

CHAPTER 240: PATHOLOGY AND LABORATORY MEDICINE SERVICE

1	PURPOSE AND SCOPE	240-2
2	DEFINITIONS.....	240-2
3	OPERATING RATIONALE AND BASIS OF CRITERIA	240-7
4	INPUT DATA STATEMENTS (IDS)	240-9
5	SPACE PLANNING CRITERIA - MEDICAL CENTER LABORATORY	240-10
6	SPACE PLANNING CRITERIA - OUTPATIENT CLINIC LABORATORY	240-28
7	PLANNING AND DESIGN CONSIDERATIONS.....	240-28
8	FUNCTIONAL RELATIONSHIPS.....	240-31
9	FUNCTIONAL DIAGRAM	240-32



1 PURPOSE AND SCOPE

This document outlines the space planning criteria for Chapter 240: Pathology and Laboratory Medicine Service (PMLS). It applies to all medical facilities at the Department of Veterans Affairs (VA).

Department of Veterans Affairs (VA) Medical Center PMLS provides a wide range of clinical and anatomic pathology services which are necessary to carry out tests and procedures for diagnostic use in patient care.

The Department of Veterans Affairs (VA) Outpatient Clinics provide limited clinical laboratory services based on the need to screen for or monitor a disease process or to determine the need for hospitalization. Space Criteria for Outpatient Clinics are identified in Chapter 265. Specimens for more complex tests are collected, processed and forwarded to medical center laboratories for performance of the tests.

2 DEFINITIONS

Affiliated: An arrangement whereby a school of medicine agrees to partially staff a VA facility with faculty physicians, residents, and interns. In return, the VA provides the medical school with a venue to train new physicians. In this arrangement, the VA retains responsibility for the care of its patients while the school of medicine retains responsibility for all graduate level education and training.

Anatomical Pathology: The branch of pathology dealing with the examination of tissue removed from the patient during surgery or an outpatient procedure. Anatomic pathology may include, but not limited to histology, cytology and autopsy. A frozen section laboratory is a subset of the histology Laboratory and is located in histology or for hospitals with a large volume of frozen sections in the surgical suite. Morgue operations are generally housed in a non-public area accessible to service vehicles.

Automated Lab: A central area in the clinical laboratory that performs the high-volume, automated testing of hematology, coagulation, chemistry and urinalysis.

Blood Bank: An area of PLMS that collects, processes, and stores blood and blood products for future use in transfusions and for other purposes.

Chemistry: Consisting of general and automated chemistry, urinalysis, toxicology, and other special chemistry studies that detect or measure levels of elements, enzymes, hormones, vitamins, drugs, etc. within body fluids.

Clinical Pathology: The branch of Pathology dealing with the examination and laboratory study of fluids (e.g. Blood) and other non-tissue specimens from patients. Among the many branches of clinical pathology are Chemistry, Hematology, Microbiology, Serology, Immunology, Urinalysis, and others.

Coagulation: The section of the clinical laboratory that tests blood clotting capabilities; typically combined with hematology or the automated lab in most laboratories.



Cytology: The section of the clinical laboratory that studies cells for morphologic abnormalities indicative of disease.

Frozen section: Part of histology, an area that performs immediate gross and microscopic evaluation of surgical specimens achieved by freezing the tissue, making a thin slice of a specimen, and studying that specimen under a microscope. The frozen section area is typically located within histology but is sometimes in the surgical suite.

Gross pathology / tissue: The recognition of disease based on naked-eye examination of surgical specimens or at autopsy. The physical exam of a large specimen of body tissue to evaluate its conditions and the presence of disease.

Hematology: The section of the clinical laboratory for the testing of blood samples. Includes manual, automated, and special hematology, serology, and coagulation (process of turning a liquid into a solid, especially blood clotting) to determine cell types, population counts, etc.

Histology: The section of anatomic pathology that study of normal and diseased tissue by embedding them in paraffin blocks and then prepares slides from thin slices of the blocks. The slides are stained and then studied under a microscope. The blocks and slides must be stored for up to twenty five years.

Immunology: The section of clinical pathology that studies the immune system's stimulation by antigens.

Laboratory Information System (LIS): The laboratory's computer system and software. The LIS keeps track of all orders, specimens, quality control, and test results. It is typically interfaced with the hospitals information system and all automated lab equipment.

Manual Laboratory: A section of the clinical laboratory that performs manual testing in chemistry, hematology, coagulation, and urinalysis. It is usually located peripherally to the automated lab.

Microbiology: The section of the clinical laboratory that may test for microorganisms including bacteria, viruses (virology), parasites (parasitology), fungi and fungus disease (mycology) and tuberculosis, along with other special organism studies related to the identification and quantification of organisms.

Molecular Pathology: A section of the clinical laboratory that uses specialized techniques to evaluate disease at the molecular level.

Morgue: An area specifically arranged and equipped for the study and storage of human remains. A morgue may or may not include an autopsy facility.

Mycology: Part of microbiology, the area where specimens are tested for the presences of fungus.

Point of Care Testing (POCT): Diagnostic clinical laboratory testing performed at or near the site of patient care rather than within the central laboratory. POCT mainly uses hand held or small instruments for immediate testing at the patient's bedside or outpatient location.



Workspace is required in the central laboratory for quality assurance and monitoring of POCT and filing of maintenance records.

Reference or Referral Laboratory: A Laboratory that performs tests sent from outside entities. Reference labs are used by laboratories that do not have the instrumentation or capability to perform a specific test.

Serology: A section of the clinical laboratory that performs immunology tests. Serology is usually not a stand-alone section; it could be located in several sections of clinical pathology.

Specimen Processing (Accessioning): The receiving, verifying, logging, and preparing of specimens for distribution to the appropriate testing area in the laboratory.

Urinalysis: A section of the clinical laboratory where urine analysis is performed. This area is usually located in the chemistry area.

Virology: Typically, a part of microbiology where specimens are tested for the presence of viruses.

Space Planning / SEPS

Building Gross (BG) Factor: A Factor applied to the sum of all the Departmental Gross Square Footage (DGSF) in a project to determine the Building Gross Square Footage. This factor accounts for square footage used by the building envelope, structural systems, horizontal and vertical circulation including main corridors, elevators, stairs and escalators, shafts, and mechanical spaces. The Department of Veterans Affairs has set this factor at 1.35 and included guidance in case of variance when developing a Program for Design (PFD) in SEPS.

Department Net to Gross (DNTG) Factor: A parameter, determined by the VA for each clinical and non-clinical department PG-18-9 space planning criteria chapter, used to convert the programmed Net Square Feet (NSF) area to the Department Gross Square Feet (DGSF) area.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose combined time commitment equals that of one full-time employee (i.e., 40 hours per week).

Functional Area (FA): The grouping of rooms and spaces based on their function within a clinical service or department.

Functional Area Criteria Statement (FACS): A verbalized mathematical / logical formulation assigned to a FA incorporating answers to Input Data Statements (IDSs) to determine the condition for providing the rooms / spaces listed in the FA in the baseline space program or Program for Design (PFD) for a project. Certain rooms / spaces may or may not have additional conditions.

Input Data Statement(s): A question or set of questions designed to elicit information about the healthcare project to generate a Program for Design (PFD) based on the parameters set



forth in this set of documents. This information is processed through mathematical and logical operations in the VA Space and Equipment Planning system (SEPS).

JSN (Joint Schedule Number): A unique five alpha-numeric code assigned to each content item in the PG-18-5 Standard. JSNs are defined in DoD's Military Standard 1691 and included in SEPS Content Table.

Net Square Feet / Net Square Meters (NSF/NSM): The area of a room or space derived from that within the interior surface of the bounding walls or boundaries.

Program for Design (PFD): A project specific itemized listing of the spaces, rooms, and square foot area required for the proper operation of a specific service / department, and the corresponding area for each. PFDs are generated by SEPS based on the PG-18-9 Standard.

PG-18-5: A Department of Veterans Affairs' Equipment Guidelist Standard for planning, design, and construction of VA healthcare facilities; a Program Guide (PG) that lists assigned room contents (medical equipment, furniture, and fixtures) to each room in PG-18-9. PG-18-5 follows PG-18-9's chapter organization and nomenclature.

PG-18-9: A Department of Veterans Affairs' Program Guide for the Space Planning Criteria Standard use to develop space planning guidance for the planning, design, and construction of VA healthcare facilities; a Program Guide (PG) that provides space planning guidance for VA Medical Centers (VAMCs) and Community Bases Outpatient Clinics (CBOCs). PG-18-9 is organized by chapters, as of September 2021 there are 56 clinical and non-clinical PG-18-9 chapters; they are implemented and deployed in SEPS so that space planners working on VA healthcare projects can develop baseline space programs.

PG-18-12: A Department of Veterans Affairs' Design Guide Standard for planning, design and construction of VA healthcare facilities, a Program Guide (PG) that provides design guidance for VA Medical Centers (VAMCs) and Community Bases Outpatient Clinics (CBOCs). The narrative section details functional requirements and the Room Template section details the planning and design of key rooms in PG-18-9. Not all PG-18-9 chapters have a corresponding PG-18-12 Design Guide; one Design Guide can cover more than one PG-18-9 chapter.

Room Area: The square footage required for a clinical or non-clinical function to take place in a room / space. It takes into account the floor area required by equipment (medical and non-medical), furniture, circulation, and appropriate function / code-mandated clearances. Room area is measured in Net Square Feet (NSF).

Room Code (RC): A unique five alpha-numeric code assigned to each room in the PG-18-9 Standard. Room Codes in PG-18-9 are unique to VA and are the basis for SEPS's Space Table for VA projects.

Room Criteria Statement (RCS): A mathematical / logical formulation assigned to each room / space included in PG-18-9 incorporating answers to Input Data Statements (IDSs) to determine the provision of the room / space in the baseline space program or Program for Design (PFD) for a project.



SEPS: Acronym for Space and Equipment Planning System which produces equipment lists and Program for Design for a healthcare project based on specific information entered in response to Input Data Questions.

SEPS Importer: A style-based format developed to allow upload of RCSs and IDs to SEPS to implement and operationalize space planning criteria in PG-18-9 in the SEPS digital tool. This format establishes the syntax used in the RCSs and allows the use of Shortcuts. Shortcuts allow developers of space planning criteria statements to simplify RCSs making full use of their logical and mathematical functionality. A shortcut can refer to an RCS, a room in any FA or a formula. Shortcuts are [bracketed] when used in FAs and RCSs and are listed along with their equivalences at the end of the Space Planning Criteria section.

Space Planning Concept Matrix (SPCM): A working document developed during the chapter update process. It lists all the rooms organized by Functional Area and establishes ratios between the directly and the indirectly workload driven rooms for the planning range defined in this document. The matrix is organized in ascending workload values in ranges reflecting existing facilities and potential future increase. Section 5 of this document Space Planning Criteria reflects the values in the SPCM.

VA Room Family (VA RF): An organizational system of rooms / spaces grouped by function, a 'Room Family'. There are two "Orders" in the VARF: Patient Care and Patient Care Support; Patient Care features four sub-orders: Clinical, Inpatient, Outpatient and Residential Clinical. There are also four sub-orders in the Patient Care Support order: Building Support, Clinical Support, Staff Support and Veteran Support. Each room in a Family has a unique Room Code and NSF assigned based on its Room Contents and function which correspond to the specific use of the room. The same RC can be assigned to different Room Names with the same function in this document and can be assigned an NSF that varies based on the PG-18-5 Room Contents assigned to the room.

VA Technical Information Library (TIL): A resource website maintained by the Facilities Standards Service (FSS) Office of Construction and Facilities Management (CFM) containing a broad range of technical publications related to the planning, design, leasing, and construction of VA facilities. VA-TIL can be accessed at: <https://www.cfm.va.gov/TIL/>

Workload: Workload is the anticipated number of procedures, clinic stops, clinic encounters etc. that is processed through a department/service area. The total workload applied to departmental operational assumptions will determine overall room requirements by modality.

3 OPERATING RATIONALE AND BASIS OF CRITERIA

A. Space Planning parameters and metrics in this document are based on the Pathology and Laboratory Medicine Service Space Planning Criteria Matrix (SPCM) developed as a basis for this chapter. The SPCM lists all the spaces a VA Pathology and Laboratory Medicine Service site would require; the quantity and NSF for each room is calculated based on the Level-S, M, L & VL- authorized organized in four ranges.



- B. The room quantity (Q) and area (NSF) values included in each range in the SPCM are reflected in the Room Criteria Statements, placed immediately below each room name, room code and NSF/NSM, for each room in Section 5 of this document. The Pathology and Laboratory Medicine Service Level authorized is included in the Input Data Statements (IDSs) in Section 4. Both Sections are implemented in the Space Planning and Equipment System (SEPS) software accessible through the MAX.gov website. Planners programming a VA Pathology and Laboratory Medicine Service project shall develop a baseline Program for Design (PFD) in SEPS.
- C. SEPS incorporates a Net-to-Department Gross (NTDG) factor of **1.50** for Pathology and Laboratory Medicine Service and a Building Gross (BG) factor of 1.35 in the space calculation. These factors generate the Department Gross Square Feet (DGSF) and the Building Gross Square Feet (BGSF) for the project based on the aggregate resulting Net Square Feet (NSF) for all Departments included. Planners can adjust the BGSF factor in SEPS; the NTDG factor is fixed.
- D. The space planning and design Program Guides: PG-18-9, PG-18-5, and PG-18-12 are available at the [Department of Veterans Affairs Office of Construction and Facilities Management \(CFM\) Technical Information Library \(TIL\) website](#).
- E. Laboratory space allocation must be based on multiple criteria. Factors to be considered would include overall laboratory workload [reflected in data reported in the Laboratory Management Index Program (LMIP)], the number of FTE assigned to the lab, the Medical Complexity Grouping (MCG) of the facility in which the Laboratory will be located, and the variety and complexity of services to be offered by the laboratory. All of these factors should be used to assess and determine the space needs of the Pathology and Laboratory Medicine Service with respect to a given facility. No single factor is predominant over the others. Rather it is more relevant to compose a composite profile of the proposed laboratory using all available data.
- F. For planning purposes, the proposed laboratory can be projected into one of four (4) “Levels”. As stated, the assignment of a “Level” to a proposed laboratory must be based on the assessment of multiple factors. No single factor is predominant. The following laboratory level categories are used in this document to allocate space:
 - 1. Level S (small): Annual LMIP workload of less than 250,000 tests, facility MCG of 3, less than 20 Laboratory FTEs, basic chemistry, hematology, microbiology, etc. services performed.
 - 2. Level M (medium): Annual LMIP workload of 250,000 to 500,000 tests, facility MCG of 2, 20 to 40 Laboratory FTEs, more advanced chemistry, hematology, microbiology, and other clinical laboratory services performed.
 - 3. Level L (large): Annual LMIP workload of 500,000 to 1.5 million tests, facility MCG of 1c or 1b, greater than 40 Laboratory FTE, advanced and complex chemistry, hematology, microbiology, and other clinical laboratory services performed. May provide specialized and reference laboratory services to other VA Medical Centers



and the community.

4. Level VL (very large): Annual LMIP workload of greater than 1.5 million tests, facility MCG of 1b or 1a, greater than 40 Laboratory FTE, advanced and complex chemistry, hematology, microbiology, and other clinical laboratory services performed. May provide specialized and reference laboratory services to other VA Medical Centers and the community.
- G. In the design of a clinical laboratory, a determination of the required square footage is only the beginning. The use of average figures for all laboratories is misleading, tends to perpetuate existing designs and to prevent innovation. The use of average figures is not a form of laboratory planning, but rather is something that is done instead of planning intended primarily to provide a basis for estimating construction costs. The criteria for each laboratory section are intended to provide flexibility so that space will be planned based on the need to respond to the medical center's patient care programs. The number of square feet (meters) for each laboratory section are considered adequate for normal operations but may be modified during program and conceptual development if adequately justified.
- H. The following factors concerning space determinations should be taken into consideration:
1. The instrumentation required to perform the test menu in the laboratory, and the degree of automation, is the key driver of space. In the automated lab, a very large volume of tests can be performed on one analyzer run by one staff member — test volume and staffing are not generally used to determine the amount of space required for Laboratory operations in automated areas. The degree of automation has a significant impact on both the space and configuration of the laboratory. One new automated instrument often consolidates several manual workstations or individual instruments. Automation is taking tremendous strides — every year; more tests are available on automated analyzers, reducing the number of staff needed in technical areas and giving laboratories the capability to perform esoteric tests that they could not provide in the past.
 2. In highly manual areas, where automation is not yet developed, there is more correlation between test volume, staffing, and space. These areas include histology, microbiology, and the blood bank. Even in these areas, new technology is being developed to automate specific processes — within the next five to ten years; additional automation will change the facility requirements for these Laboratory sections as well. This document assumes for planning purposes that automation will not require any of these areas to be larger than they are currently.
 3. Laboratory work area space for medium and larger laboratories includes space for the Department of Veterans Affairs (VA) and non-Department of Veterans Affairs (VA) medical technology student/pathology resident training.
 4. Laboratory work area space for all VA laboratories includes refrigerated and non-



refrigerated storage space for several days' supply of reagents, control, stains, diagnostic instruments supplies (cups, trays, tubing, etc.), glassware and other supplies (microscope slides, disposable pipettes, etc.).

4 DATA STATEMENTS (IDS)

- A. Is an S Level Laboratory authorized? (M)
- B. Is an M Level Laboratory authorized? (M)
- C. Is an L Level Laboratory authorized? (M)
- D. Is a VL Level Laboratory authorized? (M)
- E. Is Molecular Testing authorized? (M)
- F. Is Anatomical Pathology Work Area authorized? (M)
- G. Is an Electron Microscopy Suite authorized? (M)
- H. Is an Autopsy Suite authorized? (M)
 - 1. How many annual deaths per year are projected? (W) (Values: 25 to 1,200)
- I. How many daily blood specimen collections are projected? (W) (Values: 25 to 700)

5 SPACE PLANNING CRITERIA – MEDICAL CENTER LABORATORY

A. FA 1: PATIENT SPECIMEN COLLECTION AREA

- 1. **Path Svc Waiting, Bldg Sprt (SB003)130 NSF (12.1 NSM)**
 - a. Provide one if [daily blood specimen collections projected] is between 25 and 150
 - b. Provide one at 190 NSF if [daily blood specimen collections projected] is between 151 and 200
 - c. Provide one at 260 NSF if [daily blood specimen collections projected] is between 201 and 250
 - d. Provide one at 310 NSF if [daily blood specimen collections projected] is between 251 and 300
 - e. Provide one at 370 NSF if [daily blood specimen collections projected] is between 301 and 350
 - f. Provide one at 440 NSF if [daily blood specimen collections projected] is between 351 and 400
 - g. Provide one at 520 NSF if [daily blood specimen collections projected] is between 401 and 450
 - h. Provide one at 535 NSF if [daily blood specimen collections projected] is between 451 and 500
 - i. Provide one at 575 NSF if [daily blood specimen collections projected] is between 501 and 550
 - j. Provide one at 625 NSF if [daily blood specimen collections projected] is between 551 and 600
 - k. Provide one at 675 NSF if [daily blood specimen collections projected] is between 601 and 650
 - l. Provide one at 705 NSF if [daily blood specimen collections projected] is between 651 and 705



- 2. Path Svc Reception, Clncl Sprt (SC183) 85 NSF (7.9 NSM)**
 - a. Provide one if [daily blood specimen collections projected] is between 25 and 150
 - b. Provide one at 260 NSF if [daily blood specimen collections projected] is between 151 and 500
 - c. Provide one at 385 NSF if [daily blood specimen collections projected] is between 501 and 700

Allocated NSF accommodates two Receptionist FTEs, patient privacy area, and circulation.

- 3. Blood Specimen Collection Room, Path Svc (CL101) 100 NSF (9.3 NSM)**
 - a. Provide two if [daily blood specimen collections projected] is between 25 and 200
 - b. Provide three if [daily blood specimen collections projected] is between 201 and 300
 - c. Provide four if [daily blood specimen collections projected] is between 301 and 350
 - d. Provide five if [daily blood specimen collections projected] is between 351 and 700

- 4. Path Svc Urine Specimen Collection Toilet, Bldg Sprt (SB164)..... 60 NSF (5.6 NSM)**
 - a. Provide two if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide three if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide four if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide five if [daily blood specimen collections projected] is between 551 and 700

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation. This area must be immediately adjacent to the Blood Specimen Collection Room so that technical staff can rapidly attend to needs of patients who need assistance. Locks should not be placed on these doors and an emergency call system must be installed for patient use.

B. FA 2: CORE LABORATORY WORK AREA

- 1. Core Lab Specimen Room, Path Svc (CL111)350 NSF (32.6 NSM)**
 - a. Provide one if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide one at 400 NSF if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide one at 600 NSF if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide one at 700 NSF if [daily blood specimen collections projected] is between 551 and 700



This is a central receiving point for all specimens and requests, except those for histology, cytology, and microbiology which are delivered directly to those sections. If a Pneumatic Tube system is approved one station should be located in this area. Specimens, with accompanying request forms, are examined, centrifuged if necessary, and routed to the various sections of the laboratory. All specimens are potentially dangerous, and centrifugation should be performed under a hood, or the ventilation system should be designed in a manner which will prevent dispersion of dangerous aerosols into the environment. (Accessioning, Processing, and Distribution)

2. Core Lab Automated Data Processing Control Room, Path Svc (CL121).....120 NSF (11.2 NSM)

a. Provide one if [daily blood specimen collections projected] is between 25 and 700

This is an area for computers, printers, and immediate ADP data storage for retrieval of results, quality control data and patient demographic information. It is also critical to generating work lists away from the highly contaminated specimen processing area.

3. Core Lab Automated Data Processing Processor Area, Path Svc (CL131)..... 50 NSF (4.7 NSM)

a. Provide one if [daily blood specimen collections projected] is between 25 and 700

This space accommodates the hardware used to connect laboratory instrumentation on-line with the medical center central processing unit.

C. FA 3: CLINICAL PATHOLOGY WORK AREA

1. Clinical Pathology Chemistry Laboratory, Path Svc (CL201).....500 NSF (46.5 NSM)

a. Provide one if [daily blood specimen collections projected] is between 25 and 250

b. Provide one at 1,000 NSF if [daily blood specimen collections projected] is between 251 and 400

c. Provide one at 2,100 NSF if [daily blood specimen collections projected] is between 401 and 550

d. Provide one at 2,500 NSF if [daily blood specimen collections projected] is between 551 and 700

In this area technical personnel use automated, semi-automated and manual instrumentation to perform basic chemical analyses common to all levels of laboratories.



- 2. Clinical Pathology Special Chemistry Laboratory, Path Svc (CL211).....580 NSF (53.9 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 25 and 250*
 - b. *Provide one at 900 NSF if [daily blood specimen collections projected] is between 251 and 400*
 - c. *Provide one at 1,160 NSF if [daily blood specimen collections projected] is between 401 and 550*
 - d. *Provide one at 1,310 NSF if [daily blood specimen collections projected] is between 551 and 700*

In this area technical personnel employ special and unique diagnostic procedures such as chromatography (thin layer, gas, and/or liquid), atomic absorption spectrophotometry, EMIT and/or manual spectrophotometry, fluorometry etc., to perform therapeutic drug monitoring, toxicology, endocrinology, heavy metal, nutrition and metabolism studies. A reference Laboratory will be utilized for Level S facilities.

- 3. Clinical Pathology Radioimmunoassay (RIA) Room, Path Svc (CL221).....250 NSF (23.3 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 401 and 550*
 - b. *Provide one at 350 NSF if [daily blood specimen collections projected] is between 551 and 700*

In vitro studies utilizing radioisotopes are performed in this area. This laboratory should be carefully planned with adequate radioactive waste disposal facilities with safety hoods to meet standards for inspecting agencies. If hepatitis testing is performed in the laboratory, employee safety must be considered in the design and location of the laboratory. Space for this function will be provided only if there is no Nuclear Medicine Service or radioimmunoassay studies are being performed in Laboratory Service at the time of planning for new construction or renovation. A reference Laboratory will be utilized for Level S facilities.

- 4. Clinical Pathology Urinalysis Room, Path Svc (CL226) 50 NSF (4.7 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 25 and 250*
 - b. *Provide one at 100 NSF if [daily blood specimen collections projected] is between 251 and 400*
 - c. *Provide one at 200 NSF if [daily blood specimen collections projected] is between 401 and 700*

The primary function performed in this area is the biochemical analysis and microscopic examination of urine. Testing feces for normal and abnormal constituents is also performed.

(Urine / Feces Analysis)



- 5. Clinical Pathology Routine Hematology Laboratory,
Path Svc (CL231).....200 NSF (18.6 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide one at 750 NSF if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide one at 1,250 NSF if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide one at 1,750 NSF if [daily blood specimen collections projected] is between 551 and 700

The space provided for Levels M, L and VL laboratories includes an 80 NSF administrative work area for a supervisory medical technologist. Levels L and VL include space for electrophoresis and diagnostic cellular immunopathology studies (flow cytometry).

- 6. Clinical Pathology Coagulation Hematology Laboratory,
Path Svc (CL241)..... 100 NSF (9.3 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 400
 - b. Provide one at 150 NSF if [daily blood specimen collections projected] is between 401 and 700

- 7. Clinical Pathology Blood Bank Transfusion Storage Room,
Path Svc (CL251)..... 150 NSF (14 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide one at 250 NSF if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide one at 500 NSF if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide one at 700 NSF if [daily blood specimen collections projected] is between 551 and 700

The space provided for Levels L and VL laboratories includes an 80 NSF administrative work area for supervisory medical technologists. The term transfusion service usually refers to a facility located in a hospital, organized principally to store, cross match and issue blood for transfusion to patients. An important distinction between a transfusion service and a blood bank is that a transfusion service draws little or no blood. The transfusion service may be the only blood bank function required in the laboratory, if a contractual or sharing agreement exists to provide blood product collection, preparation and/or hemotherapeutics. This area should have walls to provide a quiet work area. (Testing / Issuance)



- 8. Clinical Pathology Blood Bank Product Prep Room,
Path Svc (CL261).....120 NSF (11.2 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 251 and 400*
 - b. *Provide one at 180 NSF if [daily blood specimen collections projected] is between 401 and 550*
 - c. *Provide one at 200 NSF if [daily blood specimen collections projected] is between 551 and 700*

This functional area includes the following services, which are required if there is no contract or sharing agreement to provide blood product preparation for the medical center: red cell packing, red cell washing, freezing/rejuvenating, thawing and deglycerolizing, freezing of frozen fresh plasma, thawing of fresh frozen plasma, preparation of cryoprecipitate, thawing of cryoprecipitate, pooling of cryoprecipitate, platelet and granulocyte concentrates from single units, and pooling platelets.

- 9. Clinical Pathology Blood Bank Hemotherapeutics Room,
Path Svc (CL266).....200 NSF (18.6 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 251 and 700*

The following functions are performed in this room: the collection of special blood components (white blood cells, platelets etc.) from patients; and the therapeutic removal of plasma (plasmapheresis) or blood cells (cytopheresis).

- 10. Clinical Pathology Blood Bank Donor Room,
Path Svc (CL267).....600 NSF (55.8 NSM)**
- a. *Provide one if [daily blood specimen collections projected] is between 401 and 700*

The following primary function is performed in this room: the routine collection of whole blood from donors. This function is required only in large medical centers which have their own established programs for blood donation. There may or may not be a contract or sharing agreement with local agencies to provide some or all of their blood product needs. The space provided includes an enclosed area for the collection of donor history, pre-donation physical examination (blood pressure, etc.) and post-donation recovery.



- 11. Clinical Pathology Microbiology Laboratory,
Path Svc (CL271).....200 NSF (18.6 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide one at 600 NSF if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide one at 1,600 NSF if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide one at 2,100 NSF if [daily blood specimen collections projected] is between 551 and 700

The space provided for levels L and VL laboratories includes an 80 NSF administrative work area for a supervisory medical technologist and a 100 NSF office for clinical laboratory scientists. The space provided was designed to accommodate automated microbiology systems as well as traditional manual microbiology techniques.

- 12. Clinical Pathology Microbiology Biosafety Laboratory,
Path Svc (CL276).....150 NSF (14.0 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 400
 - b. Provide one at 250 NSF if [daily blood specimen collections projected] is between 401 and 550
 - c. Provide one at 400 NSF if [daily blood specimen collections projected] is between 551 and 700

This area provides isolation facilities for the handling of biologically hazardous specimens and should be environmental separated (negative pressure) for the main laboratory.

- 13. Clinical Pathology Microbiology Mycology Laboratory,
Path Svc (CL279).....150 NSF (14.0 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 401 and 700

This function is usually provided as part of routine microbiology. This area deals exclusively with the identification of fungi, and in some medical centers, susceptibility testing for anti-fungal drugs.

- 14. Clinical Pathology Mycobacteriology (TB) Laboratory,
Path Svc (CL281).....150 NSF (14.0 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 401 and 700

Provided only if TB culture and susceptibility testing is performed in the laboratory and should be environmentally separated (negative pressure) from the main laboratory. This area deals exclusively with the study of TB and (TB-like) microorganisms.



**15. Clinical Pathology Microbiology Media Prep Room,
Path Svc (CL282).....200 NSF (18.6 NSM)**

- a. *Provide one if [daily blood specimen collections projected] is between 551 and 700*

For S, M, and L Level Laboratories, the sterilization and solution preparation room can be used for media preparation in these laboratories. This function should be provided only if the cost effectiveness of making media is greater than that provided by purchase of commercial media. It should be provided only for highly specialized reference laboratories that may be able to cost-effectively purchase special media for TB, viral and other organisms with special growth characteristics.

**16. Clinical Pathology Immunopathology Laboratory,
Path Svc (CL286).....400 NSF (37.2 NSM)**

- a. *Provide one if [daily blood specimen collections projected] is between 251 and 400*
b. *Provide one at 600 NSF if [daily blood specimen collections projected] is between 401 and 550*
c. *Provide one at 800 NSF if [daily blood specimen collections projected] is between 551 and 700*

The space provided for Levels L and VL laboratories includes an 80 NSF administrative work area for a supervisory medical technologist. This laboratory comprises all of the services and procedures required to produce diagnostic results based on immunologic (antigen-antibody) reactions using tissues, cells, and fluids.

**17. Clinical Pathology Fluorescent Microscopy Room,
Path Svc (CL291)..... 100 NSF (9.3 NSM)**

- a. *Provide one if [daily blood specimen collections projected] is between 251 and 400*
b. *Provide one at 150 NSF if [daily blood specimen collections projected] is between 401 and 550*
c. *Provide one at 200 NSF if [daily blood specimen collections projected] is between 551 and 700*

The interpretation of immunologic diagnostic tests requires a special area, darkened, with adequate ventilation and airflow. As the specialty of immunopathology grows, this area may require expansion to allow more seating area for technical staff at microscopes. The room should be large enough to allow small groups of students and resident physicians to utilize the microscopes, if these programs exist at the medical center, or are planned.



- 18. Clinical Pathology Automated Data Processing Room,
Path Svc (CL296)..... 100 NSF (9.3 NSM)**
- a. Provide one if [daily blood specimen collections projected] is between 25 and 250
 - b. Provide one at 160 NSF if [daily blood specimen collections projected] is between 251 and 400
 - c. Provide one at 220 NSF if [daily blood specimen collections projected] is between 401 and 550
 - d. Provide one at 280 NSF if [daily blood specimen collections projected] is between 551 and 700

D. FA 4: MOLECULAR TESTING SUITE

FA Condition: [Molecular Testing is authorized]

This functional area is required when the laboratory performs specialized testing requiring the extraction, hybridization, amplification, or other analysis of nucleic acids to diagnose disease, predict the prognosis of disease, guide therapy, or evaluate the susceptibility to disease before disease is evident. Given the high potential for contamination during the assay process, laboratory space must be designed to minimize the risk of contamination. Barrier containment through the use of physically separate work areas is required. Laboratory space must also be adequate for the installation of biologic safety cabinets, laminar flow hoods, ultra-low temperature freezers, and other required equipment. Other engineering requirements such as negative air flow also apply.

- 1. Molecular Testing Reagent Prep Preamp Room,
Path Svc (CL301).....300 NSF (27.9 NSM)**
- a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])
- 2. Molecular Testing Specimen Processing Preamp Room,
Path Svc (CL306).....400 NSF (37.2 NSM)**
- a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])
- 3. Molecular Testing Amplification Room, Path Svc (CL311)500 NSF (46.5 NSM)**
- a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])
- 4. Molecular Testing Darkroom, Path Svc (CL316)120 NSF (11.2 NSM)**
- a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])

Developing, Printing, Enlarging



- 5. Molecular Testing Data Processing, Path Svc (CL321) 100 NSF (9.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 160 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 220 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 280 NSF if [VL Level Laboratory is authorized]*

E. FA 5: ANATOMICAL PATHOLOGY WORK AREA

FA Condition: *[Anatomical Pathology Work Area is authorized]*

- 1. Anatomical Pathology Histology Laboratory, Path Svc (CL401).....150 NSF (14.0 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 400 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 600 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 800 NSF if [VL Level Laboratory is authorized]*

The space provided for Levels M, L, and VL laboratories includes an 80 NSF administrative work area for a supervisory medical technologist. In this laboratory tissue, specimens are processed through automated tissue processors, embedded in blocks of paraffin or paraffin-like substances, cut into sections, mounted on microscope slides, and stained for examination by pathologists. The laboratory should be an open laboratory with adjoining adequate secretarial facilities and storage area for pathology records and slides. The laboratory must be adequately ventilated to avoid exposure to toxic fumes and must be equipped with adequate hoods for working with toxic and volatile solvents. Specimen grossing and dissections should be performed in a safety hood. It should also be provided with adequate safety cabinets for storage of volatile chemicals. Special emphasis should be placed on controlling humidity in the histology area. Air conditioning should be adequate but air movement needs to be distributed evenly and at a fairly low velocity.

- 2. Anatomical Pathology Frozen / Gross Section Laboratory, Path Svc (CL411)..... 100 NSF (9.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 150 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 200 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 250 NSF if [VL Level Laboratory is authorized]*

This laboratory is necessary to provide space for pathologists to examine tissues from the operating room for rapid (frozen section) diagnostic assistance for surgeons. The area is used daily to examine all of the surgical specimens received from the medical center, and must be adjacent to the histology laboratory. It should be adequately ventilated. In Level L and VL facilities with large surgical volumes consideration should be given to locate the Frozen Section Lab in or adjacent the Surgical Suite or provide proper teleconferencing equipment to mitigate this need.



3. Anatomical Pathology Cytology Laboratory, Path Svc (CL421).....150 NSF (14.0 NSM)

- a. *Provide one if [M Level Laboratory is authorized]*
- b. *Provide one at 200 NSF if [L Level Laboratory is authorized]*
- c. *Provide one at 250 NSF if [VL Level Laboratory is authorized]*

In this area gynecological and non-gynecological cytological specimens are processed, mounted on slides, stained and examined microscopically. Adequate ventilation must be provided. This area should have walls to provide a quiet work area.

4. Anatomical Pathology Records Files, Path Svc (CL431)200 NSF (18.6 NSM)

- a. *Provide one if [S Level Laboratory is authorized]*
- b. *Provide one at 300 NSF if [M Level Laboratory is authorized]*
- c. *Provide one at 400 NSF if [L Level Laboratory is authorized]*
- d. *Provide one at 500 NSF if [VL Level Laboratory is authorized]*

The location should be designed so that it will provide access in such a way that the administrative staff can adequately control the utilization of slides, records and quickly retrieve previously filed slides and reports for a pathologist reviewing a case. This area should be planned in a way as to insure adequate storage for slides, tissue blocks, autopsy records, indexing facilities, etc., for 25 years of slides and reports. The histology facilities for autopsy slide preparation should be adjacent to the area just described to allow the histology staff to daily file slides, blocks and preserved tissues. It should be adequately ventilated and provided with regulated temperature control.

5. Anatomical Pathology Data Processing, Path Svc (CL441) 100 NSF (9.3 NSM)

- a. *Provide one if [S Level Laboratory is authorized]*
- b. *Provide one at 160 NSF if [M Level Laboratory is authorized]*
- c. *Provide one at 220 NSF if [L Level Laboratory is authorized]*
- d. *Provide one at 280 NSF if [VL Level Laboratory is authorized]*

F. FA 6: ELECTRON MICROSCOPY SUITE

FA Condition: *[Electron Microscopy Suite is authorized]*

1. Microscopy Suite Scope Room, Path Svc (CL501)200 NSF (18.6 NSM)

- a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

2. Microscopy Suite Dark Room, Path Svc (CL511) 50 NSF (4.7 NSM)

- a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*



- 3. Microscopy Suite Preparation Room, Path Svc (CL521).....200 NSF (18.6 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*
- 4. Microscopy Suite Cutting Room, Path Svc (CL531).....200 NSF (18.6 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*
- 5. Microscopy Suite Dark Room, Path Svc (CL541).....120 NSF (11.2 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*
- 6. Microscopy Suite Finishing Room, Path Svc (CL551)120 NSF (11.2 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*
- 7. Microscopy Suite Data Processing Room, Path Svc (CL561) 100 NSF (9.3 NSM)**
 - a. *Provide one if [S Level Laboratory is authorized]*
 - b. *Provide one at 160 NSF if [M Level Laboratory is authorized]*
 - c. *Provide one at 220 NSF if [L Level Laboratory is authorized]*
 - d. *Provide one at 280 NSF if [VL Level Laboratory is authorized]*

G. FA 7: AUTOPSY SUITE

FA Condition: *[Autopsy Suite is authorized]*

- 1. Autopsy Room, Path Svc (CL601).....400 NSF (37.2 NSM)**
 - a. *Provide one if [annual deaths per year projected] is between 25 and 600*
 - b. *Provide one at 600 NSF if [annual deaths per year projected] is between 601 and 900*
 - c. *Provide one at 800 NSF if [annual deaths per year projected] is between 901 and 1,200*

This area provides the space required to perform postmortem examinations. This room is equipped not only for the performance of autopsies but also for the dissection of organs, tissues, photography of gross specimens and selected diagnostic studies, (e.g., cultures, etc.).

- 2. Autopsy Isolation / Teaching Room, Path Svc (CL611)360 NSF (33.5 NSM)**
 - a. *Provide one if [annual deaths per year projected] is between 25 and 1,200*

This room is equipped to safely perform autopsies on highly infectious cases (AIDS, hepatitis, etc.). It also provides a separate area for demonstrating autopsies to clinicians without interference from or interfering with the performance of other autopsies.



- 3. Autopsy Mortuary Refrigerator, Path Svc (CL621) 100 NSF (9.3 NSM)**
 - a. Provide one if [annual deaths per year projected] is between 25 and 200
 - b. Provide one at 120 NSF if [annual deaths per year projected] is between 201 and 400
 - c. Provide one at 160 NSF if [annual deaths per year projected] is between 401 and 600
 - d. Provide one at 200 NSF if [annual deaths per year projected] is between 601 and 800
 - e. Provide one at 240 NSF if [annual deaths per year projected] is between 801 and 1,000
 - f. Provide one at 280 NSF if [annual deaths per year projected] is between 1,001 and 1,200

The "walk-in" type of refrigerator serves the multiple functions of organ storage and body preservation in the most convenient way and with best access for cleaning.

- 4. Autopsy Gross Specimen Storage Room, Path Svc (CL631) 100 NSF (9.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]
 - b. Provide one at 150 NSF if [M Level Laboratory is authorized]
 - c. Provide one at 200 NSF if [L Level Laboratory is authorized]
 - d. Provide one at 300 NSF if [VL Level Laboratory is authorized]
- 5. Path Svc Autopsy Suite Female Staff Locker Room, Stff Sprt (SS232) 60 NSF (5.6 NSM)**
 - a. Provide one if [annual deaths per year projected] is between 25 and 600
 - b. Provide one at 100 NSF if [annual deaths per year projected] is between 601 and 900
 - c. Provide one at 120 NSF if [annual deaths per year projected] is between 901 and 1,200
- 6. Path Svc Autopsy Suite Male Staff Locker Room, Stff Sprt (SS241) 60 NSF (5.6 NSM)**
 - a. Provide one if [annual deaths per year projected] is between 25 and 600
 - b. Provide one at 100 NSF if [annual deaths per year projected] is between 601 and 900
 - c. Provide one at 120 NSF if [annual deaths per year projected] is between 901 and 1,200
- 7. Path Svc Autopsy Suite Staff Toilet, Bldg Sprt (SB191) 60 NSF (5.6 NSM)**
 - a. Provide one if [annual deaths per year projected] is between 25 and 600
 - b. Provide two if [annual deaths per year projected] is between 601 and 1,200

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, one accessible shower @ 28 NSF, ABA clearances, and circulation. This space includes a shower, water closet, urinal and lavatory.



- 8. Path Svc Autopsy Suite Housekeeping Aides Closet (HAC), Bldg Sprt (SB244) 60 NSF (5.6 NSM)**
 - a. Provide one if [annual deaths per year projected] is between 601 and 1,200*

H. FA 8: SUPPORT AREA

- 1. Sterilization / Preparation Storage Room, Path Svc (CL701)250 NSF (23.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 500 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 600 NSF if [L Level Laboratory is authorized] or [VL Level Laboratory is authorized]*

The environmental safety regulations in many states require sterilization (autoclaving) of items which are contaminated with blood or body fluids.

Sterilization is now required in many states for all biological wastes in laboratories. This room also serves a dual function for large volume solution preparation, distilled water preparation and for washing large contaminated items. In Levels S, M, and L laboratories, the bench and sink area can be used to prepare special media for microbiology.

- 2. Bulk Storage Room, Path Svc (CL711)800 NSF (74.4 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 1,000 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 1,200 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 1,400 NSF if [VL Level Laboratory is authorized]*

This space provides storage for plastic, paper and other dry, non-biological supplies and reagents used to perform tests. Advances in laboratory technology have created a change from glass to disposable plastic ware for nearly all laboratory functions. This area provides space to store and lock valuable items which could easily be stolen (microscopes, small analyzers, typewriters, dictating machines, calculators, etc.). If adequate bulk storage is available, it assists in cost reduction, since it gives the laboratory the ability to obtain larger discounts on supplies by purchasing and storing larger amounts. The allocation of storage space may be divided into several storage areas, if desired by the medical center laboratory chief.

- 3. Refrigerated Storage Room, Path Svc (CL721) 100 NSF (9.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 120 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 150 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 500 NSF if [VL Level Laboratory is authorized]*

This area is required to provide controlled temperature storage space to allow the laboratory to buy larger quantities of temperature sensitive, dated biological reagents so that greater discounts can be obtained from manufacturers. In very large, active laboratories, more than one room may be required and this space may be divided into two cold rooms if desired.



- 4. Flammables Storage Room, Path Svc (CL731) 100 NSF (9.3 NSM)**
 - a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized])*
 - b. Provide one at 150 NSF if ([L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

This area is needed to comply with OSHA, The Joint Commission, and CAP safety regulations for bulk storage of acetone, formalin, xylene, acids, gas cylinders and any toxic substances which are used in the laboratory. The room should comply with all fire safety regulations in its location. It should be located away from patient care and employee work areas, and should be located on an outside wall, constructed with a blow-out panel. A curb at least 6" in height should be constructed around the base of the room, including the doorsill.

- 5. Path Svc Housekeeping Aides Closet (HAC), Bldg Sprt (SB244) 60 NSF (5.6 NSM)**
 - a. Provide one if [S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized]*

I. FA 9: STAFF AND ADMINISTRATIVE AREA

- 1. Path Svc Pathology Service Chief Office, Stff Sprt (SS204)..... 100 NSF (9.3 NSM)**
 - a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

This office provides space for a workstation, a microscope workstation, and a small conference area.

- 2. Path Svc Section Chief Office, Stff Sprt (SS204) 100 NSF (9.3 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide two if [M Level Laboratory is authorized]*
 - c. Provide three if [L Level Laboratory is authorized]*
 - d. Provide four if [VL Level Laboratory is authorized]*

- 3. Path Svc Staff Pathologist Workroom, Clncl Sprt (SC231)120 NSF (11.2 NSM)**
 - a. Provide two if [S Level Laboratory is authorized]*
 - b. Provide four if [M Level Laboratory is authorized]*
 - c. Provide six if [L Level Laboratory is authorized]*
 - d. Provide eight if [VL Level Laboratory is authorized]*

- 4. Path Svc Visitor Waiting, Bldg Sprt (SB003) 80 NSF (7.5 NSM)**
 - a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

Allocated space accommodates one standard chair @ 9 NSF, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation: total three people.



- 5. Path Svc Administration Support Workstation, Stff Sprt (SS218) ... 56 NSF (5.3 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

- 6. Path Svc Clerical Workstation, Stff Sprt (SS218)..... 56 NSF (5.3 NSM)**
 - a. *Provide two if [S Level Laboratory is authorized]*
 - b. *Provide three if [M Level Laboratory is authorized]*
 - c. *Provide four if [L Level Laboratory is authorized]*
 - d. *Provide five if [VL Level Laboratory is authorized]*

- 7. Path Svc Administrative Assistant Workstation, Stff Sprt (SS218) 56 NSF (5.3 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

- 8. Path Svc Medical Technologist Chief Office, Stff Sprt (SS204) 100 NSF (9.3 NSM)**
 - a. *Provide one if [S Level Laboratory is authorized]*
 - b. *Provide two if [M Level Laboratory is authorized]*
 - c. *Provide three if [L Level Laboratory is authorized]*
 - d. *Provide four if [VL Level Laboratory is authorized]*

- 9. Path Svc Clinical Laboratory Chief Office, Stff Sprt (SS204) 100 NSF (9.3 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

- 10. Path Svc Clinical Laboratory Scientist Workstation, Stff Sprt (SS218) 56 NSF (5.3 NSM)**
 - a. *Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

- 11. Path Svc Staff Conference Room, Educ Svc (SS101).....300 NSF (27.9 NSM)**
 - a. *Provide two if [S Level Laboratory is authorized]*
 - b. *Provide three if [M Level Laboratory is authorized]*
 - c. *Provide four if [L Level Laboratory is authorized]*
 - d. *Provide five if [VL Level Laboratory is authorized]*

Allocated NSF accommodates ten conference chairs @ 7.5 NSF each, four 5'-0" x 2'-0" tables at 10 NSF each, one credenza @ 8 NSF, and circulation; total ten people. Dedicated space will be provided for Laboratory Service only when similar space provided for an adjacent service is not available to be shared.



- 12. Path Svc Staff Breakroom, Stff Sprt (SS262).....120 NSF (11.2 NSM)**
a. Provide one if [S Level Laboratory is authorized]
b. Provide one at 180 NSF if [M Level Laboratory is authorized]
c. Provide one at 240 NSF if [L Level Laboratory is authorized]
d. Provide one at 320 NSF if [VL Level Laboratory is authorized]

- 13. Path Svc Female Staff Locker Room, Stff Sprt (SS232)..... 100 NSF (9.3 NSM)**
a. Provide one if [S Level Laboratory is authorized]
b. Provide one at 140 NSF if [M Level Laboratory is authorized]
c. Provide one at 180 NSF if [L Level Laboratory is authorized]
d. Provide one at 210 NSF if [VL Level Laboratory is authorized]

Provide locker space only for those FTEs without assigned office or workspace. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.

- 14. Path Svc Male Staff Locker Room, Stff Sprt (SS241) 100 NSF (9.3 NSM)**
a. Provide one if [S Level Laboratory is authorized]
b. Provide one at 140 NSF if [M Level Laboratory is authorized]
c. Provide one at 180 NSF if [L Level Laboratory is authorized]
d. Provide one at 210 NSF if [VL Level Laboratory is authorized]

Provide locker space only for those FTEs without assigned office or workspace. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.

- 15. Path Svc Female Staff Toilet, Bldg Sprt (SB202) 60 NSF (5.6 NSM)**
a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized])
b. Provide two if ([L Level Laboratory is authorized] or [VL Level Laboratory is authorized])

Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation.

- 16. Path Svc Male Staff Toilet, Bldg Sprt (SB203)..... 60 NSF (5.6 NSM)**
a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized])
b. Provide two if ([L Level Laboratory is authorized] or [VL Level Laboratory is authorized])

Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation.



J. FA 10: EDUCATION AREA

- 1. Path Svc Resident Workstation, Stff Sprt (SS218) 56 NSF (5.3 NSM)**
 - a. Provide two if [S Level Laboratory is authorized]*
 - b. Provide four if [M Level Laboratory is authorized]*
 - c. Provide six if [L Level Laboratory is authorized]*
 - d. Provide eight if [VL Level Laboratory is authorized]*

- 2. Path Svc Education Coordinator Workstation, Stff Sprt (SS218)..... 56 NSF (5.3 NSM)**
 - a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized])*
 - b. Provide two if ([L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

- 3. Path Svc Resident Training Room, Educ Svc (SS111)545 NSF (50.7 NSM)**
 - a. Provide one if [S Level Laboratory is authorized]*
 - b. Provide one at 590 NSF if [M Level Laboratory is authorized]*
 - c. Provide one at 630 NSF if [L Level Laboratory is authorized]*
 - d. Provide one at 675 NSF if [VL Level Laboratory is authorized]*

Allocated NSF accommodates six task chairs @ 7.5 NSF each, three 5'-0" x 2'-0" tables at 10 NSF each, one 6'-0" x 1'-10" microscope table and stools @ 47 NSF, and circulation; total six people.

- 4. Path Svc Student Workstation, Stff Sprt (SS216) 36 NSF (3.4 NSM)**
 - a. Provide two if [S Level Laboratory is authorized]*
 - b. Provide four if [M Level Laboratory is authorized]*
 - c. Provide six if [L Level Laboratory is authorized]*
 - d. Provide eight if [VL Level Laboratory is authorized]*

- 5. Library, Path Svc (CL811)240 NSF (22.3 NSM)**
 - a. Provide one if ([S Level Laboratory is authorized] or [M Level Laboratory is authorized] or [L Level Laboratory is authorized] or [VL Level Laboratory is authorized])*

K. SEPS IMPORTER SHORTCUTS

The following shortcuts are used in the Room Criteria Statements in the Pathology and Laboratory Medicine Service Functional Areas. These shortcuts are used during upload of this document into the Space and Equipment Planning System (SEPS) software during implementation of the space planning parameters contained herewith to allow for mathematical or logical calculations to be performed. Input Data Statements (IDSs), Rooms or a partial calculation formula can have a shortcut.

1. *S Level Laboratory is authorized:* [Is an S Level Laboratory authorized?]
2. *M Level Laboratory is authorized:* [Is an M Level Laboratory authorized?]
3. *L Level Laboratory is authorized:* [Is an L Level Laboratory authorized?]
4. *VL Level Laboratory is authorized:* [Is a VL Level Laboratory authorized?]
5. *Molecular Testing is authorized:* [Is Molecular Testing authorized?]



6. *Anatomical Pathology Work Area is authorized:* [Is Anatomical Pathology Work Area authorized?]
7. *Electron Microscopy Suite is authorized:* [Is an Electron Microscopy Suite authorized?]
8. *Autopsy Suite is authorized:* [Is an Autopsy Suite authorized?]
9. *daily blood specimen collections projected:* [How many daily blood specimen collections are projected?]
10. *annual deaths per year projected:* [How many annual deaths per year are projected?]

6 SPACE PLANNING CRITERIA – OUTPATIENT CLINIC LABORATORY

Refer to Chapter 265: Outpatient / PACT Clinic Functional Area 14: Pathology and Laboratory Medicine (PLM) Service.

7 PLANNING AND DESIGN CONSIDERATIONS

- A. Laboratories should be designed to meet changing requirements. Changes in laboratory requirements/new technology dictate flexibility or adaptability of design to patterns of laboratory workflow, deletion of certain procedures and addition of others. Adaptability in interior space means that even walls should be movable in areas where expansion is likely to occur, or workload is likely to alter space requirements due to changes in technology.
- B. In new construction the laboratory may be arranged in a radial pattern with or without subdivision into the traditional disciplines. Rapid turnaround time equipment (Automated Processing areas in Clinical Pathology work area) should be co-located to provide Immediate Response testing, with other equipment located toward the periphery. The more distant portions of the laboratory should be closed off after the daily routine is completed, and work should be clustered near the specimen accessioning and Automated Processing areas to provide a more efficient workflow for technical staff during non-routine hours.
- C. If the main laboratory is physically located on the same floor as the ambulatory care area, only one Specimen Collection area is necessary, and it should be located within the main laboratory layout to provide efficiency and reduce staffing. If the main laboratory cannot be located convenient to the ambulatory care entrance, then a Satellite Patient Specimen Collection Area should be provided with a small after hours Specimen Collection area in the main laboratory. If a Satellite Specimen Collection Areas is required it should be located convenient to the ambulatory care areas and patient entrance as possible. If located in the main laboratory the patient specimen collection area should be located to prevent patient from contact with the Core Laboratory work areas.
- D. The specimen processing (accessioning) area should be located at or near the entrance to be used by phlebotomists and/or other staff bringing laboratory specimens to the laboratory.



- E. Chemistry, Special Chemistry, Hematology, Urinalysis, and Coagulation have highly automated instrumentation processes and manual processes. It is desirable to centralize the automated processing areas of these departments to allow significantly greater efficiency and faster turnaround time than would be achievable if each of these sections were separately located and staffed. This area performs tests as soon as they arrive in the laboratory so there is no need for a separate Immediate Response Laboratory when this configuration is deployed. If a Pneumatic Tube system is approved one station should be located in this area.
- F. It is particularly important that the service oriented (diagnostic) Electron Microscopy Suite be located in close proximity to the frozen and gross section laboratory. It must be integrated with the location of the Immunopathology Laboratory in the Clinical Diagnostic Area; and should not be isolated in a research area which is at some distance from the diagnostic anatomic pathology service. The suite should not be located near anything producing vibrations. Similarly, location near high voltage electrical equipment should be avoided. Since electron microscopes generate an excessive amount of heat, adequate air flow and temperature control is essential in the scope room. Adequate ventilation should be provided.
- G. Administrative space and storage are considered “clean” areas; laboratory and processing space are considered “dirty.” Since Laboratory coats must be worn in the dirty areas and cannot be worn in the clean areas, it is helpful to develop a clean / dirty interface that employees must walk through to go from one area to the other. This interface should be a room with hooks on the wall to hang Laboratory coats, a storage cabinet for clean Laboratory coats, and a hand washing sink. Administrative, education / training, and clerical staff space should be located at the periphery of the laboratory, separate from testing areas, but still accessible to the staff.
- H. Morgue operations are generally housed in a non-public area accessible to service vehicles; the morgue does not need to be located near the laboratory.
- I. The employee entrance to the laboratory should be near the staff locker / changing rooms.
- J. Refer to PG-18-1, Master Construction Specifications, for special considerations in design that must be given to electrical, air-conditioning, ventilation, and mechanical aspects of laboratory construction.
- K. Gas, air and vacuum are no longer required in Chemistry and Hematology. Gas may still be required in some Microbiology Laboratories. Fixed gas, air vacuum outlets are no longer needed at the work stations and should be eliminated since they are seldom used. Where needed, vacuum and air may be supplied by small portable pumps and gas may be supplied in small pressurized cylinders.
- L. Critical Clearances:
 - 1. Provide a minimum of 1525 mm (5') between laboratory work benches.



- 2. Provide a minimum of 1525 mm (5') between the end of a Laboratory work bench and the nearest piece of equipment.
- M. Consideration should be given to the effects of building vibration, as building vibration could interfere with the accuracy of patient testing.
- N. Refer to Department of Veterans Affairs (VA) Office of Construction and Facilities Management Technical Information Library (www.cfm.va.gov/til/) for additional technical criteria.

8 FUNCTIONAL RELATIONSHIPS

Relationship of Pathology and Laboratory Medicine Services to services listed below:

TABLE 1: FUNCTIONAL RELATIONSHIP MATRIX

SERVICES	FUNCTIONAL RELATIONSHIP
CLNCL: Surg Svc: Inpatient Surgery	1
CLNCL: Surg Svc: Ambulatory Surgery	1
INPATIENT SERVICES	2
CLNCL: Emergency	2
CLNCL: Dialysis	2
OUTPATIENT SERVICES (Community Based)	3
BLDG SPRT: Logstcs Svc: Loading Dock	3
CLNCL: Imgng Svcs: Breast Imaging	3
CLNCL: Imgng Svcs: Computed Tomography (CT)	3
CLNCL: Radiation Therapy	3
CLNCL: Speech Language Pathology	3

Legend:

- 1. High
- 2. Moderate
- 3. Minimal



9 FUNCTIONAL DIAGRAM

