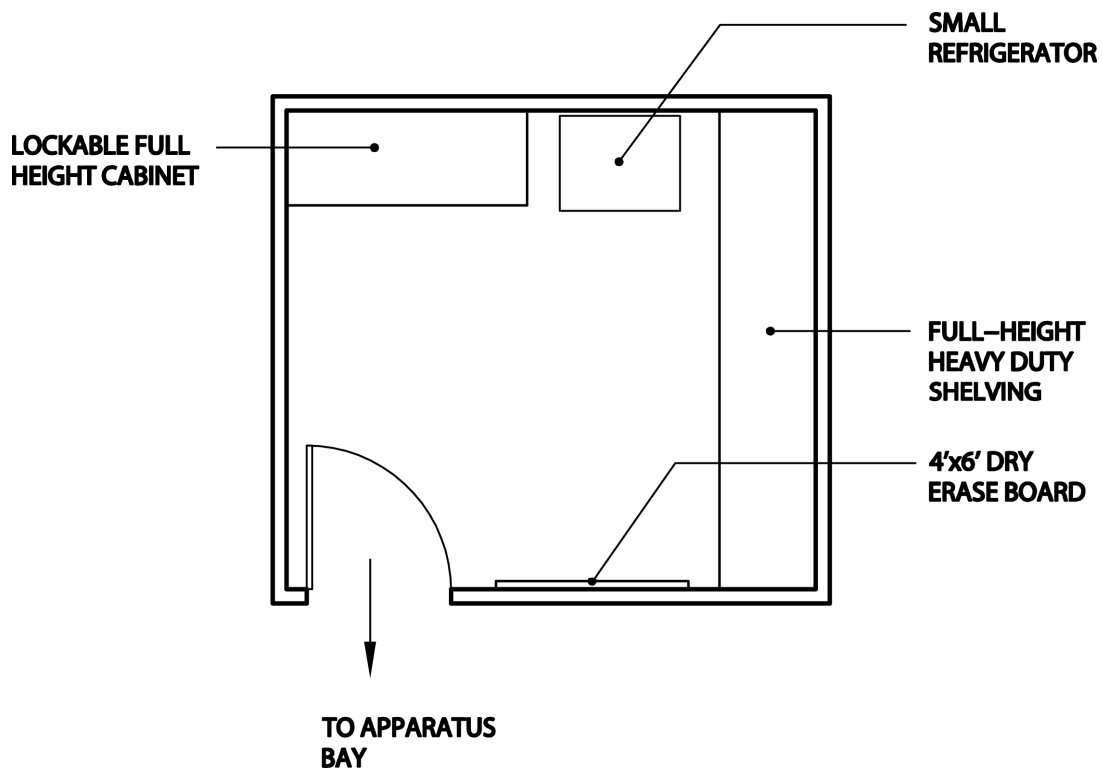
**Power:** No special requirements.

**Communications:** House PA.

**Equipment:** No requirements.

### **Other:**

- Room size varies due to total quantity of assigned personnel at each station. Minimum number of lockers would be assigned personnel times 4.
- All personnel have 2 sets of bunker gear: 1 set is stored in bunker gear lockers; the other in a "red bag".





## J. Neighborhood Station I and II EMS Storage

*Area:* Neighborhood Station I: 110 square feet  
Neighborhood Station II: 110 square feet

*Function:* Storage for medical supplies and equipment.

*Adjacencies:* Apparatus Bay.

### *Design Issues:*

*Security:* Room does not need to be locked, though the following items are required to be locked and provided with card-key access:  
Medical supplies refrigerator.  
Medical supplies cabinet.

*Furnishings:* Open shelving for supplies and inventory.  
  
Lockable cabinets for drugs and other sensitive medical supplies and equipment.  
  
One 4'x6' dry erase board.

*Finishes:* See Chapter 5 Specification Section 09 00 00, Type C.

*Doors:* See Chapter 5 Specification Section 08 11 00.

*Plumbing:* No requirements.

*HVAC:* See Chapter 5 Specification Section 23 00 00.

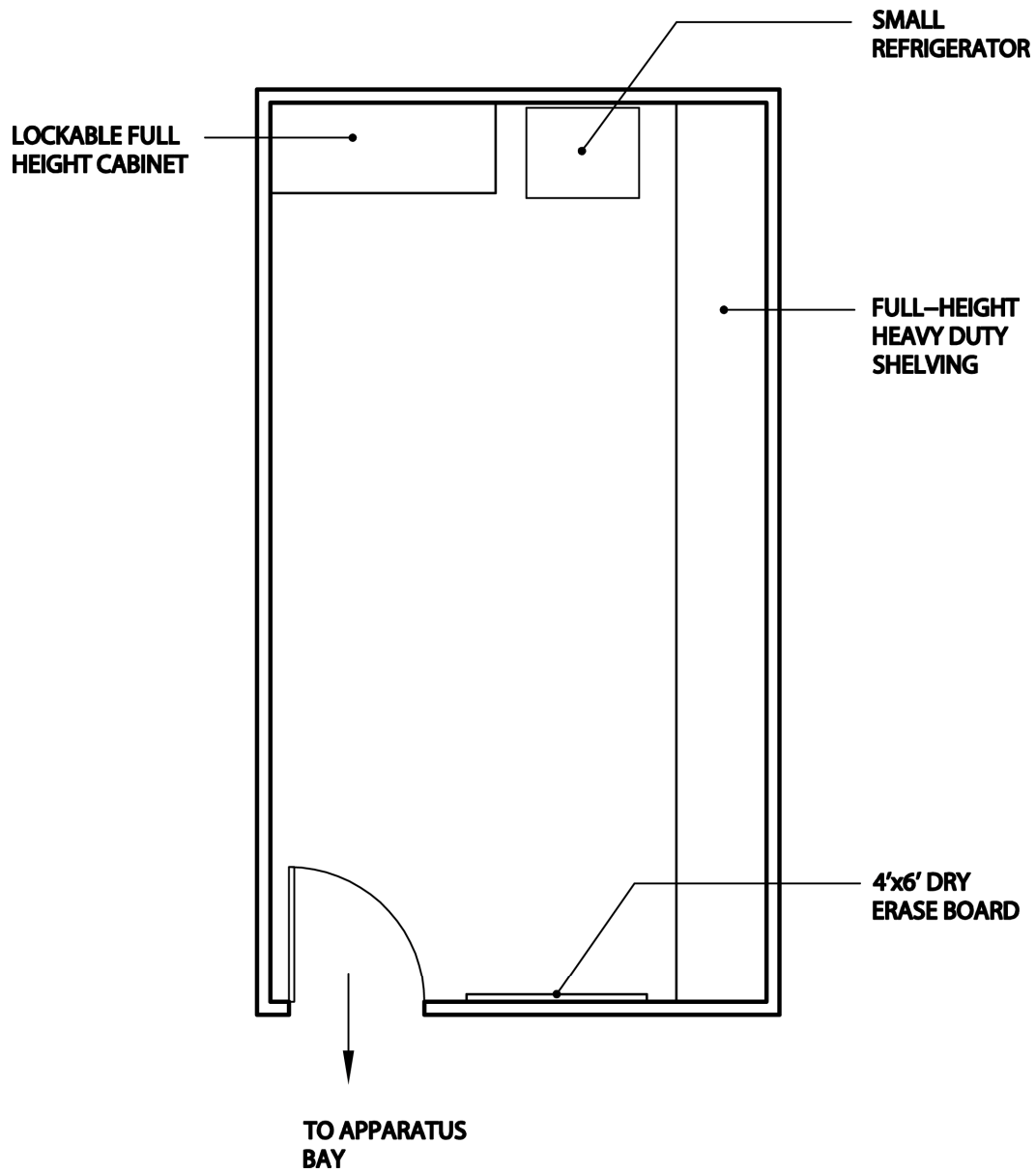
*Lighting:* See Chapter 5 Specification Section 26 50 00.

*Power:* As required for refrigerator.

*Communications:* House PA

*Equipment:* None required.

*Other:*







## K. Neighborhood Station III and Battalion Station EMS Storage

*Area:* Neighborhood Station III: 200 square feet  
Battalion Station: 200 square feet

*Function:* Storage for medical supplies and equipment.

*Adjacencies:* Apparatus Bay, convenient to Aid/Medic Unit.

### *Design Issues:*

**Security:** Room does not need to be locked, though the following items are required to be locked and provided with card-key access:  
Medical supplies refrigerator.  
Medical supplies cabinet.

**Furnishings:** Open shelving for supplies and inventory.  
  
Lockable cabinets for drugs and other sensitive medical supplies and equipment.  
  
One 4'x6' dry erase board.

**Finishes:** See Chapter 5 Specification Section 09 00 00, Type C.

**Doors:** See Chapter 5 Specification Section 08 11 00.

**Plumbing:** No requirements.

**HVAC:** See Chapter 5 Specification Section 23 00 00.

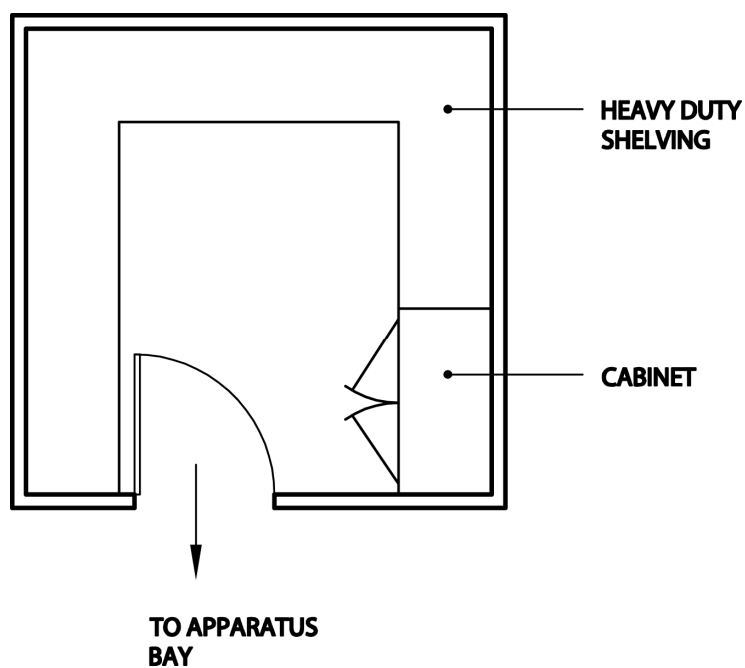
**Lighting:** See Chapter 5 Specification Section 26 50 00.

**Power:** As required for refrigerator.

**Communications:** House PA

**Equipment:** No requirements.

**Other:**





## L. Apparatus Equipment Storage - Engine

*Area:* 100 square feet

*Function:* Storage for supplies, equipment, and inventory.

*Adjacencies:* Apparatus Bay, convenient to Engine.

### *Design Issues:*

Security: No requirements.

Furnishings: Full height heavy duty shelving and cabinet.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: See Chapter 5 Specification Section 08 11 00.

Plumbing: No requirements.

HVAC: See Chapter 5 Specification Section 23 00 00.

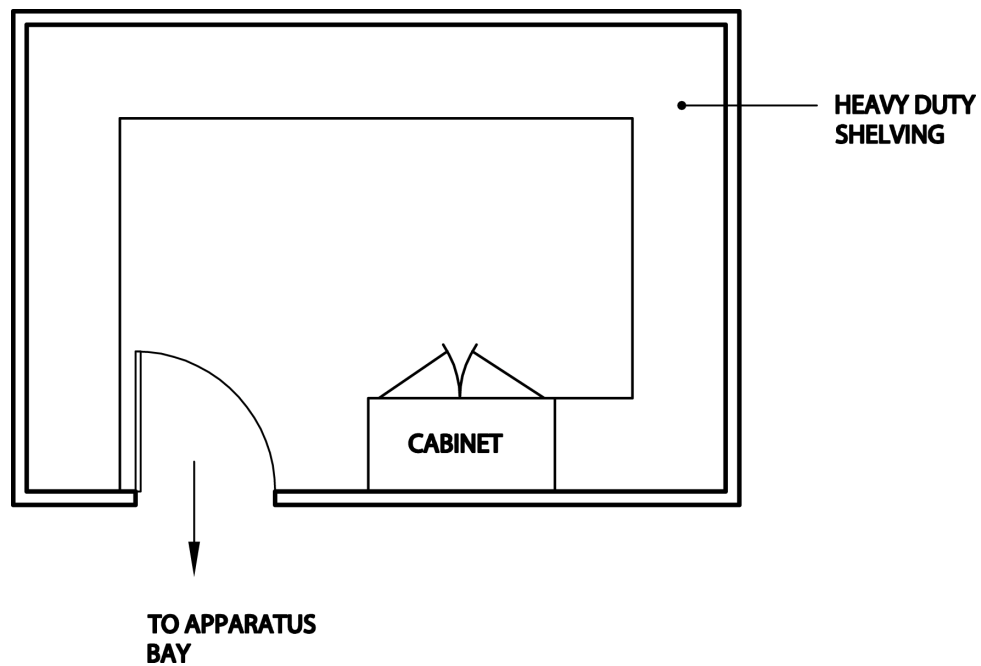
Lighting: See Chapter 5 Specification Section 26 50 00.

Power: No special requirements.

Communications: House PA.

Equipment: No requirements.

Other:





### M. Apparatus Equipment Storage – Ladder

*Area:* 150 square feet

*Function:* Storage for supplies, equipment, and inventory.

*Adjacencies:* Apparatus Bay, convenient to Ladder Unit.

*Design Issues:*

Security: No requirements.

Furnishings: Full height heavy duty shelving and cabinet.

Finishes: See Chapter 5 Specification Section 09 00 00, Type C.

Doors: See Chapter 5 Specification Section 08 11 00.

Plumbing: No requirements.

HVAC: See Chapter 5 Specification Section 23 00 00.

Lighting: See Chapter 5 Specification Section 26 50 00.

Power: No special requirements.

Communications: House PA.

Equipment: No requirements.

Other: