

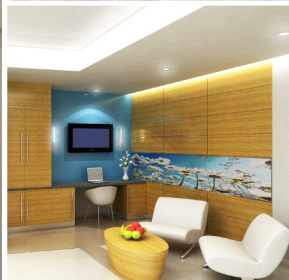
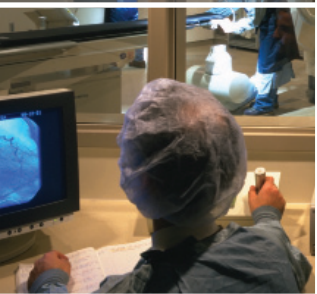
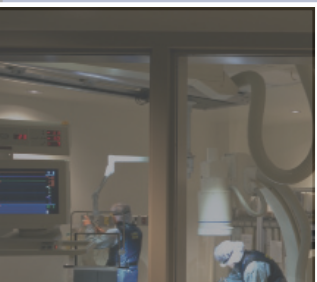


Department of
Veterans Affairs
Office of Construction & Facilities Management

design guide

NOVEMBER 29, 2011

PULMONARY MEDICINE SERVICE



PULMONARY MEDICINE SERVICE

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SECTION 1 - FOREWORD

FOREWORD

The material contained in the Pulmonary Medicine Service Design Guide is the culmination of a coordinated effort among the Department of Veterans Affairs (VA), the Veterans Health Administration, the Office of Construction & Facilities Management, the Strategic Management Office, and the Capital Asset Management, Planning Service Group, and Hellmuth, Obata & Kassabaum, P.C. The goal of this Design Guide is to maximize the efficiency of the design process for VA facilities and ensure a high level of design, while controlling construction and operating costs.

This document is intended to be used as a guide and is supplementary to current technical manuals, building codes and other VA criteria in planning healthcare facilities. The Design Guide is not to be used as a standard design; it does not preclude the need for a functional and physical design program for each specific project.

The Pulmonary Medicine Service Design Guide was developed as a design tool to assist the medical center staff, VACO Planners, and the project team in better understanding the choices that designers ask them to make, and to help designers understand the functional requirements necessary for proper operation of this procedure suite.

This Design Guide is not intended to be project-specific. It addresses the general functional and technical requirements for typical VA Healthcare Facilities. While this Guide contains information for key space types required in a Pulmonary Medicine Service, it is not possible to foresee all future requirements of the Procedure Suite in Healthcare Facilities. It is important to note that the guide plates are generic graphic representations intended as illustrations of VA's furniture, equipment, and personnel space needs. They are not meant to limit design opportunities.

Equipment manufacturers should be consulted for actual dimensions and utility requirements. Use of this Design Guide does not supersede the project architect's and engineers' responsibilities to develop a complete and accurate design that meets the user's needs and the appropriate code requirements within the budget constraints.

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SECTION 2 - NARRATIVE

GENERAL CONSIDERATIONS

VA operates the nation's largest healthcare system with over 5.5 million patient visits per year. While veterans' health care needs are often similar to the general population, they are also different in significant ways. For example, veterans can suffer from a higher prevalence of disabilities from traumatic injuries, post-traumatic stress disorder (PTSD) and neurological disorders. To respond to these needs, VA is in the process of developing and integrating a care delivery model focused on patient centered care specifically as it applies to veterans. This mirrors general trends in healthcare where patient centered care is part of a major understanding of how best to enhance healing and support better outcomes. To integrate knowledge derived from other industry efforts, VA is working with Planetree as a partner. Planetree's efforts are helping to lead the way to personalizing, humanizing, and demystifying the healthcare experience for patients and their families. They bring a history of integrating changes required to protocols and facilities to support patient centered care. Veteran Centered Care has been defined by VA as follows:

A fully engaged partnership of veteran, family, and healthcare team established through continuous healing relationships and provided in optimal healing environments, in order to improve health outcomes and the veteran's experience of care.

In addition, Veteran Centered Care is based on twelve core principles which are noted below. Although all are important parts of the VA approach to care, nine principles stand out because they can be supported directly or indirectly by facility design solutions. These nine principles are noted in bold.

Veteran Centered Care Core Principles

- 1. Honor the veteran's expectations of safe, high quality, accessible care.**
- 2. Enhance the quality of human interactions and therapeutic alliances.**
3. Solicit and respect the veteran's values, preferences, and needs.
4. Systematize the coordination, continuity, and integration of care.
- 5. Empower veterans through information and education.**
6. Incorporate the nutritional, cultural and nurturing aspects of food.
- 7. Provide for physical comfort and pain management.**
- 8. Ensure emotional and spiritual support.**
- 9. Encourage involvement of family and friends.**
- 10. Ensure that architectural layout and design are conducive to health and healing.**
- 11. Introduce creative arts into the healing environment.**
- 12. Support and sustain an engaged work force as key to providing veteran centered care.**

The following discussion begins with General Industry Trends followed by Veteran Centered Care Design Trends. General Industry Trends is organized around four main areas of concern: Safety and Risk Reduction, Efficiency and Flexibility, Planning that Accommodates Program Growth, and Response to Human Needs as they apply to objectives for planning and design of Pulmonary Medicine.

Veteran Centered Care Design Trends is guided by an understanding of how the nine facility linked core principles of Veteran Centered Care can strengthen VA goals for care delivery in support of better patient experiences and, ultimately, outcomes.

GENERAL INDUSTRY TRENDS

1. Safety and Risk Reduction

Plan to control cross infection

Hand washing and controlled access

To enhance infection control, ensure that hand-washing stations or hands-free automated hand-rub devices are strategically located for easy access to caregivers. Organize circulation paths so that entrances to invasive procedure rooms are from a non-public, controlled access corridor.

Avoid clean/dirty circulation conflicts

Plan procedure areas to avoid circulation conflicts between patients and service traffic and between soiled and clean areas. One way to clarify movement is to provide a public side to the procedure area from which patients and families access care, and a service side which accommodates staff work areas, and from which service traffic arrives and waste leaves.

Promote staff observation of patients

Since increased observation from staff will foster a safer environment for patients, plans should seek to provide clear visualization of patients by staff. Where Prep and Recovery are required for invasive procedures, well planned locations of nurse work areas will support this objective since caregivers will be closer to patients during pre and post procedure. For bronchoscopy and pulmonary test and exam areas nurse positions should be planned to observe patient waiting and travel to exam and test areas.

Specify materials and finishes that enhance infection control

Use materials, finishes, and casework that resist microbe growth and are easily cleaned. See PG 18-14 for specific requirements.

Specify anti-microbial materials and finishes to the greatest extent possible. Minimize seams in floor and wall finishes and at floors to walls. To limit dust accumulation, avoid horizontal surfaces which are not work surfaces. Provide storage for all unpackaged items in enclosed casework.

Fully integrate Electronic Medical Records

VA uses a system of electronic medical records and bar-coding of medications. As a key initiative to improve safe care, it is important to continue to expand the implementation of electronic medical records, and improve and strengthen protocols for their use, to achieve the most beneficial results. As all records shift to a full EHR-based system, these electronic tools reduce risk and raise efficiency. In addition to quick access to comprehensive records, including imaging and test results, and consistency of patient documentation across all services, benefits include the ability to locate nurses closer to patients and enhance opportunities for more time with patients. Space efficiency benefits include a decreased need for records storage both at departmental service locations and at central storage spaces.

2. Efficiency and Flexibility

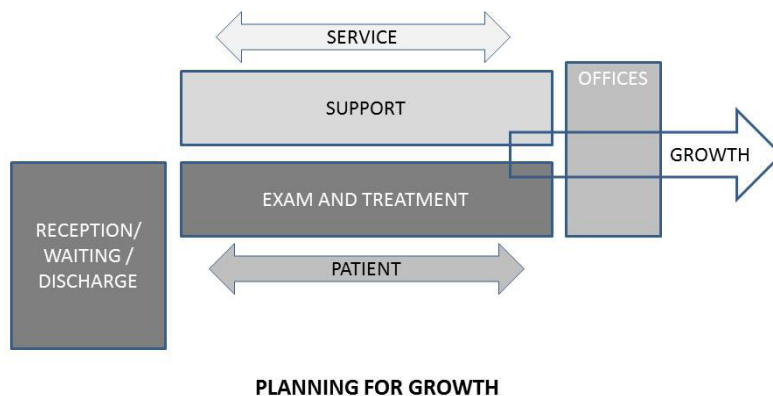
Increasing efficient operations will support VA objectives to provide quality service. Standardization of key room plans, so that items like equipment and sharps containers are always in the same location in procedure rooms, can reduce errors and speed services as staff provides care in different rooms.

Where size permits, planning of procedure areas adjacent to each other with appropriate links, will provide the opportunity to share resources among two or more services. Shared resources can include prep and recovery, waiting, linen storage, housekeeping, general storage, waste storage, and staff support areas.

3. Planning that Accommodates Program Growth

Position non-clinical space for future growth

Planning for larger scale long term growth for key program components should be identified early in the design process. Space needed to accommodate projected growth can be addressed by first identifying the ideal direction for planned growth to occur. For procedure platforms where there is often a service access corridor parallel to a patient access corridor on opposite sides of the procedure rooms, the growth direction would be in the direction of the long axis (i.e. the direction of the service and patient access corridors). At the end furthest from patient access to the procedures platform, locate “soft” or non-clinical program space, such as offices or storage, since they can most easily be relocated to permit conversion of the space to accommodate clinical growth needs.



4. Response to Human Needs

Patient dignity and self-determination must be accommodated while considering operational efficiencies. Patients’ vulnerability to stress from noise, lack of privacy, poor lighting, and other causes, and the subsequent harmful effects it can have on the healing process, can be addressed by facility planning and design that recognizes these issues and proactively incorporates design solutions to support dignity, privacy, acoustic control, comfort, and patient empowerment over their environment.

In addition to control of infection discussed above, to reduce stress and increase patient privacy and dignity, outpatients and inpatients should follow separate paths into the procedures area.

Service traffic should be separate from patient traffic to the greatest extent possible so that waste, equipment movement, and housekeeping traffic are, as much as possible, separate from patient pathways and use a dedicated service corridor.

Good planning and design appeal to the spirit and sensibilities of patients and care providers alike. Opportunities exist in the design of Pulmonary Medicine service areas to address the above issues and to incorporate creative solutions that enhance patient comfort and contribute to positive outcomes. A primary architectural objective should be to minimize an institutional image of healthcare facilities and to surround the patient and family members with finishes and furnishings that are familiar and comforting.

Noise reduction will reduce stress. Consider use of finishes that absorb noise such as carpet in appropriate non-clinical areas and sound absorbent ceiling tiles in appropriate clinical and non-clinical areas.

Lighting design can reduce stress. Where patients are prone, such as on stretcher travel through patient corridors, choices can include cove lighting against corridor walls to prevent patients from looking into the glare of light fixtures. Wall mounted sconces can provide a similar effect and also reduce an institutional feeling.

Patient privacy from visual intrusion can be enhanced by controlling views into procedure and exam rooms. Careful planning of door swings related to patient exam or treatment positions and use of cubicle curtains at procedure room entries and any area where undressing is required should all be considered. Privacy from noise transmission – into or out of a patients' area – can be strengthened by providing solid sided bays in areas like prep and recovery. Adding doors to prep and recovery bays so they become rooms further enhances privacy.

VETERAN-CENTERED CARE DESIGN TRENDS

Safe high quality accessible care

Easy access to services

An ideal for veteran centered care is point of service care where all services a patient may need on a given visit are located at or near the patient's day visit location. This ideal should be used as a guide to inform how program components could best be organized. The services to be accessed may range from exam to patient education to research linked tests, to nutrition or life style or psychological counseling.

When patients must transfer, there should be a clear and easily navigated pathway between points of service.

Women Veterans' Privacy & Security

Consideration for the privacy and security of Women Veterans will be addressed in the overall planning and design of the Pulmonary Medicine Service to carefully assess all spaces for these needs. Of particular concern are the exam and procedure rooms which shall include the following:

Procedure rooms where a female patient may be left unattended (i.e. to dress / undress) must have locks that can be disengaged by staff from the corridor side. Procedure rooms must be located in a space where they do not open into a public waiting room or a high-traffic public corridor. Access to hallways by patients/staff who do not work in that area should be restricted. Privacy curtains must be present and functional in procedure rooms. Privacy curtains must encompass adequate space for the healthcare provider to perform the procedure unencumbered by the curtain. A changing area must be provided behind a privacy curtain. Examination tables must be shielded from view when the door is opened. Examination tables must be placed with the foot facing away from the door. Patients who are undressed or wearing examination gowns must have proximity to women's restrooms that can be accessed without going through public hallways or waiting rooms.

Sanitary napkin and tampon dispensers and disposal bins must be available in women's public restrooms. A family or unisex restroom should be available where a patient or visitor can be assisted. Baby changing tables should be available in women's and men's public restrooms.

Waiting areas should provide a private setting for women Veterans through the use of partitions and/or furniture. Refer to VHA HANDBOOK 1330.01, Health Care Services For Women Veterans, May 21, 2010.

Empower Veteran

Patient control over their environment

Patients in treatment often benefit from a sense of control of the process they are experiencing. One component will be the ability to control their treatment environment. In areas where patients may need to spend more than the time for a simple exam, such as prep and recovery, patient control can include noise, temperature, lighting level, levels of privacy, and access to media.

Access to education

Education about a patient's health issues is an important component of clinical care leading to better outcomes. Knowledge is empowering and can enhance a patient's ability to understand reasons for and benefits of specific tests and treatment. Opportunities for patient education should be planned for easy access in settings where the patient can control privacy. These can include information kiosks in waiting areas and media outlets in prep and recovery.

Enhance Human Interaction / Encourage Involvement of Family and Friends

Facility solutions that support increased interaction with caregivers and family or friends include the following:

Providing adequate space and amenities for family and friends in waiting, exam, and the procedure environment.

Providing space for a family member or friend in prep and recovery will enhance the emotional support often sought from those close to the patient.

Co-locating prep and recovery will shorten caregiver travel so that providers will be closer to patients and available for interaction about clinical or emotional needs.

Healing Environment

Planning solutions should promote patient dignity and increase privacy. This will lower stress and increase comfort in support of healing and wellness. Patient space in prep and recovery should include individual rooms where appropriate, or hard-sided cubicles, each with the ability for patients to control privacy and noise.

In procedure rooms, curtains or screens should be used to increase patient privacy. Patient diagnostic or treatment position should orient the patient's head toward the door, rather than his or her feet.

Reception and Waiting areas should include planning that provides different spaces for patients who seek social interaction and for those who seek more privacy. Smaller scale spaces with separations created by low partitions, furniture or planters will provide options for more privacy in these settings.

Access to nature and to daylight can lower stress. Areas for family respite should be provided in or near the procedure area. Where site, climate, and building configuration permit, access to outdoor space can serve as a welcome area for respite. In addition, planning that brings daylight, if not views, into the procedure area would be an important addition to support clinical outcomes.

One strategy to bring natural light deep into the building might be to use light shelves at the window wall that bounce light off ceilings thus delivering light deeper into the procedure arena. To the extent that this can be achieved, this more effective delivery of light can help the entire building become a light-filled facility for healing in which all users; patients, family, and staff, reap the benefits.

Other issues specific to planning and design for veterans' care include the following:

Imagery and Artwork

Veterans' military experiences require a specific approach to the selection of imagery and artwork that is healing and restorative. Commemorative settings and iconography of national and symbolic importance help veterans recover from post-traumatic stress disorder. Units with artwork and color palettes that incorporate nature imagery that are not evocative of combat settings, and that honor veterans (e.g., photography of Mount Rushmore and national parks), can calm and restore patients. Note that nature images that may be considered restorative and healing for patients in the general public can communicate exposure and vulnerability to a veteran whose military service occurred in a similar setting (e.g. savannah or desert images).

Veterans of Recent Conflicts

As a result of their injuries, many veterans of recent conflicts, Operation Enduring Freedom and Operation New Dawn, suffer from multiple traumas including traumatic brain injury, post-traumatic stress disorder, spinal cord injury, and amputation. Extremity wounds are the most common injury of veterans of recent conflicts.

VA facilities require full accessibility planning in all areas including clearances, floor finishes, floor levels with ramp transfers between different levels, hardware and plumbing fixture design.

Veterans entering the system are generally younger than veterans currently utilizing VA services from previous conflicts. Planners should consider access to contemporary information technology and entertainment, and strategies which address the lifetime prognosis for veterans suffering from multiple traumas.

REFERENCES

Advisory Board Company. Trends in VA Hospitals. Washington, DC: The Advisory Board Company; 2009.

Andeane PO, Rodriguez CE. Effects of Environmental Characteristics on Perceived Stress in Patients in Healthcare Settings. Paper presented at: The Environmental Design Research Association 40th Annual Meeting; May 28, 2009; Kansas City, MO.

American Institute of Architects. Planning for Change: Hospital Design Theories in Practice. http://info.aia.org/nwsltr_print.cfm?pagename=ahh_jrnl_20051019_change. Published October 19, 2005. Accessed March 14, 2009.

Armstrong K, Laschinger H, Wong C. Workplace Empowerment and Magnet Hospital Characteristics as Predictors of Patient Safety Climate. *J Nurs Care Qual*. 2008;19(54):1-8.

Arneill AB, Devlin AS. Perceived Quality of Care: The Influence of the Waiting Room Environment. *Journal of Environmental Psychology*. 2002;22:345-360.

Assaf A, Matawie KM, Blackman D. Efficiency of Hospital Food Service Systems. *International Journal of Contemporary Hospitality Management*. 2008;20(2):215-227.

Atwood D. To Hold Her Hand: Family Presence During Patient Resuscitation. *JONA'S Healthcare Law, Ethics, and Regulation*. 2008;10(1):12-16.

Beard L, Wilson K, Marra D, Keelan J. A Survey of Health-Related Activities on Second Life. *J Med Internet Res*. 2009;11(2):e17

Becker F, Douglass S. The Ecology of the Patient Visit: Physical Attractiveness, Waiting Times, and Perceived Quality of Care. *J Ambulatory Care Manage*. 2008;31(2):128-141.

Berwick D. What 'Patient-Centered' Should Mean: Confession Of an Extremist. *Health Affairs*. 2009;4:w555-w565.

Blank AE, Horowitz S, Matza D. Quality with a Human Face? The Samuels Planetree Model Hospital Unit. *Jt Comm J Qual Improv*. 1995;21(6):289-299.

SECTION 3 - FUNCTIONAL CONSIDERATIONS

FUNCTIONAL ORGANIZATION

A Functional Area (FA) is the grouping of rooms and spaces based on their function within a clinical service. The organization of services in this Guide follows the categories established in VA Space Planning Criteria, Chapter: 212 – Pulmonary Medicine Service.

This service is organized in eight Functional Areas:

- FA 1: Reception Area
- FA 2: Pulmonary Medicine / Respiratory Care Patient Area
- FA 3: Bronchoscopy Patient Area
- FA 4: Sleep Study Patient Area
- FA 5: Support Area: Pulmonary Medicine / Respiratory Care
- FA 6: Prep and Recovery Area
- FA 7: Staff and Administrative Area
- FA 8: Education Area

Pulmonary Medicine Service incorporates a range of exam, testing and procedure rooms, all of which require specific planning consideration. FA 2 Pulmonary Medicine/Respiratory Care includes exams for Pulmonary Function Testing (PFT) with related rooms; FA3 Bronchoscopy, an invasive procedure examining upper airway function; and FA4 Sleep Study Area which examines breathing and other biophysiological issues related to sleeping.

The Functional Diagram in this section and Guide Plates, Reflected Ceiling Plans and Room Data Sheets in Section Four, show function, flow, organization, equipment, utilities and operational concepts. They should not be interpreted as preconceived floor plans, as the diagrams do not correlate exactly to all the rooms and functions available in Space Planning Criteria, nor to those which may be required or authorized for individual projects.

FUNCTIONAL RELATIONSHIPS

FA 1: Reception Area

Reception Area accommodates the initial processing and admission of all scheduled and unscheduled outpatients. These areas include registration functions, waiting, and opportunities for patient education.

The reception control area shall be strategically located to give the receptionist clear observation of waiting areas to facilitate control of outpatient traffic entering the suite and secure the department from unauthorized access. On the day of the procedure, ambulatory patients will register at the reception area. Functional considerations include location of workstation monitor screens to protect patient information, access to lockable files, and accessibility compliant work stations.

The reception control area should be organized in a way that maintains patient confidentiality. Waiting for patients and families should be organized so that separate patient circulation paths provide separate to prep and exam rooms and are separate from service traffic. Outpatient processing areas should be separate from inpatient circulation and holding areas when both outpatients and inpatients use the same exam rooms.

Waiting areas should be configured with small clusters of seating for privacy and for a less institutional environment. Veterans experiencing post-traumatic stress disorder (PTSD) prefer seating where they do not feel vulnerable from being approached from behind. Ensure that a specific complement of seats is located to support this need. The use of table lamps and appropriate furnishings and finishes allow for intimate spaces which encourage conversations and reduce stress levels in visitors.

Family waiting areas shall be located in close proximity to the exam spaces to facilitate post exam physician visits with families to discuss results and treatment options. In some instances the need to accommodate families with children may be required. This may include designating a children's area in waiting areas with appropriate furniture and content and should be addressed on a facility basis. The Consult Room should be located adjacent to Waiting.

When possible, access to natural daylight, views of nature, and other positive distractions should be provided to improve the human experience in these spaces. While it is common practice to include television viewing capability in waiting spaces, studies have shown increased stress and blood pressure levels in persons in waiting spaces exposed to television. This should be evaluated on a project by project basis.

For smaller size services, sharing functions associated with Reception and Waiting with other similar and adjacent services should be considered on a per facility basis.

FA 2: Pulmonary Medicine / Respiratory Care Patient Area

The primary function in this area is to test respiratory function. Special equipment required for testing is housed in the exam and test rooms. Test rooms include: Testing Lab Pulmonary Function, Testing Lab Extended Pulmonary Function, and Physiology Lab Pulmonary Exercise, which includes a treadmill for exercise testing. In or adjacent to this area, a walking area should be provided for a six minute walking test which includes marked distance measurements.

Patients can move directly from Waiting to the test room and return for post-test consult or discharge.

In addition to patient exam and test rooms, this area includes a Consult Room where patients and families can discuss post-test results and follow up with providers

The Consult Room should be located between Waiting and the exam and test rooms.

The physical design of this area must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA.

All exam spaces shall be designed for visual and acoustical privacy for the patient. All measures shall be taken to reduce risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

FA3: Bronchoscopy Patient Area

The primary function in this area is to provide bronchoscopy procedures, an invasive procedure which includes the need for mild sedation. The room includes special equipment accommodated on articulated ceiling mounted booms to keep the floor area around the procedure table as clear as possible of equipment and cables for unimpeded provider access. The room is organized with a centrally located patient stretcher under a dual articulated arm ceiling-mounted boom system specifically designed to support medical equipment. One arm includes an equipment carrier for endoscopic imaging equipment with provisions for medical gases, data, video, and print capabilities for use with fiber optic (direct vision) endoscopes, and power outlets. This system takes optical images from a single endoscope and directly records them or converts them to digital signals for recording. The other arm supports a flat screen monitor for video and data displays.

Several clean scopes can be stored in a cabinet in the room in addition to the storage area listed in Support Area below. An Electro-Surgical Unit is accommodated in each room for sterile therapeutic interventions using argon plasma coagulation.

The room is best organized with a patient access side providing direct access from/to Prep and Recovery, and a service access side, with a door to a service corridor accessing the Equipment Cleaning Room.

The physical design of the suite must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA.

All procedure spaces shall be designed for visual and acoustical privacy for the patient. All measures shall be taken to reduce risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

FA4: Sleep Study Patient Area

This area, often called a Sleep Lab, includes monitoring over unusually long test times. It should be located in a quiet zone away from other clinic and hospital activity. Patients who require Sleep Lab testing generally access the test area after normal clinic hours and go directly from Waiting to the Sleep Study Prep Room.

Sleep Study patients are prepped in the Prep Room with the application of electrodes before entering the Sleep Study Room.

The Sleep Study Room is organized like a normal bedroom with a bed, side table, wardrobe and chair. A private patient toilet is directly accessed from the room.

The suite of tests used in sleep studies is called polysomnography (PSG). It is a comprehensive recording of the biophysiological changes that occur during sleep. While usually performed at night, when most people sleep, some labs can accommodate people with circadian rhythm sleep disorders and do the test at other times of day. The PSG monitors many body functions during sleep including brain, using electroencephalography (EEG), eye movements, using electrooculography (EOG), muscle activity or skeletal muscle activation, using electromyography (EMG), and heart rhythm, using echocardiography (ECG).

A polysomnogram will typically record a minimum of twelve channels requiring a minimum of 22 wire attachments to the patient. These channels vary in every lab and may be adapted to meet the doctor's requests.

Wires for each channel of recorded data lead from the patient and converge into a central box, which in turn is connected to a computer system for recording, storing and displaying the data. During sleep the computer monitor can display multiple channels continuously. In addition, there is a small infra-red video camera in the room so a technician can observe the patient on a monitor from the Sleep Study Monitoring Room. The Sleep Study Monitoring Room accommodates the providers and technicians running the tests. The room includes the polysomnography printer, the monitor for patient viewing and a computer. The room and its equipment can be used to monitor up to four multiple Sleep Study Room tests simultaneously. Other spaces include a Nourishment Room for patients and staff, a Clean Linen Storage Room, and a Housekeeping Aides Closet.

FA 5: Support Area

Support functions are both general and specific for the three Patient Areas which comprise the Pulmonary Medicine Service - Pulmonary Medicine / Respiratory Care Patient Area, Bronchoscopy Patient Area, and Sleep Study Patient Area. For clarity, support functions for each Patient Area are discussed separately.

General

The normal complement of Clean and Soiled Utility Rooms is required to support each Patient Area and Prep and Recovery. Depending on the size of each clinical component, and without exceeding the program area for these functions, they can be organized so that separate Clean and Soiled rooms are within or adjacent to each Patient Area to minimize staff travel distance and raise efficiency.

Pulmonary Medicine / Respiratory Care Patient Area

Support functions include rooms for Gas Cylinder Storage and Ventilator Storage. Gas Cylinder Storage must be provided with two rooms- one for full and one for empty cylinders.

Bronchoscopy Patient Area

Support functions include an Equipment Cleaning room where scopes are cleaned and packaged for transport to the Sterile Processing Department (SPD) for reprocessing; a Respiratory Therapy Room where instruments and components for pulmonary tests are stored, tracked, tested and adjusted; Storage Room for Argon Plasma Coagulation equipment; Storage Room for C-Arm Equipment; Storage Room for other equipment; Housekeeping Aides Closet.

Soiled and Clean Utility Rooms would be provided as noted above

In addition to the eyewash station in the Equipment Cleaning room, eyewash stations should be strategically located along the staff/service corridor near all scope cleaning functions.

Sleep Study Patient Area

Key support functions are listed under FA 4 above.

Soiled and Clean Utility Rooms would be provided as noted above under the General heading.

FA 6: Prep and Recovery Area

Prep and Recovery is the bridge for patients between public areas and the controlled environment that supports the Bronchoscopy invasive procedures area. It is comprised of patient rooms or cubicles, depending on facility needs and monitored from a nurse station. Rooms are different from cubicles because they include sliding glass doors which permit visibility with acoustic privacy.

In alignment with Veteran Centered Care objectives, while all rooms or cubicles must provide clear visualization of each patient by nursing staff, rooms, rather than cubicles, provide maximum acoustic and visual privacy and promote patient dignity more easily. Rooms and cubicles have the same dimensions and can accommodate a family member or friend, extending opportunities for human contact at both pre- and post-procedure times. In addition, physician consults on findings from procedures can be accommodated in rooms with acoustic privacy. Both rooms and cubicles can include curtains or other screening solutions which can be easily deployed across the front for visual privacy.

A Nurse Station provides positions for nurse monitoring of prep and recovery positions as well as work and charting areas. This space should be located to provide visualization of patient positions in Prep and Recovery and permit nurses to monitor patients who may be agitated both pre- and post-procedure, and may become unstable post-procedure. Nurses also monitor patient movement to and from procedure rooms. In Prep and Recovery areas with many patient positions, to reduce nurse travel and enhance nurse visibility of patients, nurse stations may be decentralized as long as the total program net square feet for the function is not exceeded.

The nurse station shall be configured so that the location of workstation monitor screens protects patient information from public view. To accommodate disabled staff, separate accessibility compliant and ergonomically designed work stations shall be provided. Ergonomically designed work areas should be provided for all staff to reduce staff fatigue and support peak performance,

Inpatients will generally require pre-procedure preparation in Prep and Recovery and are generally monitored in Recovery before being returned to their room. Inpatients' status may be at a higher acuity level than outpatients and may require closer observation. As noted elsewhere in this Guide, inpatient and outpatient pathways shall be separate to the greatest extent possible. For both reasons, rooms or cubicles in Prep and Recovery which are slated for inpatients pre- and post-procedure should be identified and allocated in close proximity to nurse positions.

Prep and Recovery includes support spaces within its area. These include Medication and Nourishment spaces, Clean and Soiled Utility Rooms, Equipment Storage room, and a Housekeeping Aides Closet. Without exceeding their programmed area, all of these may be decentralized to reduce staff travel distance.

To increase space and staff efficiency, Prep and Recovery areas can be considered on a per facility basis for consolidation with Prep and Recovery components required by other similar and adjacent services.

FA 7: Staff and Administrative Area

Enclosed office spaces and technician cubicles shall be provided per number and square feet authorized in the program.

Key offices include those for the Director of Respiratory Therapy, Physician Offices as authorized, and offices as authorized for the Nurse Manager and Chief Technician. Cubicles may be authorized for a Home Care Coordinator, Polysomnographer, Respiratory Therapist, and Administration staff.

In planning for future flexibility of spaces, it is beneficial to plan for a modular (i.e. same size/same proportion) approach for offices to allow the spaces to be reallocated without significant reconfiguration. In addition, consider grouping clinician/staff offices and cubicles into team work areas to promote multidisciplinary interaction which leads to improved quality of care and efficiency of care. Access to and control of natural light should be considered in designing these spaces for staff satisfaction and stress reduction. A Conference Room/Group Room may be authorized to support the team work area.

Administrative areas include reading, interpretation, and consultation areas that are accessible to physicians and nursing staff and located near the procedure area.

The Staff Lounge and Staff Locker Room are important as respite areas which reduce stress and enable staff to maintain a high level of quality service when clinics are active. The Staff Lounge shall be conveniently located to staff work areas but separate from patient areas. Provision of a separate locker room from the staff lounge is desirable for staff privacy and noise reduction. Staff toilets should be located with immediate adjacency to the staff lounge but should not open into it. These staff support functions should be considered for sharing with other adjacent services as appropriate.

FA 8: Education Area

Spaces for Education are required when a residency program is authorized. They include a Conference/Class room, and office and cubicles for interns.

OTHER FUNCTIONAL CONSIDERATIONS

General Considerations

The planning approach should locate high volume short duration services closer to patient waiting areas. This will decrease patient travel time and distance and reduce staff travel time and distances permitting more staff time with patients. Procedures with low volume or longer duration times may be further inside patient areas.

The physical design of all areas must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA.

All spaces shall be designed to reduce risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

Physical Security

Security is a key objective when patients are undergoing procedures and when they are preparing or recovering from them. During procedures patients may feel vulnerable. Attention to traffic unrelated to the procedure, and the intrusion of noise unrelated to the patient's care, are issues which planning and design choices can help control.

As previously stated, exam and procedure rooms should be organized to provide entry from a controlled access corridor, limited to patients and related clinical staff. Patient positions in exam rooms should generally be located so that people entering the room approach from the patient's side with the patient's head in view.

Patients who require changing out of street clothes in an exam room, should be provided with control of access, privacy, such as a lockable door, and cubicle curtains, shades or screens.

Flexibility

The design of healthcare facilities must respond to changes in technology, changing workloads, and operational efficiency objectives. To facilitate easy and more cost effective future adaptability, designers should consider the use of spaces of standard size and proportions sized to accommodate a range of related functions. Use of a standard planning module (grid) throughout a clinical procedures area is encouraged. Spaces with special requirements, special equipment, or unusual sizes should be grouped where possible and designed to accommodate change with minimal disruption to the remainder of the suite.

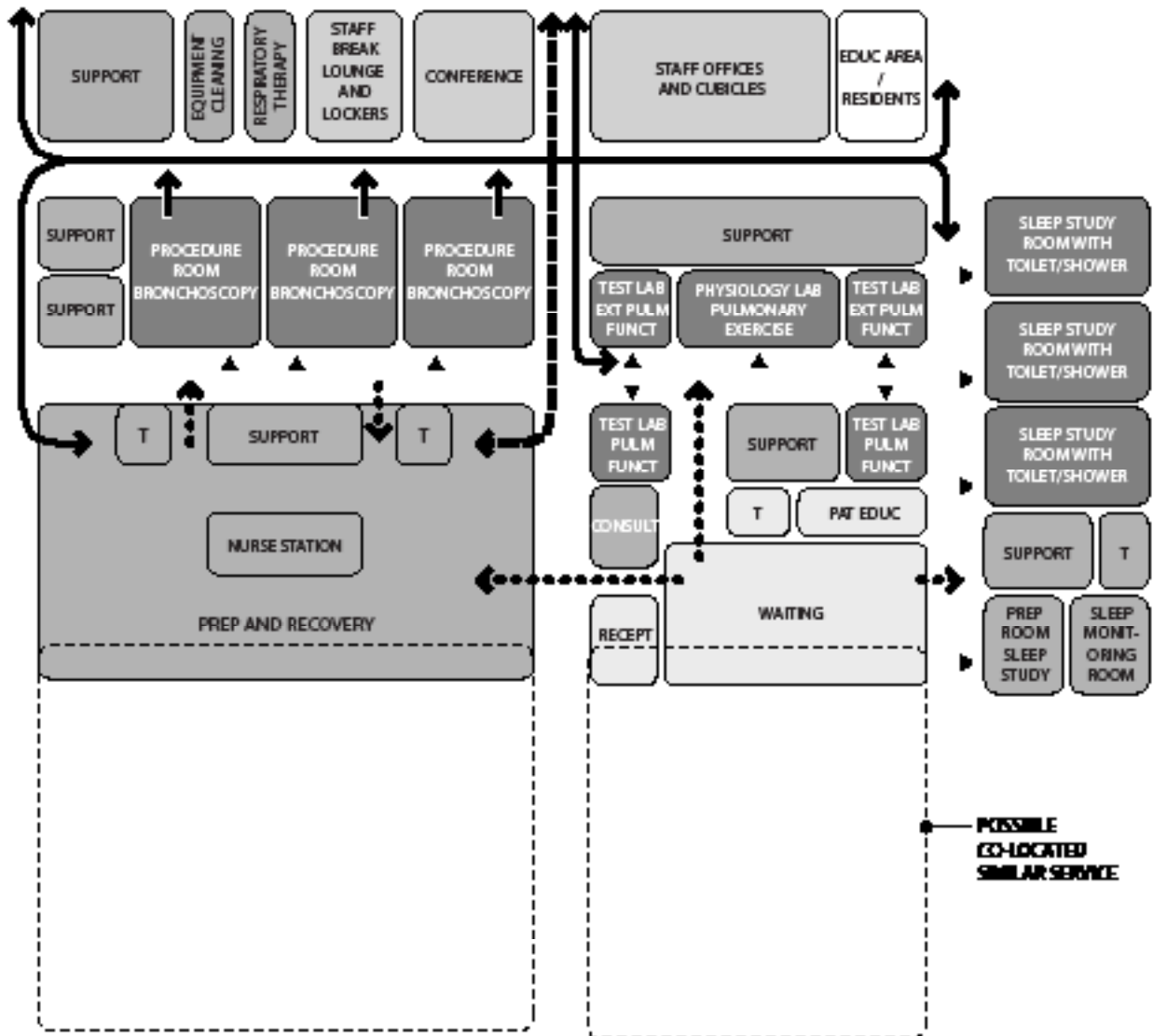
Efficiency

VA is committed to efficient use of resources including energy, materials, equipment, and staff. Refer to Sustainable Design and Energy Reduction Manual on VA Technical Information Library (TIL).

Accessibility

Accessibility is accommodated by the application of PG 18-13, VA Barrier Free Design Guide; Architectural Barriers Act Accessibility Standards (ABAAS), Appendices C and D to 36 CFR Part 1191 (adopted by GSA and supersedes Uniform Federal Accessibility Standards, UFAS); and ADA Standards for Accessible Design (28 CFR Part 36) to space and fixed equipment layouts.

FUNCTIONAL DIAGRAM



LEGEND

- | | | | |
|--|-------------------------------|--|---------------|
| | EXAM TESTING PROCEDURE | | STAFF SERVICE |
| | PREP RECOVERY SUPPORT | | OUTPATIENT |
| | STAFF AND ADMINISTRATIVE AREA | | INPATIENT |
| | RECEPTION AREA | | PATIENT ENTRY |
| | EDUCATION AREA | | |

RELATIONSHIP MATRIX

SERVICE	RELATIONSHIP	REASONS
ICU	3	C
MS&N Patient Care Units	3	C
Patient Prep and Recovery	N	
Emergency Department	4	C
Main Entrance	3	H
Cardiovascular Labs	4	H
Endoscopy	2	H
Ambulatory Surgery/ Minor Procedure	2	H
Radiology	4	G
Diagnostic Testing	3	H
Pulmonary Clinic / Testing	N	
Cardiology Clinic / Testing	3	A, G, H
Digestive Disease Clinic/Testing	4	H
Neurology Clinic/Testing	4	H
Ventilator Storage	1	B, G
Respiratory Therapy	1, 3	G, H
Pharmacy	5	B
Laboratory	4	G
Social Work / Case Management	4	H
PT/OT	N	
Food Service / Kitchen	N	
SERVICES		
RELATIONSHIP	REASON	
Sterile Processing Department (SPD)	3	A, K
Staff On-Call Rooms	N	
Linen Storage	5	B
Waste Management	5, X	B, E, F
Loading Dock	5, X	B, D

LEGEND

Relationship:

1. Adjacent
2. Close / Same Floor
3. Close / Different Floor Acceptable
4. Limited Traffic
5. Connection Needed
- N. Not Applicable
- X. Separation Desirable

Reasons:

- A. Common use of resources
- B. Accessibility of supplies
- C. Urgency of contact
- D. Noise or vibration
- E. Presence of odors or fumes
- F. Contamination hazard
- G. Sequence of work
- H. Patient convenience
- I. Frequent contact
- J. Need for security
- K. Closeness inappropriate
- L. Interference

SECTION 4 - DESIGN STANDARDS

INTRODUCTION

This section covers technical considerations for planning and designing the Pulmonary Medicine Service. The discussion includes detailed technical considerations for architectural, mechanical systems and other related components. To support this discussion, selected rooms are detailed in the form of Guide Plates. Each Guide Plate includes a floor plan, reflected ceiling plan, room data sheet, and an equipment list which provides a comprehensive overview of space planning and utility requirements and locations for the key rooms in this service.

Guide Plates for the following key rooms in this section are as follows:

Testing Lab, Pulmonary Function (OPPF1)

Testing Lab, Extended Pulmonary Function (OPPF2)

Physiology Lab, Pulmonary Exercise (OPPF5)

Respiratory Therapy Room (OPRT1)

Procedure Room, Bronchoscopy (TRPE2)

Sleep Study Room (OPPF6)

Monitoring Room, Sleep Study (OPPF7)

Recovery Room, Patient Prep (RRSS1)

Note that room dimensions on the floor plans closely approximate, but may not always reflect the exact programmed room area stated in the Space Planning Criteria, Chapter 212 Pulmonary Medicine Service.

TECHNICAL CONSIDERATIONS

Architectural

Interior Design

Follow guidance in PG 18-10, Ambulatory Care/Outpatient Clinic / Interior Design Manual for New Construction and Renovations of Hospitals and Clinics, and PG 18-14, Room Finishes, Door and Hardware Schedule. Where a specific guide plate is not provided for a space or function, refer to PG 18-14 and the general design information below. Coordinate interior / material finish selections with Interior Design and Way-finding concept developed on a per project basis.

The goal of the design is to provide an interior environment that fosters healing of both the patient's mind and body, and respects the public funding aspect of VA projects. Design concepts should be comprised of a few simple choices, appear clear to users, and provide a welcoming, calm setting. Materials that have natural origins or clear links to nature and use subtle patterns and color tones rather than strong hues will support this goal. Minimal means – few rather than many colors, for example, should be used to achieve these goals.

Key functional and design considerations include:

1. Durability and cleanliness
2. A timeless quality for materials and colors
3. Creation of a distinctive, clear lead for the planning and selecting of furnishings and art

Elements which create non-functional horizontal surfaces, like decorative moldings which become dirt catchers, or wall coverings that cannot be washed down, should be avoided.

Way-finding

Patients, visitors and staff need to know where they are, where their destination is, how to get there and have the ability to return to their point of origin. In addition to signage, strategies for way-finding should be part of early design concepts and be integral with architectural planning and finish choices. In this way, way-finding can become a natural, intuitive part of the overall design. Refer to Interior Design Manual for New Construction and Renovations of Hospitals and Clinics and VA Signage Design Guide.

Examples of design strategies to achieve way-finding goals include:

- Utilize specific color, pattern, or artwork cues for different components in a unit or service. Based on choice of color palette, public areas can be clearly differentiated from procedure areas and further differentiated from service areas. Use of artwork can signal a department entrance
- Treat corridor ends and junctures as way-finding opportunities. Where possible, corridor ends can be sources of daylight or special graphic or color panels can be used to cue destination information from a distance.

Partitions

Partitions should generally be gypsum wallboard (GWB) on appropriately sized metal studs. Provide sound attenuation in accordance with PG 18-3, VA Design and Construction Procedures, Topic 11: Noise Transmission Control. Provide wall protection in accordance with the Interior Design Manual for New Construction and Renovations of Hospitals and Clinics.

Consider incorporating corner guards in corridors and other areas where the potential for wall damage from wheeled patient and cart traffic is anticipated. To reduce an institutional feeling, corner guards should be set flush to adjacent wall surfaces, as opposed to surface mounted, and selected in a color that matches adjacent wall color.

Floors

Floor finish for most spaces, including exam rooms, corridors and supply and storage spaces, should be a resilient tile with a 6 inch (150 mm) high rubber base. Floors in all Bronchoscopy procedure rooms shall be welded seam resilient flooring with integral coved base manufactured specifically for invasive healthcare settings. For all clean and soiled utility rooms, decontamination, and clean storage rooms, floor finish should be welded seam resilient flooring (WSF) with integral 6 inch integral coved base. Floors in offices, conference rooms, and waiting areas should be carpet with a 4 inch (100 mm) high rubber base. Floors in toilet rooms should be porcelain tile with a porcelain tile base.

Ceilings

In most spaces, including toilet rooms, lay-in acoustic ceiling tile should be used. Where required for sanitation or moisture resistance, such as in all Bronchoscopy procedure rooms, clean and soiled utility rooms, decontamination, and clean scope storage rooms, acoustical ceiling tile shall have a washable sprayed plastic finish, designated "SP" in PG 18-14.

Interior Doors

Doors should be 1-3/4 inches (44 mm) thick, solid core, flush wood doors or hollow metal doors in hollow metal frames. Hollow metal doors should be used where high impact is a concern and where fire rated doors are required. Door widths of 48 inches (1219.2 mm) are recommended for all wheeled traffic and for bariatric wheelchair access to all patient spaces.

Since a preponderance of wheel chairs and wheeled patient transport should be expected in VA facilities, consider use of doors fully clad in solid vinyl guard sheets. These will maximize protection, add durability, ease maintenance, and lessen an institutional feeling. In non-patient service areas where hollow metal doors are to have a paint finish, solid vinyl kick or mop plates should be added to both sides of doors. Doors in the Decontamination and Clean Scope Storage Rooms should be fully clad in solid vinyl guard sheets to allow for daily cleaning with chemical disinfectants.

Millwork

Key locations such as nurse stations and departmental reception points, will be well served with the use of custom millwork to respond to individual facility designs and configurations. Millwork should be used as an architectural encasement for standard modular components, such as files and storage cabinets which are listed in the Equipment List for each relevant space. Millwork would provide both the transaction surface at stand up height as well as the work counter at normal desk height for a receptionist or nursing staff.

Transaction counters should be made of solid surface materials which resist chipping and staining. Work surfaces at desk height may be constructed of solid surface materials or plastic laminate with flush let-in vinyl edges. Consider including task lighting built under the transaction counter. Coordinate locations of computers, printers, keyboards and power and data ports as required by facility needs.

Hardware

Accessible type should be used throughout. Refer to VA PG 18-14, Room Finishes, Door and Hardware Schedule and PG 18-4, National CAD Standards and Details Detail 08 00 00-1.dwg for additional information. Lock mechanisms which can be disengaged by staff from the corridor side should be used for all spaces where patients may disrobe, including toilet rooms and exam and procedure rooms.

Security

Partitions, doors, and hardware for Procedure Suites, and other sensitive spaces have special security requirements. Refer to PG 18-3, VA Design and Construction Procedures, Topic 14: Security and latest VA directives related to safety and security for Women Veterans.

Structural

Structural design of VA facilities shall comply with the latest editions of the following:

- Reinforced concrete design - Building Code Requirements for Reinforced Concrete (ACI Standard 318-02) and Commentary (ACI-318R-02), American Concrete Institute.
- Structural steel design - Manual of Steel Construction, Load and Resistance Factor Design, Specifications for Structural Steel Buildings, American Institute of Steel Construction, Second Edition.
- International Building Code (IBC), International Conference of Building Officials.
- VA Seismic Design Requirements (H-18-8)

In compliance with Executive Order (EO) 12699, and EO 12941, all new and existing buildings constructed or leased by the Federal Government must be seismically safe.

Bronchoscopy Rooms include ceiling mounted booms which require structural framing above the ceiling to support them.

Equipment

Equipment Lists are provided for the Guide Plates in this section. Additional general information and guidance is available on the VA Technical Information Library (TIL). Refer to Equipment Guide List (PG-18-5) for list of equipment, furnishings and utility requirements for each space in a functional area. Refer to Equipment Reference Manual (PG-18-6) for graphic representations of each piece of equipment to be purchased and installed by the construction contractor. Refer to equipment manufacturers' data for information specific to a particular equipment item.

PLEASE NOTE: The descriptions found in the equipment list do not match those in MIL-STD 1691, in their entirety. The JSN has been used to identify the piece of equipment however the equipment, selected for each particular project, needs to match the description found in this document in lieu of the description in MIL-STD 1691.

Casework

For planning and utilization concerns, casework systems with modular components will provide flexibility and durability. Casework systems should incorporate components dimensioned for ease of multiple re-use installation applications. Casework systems should be planned to avoid corner installations and filler panels.

Counters for all clinical and clinical support areas shall be made of either solid impervious resin materials per PG 18-14, which offer long-term durability, and resist chipping and staining from medical agents expected to be used in clinical environments, or, for areas where strong chemicals are used, such as Equipment Cleaning, seamless stainless steel counters with integral backsplash. Plastic laminate veneer materials may be used in non-clinical staff and administrative areas.

Information Management Systems

Reference VA Design Guide Office of Information and Technology (OI&T) for Information Management Systems. Coordinate with local information management systems in place.

In general, ports for data access shall be distributed to all occupied spaces. Specific locations for data access will be per Guide Plates in this document and/or as required by specific project needs.

Heating, Ventilation and Air Conditioning

General

Air conditioning systems will be provided to heat, cool, and ventilate the Pulmonary Medicine Service as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) HVAC Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM). Also refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details and CAD Standards for items that may apply within the Pulmonary Medicine Service. See Sustainable Design and Energy Reduction Manual (April, 2010) for additional information and requirements.

The air conditioning system serving the Pulmonary Medicine Service shall be designed to operate in occupied/unoccupied modes to suit the applicable schedules.

Room Data Sheet Criteria

The number of occupants, air conditioning temperatures, noise criteria, and room pressurization indicated on the Room Data Sheets in the Guide Plates for select rooms of this section are for the purpose of establishing general planning parameters. The design architect and engineer (A/E) shall verify the actual occupant load and air conditioning load for each specific room on each individual project. Verify equipment loads for actual equipment to be furnished within that room for the specific project. While specific outside air quantities are noted on the Room Data Sheet for each Guide Plate room, the percent of outside air shall be based on the total supply air quantities determined for each specific project.

Air Quality and Distribution

In general, clean areas shall be maintained at positive air balance and soiled areas shall be maintained at negative air balance with respect to adjoining areas. Bronchoscopy Procedure Rooms require negative air pressure to reduce the risk from airborne infectious agents.. Specific pressure requirements are noted on the Room Data Sheet for each Guide Plate room.

Corridors shall not be used to supply or exhaust/return air from adjacent rooms, except that they may be used to ventilate Housekeeping Aides Closets (HAC's) and small electrical or telephone closets opening directly onto them. Ex-filtration and infiltration from positive or negative pressure rooms adjacent to a corridor must be considered in balancing air flow.

Transfer air should not be more than 100 CFM (2.8m³/min) per undercut door within the Pulmonary Medicine Service.

Care should be taken to minimize the short circuiting of air between supply and return or exhaust openings in rooms, with careful placement of supply registers and return grills inside rooms such as Bronchoscopy Procedure and Pulmonary Test rooms. See Reflected Ceiling Plans for key rooms shown in Guide Plates.

Exhaust System

Controlling odor with proper exhaust is critical within the Pulmonary Medicine Service. The HVAC design shall provide for exhaust air from spaces to control the transfer of odors and provide proper room pressurization and proper air changes per hour that may be required by the VA HVAC Design Manual or code standards.

A dedicated exhaust system is required for spaces housing TB patients. The dedicated exhaust shall not be mixed with any other exhaust and should be discharged outdoors as specified in VA HVAC Design Manual.

Energy Conservation

The need to conserve energy is mandated by the Federal Government by Executive Order and Federal Law. In addition, 19 Federal Agencies, including VA, have signed a Memorandum of Understanding (MOU) outlining specific goals and targets for energy conservation and sustainable design. The following references apply to VA project design, with more detailed information to be found within the HVAC Design Manual for Hospital Projects:

Sustainable Design & Energy Reduction Manual (April 2010)
DOE Final Rule, and Energy Policy Act (EPACT 2005)
Energy Conservation Executive Order No. 13423 Dated January 24, 2007

Mycobacterium Tuberculosis (TB)

Centers for Disease Control (CDC) requirements for the design of public areas within buildings which accommodate mycobacterium tuberculosis patients must be addressed by architectural and mechanical disciplines. Check current requirements for transmission of mycobacterium tuberculosis and TB Criteria in the latest CDC documents. Bronchoscopy and sputum induction areas shall be designed to follow the latest CDC guidelines. Check specific CDC requirements for the need of an isolation recovery room within the Pulmonary Medicine Service.

Seismic Requirements

Where required, install HVAC systems with seismic provisions as outlined in the PG-18-10, HVAC Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Design Conditions

Year-round Conditions: 70°F to 75°F [21°C to 24°C] and 20% to 60% RH as defined in 2008 ASHRAE Standard 170 (including amendment d). The system shall be capable of maintaining temperatures within the range during normal working conditions. The cooling load for these spaces shall be calculated to maintain 75°F [24°C] at 60% RH and the heating load shall be calculated to maintain 70°F [21°C] at 20% RH. The year-round conditions can be used for variable air volume (VAV) or constant volume (CV) systems. Year-round design conditions shall be used for all patient areas. See March 2011 HVAC Design Manual for further details. To accommodate the needs of specific procedures that are planned for Bronchoscopy Procedure Rooms, confirm temperature and humidity requirements for these rooms on a per facility basis.

Plumbing

General

Plumbing systems will be provided for the Pulmonary Medicine Service as required to satisfy VA design criteria. Follow criteria in the VA Technical Information Library (TIL) Plumbing Design Manual (PG-18-10) listed on the VA website under Office of Construction & Facilities Management (CFM). Also refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details and CAD Standards items that may apply within the Pulmonary Medicine Service.

Room Data Sheet Criteria

The Room Data Sheets in this section indicate typical quantities of plumbing fixtures and equipment as well as medical gas outlets to establish the general planning parameters. The design architect and engineer (A/E) shall verify the exact fixtures and medical gas locations and quantities for individual projects.

Water Systems

Domestic cold and hot water shall be piped to all plumbing fixtures and equipment requiring these utilities. A hot water return system shall be provided to ensure the design temperature is met at the fixture furthest from the source.

Waste Water Systems

Plumbing fixtures and drains shall be drained by gravity through sanitary waste stacks, including required vent stacks. Fixtures located below gravity drain line shall be pumped as required by a duplex ejector system. Any special acidic waste should be drained through corrosion-resistant, flame-retardant piping into either a local or centralized acid dilution tank.

Medical Gas Systems

Medical gas distribution is noted on guide plates for key selected rooms. The design A/E shall refer to the latest edition (2010) of the Facility Guidelines Institute (FGI) Guidelines for the Design and Construction of Healthcare Facilities for minimum quantities and locations of medical gases. Specific quantities and locations should be determined on a per project basis.

Seismic Requirements

Where required, the plumbing and medical gas systems shall be installed with seismic provisions as outlined in the PG-18-10, Plumbing Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Electrical

General

Electrical systems will be provided for the Pulmonary Medicine Service as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) Electrical Design Manual (PG-18-10) located on VA website under Office of Construction & Facilities Management (CFM). Also refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details and CAD Standards for items that may apply within the Pulmonary Medicine Service.

Lighting

Lighting is typically provided utilizing recessed fluorescent luminaires with acrylic prismatic lenses. Recessed fluorescent fixtures with parabolic louvers may be used at the nurse station, reception, and offices to control glare on monitor screens. Consider providing under-cabinet or under-shelf fluorescent lights above counter work surfaces for task lighting. The fixtures typically use F32T8 lamps, as the minimum acceptable efficiency lamp in compliance with the Energy Policy Act (EPACT 2005). Lamps shall not be high output, and shall have a minimum color rendering index (CRI) of 70 and a color temperature of 3500 degrees Kelvin (K).

Except for invasive procedure rooms, surface mounted fixtures may be used where existing conditions or clearances above a suspended ceiling cannot accommodate recessed fixtures.

The lighting systems shall comply with Federal energy policy, VA Energy Conservation Policy and Sustainable Design and Energy Reduction Manual.

Lighting intensities shall conform to PG-18-10, Electrical Design Manual, Appendix, Illumination Levels, the IES Lighting Handbook and IES publication RP-29-06, Lighting for Hospitals and Healthcare Facilities. Reducing patient illumination levels below established levels in these reference documents is not recommended. Lighting levels are noted in foot candles on Room Data Sheets for each Guide Plate room.

Lighting energy consumption can be reduced in several ways including: reducing lighting fixture count, using highly efficient fixtures, managing when lighting is used and the amount of illumination delivered, using task lighting, and selecting fixtures, lamps, and controls, such as occupancy sensors, that best meet the needs of the staff and patient occupants.

Lighting in Pulmonary Function Testing labs shall be controlled by ceiling mounted dual technology (ultrasonic/infrared) occupancy sensors.

Lighting in Pulmonary Exercise Physiology and Bronchoscopy Procedure rooms shall be controlled by wall mounted dimmers located at the entrance to each room.

Lighting load densities shall be verified for the actual design, as they may vary depending on the room configuration, fixture types, lamps, and ballasts used.

Supply power to selected light fixtures in Physiology Lab, Pulmonary Exercise and Bronchoscopy Procedure rooms from the critical branch of the emergency power system to allow for continued operation during a power outage. For facilities that do not have emergency generators, provide selected light fixtures with battery ballast.

Power*General*

General purpose duplex receptacles are located per regulatory requirements on each wall of a room or a space. Dedicated duplex or special receptacles are provided for select pieces of equipment; some are energized from the emergency power system to allow for continuous operation during a power outage. Emergency power outlets are shown in Guide Plate floor plans for select rooms in this section and are addressed in PG 18-10, Electrical Design Manual.

Provide dedicated duplex receptacles energized from the emergency power system in areas where crash carts are stored.

Special Purpose

Dedicated duplex or special receptacles are provided for select pieces of equipment as follows:

Procedure Room, Bronchoscopy

- Dedicated power outlets mounted at service boom with quantities as indicated per room design.
- Dedicated power outlets for emergency circuiting of power receptacles and equipment.

Coordinate National Electrical Manufacturers Association (NEMA) size and configuration with system equipment suppliers.

Workstations with personal computers (PC's) are typically provided with quadruplex receptacles for the PC, monitor, and printer. Junction boxes are to be provided for equipment requiring a hardwired connection.

Telephone

Telephone outlets are typically provided at each workstation or in each room. Refer to PG-18-10 for additional requirements.

Information Technology (IT)

Computer Data (Telecom) outlets are typically provided at each workstation or in each room. Specific locations and equipment for key rooms are noted on Guide Plates in this section.

Nurse Call and Code One System

The nurse call and code one systems shall be PC based, and consist of patient call stations, staff stations, duty stations, dome lights and head-end equipment located in signal closet. The actual system configuration is dependent on the overall layout of the department and should be coordinated with the functional design.

Clock System

Provide battery operated clocks synchronized wirelessly. Both the overall system and the specific locations will be determined on a per facility basis.

Television

Television outlets are provided at selected areas as determined by function or local facility policy.

Public Address

Provide a system in accordance with Master Construction Specifications (MCS) Section 27 51 16, Public Address (PA) and Mass Notification Systems. The public address system is typically part of the telephone system. Speakers are generally located in corridors and public spaces. The actual system configuration will depend on the overall design layout and functional requirements. The Pulmonary Medicine Service will not have an independent PA system. Determine whether Pulmonary Medicine will be included as part of the hospital-wide or clinic-wide PA system or have an independent system.

Fire and Life Safety Systems

Fire Protection/Sprinkler Systems

Fire Protection/Sprinkler Systems shall be designed as required to meet the needs of the Pulmonary Medicine Service and individual rooms. Follow criteria in VA Technical Information Library (TIL) non-building specific for Fire Protection Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM).

See reflected ceiling plans (RCP) in this section for sprinkler head locations in key rooms.

Fire Alarm System

Fire Alarm Systems shall be designed as required to meet the needs of the Pulmonary Medicine Service and individual rooms. Follow criteria in VA Technical Information Library (TIL) non-building specific for Fire Protection (Fire Alarm) Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM).

Waste Management

Space requirements for waste holding areas will vary with the selection of waste collection and recycling methods and systems, and need to be analyzed to determine the method to be considered for new facilities or coordinated with existing facilities. While space needs are determined by VA Space Planning Criteria on a departmental basis, space provisions for waste collection need to be distributed and dedicated for a variety of uses.

Medical Waste

Medical waste is generated in most patient care spaces as well as instrument clean up areas where it is bagged, collected and transported to the soiled utility rooms. There it is held in separate containers pending transport to the medical waste handling facility or disposal by contract.

General Waste

General waste is generated in all spaces and is held in containers for collection and/or sorting.

Recyclable Waste

Methods for sorting, collecting, transporting and disposing of recyclable products must be specifically analyzed for each facility and location. The optional use of disposable and reusable products is an important consideration in recycling and waste disposal alternatives.

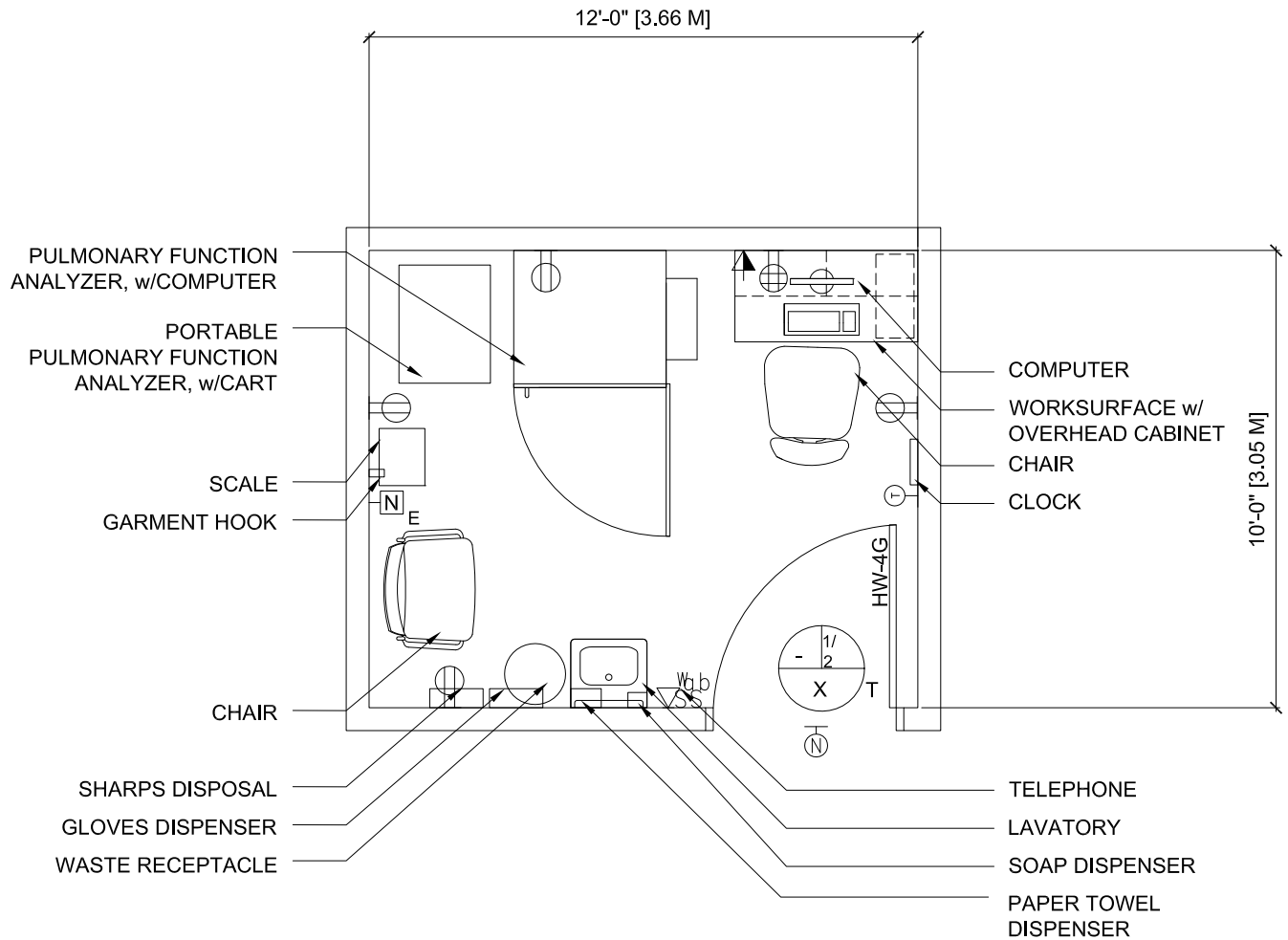
Soiled Linen

Soiled reusable linens may be generated in exam rooms, procedure spaces, Sleep Study Rooms, and patient and staff gowning areas. Soiled linens are collected in carts or hampers (depending on volume) and are held in soiled linen rooms or in linen carts in Soiled Utility Rooms pending transport to the laundry facility. Disposable linens are included with recyclable waste or medical waste as appropriate.

Reusable Medical Equipment (RME)

Reusable utensils and instruments which are used in patient care areas are handled in different ways within the Pulmonary Medicine Service. For Pulmonary Function test rooms they are pre-cleaned on the unit in a Decontamination Room; for Bronchoscopy procedures they are pre-cleaned on the unit in an Equipment Cleaning Room. For all other areas they are pre-cleaned in a Soiled Utility Room. Utensils and instruments which require sterilization prior to reuse are packaged for transport from their pre-cleaning areas to the Sterile Processing Department. Specific protocols for utensil and instrument reprocessing shall be confirmed with each individual facility.

TESTING LAB, PULMONARY FUNCTION (OPPF1)



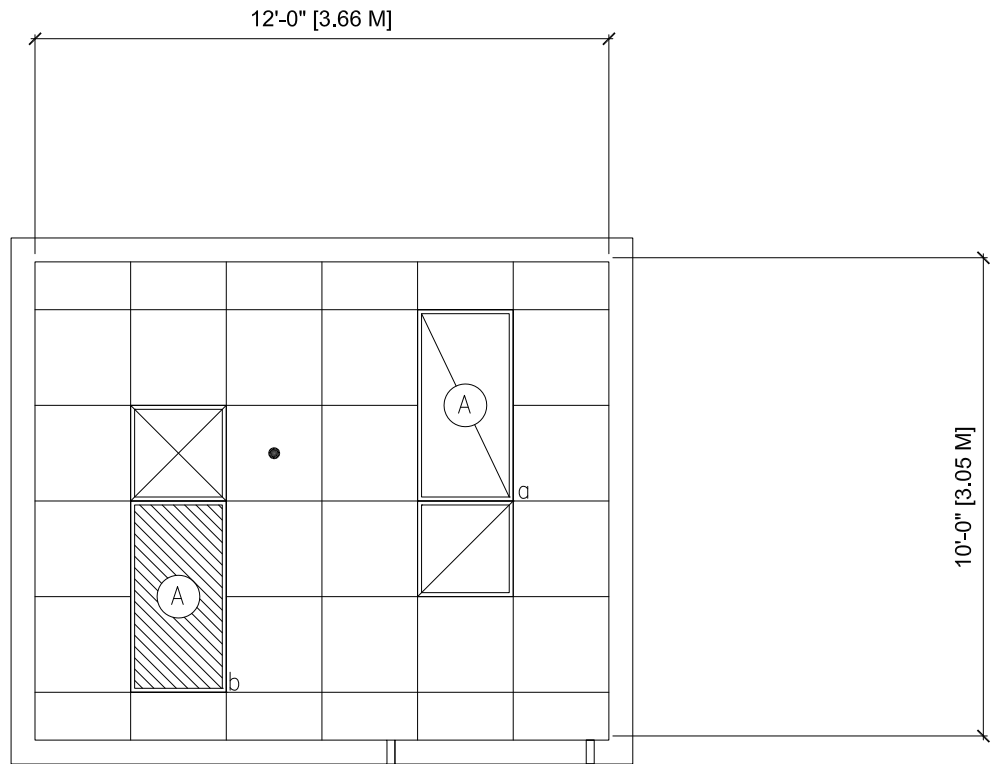
Testing Lab, Pulmonary Function (OPPF1)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



Testing Lab, Pulmonary Function (OPPF1)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Reflected Ceiling Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Testing Lab, Pulmonary Function (OPPF1)
Room Data Sheet**

ARCHITECTURAL

Ceiling: AT
 Ceiling Height: 9'-0"
 Wall Finish: GWB
 Base: RB
 Floor Finish: SVT
 Door: 1/2 X-T
 Hardware: 4G

Notes:

POWER

General: As Shown
 Special: Special Voltage as Required
 Emergency:
 Notes: Dedicated Power Required

COMMUNICATIONS

Patient Monitor:
 Nurse Call: Yes
 Security/Duress:
 CCTV:
 Telephone: Yes
 Pub. Address:
 Radio:
 Data: Yes
 Panic Call:
 Battery Operated Clock: Yes
 Intercom:
 Staff/Duty Station:

LIGHTING

General:
 1. Two (2) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. Provide Ballasts Per Fixture for Desired Switching Configuration
 3. Lighting Level: 50fc
 4. Under Cabinet Light
 5. Ceiling Mounted Occupancy Sensors

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling: 75° F (24° C)
 Dry Bulb Temp Heating: 70° F (21° C)
 Minimum % Outside Air: 2
 100% Exhaust Air:
 Noise Criteria: NC 35
 Steam:
 Relative Humidity/Cooling: 60%
 Relative Humidity/Heating: 20%
 Minimum Air Changes/Hr.: 8
 Room Pressure: Neutral (0)
 AC Load Lights: As Required
 AC Load Equipment: As Required
 Number of People: 2
 Special Equipment:

PLUMBING AND MEDICAL GASES

Cold Water: Yes
 Hot Water: Yes
 Domestic Water (HWH): Yes
 Laboratory Air:
 Laboratory Vacuum:
 Sanitary/Vent: Yes
 Medical Air:
 Medical Vacuum:
 Oxygen:
 Nitrogen Oxide:
 Nitrogen:
 Anesthesia Evac:
 Sprinkler: Yes
 Tempered Water:
 Water Control: Infrared

SPECIAL EQUIPMENT

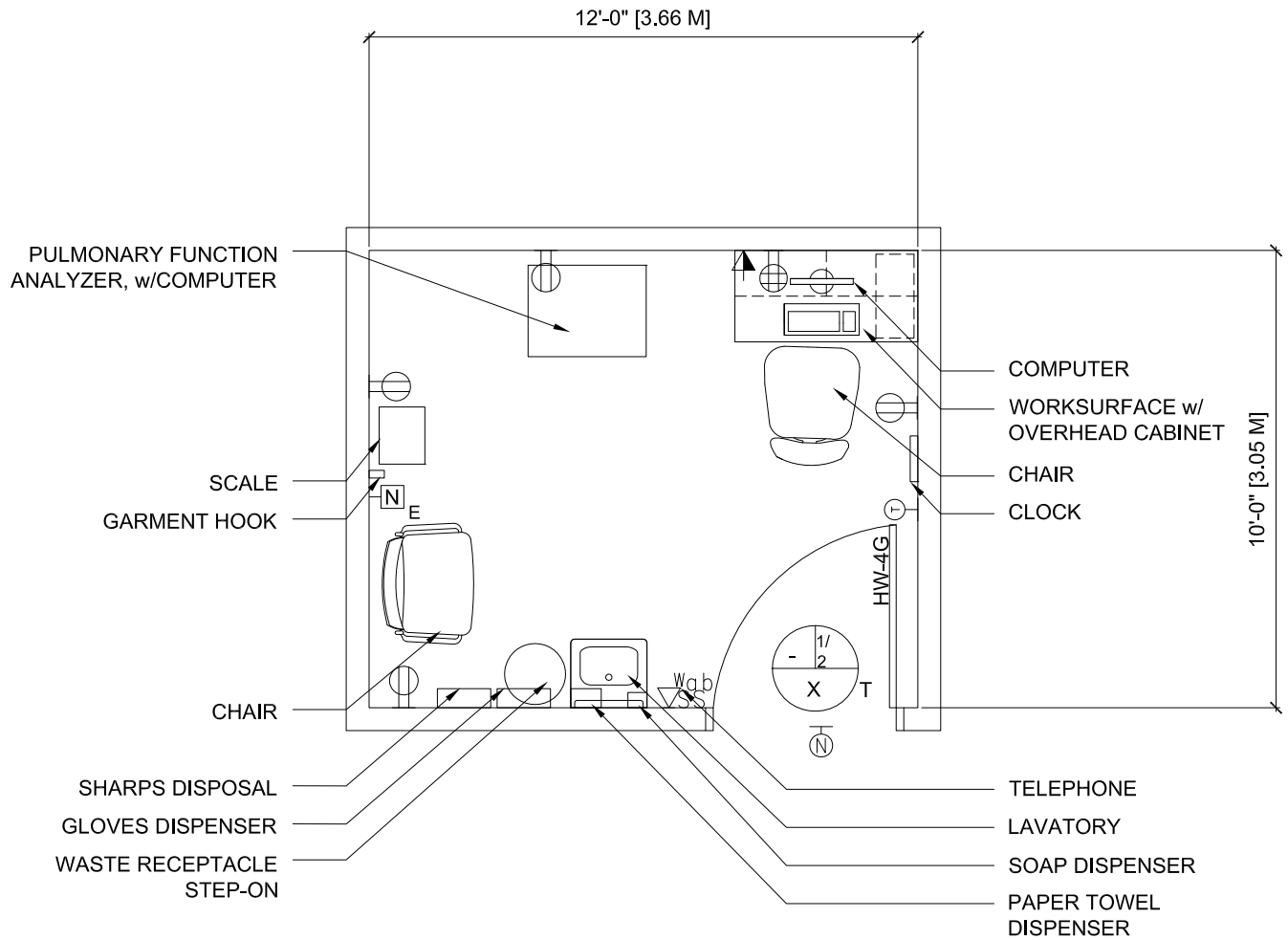
None

**Testing Lab, Pulmonary Function (OPPF1)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted, multi-line with speaker
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
E0222	Worksurface, Computer, O/H Cab, Wall Mtd, 48" W	1	VV	THIS TYPICAL INCLUDES: 2 Vertical Hanging Strips 1 Lockable Flipper Unit 1 Shelf, Storage/Display 1 Light 1 Tack board 1 Cantilevered Work Surface 1 Adjustable Keyboard Tray 1 CPU Holder
F0280	Chair, Swivel, Low Back	1	VV	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0306	Chair, Bariatric	AR	VV	Upholstered side chair approximately 34 1/2" high X 31 1/2" wide X 20" deep with floor glides. Seat is non-tilting.

F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0720	Analyzer, Pulmonary Function, w/ Computer	1	VV	Pulmonary function analyzer system. Unit includes whole body plethysmography, spirometer, computer, and gas analyzers. Computer based system for use in cardio-pulmonary areas. The system measures the ventilation, diffusion and distribution of gases in the lungs. It has automatic calibration and valves are pneumatically operated and controlled by the computer. Used to measure the performance of a patient's respiratory system; for out-patient or pre-surgical screening. Systems have specific high pressure air and oxygen and low pressure helium requirements. Refer to manufacturer's literature.
M1801	Computer, Micro-processing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
	Pulmonary Function Analyzer, Portable w/Cart	1	VV	Portable pulmonary function analyzer. It includes a spirometer computer and gas analyzers. The system provides automatic calculations of inspiratory or expiratory volumes and flows, and gas distribution measurements. Portable or cart-mountable unit that can be wheeled anywhere in the hospital. Used as a screening system to determine baseline ventilatory function along with types and degrees of impairments to a patient's respiratory system.
	Scale, Patient Step-On	1	VV	Person weighing scale with 400 pound capacity. Weight reading in pounds and kilogram with height measuring rod and wheels.

TESTING LAB, EXTENDED PULMONARY FUNCTION (OPPF2)



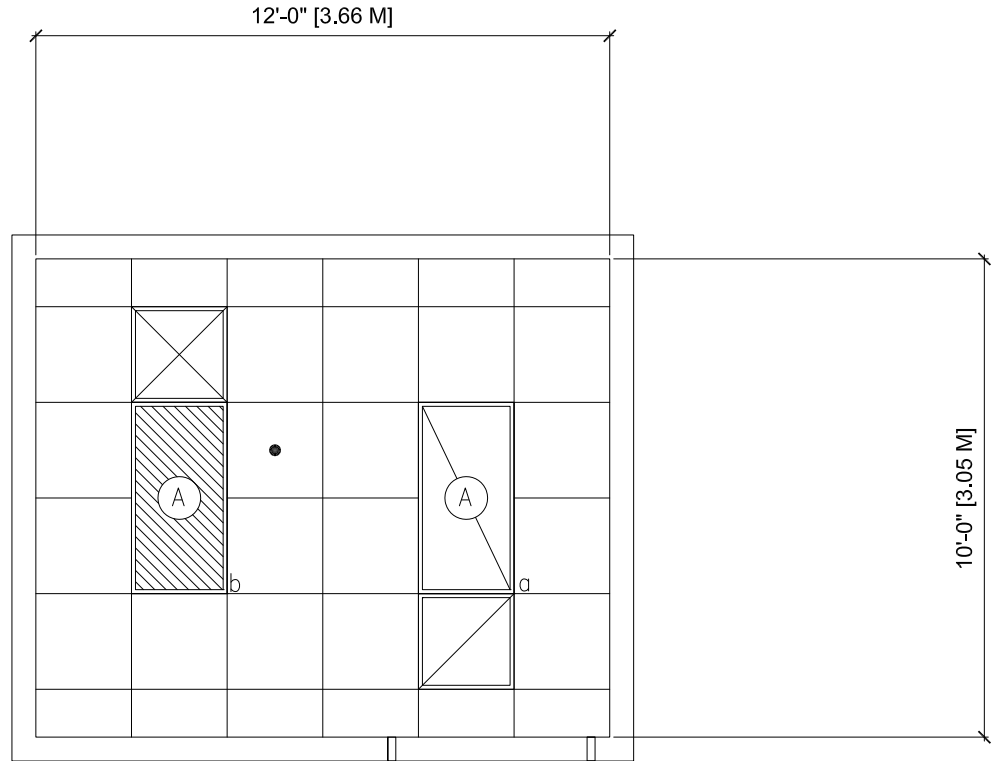
Testing Lab, Extended Pulmonary Function (OPPF2)

SCALE 1/4" = 1'-0"



Pulmonary Medicine Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



Testing Lab, Extended Pulmonary Function (OPPF2)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Reflected Ceiling Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Testing Lab, Extended Pulmonary Function (OPPF2)
Room Data Sheet**

ARCHITECTURAL

Ceiling: AT
 Ceiling Height: 9'-0"
 Wall Finish: GWB
 Base: RB
 Floor Finish: SVT
 Door: 1/2 X-T
 Hardware: 4G

Notes:

POWER

General: As Shown
 Special: Special Voltage as Required
 Emergency:
 Notes: Dedicated Power Required

COMMUNICATIONS

Patient Monitor:
 Nurse Call: Yes
 Security/Duress:
 CCTV:
 Telephone: Yes
 Pub. Address:
 Radio:
 Data: Yes
 Panic Call:
 Battery Operated Clock: Yes
 Intercom:
 Staff/Duty Station:

LIGHTING

General:
 1. Two (2) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. Provide Ballasts Per Fixture for Desired Switching Configuration
 3. Lighting Level: 50fc
 4. Under Cabinet Light
 5. Ceiling Mounted Occupancy Sensors

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling: 75° F (24° C)
 Dry Bulb Temp Heating: 70° F (21° C)
 Minimum % Outside Air: 2
 100% Exhaust Air:
 Noise Criteria: NC 35
 Steam:
 Relative Humidity/Cooling: 60%
 Relative Humidity/Heating: 20%
 Minimum Air Changes/Hr.: 8
 Room Pressure: Neutral (0)
 AC Load Lights: As Required
 AC Load Equipment: As Required
 Number of People: 3
 Special Equipment:

PLUMBING AND MEDICAL GASES

Cold Water: Yes
 Hot Water: Yes
 Domestic Water (HWH): Yes
 Laboratory Air:
 Laboratory Vacuum:
 Sanitary/Vent: Yes
 Medical Air:
 Medical Vacuum:
 Oxygen:
 Nitrogen Oxide:
 Nitrogen:
 Anesthesia Evac:
 Sprinkler: Yes
 Tempered Water:
 Water Control: Infrared

SPECIAL EQUIPMENT

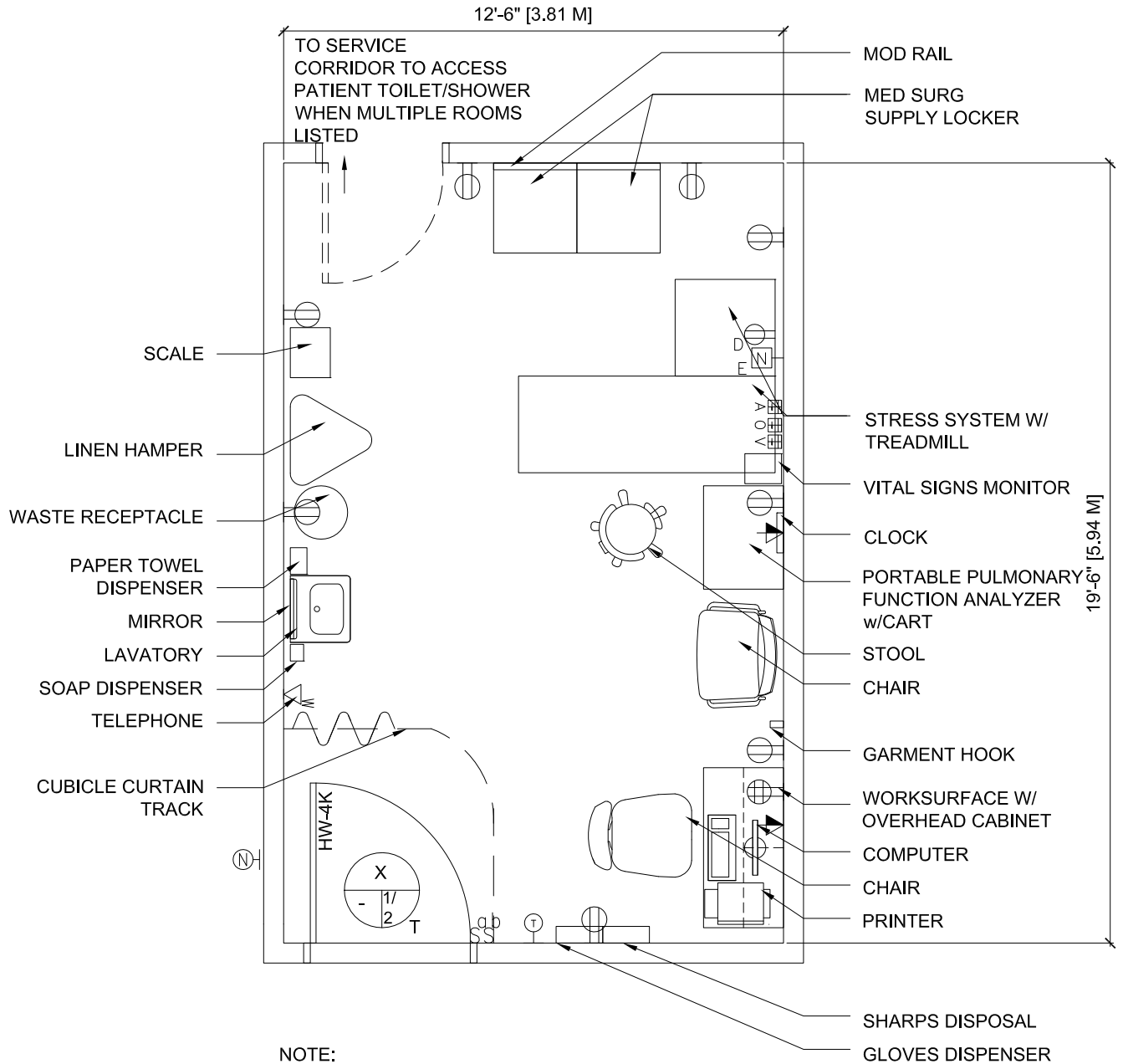
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**Testing Lab, Extended Pulmonary Function (OPPF2)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
E0222	Worksurface, Computer, O/H Cab, Wall Mtd, 48" W	1	VV	THIS TYPICAL INCLUDES: 2 Vertical Hanging Strips 1 Lockable Flipper Unit 1 Shelf, Storage/Display 1 Light 1 Tack board 1 Cantilevered Work Surface 1 Adjustable Keyboard Tray 1 CPU Holder
F0306	Chair, Bariatric	AR	VV	Upholstered side chair approximately 34 1/2" high X 31 1/2" wide X 20" deep with floor glides. Seat is non-tilting.
F0280	Chair, Swivel, Low Back	1	VV	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.

F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0720	Analyzer, Pulmonary Function, w/ Computer	1	VV	Pulmonary function analyzer system. Unit includes whole body plethysmography, spirometer, computer, and gas analyzers. Computer based system for use in cardio-pulmonary areas. The system measures the ventilation, diffusion and distribution of gases in the lungs. It has automatic calibration and valves are pneumatically operated and controlled by the computer. Used to measure the performance of a patient's respiratory system; for out-patient or pre-surgical screening. Systems have specific high pressure air and oxygen and low pressure helium requirements. Refer to manufacturer's literature.
M1801	Computer, Micro-processing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
	Scale, Patient Step-On	1	VV	Person weighing scale with 400 pound capacity. Weight reading in pounds and kilogram with height measuring rod and wheels.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer.

PHYSIOLOGY LAB, PULMONARY EXERCISE (OPPF5)



NOTE:
STRETCHER ALCOVE
LOCATED PROXIMATE
TO ROOM

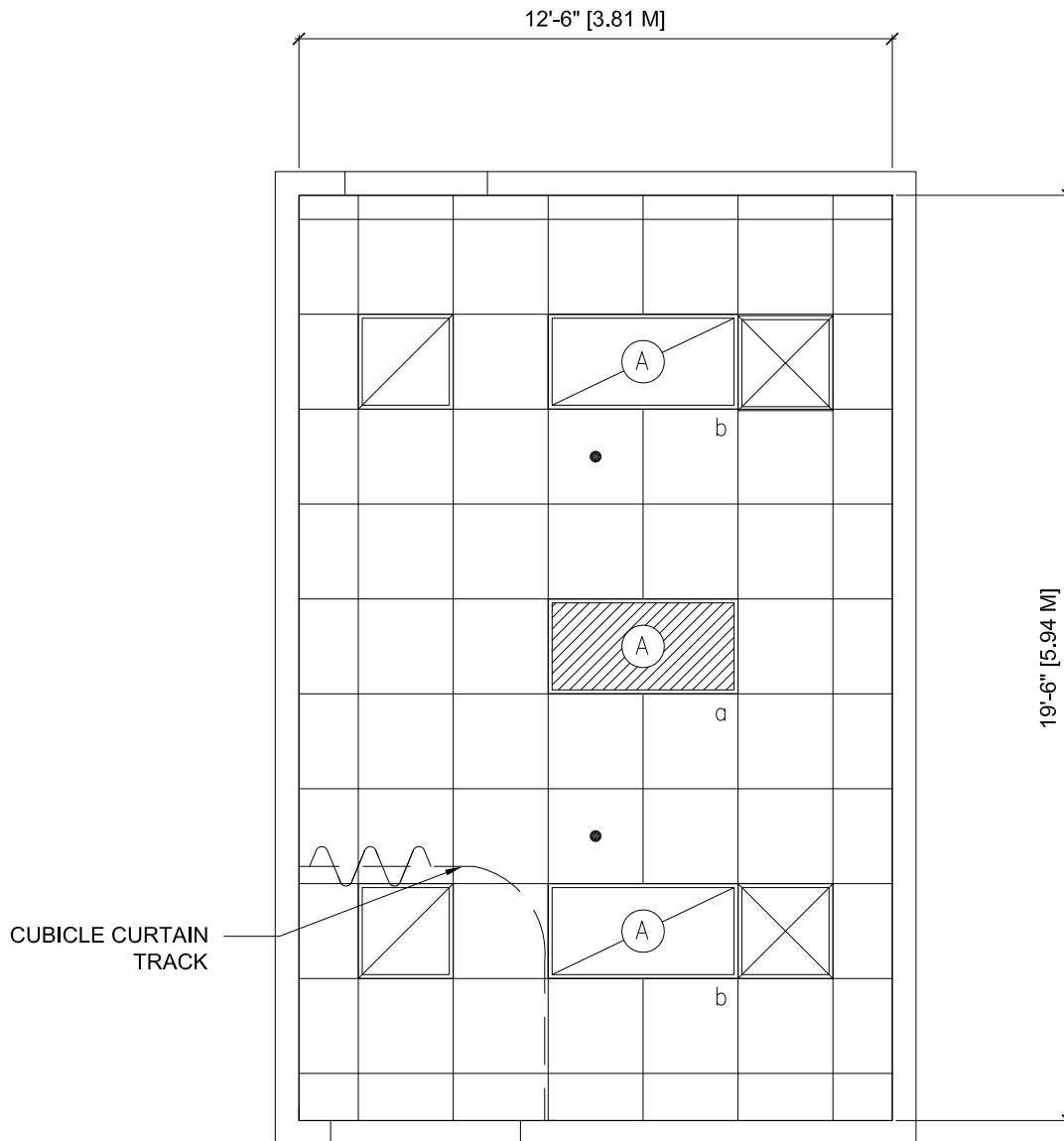
Physiology Lab, Pulmonary Exercise (OPPF5)

SCALE 1/4" = 1'-0"



Pulmonary Medicine Service
Floor/Equipment Plan (240 NSF / 22.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



Physiology Lab, Pulmonary Exercise (OPPF5)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Reflected Ceiling Plan (240 NSF / 22.3 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Physiology Lab, Pulmonary Exercise (OPPF5)
Room Data Sheet**

ARCHITECTURAL

Ceiling: AT
 Ceiling Height: 9'-0"
 Wall Finish: GWB
 Base: RB
 Floor Finish: SVT
 Door: 1/2 X-T
 Hardware: 4K

Notes:

POWER

General: As Shown
 Special: Special Voltage as Required
 Emergency:
 Notes: Dedicated Power Required

COMMUNICATIONS

Patient Monitor: Yes
 Nurse Call: Yes
 Security/Duress:
 CCTV:
 Telephone: Yes
 Pub. Address:
 Radio:
 Data: Yes
 Panic Call:
 Battery Operated Clock: Yes
 Intercom:
 Staff/Duty Station:

LIGHTING

General:
 1. Two (2) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. Provide Ballasts Per Fixture for Desired Switching Configuration
 3. Lighting Level: 50fc
 4. Under Cabinet Light
 5. Ceiling Mounted Occupancy Sensors

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling: 75° F (24° C)
 Dry Bulb Temp Heating: 70° F (21° C)
 Minimum % Outside Air: 2
 100% Exhaust Air:
 Noise Criteria: NC 40
 Steam:
 Relative Humidity/Cooling: 60%
 Relative Humidity/Heating: 20%
 Minimum Air Changes/Hr.: 10
 Room Pressure: Neutral (0)
 AC Load Lights: As Required
 AC Load Equipment: As Required
 Number of People: 4
 Special Equipment:

PLUMBING AND MEDICAL GASES

Cold Water: Yes
 Hot Water: Yes
 Domestic Water (HWH): Yes
 Laboratory Air:
 Laboratory Vacuum:
 Sanitary/Vent: Yes
 Medical Air: 1 Outlet
 Medical Vacuum: 1 Outlet
 Oxygen: 1 Outlet
 Nitrogen Oxide:
 Nitrogen:
 Anesthesia Evac:
 Sprinkler: Yes
 Tempered Water:
 Water Control: Infrared

SPECIAL EQUIPMENT

None

**Physiology Lab, Pulmonary Exercise (OPPF5)
Equipment List**

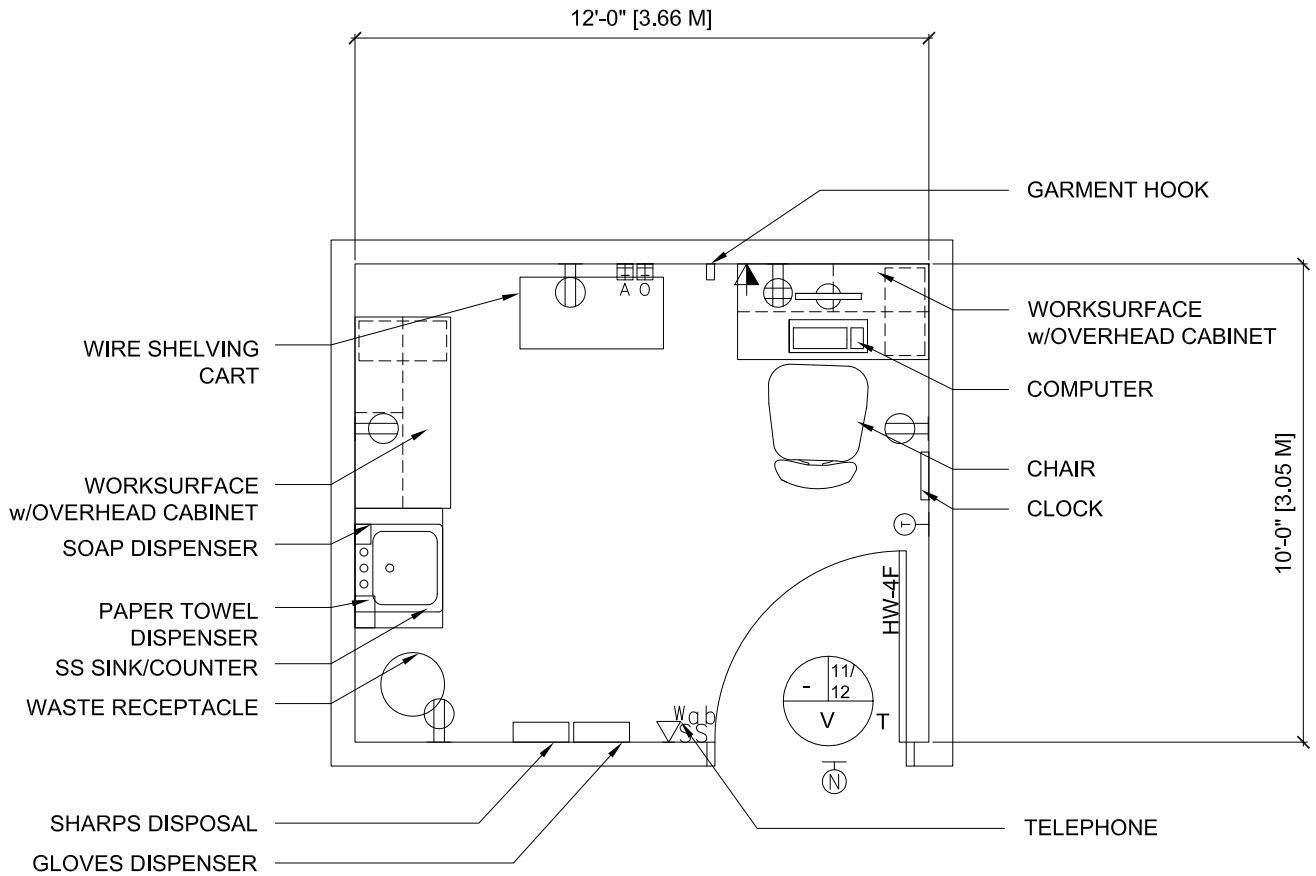
JSN	NAME	QTY	ACQ/INS	Description
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A1066	Mirror, Float Glass, With SS Frame	AR	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.

E0210	Worksurface, w/ Overhead Cab, Wall Mtd, 48" W	1	VV	THIS TYPICAL INCLUDES: 2 Vertical Hanging Strips 1 Lockable Flipper Unit 1 Shelf, Storage/Display 1 Light 1 Cantilevered Work Surface
E0912	Locker, Supply, Med Surg, Wall Mtd, 23"W x 20"D	2	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 4 Tray/Shelves 5 Drawers, 3"H (76mm) 2 Drawers, 6"H (152mm) 2 Tray/Shelf Dividers Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place
E1500	Rail, MOD, Wall Mtd	1	VV	Wall mounted rail used for hanging (mounting) supply lock- ers, shelves drawers on a wall. Length as required.
F0280	Chair, Swivel, Low Back	1	VV	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0306	Chair, Bariatric	AR	VV	Upholstered side chair approximately 34 1/2" high X 31 1/2" wide X 20" deep with floor glides. Seat is non-tilting.
F0340	Stool, Self Ad- justing	1	VV	Self adjusting stool. Consists of a foam padded upholstered seat with attached foot rest for added comfort. Mounted on swivel casters. Designed for doctor's use during examinations.
F2017	Waste Recep- tacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchro- nized clock system. Battery operated, (batteries not included).

M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0755	Flowmeter, Oxygen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flowtube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0765	Regulator, Vacuum	1	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
M1825	Printer, Computer	1	VV	High resolution computer printer with a variety of type styles and sheet/envelope feeder trays.
M3070	Hamper, Linen, Mobile, w/Lid	1	VV	Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters.
M4040	Scale, Weighing, 300 Pound Capacity	1	VV	Person weighing scale with 300 pound capacity. Unit consists of a rugged base frame of 3/32" thick steel with a non-slip surface and a speedometer dial with ultra sensitive registering mechanisms. Scale is designed for medical use.
M4116	Monitor, Vital Signs	1	VV	Electronic sphygmomanometer. LCD displays non-invasive blood pressure, pulse rate, temperature and SpO2. Used in hospitals and clinics. Includes an optional mobile stand.

M8185	System, Stress Exercise, w/ Treadmill	1	VV	Stress exercise system with treadmill and respiratory/metabolic assessment. The system includes an ECG amplifier, chart recorder, display, console, treadmill and modules for respiratory/metabolic assessment. Used to determine patient's functional capacity, predict and diagnose cardiopulmonary and vascular diseases and for rehabilitation of patients b covering from leg injuries or other type of illness. Some vendors require a NEMA 5-20R non-locking receptacle for their treadmills.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
	Pulmonary Function Analyzer, Portable w/Cart	1	VV	Portable pulmonary function analyzer. It includes a spirometer computer and gas analyzers. The system provides automatic calculations of inspiratory or expiratory volumes and flows, and gas distribution measurements. Portable or cart-mountable unit that can be wheeled anywhere in the hospital. Used as a screening system to determine baseline ventilatory function along with types and degrees of impairments to a patient's respiratory system.

RESPIRATORY THERAPY ROOM (OPRT1)



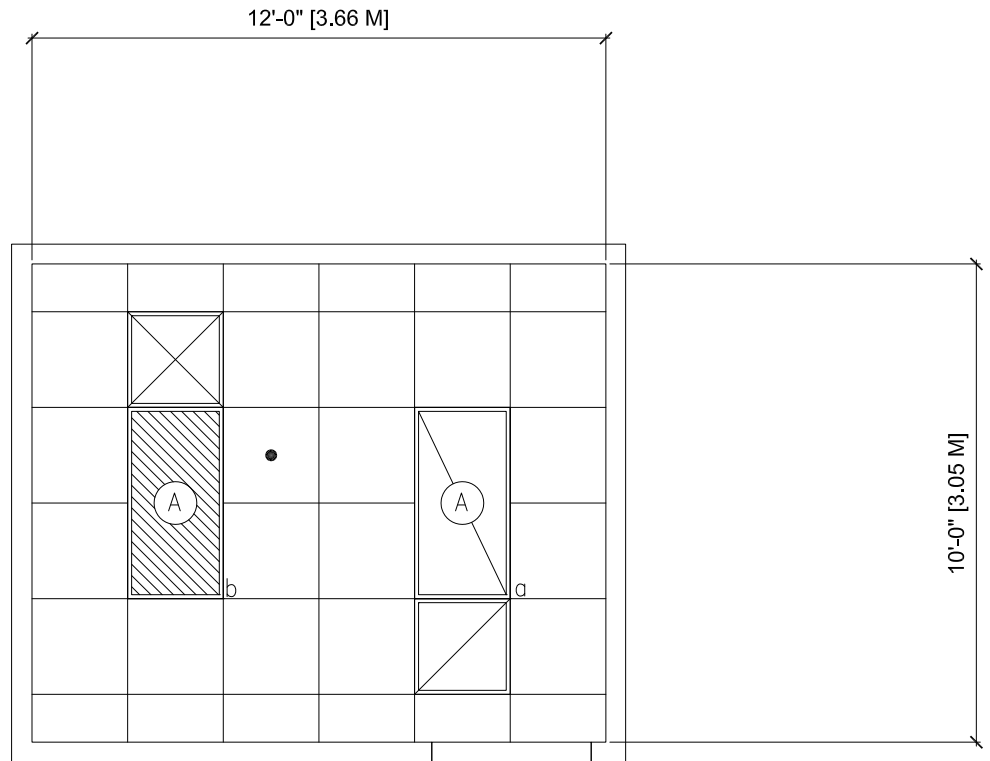
SCALE 1/4" = 1'-0"

Respiratory Therapy Room (OPRT1)



Pulmonary Medicine Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



SCALE $\frac{1}{4}'' = 1'-0''$

Respiratory Therapy Room (OPRT1)



Pulmonary Medicine Service
Reflected Ceiling Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Respiratory Therapy Room (OPRT1)
Room Data Sheet**

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	GWB
Base:	RB
Floor Finish:	VCT
Door:	11/12 V-T
Hardware:	4F

Notes:

POWER

General:	As Shown
Special:	Special Voltage as Required
Emergency:	
Notes:	Dedicated Power Required

COMMUNICATIONS

Patient Monitor:	
Nurse Call:	
Security/Duress:	
CCTV:	
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	

LIGHTING

- General:
- 1. Two (2) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
- 2. Provide Ballasts Per Fixture for Desired Switching Configuration
- 3. Lighting Level: 50fc
- 4. Under Cabinet Light
- 5. Ceiling Mounted Occupancy Sensors

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	NC 35
Steam:	
Relative Humidity/Cooling:	60%
Relative Humidity/Heating:	20%
Minimum Air Changes/Hr.:	8
Room Pressure:	Neutral (0)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	2
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Domestic Water (HWH):	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	
Medical Vacuum:	Yes
Oxygen:	Yes
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	Infrared

SPECIAL EQUIPMENT

None

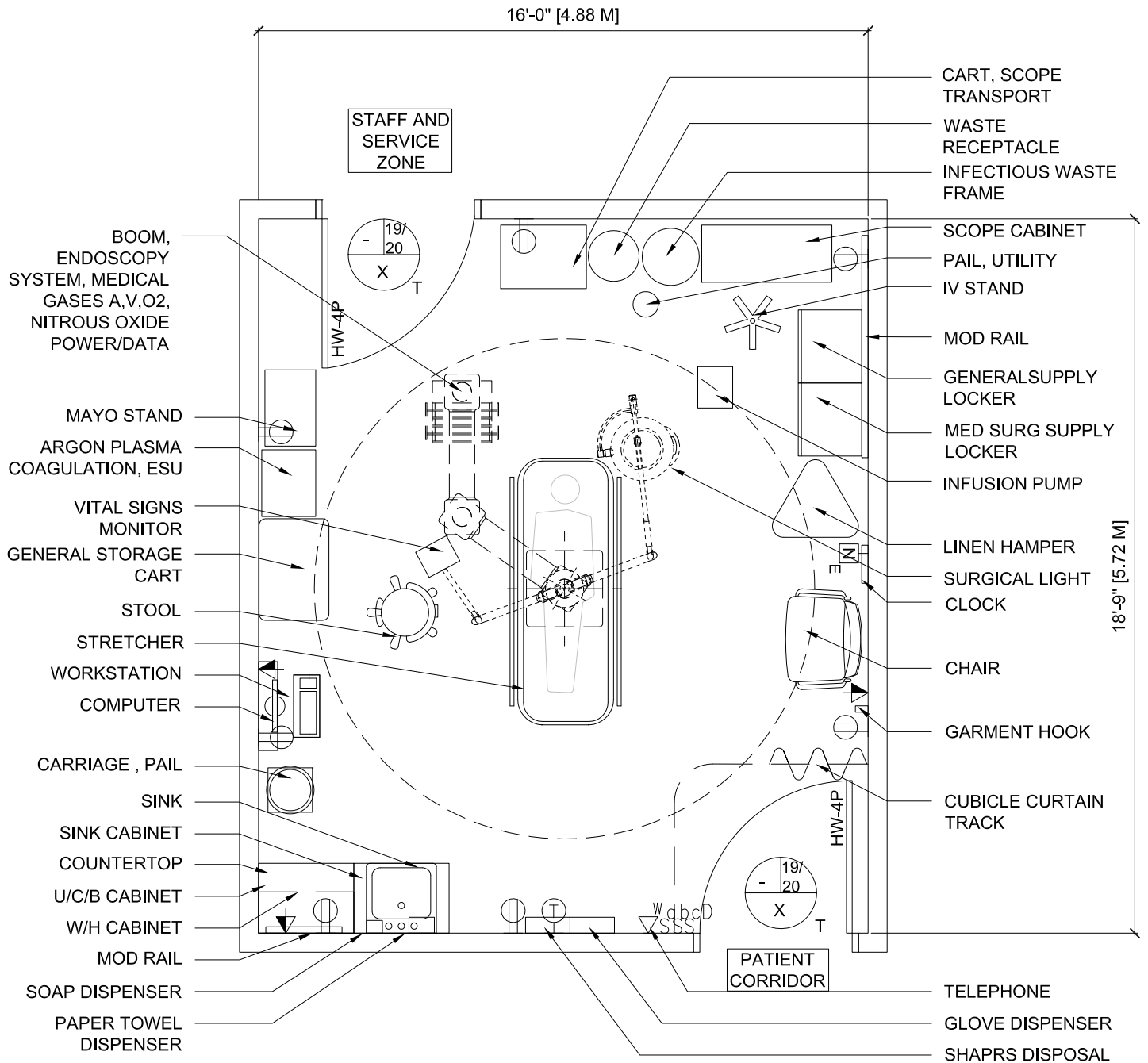
**Respiratory Therapy Room (OPRT1)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse. Can be used in restrooms, patient areas, laboratories, pharmacies, etc.
A1017	Telephone, Wall Mounted		VV	Telephone, wall mounted
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
CS150	Sink, SS, Single Compartment, 10x19x16 ID	1	CC	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with pre-punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.

CT050	Countertop, Stainless Steel	1	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern.
E0210	Worksurface, w/ Overhead Cab, Wall Mtd, 48" W	2	VV	THIS TYPICAL INCLUDES: 2 Vertical Hanging Strips 1 Lockable Flipper Unit 1 Shelf, Storage/Display 1 Light 1 Cantilevered Work Surface
E0982	Cart, Wire Shelving, 36x18	1	VV	Wire cart assembly with: (5) chrome shelves (1) galvanized solid bottom shelf, swivel (2) locking, end panels back panels and shelf dividers
F0280	Chair, Swivel, Low Back	1	VV	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0755	Flowmeter, Oxy- gen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flow-tube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.

M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.

PROCEDURE ROOM, BRONCHOSCOPY (TRPE2)



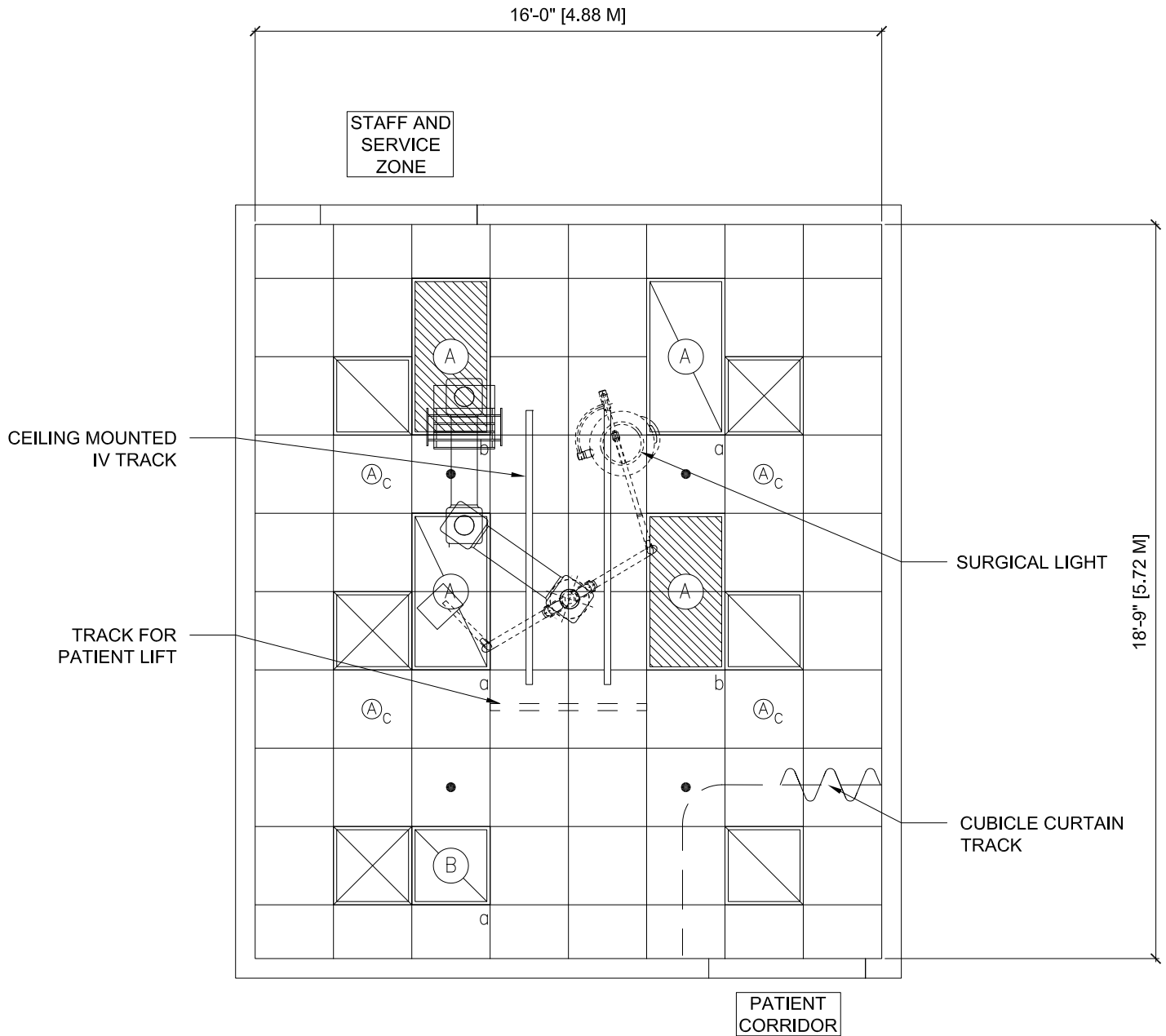
Procedure Room, Bronchoscopy (TRPE2)

SCALE 1/4" = 1'-0"



Pulmonary Medicine Service
Floor/Equipment Plan (300 NSF / 27.9 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



Procedure Room, Bronchoscopy (TRPE2)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Reflected Ceiling Plan (300 NSF / 27.9 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Procedure Room, Bronchoscopy (TRPE2)
Room Data Sheet**

ARCHITECTURAL

Ceiling:	GWB(SC)
Ceiling Height:	9'-0"
Wall Finish:	GWB(SC) *1
Base:	WSF
Floor Finish:	WSF
Door:	19/20 X-T
Hardware:	4P

Notes:

*1. See Design and Construction Procedures PG-18-3, "Noise Transmission Control"

POWER

General:	As Shown
Special:	As Shown
Emergency:	
Notes:	Dedicated Power Required

COMMUNICATIONS

Patient Monitor:	Yes
Nurse Call:	Yes
Security/Duress:	
CCTV:	
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	

LIGHTING

- General:
1. Four (4) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. One (1) of 2'x2' (600mm x 600mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. Provide Ballasts Per Fixture for Desired Switching Configuration
 3. Lighting Level: 50fc / .10fc
 4. Boom Mounted Surgical Lamp
 5. Four (4) Downlights, Dimmable

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	
100% Exhaust Air:	Yes
Noise Criteria:	NC 35
Steam:	
Relative Humidity/Cooling:	60%
Relative Humidity/Heating:	20%
Minimum Air Changes/Hr.:	12
Room Pressure:	Negative (-)
AC Load Lights:	As Required

AC Load Equipment:	As Required
Number of People:	6
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Domestic Water (HWH):	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	1 Outlet
Medical Vacuum:	1 Outlet
Oxygen:	1 Outlet
Nitrogen Oxide:	1 Outlet
Nitrogen:	As Required
Anesthesia Evac:	1 Outlet
Sprinkler:	Yes
Tempered Water:	
Water Control:	Infrared

SPECIAL EQUIPMENT

None

**Procedure Room, Bronchoscopy (TRPE2)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A1121	Boom, Equipment / Flatpanel / Single Light	1	CC	Ceiling mounted articulating boom system specifically designed to support medical equipment and have provisions for medical gases, electric outlets and video signals. The unit shall consist of an equipment carrier with adjustable shelves, flat panel display arm and a single light up to 24". The boom assembly shall provide clear unobstructed access to patients.
A1122	Boom, Dual Arm Equipment/Flat-panel	1	CC	Dual arm ceiling mounted articulating boom system specifically designed to support medical equipment and have provisions for medical gases, electric outlets and video signals. The unit shall consist of an equipment carrier with adjustable shelves and a flat panel display arm. The boom assembly shall provide clear unobstructed access to patients.
A1165	Track, IV, Ceiling Mounted, 7 Foot	2	CC	7 ft. ceiling mounted IV track. Unit consists of a straight thick anodized aluminum track. It includes a carrier with self locking hinge, hook for attaching bottle hanger, and an adjustable pendant. Designed for dispensing IV solutions.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.

A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.
C03F0	Cabinet, U/C/B, 1 Shelf, 2 Half DR, 2 DO, 36x30x22	1	CC	Standing height under counter base cabinet with an adjustable shelf and two half width drawers above solid hinged doors.
C03P0	Cabinet, Sink, U/C/B, 2 Door, 30" W	1	CC	Standing height under counter base sink cabinet. 36" H x 30" W x 22" D with two solid hinged doors. Also referred to as a double-door sink cabinet. For general purpose use throughout the facility where a sink is to be used. Coordinate actual clear cabinet dimension with the actual outside dimension of sink that is specified to ensure that they are compatible.
CE030	Cabinet, W/H, 2 SH, 2 GDO, Sloping Top, 38x30x13	2	CC	Wall hung cabinet with two adjustable shelves, framed-glass hinged doors, and sloping top.
CS150	Sink, SS, Single Compartment, 10x19x16 ID	1	CC	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with pre-punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.

CT050	Countertop, Stainless Steel	1	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern.
E0906	Locker, Supply, General, Wall Mtd, 78"H x 23"W x 20"D	1	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 2 Tray/Shelves 1 Drawer, 3"H (76mm) 3 Drawers, 6"H (152mm) 2 Drawers, 9"H (229mm) 1 Tray/Shelf Divider Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place.
E0912	Locker, Supply, Med Surg, Wall Mtd, 23"W x 20"D	1	VV	"THIS TYPICAL INCLUDES: 1 Locked Storage Container 4 Tray/Shelves 5 Drawers, 3"H (76mm) 2 Drawers, 6"H (152mm) 2 Tray/Shelf Dividers Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place."
E0948	Cart, General Storage, Mobile, 42"H x 32"W x 22"D	1	VV	"THIS TYPICAL INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3" H (76mm) 4 Drawers, 6" H (152mm) Drawer Organizer Bins"
E1500	Rail, MOD, Wall Mtd	2	VV	Wall mounted rail used for hanging (mounting) supply lockers, shelves drawers on a wall. Length as required.
F0306	Chair, Bariatric	AR	VV	Upholstered side chair approximately 34 1/2" high X 31 1/2" wide X 20" deep with floor glides. Seat is non-tilting.

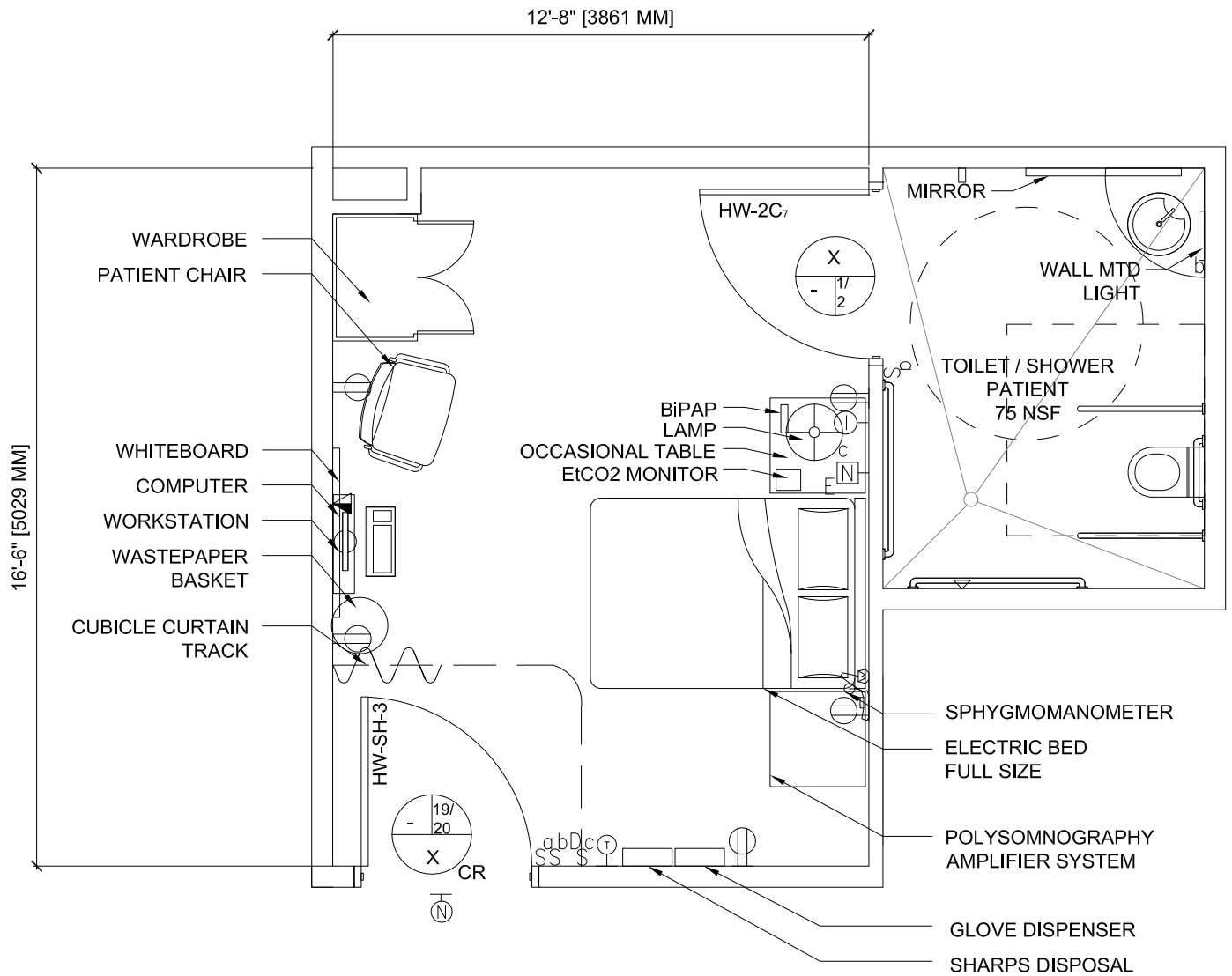
F0340	Stool, Self Adjusting	1	VV	Self adjusting stool. Consists of a foam padded upholstered seat with attached foot rest for added comfort. Mounted on swivel casters. Designed for doctor's use during examinations.
F2017	Waste Receptacle, 24 Gal	1	W	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0755	Flowmeter, Oxygen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flowtube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0765	Regulator, Vacuum	1	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.

M1802	Work Station, Computer, Retractable, Wall Mounted	1	VV	A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where physical space is limited.
M3070	Hamper, Linen, Mobile, w/Lid	1	VV	Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters.
M3072	Frame, Infectious Waste Bag w/Lid	1	VV	Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation.
M3160	Cabinet, Storage, Hanging Scopes	1	VV	Scope hanging cabinet. Cabinet has the capacity to hold up to nine scopes. Some cabinets may have a roll top closure and optional storage drawer. Air vents top and bottom
M3161	Cart, Scope Transport	AR	VV	Scope transport with 4 autoclavable trays and lids. Approximate size 27"W x20"D x44"H
M3196	Argon Plasma Coagulation / ESU	1	VV	Argon plasma coagulation unit w/ ESU generator, mobile cart, hands-free foot switch and re-mode switch.
M4116	Monitor, Vital Signs	1	VV	Electronic sphygmomanometer. LCD displays non-invasive blood pressure, pulse rate, temperature and SpO2. Used in hospitals and clinics. Includes an optional mobile stand.
M4255	Stand, IV, Adjustable	1	VV	Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches to 100 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions.

M4266	Pump, Volumetric, Infusion, Multiple Line	1	VV	Volumetric infusion pump. Pump is self-regulating with automatic sensor and adjustable rate. Equipped with visual and audible alarms and up to 10 hour capacity battery. For the administration of a wide variety of therapeutic agents where precise control is required. Unit provides individual control to IV lines simultaneously.
M4665	Stretcher, Recovery, Surgical	1	VV	Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee gatch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications.
M8607	Endoscopy System, Fiberoptic, w/Video, Info. Mgmt.	1	VV	Boom mounted endoscopy system with video and print capabilities for use with fiberoptic (direct vision) endoscopes. System takes optical images from a single endoscope and directly records them or converts them to digital signals for recording. A typical system shall include a light source, an insufflator, a suction unit, a heat probe unit, an electrosurgical apparatus, a digital camera converter or color video camera, a camera controller, (2) monitors, a video recorder and a color printer. This JSN does not include the endoscope; refer to the endoscopes at JSNs M8500-M8550. Each system can support one or more types of endoscope and should be specifically tailored to its intended use(s). This equipment can be configured to interface with a network endoscopy information management system; refer to JSN M8600. Database physical information and pricing is for a higher cost system containing one of each of the above components.
M8810	Stand, Mayo, Large	1	VV	Adjustable instrument table. Table is corrosion resistant stainless steel construction and is mounted on two casters with two skid rails. It has a telescopic upright and adjusts from 39 inches to 60 inches with automatic locking device, and removable 16"x21" instrument tray.
M8900	Carriage, Pail, CRS, Without Pail	1	VV	Utility pail (kick bucket). Shall be a stainless steel 12 quart bucket for use in surgical operating rooms.

M8905	Pail, Utility, CRS, Without Carriage	1	VV	Surgical case cart. Unit consists of two hinged cabinet sections, each section equipped with two pull-out shelves with stops. The entire unit is mounted on six heavy duty conductive swivel casters. Used to transport surgical packs and supplies to surgery and soiled items back to central supply.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.

SLEEP STUDY ROOM (OPPF6)



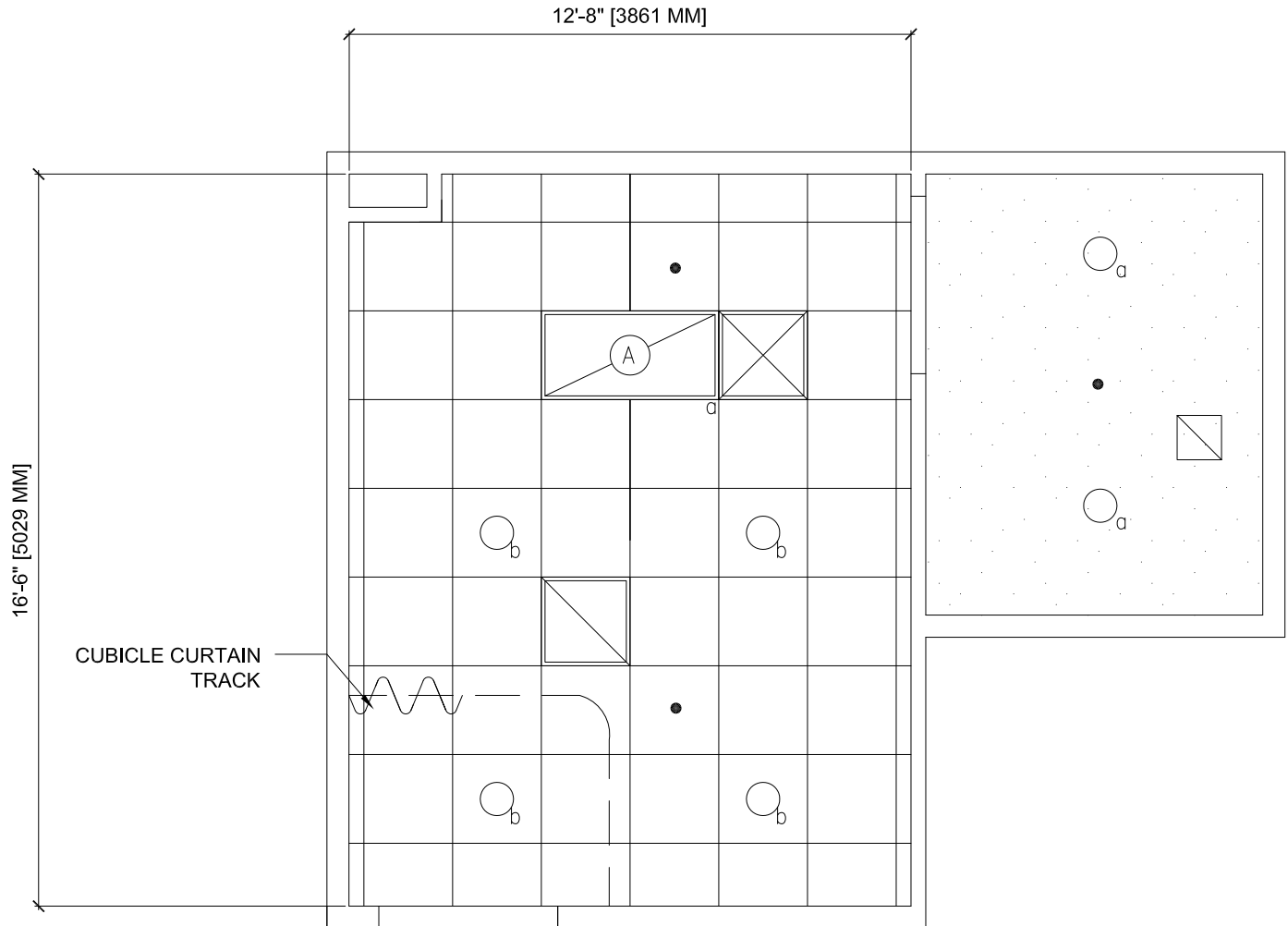
SCALE $\frac{1}{4}" = 1'-0"$



Sleep Study Room (OPPF6)

Pulmonary Medicine Service
Floor/Equipment Plan (210 NSF / 19.5 NSM)

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SCALE 1/4" = 1'-0"



Sleep Study Room (OPPF6)

Pulmonary Medicine Service
Reflected Ceiling Plan (210 NSF / 19.5 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Sleep Study Room (OPPF6)
Room Data Sheet**

ARCHITECTURAL

Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	GWB *1
Base:	PRB
Floor Finish:	SVT
Door:	19/20 X, CR
Hardware:	SH-3

Notes:
*1. See Design and Construction Procedures PG-18-3, "Noise Transmission Control"

POWER

General:	As Shown
Special:	
Emergency:	
Notes:	

COMMUNICATIONS

Patient Monitor:	
Nurse Call:	Yes
Security/Duress:	
CCTV:	Yes
Telephone:	Yes
Pub. Address:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	Yes
Staff/Duty Station:	

LIGHTING

- General:
1. One (1) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70. (minimum)
 2. Four (4) Down Lights, Dimmable
 3. One (1) Table Lamp
 4. Provide Ballasts Per Fixture for Desired Switching Configuration
 5. Lighting Level: 30fc, dimmable to 0

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling:	75° F (24° C)
Dry Bulb Temp Heating:	70° F (21° C)
Minimum % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	NC 40
Steam:	
Relative Humidity/Cooling:	60%
Relative Humidity/Heating:	20%
Minimum Air Changes/Hr.:	4
Room Pressure:	Neutral (0)
AC Load Lights:	As Required

AC Load Equipment:	As Required
Number of People:	1
Special Equipment:	

PLUMBING AND MEDICAL GASES

Cold Water:	Yes
Hot Water:	Yes
Domestic Water (HWH):	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	
Medical Vacuum:	
Oxygen:	
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	

SPECIAL EQUIPMENT

Polysomnography

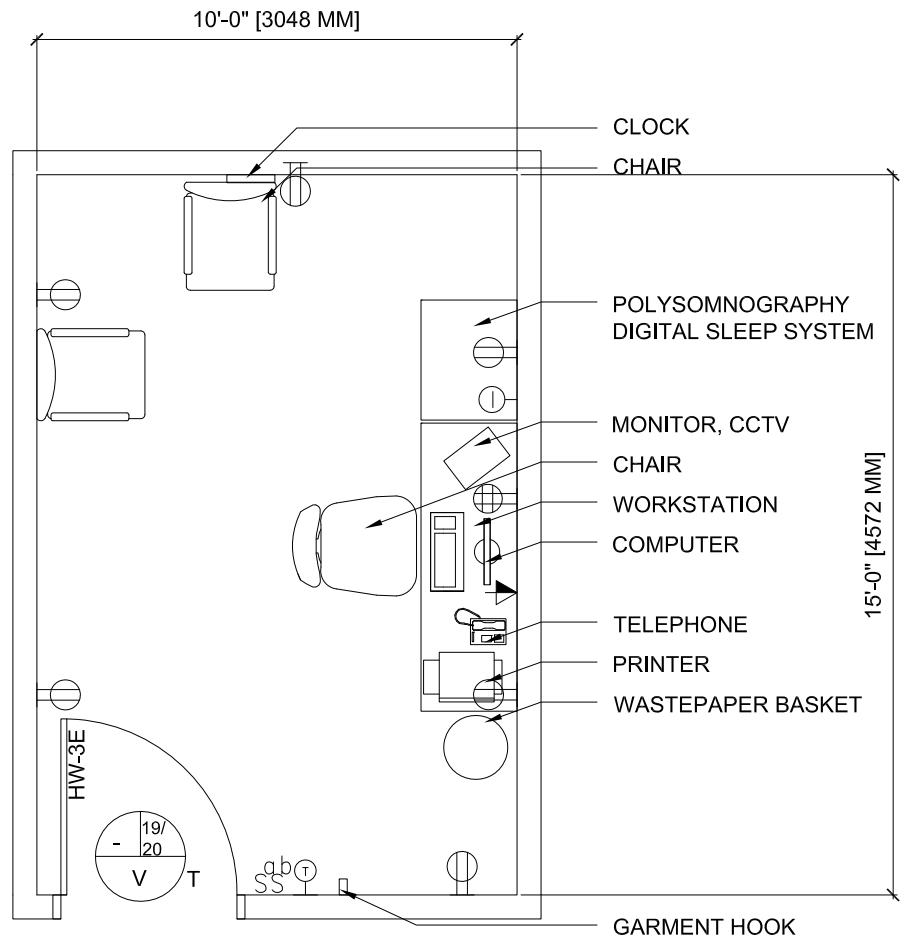
**Sleep Study Room (OPPF6)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.
A6305	Drapes, Pair	1	VV	This JSN is to be used for determining and defining the location of drapes. Fabric to be flame retardant, variable colors and patterns with backing. Price based on a pair of drapes for a window approximately 36" W X 60" H.
F0307	Chair, High Back, Patient, Bariatric	1	VV	High back patient chair, approximately 31 1/2" W X 20" D with padded and upholstered back and seat. Straight legs have floor glides. Upholstery material is vinyl.
F0555	Wardrobe, Patient Clothing	1	VV	Clothing wardrobe for storage of patient clothing in a LDR/ LDRP or patient rooms. This item is selected to match the resuscitation Armoire, JSN F0550, if used, in finish and style.
F0740	Table, Occasional, Lamp	1	VV	Occasional lamp table (end table) approximately 20" high X 27" wide X 27" deep with choice of finishes (wood, oak veneer, or high pressure laminate).
F2000	Basket, Wastepaper, Round, Metal	1	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse.
F2250	Camera, Portable, Digital Vidio With Recorder	1	VV	Portable camera/recorder (camcorder) with video-out capacity to accommodate a remote recorder.

F2420	Lamp, Table, With Shade	1	VV	Table lamp, 27-34" high X 6" wide X 6" deep with linen shade. Convenience outlet required at point of use.
F3050	Whiteboard, Dry Erase	1	CC	Whiteboard unit, approximately 36" H x 48" W consisting of a white porcelain enamel writing surface with an attached chalk tray. Magnetic surface available. Image can be easily removed with a standard chalkboard eraser. For use with water color pens. Unit is ready to hang.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
M1802	Work Station, Computer, Retractable, Wall Mounted	1	VV	A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where physical space is limited.
M4100	Sphygmomanometer, Aneroid, Wall Mounted	1	VV	Aneroid sphygmomanometer. Unit is wall mounted and has large graphic dial display for easy reading from all angles. It has a 90 degree (angle) swivel and 10 degree (angle) forward tilt to reduce glare.
M7761	BiPAP Sleep Study System	AR	VV	BiPAP system. Table top unit approximately 7"W x 6"D x 4"H. with dual mode capability, remote switching, humidity output control, data transfer modes and automatic altitude compensation
M7859	Polysomnography (PSG) Digital Sleep System	1	VV	32-Channel Digital EEG sleep system with synchronized digital video recorder and mobile cart. Approximate size 30"W x 24"D x 49"H
M7865	Monitor, Physiologic, Respiratory Gas	2	VV	Physiologic monitor for end expiratory CO2 monitoring. Unit may be battery/line powered and provides numeric display of CO2 level in end expiratory gases. Unit to be provided with analog output to permit values to be slaved into a central monitor or bedside monitor. Monitor also provides for nitrous oxide and oxygen monitoring. Audible and visual alarms provided for high expired CO2, high inspired CO2/O2, high/low inspired N2O, respiration rate, apnea, and circuit occlusion. Some models available will display waveforms. Printer output is optional.

M7905	Oximeter, Pulse	1	VV	Pulse oximeter for continuous surveillance of patient pulse and oxygen saturation rates. Instrument features LED display, audio and visual alarms, automatic calibration and battery operation in case of power failure. Other applications include sleep studies.
	Bed, Electric, Sleep Study Full Size	1	VV	Electric sleep study lab bed. Includes safety side rails, patient controls for full range of positions and locking casters. Bed low position 22"
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.

MONITORING ROOM, SLEEP STUDY (OPPF7)



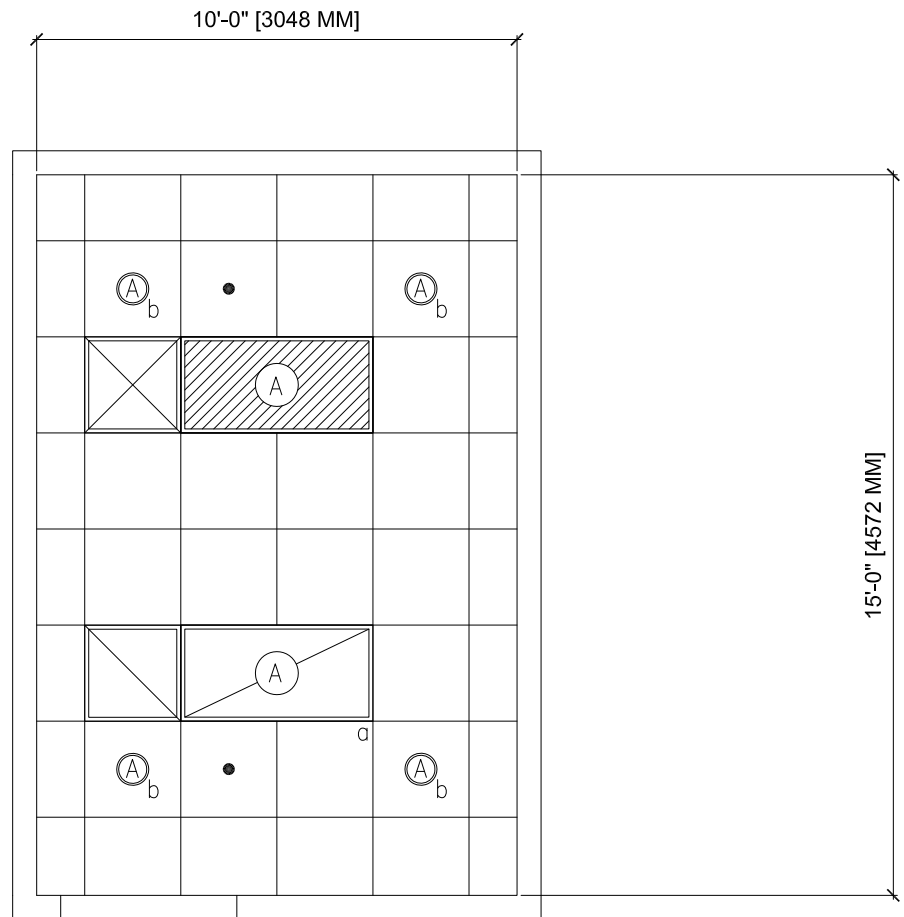
Monitoring Room, Sleep Study (OPPF7)

SCALE 1/4" = 1'-0"



Pulmonary Medicine Service
Floor/Equipment Plan (150 NSF / 13.9 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



Monitoring Room, Sleep Study (OPPF7)

SCALE $\frac{1}{4}'' = 1'-0''$



Pulmonary Medicine Service
Reflected Ceiling Plan (150 NSF / 13.9 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Monitoring Room, Sleep Study (OPPF7)
Room Data Sheet**

ARCHITECTURAL

Ceiling: AT
 Ceiling Height: 9'-0"
 Wall Finish: GWB *1
 Base: PRB
 Floor Finish: SVT
 Door: 19/20 V-T
 Hardware: 3E

Notes:

1. See Design and Construction Procedures PG-18-3, "Noise Transmission Control"

POWER

General: As Shown
 Special:
 Emergency:
 Notes:

COMMUNICATIONS

Patient Monitor:
 Nurse Call: Yes
 Security/Duress:
 CCTV:
 Telephone: Yes
 Pub. Address:
 Radio:
 Data: Yes
 Panic Call:
 Battery Operated Clock: Yes
 Intercom: Yes
 Staff/Duty Station:

LIGHTING

General:
 1. Two (2) of 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. Provide Ballasts Per Fixture for Desired Switching Configuration
 3. Lighting Level: 50fc
 4. Ceiling Mounted Occupancy Sensors

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling: 75° F (24° C)
 Dry Bulb Temp Heating: 70° F (21° C)
 Minimum % Outside Air: 2
 100% Exhaust Air:
 Noise Criteria:
 Steam:
 Relative Humidity/Cooling: 60%
 Relative Humidity/Heating: 20%
 Minimum Air Changes/Hr.: 4
 Room Pressure: Neutral (0)
 AC Load Lights: As Required

AC Load Equipment: As Required
 Number of People:
 Special Equipment:

PLUMBING AND MEDICAL GASES

Cold Water: Yes
 Hot Water: Yes
 Domestic Water (HWH): Yes
 Laboratory Air:
 Laboratory Vacuum:
 Sanitary/Vent: Yes
 Medical Air:
 Medical Vacuum:
 Oxygen:
 Nitrogen Oxide:
 Nitrogen:
 Anesthesia Evac:
 Sprinkler: Yes
 Tempered Water:
 Water Control:

SPECIAL EQUIPMENT

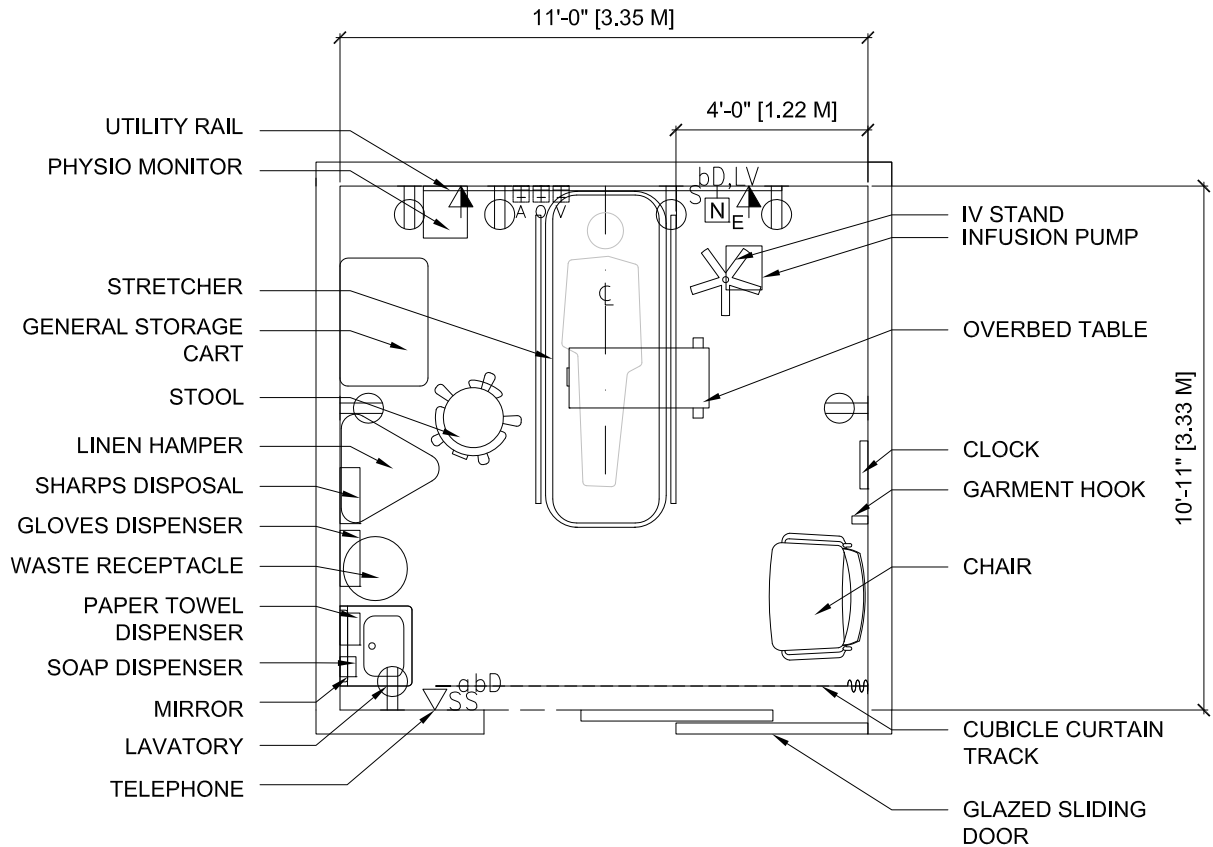
None

**Monitoring Room, Sleep Study (OPPF7)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A1015	Telephone, Desk	1	VV	Telephone, desk
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
A6046	Artwork, Decorative, With Frame	1	VV	This JSN is to be used for determining decorative artwork.
E0123	Workstation, Straight, Free Standing, 72" W	1	VV	<p>"This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES:</p> <ul style="list-style-type: none"> 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File"
F0205	Chair, Side With Arms	2	VV	Upholstered side chair, 32" high X 21" wide X 23" deep with arms, padded seats and padded backs. Seat height is a minimum of 17". Available with or without sled base.
F0275	Chair, Swivel, High Back	1	VV	Highback contemporary swivel chair, 41" high X 23" wide X 23" deep with five (5) caster swivel base and arms. Chair may be used at desks or in conference rooms. Back and seat are foam padded and upholstered with either woven textile fabric or vinyl.

F2000	Basket, Waste-paper, Round, Metal	1	VV	Round wastepaper basket, approximately 18" high X 16" diameter. This metal unit is used to collect and temporarily store small quantities of paper refuse.
F2250	Camera, Portable, Digital Video, With Recorder	1	VV	Portable camera/recorder (camcorder) with video-out capacity to accommodate a remote recorder.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0435	Monitor, CCTV, Small, 15"(Color)	AR	VV	15' flat panel inch color CCTV monitor, 5.5" high X 13.6" wide X 5.5" deep with a 15" diagonal picture tube. Convenience outlet required at point of use.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
M1825	Printer, Computer	1	VV	High resolution computer printer with a variety of type styles and sheet/envelope feeder trays.
M7859	Polysomnography (PSG) Digital Sleep System	AR	VV	32-Channel Digital EEG sleep system with synchronized digital video recorder and mobile cart. Approximate size 30"W x24"D x 49"H

RECOVERY ROOM, PATIENT PREP (RRSS1)



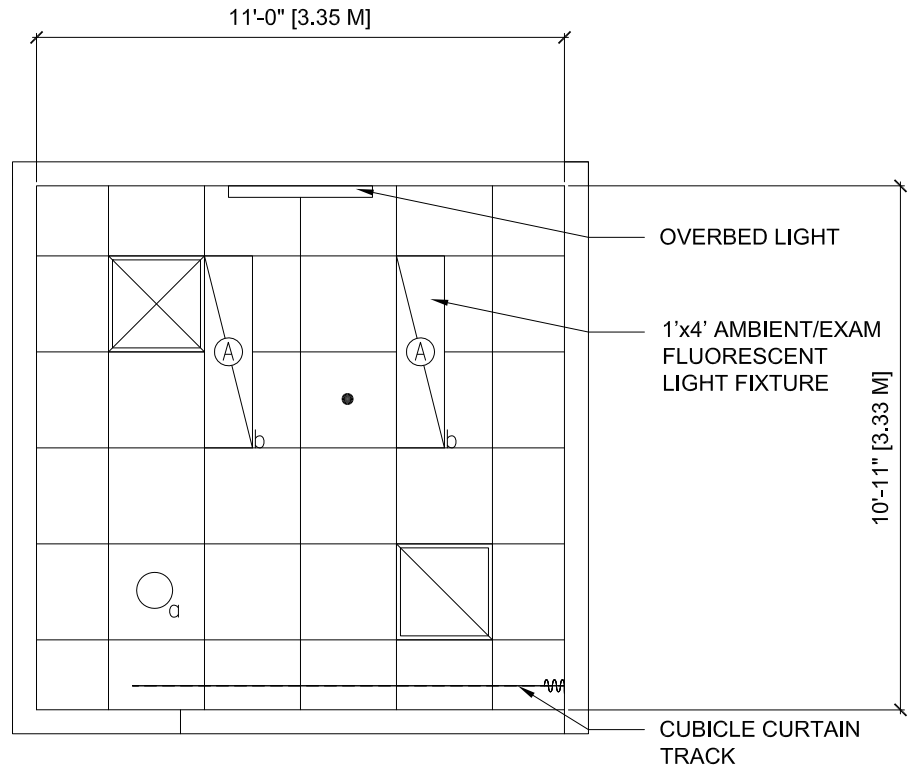
SCALE $\frac{1}{4}" = 1'-0"$

Recovery Room, Patient Prep (RRSS1)



Pulmonary Medicine Service
Floor/Equipment Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.



SCALE $\frac{1}{4}'' = 1'-0''$

Recovery Room, Patient Prep (RRSS1)



Pulmonary Medicine Service
Reflected Ceiling Plan (120 NSF / 11.1 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library.

**Recovery Room, Patient Prep (RRSS1)
Room Data Sheet**

ARCHITECTURAL

Ceiling: AT
 Ceiling Height: 9'-0"
 Wall Finish: GWB
 Base: WSF
 Floor Finish: WSF
 Door: 4'-0"x7'-0", 2 panel glazed,
 top hung slider

Notes:

1. Wall protection

POWER

General: As Shown
 Special:
 Emergency:
 Notes:

COMMUNICATIONS

Patient Monitor: Yes
 Nurse Call: Yes
 Security/Duress:
 CCTV:
 Telephone: Yes
 Pub. Address:
 Radio:
 Data: Yes
 Panic Call: Yes
 Battery Operated Clock: Yes
 Intercom:
 Staff/Duty Station: Yes

LIGHTING

General:
 1. Two (2) of 1'x4' (300mm x 1200mm) Multi-Function Ambient/Exam Fluorescent Light Fixture, Acrylic, Prismatic Lens with F32T8 Lamps, 3500°K, CRI=70 (minimum)
 2. One (1) Down Light
 3. Provide Ballasts Per Fixture for Desired Switching Configuration
 4. Lighting Level: 50/10fc
 5. Patient Control for Multi-Function and Down Light Fixtures

HEATING, VENTILATING AND AIR CONDITIONING

Dry Bulb Temp Cooling: 75° F (24° C)
 Dry Bulb Temp Heating: 70° F (21° C)
 Minimum % Outside Air: 2
 100% Exhaust Air:
 Noise Criteria:
 Steam:
 Relative Humidity/Cooling: 60%
 Relative Humidity/Heating: 20%
 Minimum Air Changes/Hr.: 6
 Room Pressure: Neutral (0)
 AC Load Lights: As Required
 AC Load Equipment: As Required
 Number of People:
 Special Equipment:

PLUMBING AND MEDICAL GASES

Cold Water: Yes
 Hot Water: Yes
 Domestic Water (HWH): Yes
 Laboratory Air:
 Laboratory Vacuum:
 Sanitary/Vent: Yes
 Medical Air: 1 Outlet
 Medical Vacuum: 3 Outlets
 Oxygen: 2 Outlets
 Nitrogen Oxide:
 Nitrogen:
 Anesthesia Evac:
 Sprinkler: Yes
 Tempered Water:
 Water Control:

SPECIAL EQUIPMENT

**Recovery Room, Patient Prep (RRSS1)
Equipment List**

JSN	NAME	QTY	ACQ/INS	Description
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A1066	Mirror, Float Glass, With SS Frame, 36x18	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting.
A1107	Rail System , Utility, Gas and Electric	1	CC	The headwall rail system shall consist of three horizontal rails mounted to the patient room headwall to provide utilities and patient services; to support ancillary equipment and to include gas and vacuum. The rail system must be capable of quickly adding or relocating medical gases services and be able to accept new equipment, provide physical support to equipment, brackets, shelves and other patient support items.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels..
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.


















A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.
E0949	Cart, General Storage, Mobile with Keyless Lock, 42"H x 32"W x 22"D	1	VV	"THIS TYPICAL INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3" H (76mm) 4 Drawers, 6" H (152mm) Drawer Organizer Bins and Keyless Lock"
F0306	Chair, Bariatric	AR	VV	Upholstered side chair approximately 34 1/2" high X 31 1/2" wide X 20" deep with floor glides. Seat is non-tilting.
F0340	Stool, Self Adjusting	1	VV	Self adjusting stool. Consists of a foam padded upholstered seat with attached foot rest for added comfort. Mounted on swivel casters. Designed for doctor's use during examinations.
F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.

















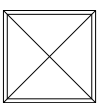



M0755	Flowmeter, Oxygen, Low Flow	2	VV	Oxygen flowmeter. Consists of a clear crystal flow-tube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0765	Regulator, Vacuum	3	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required.
M3070	Hamper, Linen, Mobile, w/Lid	1	VV	Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters.
M4255	Stand, IV, Adjustable	1	VV	Adjustable IV stand with 4-hook arrangement. Stand has stainless steel construction with heavy weight base. It adjusts from 66 inches to 100 inches and is mounted on conductive rubber, ball bearing, swivel casters. Stand is used for administering intravenous solutions.
M4266	Pump, Volumetric, Infusion, Multiple Line	1	VV	Volumetric infusion pump. Pump is self-regulating with automatic sensor and adjustable rate. Equipped with visual and audible alarms and up to 10 hour capacity battery. For the administration of a wide variety of therapeutic agents where precise control is required. Unit provides individual control to IV lines simultaneously.
M4665	Stretcher, Recovery, Surgical	1	VV	Recovery/surgical stretcher. Strong I-beam construction type unit. The height is adjustable with manual backrest and crank operated knee gatch. Stainless or painted steel top and chassis. Features 8" or 10" conductive casters, with lock and brake, folding, tuck-away chrome side-rails and IV stand and a flame retardant antibacterial mattress. Designed for operating room transport or recovery applications.

M7040	Table, Overbed	1	VV	Overbed table. Adjustable height table constructed of heavy gauge steel. Mounted on 2" diameter twin swivel casters with bumper caps. Table top is constructed with a high pressure plastic laminated surface that resists chipping, scratching, and staining. It includes a vanity tray and a mirror. Table is designed for use over bed, wheelchair or large chair.
M7435	Light, Overbed, Direct And Indirect	1	CC	Overbed patient room light which provides direct light for patient activity and indirect light for patient examination. The indirect portion of the light can be flipped down or redirected to provide dual intensity direct lighting. Unit is fully enclosed and is available in varying lengths. Some units feature a controlled power shut off to the light and patient bed when bumped by any item. Unit is designed to be wired directly to a junction box in the wall, a headwall service rail or patient service column. Dimensions are for a three foot light.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
	Monitor, Physiological, Bedside, 6 Channel	1	VV	6 channel bedside physiological monitor. The unit consist of a sixchannel non-fade monochrome display monitor, an alarm system and printer-recording capabilities. The monitor has color coded controls and automatic calibration. The unit displays up to six four waveforms simultaneously. The parameters to be monitored are user selectable. The monitor may be connected to a central monitoring station.

GUIDE PLATE SYMBOL LEGENDS

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL	
Wiring devices switches	BLANK = SINGLE POLE 3 = THREE-WAY D = DIMMER LV= LOW VOLTAGE LM= LOW VOLTAGE MASTER PB= PUSH BUTTON STATION T = TIMER OPERATED X = EXPLOSION PROOF	2 = DOUBLE POLE 4 = FOUR-WAY K = KEY OPERATED L = LOCK P = WITH PILOT LIGHT RC= REMOTE CONTROL WP= WEATHER PROOF Mo= OCCUPANCY SENSOR	S ₂
	Single pole switch	S	
	Single pole switch - suffix of "a", "b", or "c" indicates separate control of fixture(s) with same designation	S ^a	
	Door switch		
	Emergency power off (EPO) push button		
Lighting Fixtures	2'x2' (600mm x 600mm) fluorescent fixture		
	1'x4' (300mm x 1200mm) fluorescent fixture		
	2'x4' (600mm x 1200mm) fluorescent fixture		
	Wall-mounted fluorescent fixture		
	2'x2' (600mm x 600mm) fluorescent fixture- emergency power		
	2'x4' (600mm x 1200mm) fluorescent fixture- emergency power		
	Wall-mounted fluorescent fixture-emergency power		
	Under-cabinet light fixture		
	Wall-mounted light fixture-type as noted		
	Ceiling mounted light fixture-type as noted		
	Emergency recessed light fixture		
	Recessed light fixture		

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL
Wiring devices receptacles	Duplex receptacle, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Duplex receptacle, NEMA 5-20R-20 amp-mounted above counter top/counter top back splash	
	Duplex receptacle, Dedicated	
	Duplex receptacle with ground fault interrupter, NEMA 5-20R- 20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Duplex receptacle with ground fault interrupter, NEMA 5-20R- 20 amp-mounted above counter top/counter top back splash	
	Weatherproof while in use duplex receptacle with GFI, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Quadruplex outlet, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted.	
	Quadruplex outlet, NEMA 5-20R-20 amp-mounted above counter top/counter top back splash	
	Quadruplex outlet with ground fault interrupter, NEMA 5- 20R- 20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Quadruplex outlet with ground fault interrupter, NEMA 5-20R- 20 amp- mounted above counter top/counter top back splash	
	Duplex receptacle on emergency power, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. unless otherwise noted	
	Quadruplex receptacle, NEMA 5-20R-20 amp- emergency power	
	Special receptacle of the type required	
	Single receptacle, NEMA 5-20R-20 amp	
	Single receptacle, NEMA 5-20R grounding type	
Electrical surface mounted multi-outlet raceway assembly, NEMA 5-20R receptacles at 2'-0" (600mm) intervals, single or multiple channel as required- mounted 12" (300mm) above counter.		
Junction box - purpose and location as noted		

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL
Auxiliary Systems	Telephone data outlet-mounted 18" (450mm) A.F.F. unless otherwise noted	
	Telephone data outlet-mounted above counter top/counter top back splash	
	Wall-mounted telephone outlet-mounted 48" (1200mm) A.F.F. unless otherwise noted	
	Video outlet type as noted in equipment list	
	Speaker-ceiling mounted	
	Intercom outlet	
	Nurse call dome light-ceiling mounted	
	Nurse call dome light-wall mounted	
	Nurse call duty station	
	Emergency nurse call	
	Nurse call staff station	
	Volume control-wall mounted	
	Security/duress-alarm button wall mounted	
	Junction box-purpose and location as noted	
Mechanical	Room thermostat-mounted 5'-0" (1520mm) A.F.F.	
	Room humidistat-mounted 5'-0" (1520mm) A.F.F.	
	Supply	
	Return	
Plumbing	Medical gas outlet (letter designates service)	
	Sprinkler	

SECTION 5 - APPENDIX

TECHNICAL REFERENCES

The references listed below are comprised of both a summary of current relevant VA standards and criteria followed by a summary of current industry standards, all of which have guided the information in this Pulmonary Medicine Service Design Guide. The Design Guide refers to the sources throughout the text when information is more detailed or extensive than would be appropriate to be included in this guide. VA sources can be accessed on VA website.

VA Standards and Criteria

VA Space Planning Criteria Chapter 212
Accessibility and Barrier-Free Design Guide PG-18-13
Design and Construction Procedures H-18-3
Equipment Information PG-18-5
Master Construction Specifications PG-18-1
Standard Details PG-18-4
Room Finishes, Door and Hardware Schedule PG-18-14
Seismic (Structural) Design Requirements H-18-8
Signage Design Guide
Space Planning Criteria PG-18-9
Sustainable Design and Energy Reduction Manual April 2010
VA Technical Criteria (PG-18-10 Design Manuals) pertaining to Architectural,
Interior Design, HVAC, Plumbing, and Electrical Ambulatory Care/Outpatient Clinic/Interior Design
Manual for New Construction and Renovations of Hospitals and Clinics
Design Guide Office of Information and Technology (OI&T) for Information Management Systems Physical
Security Design Manual (Final Draft)
Emergency Power & Water Supply During Natural Disasters, Phase 2
VA Fire Protection Design Manual 2009
Energy Conservation (EPACT 2005 and DOE – Final Rule)
Energy Conservation (Executive Order No. 13423 Dated January 24, 2007: Strengthening Federal
Environmental, Energy, and Transportation Management)
Memorandum of Understanding (MOU): Federal Leadership in High
Performance and Sustainable Buildings.
Commissioning Guidelines (issuance pending)

Industry Standards and Criteria

ADA Standards for Accessible Design 2010
International Building Code, 2009
NFPA 101, 2009
FGI Guidelines for Design and Construction of Health Care Facilities - 2010

ABBREVIATIONS & ACRONYMS

-A-		EMG	Electromyography
A	Air, Medical	EO	Executive Order
ABAAS	Architectural Barriers Act Accessibility Standards	EOG	Electrooculography
AC	Air Conditioning	EPACT	Energy Policy Act
ACI	American Concrete Institute	ESU	Electrosurgical Unit
ADA	Americans with Disabilities Act of 1990	-F-	
A/E	Architect/Engineer	F	Fahrenheit or Filter
AIA	American Institute of Architects	FA	Functional Area
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers	FC	Footcandle
AT	Acoustical Ceiling Tile	FGI	Facilities Guidelines Institute
-B-		-G-	
-C-		GFI, GFCI	Ground Fault Circuit Interrupter
C	Celsius	GSA	General Services Administration
CAB	Cabinet	GWB	Gypsum Wall Board System
CAD	Computer Aided Drafting	-H-	
CCTV	Closed Circuit Television	HIPAA	Health Insurance Portability and Accountability Act of 1996
CDC	Centers for Disease Control	Hr	Hour
CFM	Construction & Facilities Management or Cubic Feet per Minute	HVAC	Heating, Ventilation and Air Conditioning
CRI	Color Rendering Index	-I-	
CV	Constant Volume	IBC	International Building Code
-D-		ICRA	Infection Control Risk Assessment
DEPT	Department	ICU	Intensive Care Unit
DGSF	Department Gross Square Feet	IES	Illuminating Engineering Society
DOE	Department of Energy	IT	Information Technology
DNSF	Department Net Square Feet	-J-	
DNTG	Department Net-to-Gross	-K-	
DWG	Drawing	K	Kelvin (degrees)
-E-		-L-	
ECG	Echocardiography	-M-	
EEG	Electroencephalography	M	Meters
EHR	Electronic Health Record		

MCS	Master Construction Specifications	SP	Sprayed Plastic Finish
MIN	Minimum	SPD	Sterile Processing Department
MM	Millimeters	SS	Stainless Steel
MOU	Memorandum of Understanding	SVT	Solid Vinyl Floor Tile (Luxury Vinyl Tile)
MS&N	Medical Surgical and Nursing		
		-T-	
-N-		TB	Tuberculosis or Through Bolt or Towel Bar
NEMA	National Electrical Manufacturers Association	TIL	Technical Information Library
NFPA	National Fire Protection Association		
NSF	Net Square Feet	-U-	
NSM	Net Square Meters	UFAS	Uniform Federal Accessibility Standard
		-V-	
-O-		V	Vacuum
O	Oxygen	VA	Veteran's Administration] or Volt
OI&T	Office of Information & Technology		Ampere
OND	Operation New Dawn	VACO	Veteran's Affairs Central Office
OSHA	Occupational Safety and Health Administration	VAV	Variable Air Volume
OT	Occupational Therapy	VCT	
		-W-	
-P-		W	Watts, Waste or Workload (input data statements)
PA	Public Address	WM	Wall-Mounted
PC	Personal Computer or Piece or Polycarbonate or Portland Cement	WSF	Welded Seam Sheet Flooring
PFT	Pulmonary Function Testing		
PG	Program Guide or Page	-X-	
PRB	Profile Base	-Y-	
PSG	Polysomnography		
PT	Physical Therapy	-Z-	
PTSD	Post Traumatic Stress Disorder		
-Q-			
-R-			
RB	Resilient Base		
RCP	Reflected Ceiling Plan		
RH	Relative Humidity or Right Hand		
RME	Reusable Medical Equipment		
-S-			