

26 February 1993

VETERINARY MEDICAL UNIT (VMU)

VA DESIGN GUIDE

Department of Veterans Affairs
Veterans Health Administration
Office of Construction Management
Office of Architecture and Engineering
Standards Service
202-565-6455

26 February 1993

Preface

The material contained in this Veterinary Medical Unit Design Guide is the culmination of a partnering effort by the Department of Veterans Affairs Veterans Health Administration's Office of Research and Development and Office of Architecture and Engineering. The goal of the Design Guide is to ensure the quality of VA facilities while controlling construction and operating costs.

This document is intended to be used as a guide and a supplement to current technical manuals and other VA criteria in the planning of Veterinary Medical Units. The Design Guide is not to be used as a standard design, and use of this Design Guide does not preclude the need for a functional and physical design program for each specific project, nor the project Architects' and Engineers' responsibilities to develop a complete and accurate project design that best meets the users' needs and applicable code requirements.

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Section 1

Introduction, Credits, Abbreviations, and Legend of Symbols

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Introduction

This document prepared by the Standards Division of the Office of Construction Management is intended to be a graphic consolidation of existing Department of Veterans Affairs standards and criteria. It contains data from the following sources:

- H-08-1 Master Construction Specifications
- H-08-3 Construction Standards
- H-08-4 Standard Details
- H-08-5 Equipment Guide List
- H-08-6 List of Equipment Symbols
- H-08-9 Space Planning Criteria
- H-08-13 Barrier-Free Design Handbook
- H-08-14 Room Finish and Door Hardware Schedule
- Various Technical Criteria pertaining to Architectural, HVAC, Plumbing, and Electrical
- Uniform Federal Accessibility Standards
- Consensus Information from the VMU Task Force
- Program Official - VHA

The VA also has other documents outlining design requirements for this facility and these can be found in the Table of Contents of the [Design Instructions to Architects and Engineers](#).

Our purpose is to make the Design Guide USER FRIENDLY, and to serve as an index to these sources when data is either too detailed or too broad to be included in this guide.

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The Veterinary Medical Unit Design Guide was developed as a design tool to assist the medical profession in better understanding the choices that designers ask them to make, and to help the designers understand the functional requirements necessary for proper animal care.

The guide plates contained in the VMU Design Guide are intended as illustrations of VA's furniture, equipment and personnel space needs. They are not meant to limit design opportunities. The design guide is not a standard design and should not be used as such.

This Design Guide is not intended to be project specific. While it does contain the vast majority of spaces that now are required in the VMU, it is not possible to encompass all possible future requirements. Therefore, it is recommended that the project-specific space program be the starting point for an individual project design. In addition, it is important to note that the guide plates are a generic graphic representation only. Equipment manufacturers should be consulted for actual dimensions and utility requirements. Use of this design guide does not compromise the project Architects' and Engineers' responsibilities to develop a complete and accurate design that meets the users' needs and appropriate code requirements.

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26 February 1993

Abbreviations




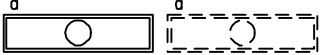
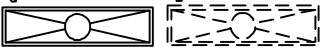


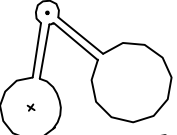
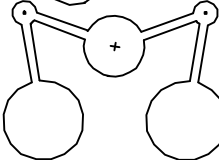

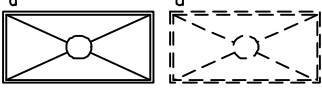
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|------------|--|--------------|--|
| A..... | Amperes | ERF..... | Epoxy Resinous Flooring |
| ABV..... | Above | EXH..... | Exhaust |
| AC/HR..... | Air Changes Per Hour | F..... | Fahrenheit |
| A/E..... | Architect/Engineer | FC..... | Footcandle |
| AFF..... | Above Finished Floor | FL DR..... | Floor Drain |
| AI..... | Acquisition and Installation | FLUOR..... | Fluorescent |
| AR..... | As Required | GFI..... | Ground Fault Interrupter |
| AT..... | Acoustical Ceiling (Tile) | GWB..... | Gypsum Wallboard Systems |
| AUTO..... | Automatic | H..... | Laboratory for Fume Hoods |
| CC..... | Contractor Furnished and Installed, Construction Funds | H-08-1..... | Master Construction Specifications |
| CF..... | Construction Funds, VA Furnished, Installed by VA or Contractor | H-08-3..... | Construction Standards |
| CFM..... | Cubic Feet per Minute | H-08-4..... | Standard Details |
| CLG..... | Ceiling | H-08-5..... | Equipment Guide List |
| CMU..... | Concrete Masonry Units (Unit Masonry) | H-08-6..... | Equipment Symbols |
| CP..... | Carpet (without cushion broadloom) | H-08-9..... | Space Planning Criteria |
| CRP..... | Corrosion Resistant Piping | H-08-13..... | Barrier Free Design Handbook |
| CRS..... | Corrosion Resisting Steel | H-08-14..... | Room Finishes, Door and Hardware Schedule |
| CT..... | Ceramic Tile | HEPA..... | High Efficiency Particulate Air |
| EA..... | Each | HR..... | Hour |
| EA..... | Exhaust Air | HW..... | Medical Washing Equipment and Custom Fabricated Lab Equipment |
| | | HZ..... | Hertz |






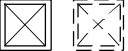




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|-----------|--------------------------------------|------------|--|
| J | Laboratory Sink | RH..... | Relative Humidity |
| KW | Kilowatt | S | Laboratory Sink |
| LAB | Laboratory | SA..... | Supply Air |
| LB..... | Pound, Pounds | SC..... | High Build Glazed Coating (Special Coating) |
| M..... | Laboratory Furniture (Modular) | SD..... | Standard Detail |
| MCS | Master Construction Specification | SF | Square Foot, Square Feet |
| MIN..... | Minimum | SP..... | Special Faced |
| MTD | Mounted | SPDT | Simple Pole Double Throw Electrical Switch |
| MUA | Make-up Air | SS..... | Stainless Steel |
| NC..... | Noise Criteria | T | Shelving; Mop Racks |
| NFPA..... | National Fire Protection Association | V | Volts |
| NSF..... | Net Square Feet | VA..... | Department of Veterans Affairs |
| OC..... | On Center | VC..... | VA Furnished Contractor Installed, VHA Funds for Purchase, Construction Funds for Installation |
| P..... | Plumbing Fixture | VHA | Veterans Health Administration |
| PCP..... | Portland Cement Plaster | VL | Laboratory Furniture (Conventional) |
| PD | Pressure Drop | VMU..... | Veterinary Medical Unit |
| PF | Power Factor | VP..... | Veneer Plaster |
| PL..... | Plaster | VS..... | Sterilizer Equipment |
| PSF | Pounds per Square Foot | VV..... | VA Furnished and Installed -- VHA Appropriation |
| PSIG..... | Pounds per Square Inch, Gauge | W | Wallcovering (Vinyl Coated Fabric) |
| QTY..... | Quantity | W | Watts |
| R | Laboratory Sink | | |
| RB..... | Resilient Base (Rubber, Vinyl) | | |
| REC..... | Receptacle | | |

| System | Description of Symbol | .cel Name | Drawing Symbol |
|-------------------|---|------------------|----------------|
| Power Receptacles | DUPLEX RECEPTACLE - 20AMP - MOUNTED 18" AFF UNLESS OTHERWISE NOTED | duplex | |
| | DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER 20AMP - MOUNTED 18" AFF UNLESS OTHERWISE NOTED | gfidup | |
| | WEATHERPROOF DUPLEX RECEPTACLE WITH GFI 20AMP - MOUNTED 18" AFF UNLESS OTHERWISE NOTED | wprdup | |
| | QUADRAPLEX OUTLET 20AMP MOUNTED 18" AFF OR QUADRAPLEX OUTLET 20AMP PEDESTAL MOUNTED | qdplex pdplex | |
| | ELECTRICAL STRIP MOLD 20AMP OUTLETS AT 2'-0" INTERVALS | plgmld | |
| | SINGLE RECEPTACLE - 20AMP - ON FLEXIBLE DROP CORD TO HANG 6'-6" AFF | dropcd | |
| | RETRACTABLE CORD ON A CEILING MTD. TAKE-UP REEL PROVIDE ONE 20 AMP SIMPLEX OUTLET AT EACH END | retcrd | |
| | CLOCK: BATTERY POWERED. "SW" DESIGNATES AN ELECTRIC CLOCK WITH SWEEP SECOND HAND | clokbp cloksw | |
| Switches | SINGLE POLE SWITCH | sw1pol | |
| | SINGLE POLE SWITCH-SUFFIX OF "a", "b", "c" INDICATES SEPARATE CONTROL OF FIXTURE(S) WITH SAME DESIGNATION | swspct | |
| | SWITCH WITH PILOT LIGHT | swpilt | |
| | WEATHERPROOF SWITCH | swwatr | |
| | TIMER SWITCH WITH OVERRIDE SWITCH FOR SELECTED LIGHTS | switch | |

Legend of Symbols

Legend of Symbols

| System | Description of Symbol | .cel name | Drawing Symbol |
|----------|---|-----------|---|
| Switches | THREE WAY SWITCH | switch |  |
| | FUSED OR UNFUSED DISCONNECT SWITCH | discsw |  |
| | OPERATING LIGHT VARIABLE INTENSITY CONTROL | varsw |  |
| Lighting | 1' x 4' FLUORESCENT FIXTURE | lights |  |
| | 1' X 4' EMERGENCY FLUORESCENT FIXTURE | lights |  |
| | ONE LAMP VERTICAL EMERGENCY FLUORESCENT FIXTURE USED IN ANIMAL CUBICLES | cubl1 |  |
| | RECESSED INCANDESCENT FIXTURE (NOMINAL 1' X 1' SQUARE) | radlt |  |
| | CEILING MOUNTED EXAM LIGHT, SINGLE HEAD | lite1 |  |
| | CEILING MOUNTED OPERATING LIGHT, DOUBLE HEAD | lite2 |  |
| | 2' x 4' FLUORESCENT FIXTURE | lights |  |
| | 2' X 4' EMERGENCY FLUORESCENT FIXTURE | lights |  |

| System | Description of Symbol | .cel Name | Drawing Symbol |
|-------------------------------|--|------------------|---|
| Telephone | TELEPHONE OUTLET MOUNTED 18" AFF UNLESS OTHERWISE NOTED | teldsk |  |
| | TELEPHONE OUTLET (WALL TYPE) MOUNTED 54" AFF UNLESS OTHERWISE NOTED | telwal |  |
| Miscellaneous Communications | COMPUTER TERMINAL OUTLETS - VERIFY EXACT NEEDS PROVIDE SIGNAL OUTLET(S) & POWER OUTLET(S) AS REQ'D. | comput |  |
| Special Outlets & Receptacles | SPECIAL WALL OR FLOOR OUTLET FLUSH MOUNTED SPECIAL DEVICE AND MOUNTING HEIGHT AS NOTED | spcwal spcfir |  |
| | JUNCTION BOX - PURPOSE AND LOCATION AS NOTED | junwal junclg |  |
| Mechanical | SUPPLY AIR DIFFUSER | hvac |  |
| | EXHAUST AIR REGISTER OR GRILLE | hvac |  |
| | THERMOSTAT | therm |  |
| Plumbing | COMBINATION FAUCET HOSE BIBB | hoseb |  |
| | GAS, AIR, AND VACUUM OUTLETS | gav |  |

Legend of Symbols

Section 2

Narrative

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Narrative

INTRODUCTION:

Overview

Critical features for future new animal facilities will be the capacity to provide for the health, safety and comfort of the human work force and to provide an environment for highly sensitive animal subjects compatible with their needs. This dictates that the work environment be devoid of unpleasant animal odors and animal allergens; aesthetically pleasing to employees and visitors; and consistent with the needs of investigators engaged in animal research. The design should be such that animal housing and animal procedures are accomplished in the Veterinary Medical Unit (VMU) away from the areas of human/patient traffic and other activities not related to animal research.

The Public Health Service Guide for the Care and Use of Laboratory Animals and the most recent regulations promulgated by the United States Department of Agriculture under the Animal Welfare Act establish criteria to be met through all phases of the design process, unless otherwise noted. The design must also be consistent with requirements of the American Association for Accreditation of Laboratory Animal Care (AAALAC).

Animal Research Trends

A continuing decline in use of dogs, cats, and primates as research subjects is probable, however the rate and extent of decline will vary depending on the nature of research at a particular VA medical center. Future animal research will require greater emphasis on precise environmental control for a smaller number of expensive microbiologically and genetically engineered rodent species.

Virtually all medical advances of the past have been based on the use of animal subjects and this will continue to be the case for the foreseeable future. AIDS research and organ transplantation will continue to have a significant impact on the need for research using laboratory animals. Animals will serve a vital role in unraveling the mysteries of maladies of the elderly, the addicted, and the mentally disturbed, as well as numerous other human health related problems.

Transgenesis is now a common investigative technique requiring special needs. Because of its genetic diversity the laboratory mouse provides a practical means for studying mammalian gene function. Due to the need to protect unique animal subjects from adverse environmental influences, housing conditions are more critical for transgenic animals and immunologically deficient rodents than for conventional research animals. The growing use of virus antibody free (VAF) animals further dictates that facility design provide rigid environmental controls.

ARCHITECTURAL ASPECTS:

Siting

Accessibility to other research laboratories, delivery of supplies and control of access by visitors are of prime concern in siting design. If possible, the animal facility should be located within or near the main hospital building but well separated from public and patient areas. Ideally, the animal facility is confined to a single floor at ground level. This is cost effective and advantageous from a user's standpoint for receipt of animals and supplies, and for waste disposal.

Environmental Requirements

The care of animals supporting high technology research requires facilities that provide precise environmental control yet are flexible to accommodate ever changing research needs. Environmental considerations most critical to an animal's well being include temperature, humidity, ventilation, light, sound, odor control, and protection from microbial and chemical contamination.

Facility design has a profound effect on the efficiency and effectiveness with which needed environmental conditions can be met. Design features deserving particular attention include:

- Room Relationships
- Heating, Ventilation, and Air Conditioning (HVAC) System
- Cage Sanitation Capability
- Interior Surfaces and Finishes
- Modularity of Design/Flexibility
- Security
- Containment/Isolation System

Flexibility

Flexibility is an important consideration in design of a Veterinary Medical Unit. As investigators leave a VA medical center and are replaced by new investigators with diverse research priorities, space needs in a VMU change. The design should permit adaptation to changing needs at minimal cost; however the provision of flexibility in itself often adds to construction costs. The initial cost of features that add flexibility must, therefore, be weighed against potential future savings.

A VA medical center must also have flexibility in adapting criteria, specifications and guides to meet projected local needs. Care must be taken that the plans for adapting to local needs are driven by the best estimates of present and future needs guided by those with expertise in construction and operation of animal facilities.

Space Planning Criteria

Space planning criteria for the Veterinary Medical Unit are addressed in VA Handbook H-08-9. It is the basis for developing all VA projects and represents a planning guide that is fully integrated with all components of health care delivery systems or subsystems. It provides the net square foot program recommended to meet the needs of a VA medical center. A significant feature of the Handbook is its flexibility in permitting the accommodation of particular requirements of specific VA research programs. The following means of increasing the efficiency of space utilization merit consideration:

- Sharing of resources, such as incinerators, with either the VA medical center or the affiliated university medical center,
- Use of portable equipment (e.g., use portable radiographic equipment rather than fixed equipment),
- Use of special equipment rather than separate rooms to meet modest barrier and containment requirements,
- Use of easily removed equipment rather than built-in animal pens,
- Use of cubicles in some portion of the animal facility,
- Combining spaces in small facilities such as the Post Operative Intensive Care Room and the Animal Surgical Preparation Room
- The use of moveable partitions in large operating rooms to accommodate special needs, and
- Contracting for services.

Room Relationships

Traffic flow patterns are determined by the spatial arrangements of functional areas within the animal facility. Personnel, equipment, and supplies should move from areas of least contamination to areas of greater contamination. Soiled cages should move from animal rooms to the "dirty" side of the cage wash area and pass through to the "clean" side. The cages then return to animal rooms with minimal opportunity for

contamination. There are two basic types of corridor systems, the single corridor system and the dual corridor system.

The 7 foot wide single corridor system is commonly used for smaller facilities and is the style usually adopted in VA animal facilities. Dual corridors are generally avoided in small to medium size facilities due to the space required by corridors in facilities with this design. The main advantage of the single corridor design is efficient use of space. The disadvantages of the single corridor are:

- Personnel, animals, cages, equipment, and supplies move in both directions, possibly leading to disruption of traffic flow;
- Contact between clean and dirty materials may result in cross contamination.

The VA design standard is the single corridor system with the appropriate contamination barriers to insure an effective facility.

The dual corridor system's main advantage is a reduction of contamination of clean equipment. The primary disadvantage of the dual corridor system is that additional circulation space is required for the same amount of functional net space. This factor is particularly significant in smaller facilities.

Receiving:

Animals and supplies should be delivered to a dedicated "clean" receiving dock. From the dock, animals are usually transported to a receiving and examination room. After examination, small animals are transferred from shipping containers to clean cages and taken either to a quarantine room or to an animal room equipped with a containment housing system. If dogs are used, the receiving and examination room may provide facilities for bathing. Following initial examination, large animals should be placed in a nearby quarantine room, unless they have undergone quarantine elsewhere.

Disposal:

The necropsy room, carcass storage room, and incinerator room should be readily accessible to the "soiled dock" area. Separate clean and soiled docks are desirable, and should be

isolated from public view. In ideal situations, the dock should be used mainly for the VMU to prevent contamination of supplies destined for other areas within the medical center. Waste from other hospital areas must not pass through the VMU. Equally unacceptable is transport of animals and supplies through other hospital areas during transportation to or from a dock.

Elevators:

Animal facilities should be confined to a single floor at grade level. If a multilevel design or location above or below ground is unavoidable, separate dedicated elevators for clean and soiled material located in a single bay are desirable in a dual corridor system. The elevator used for transporting clean materials should be located near the clean side of the cage wash area while the elevator used for transporting soiled material should be in close proximity to the soiled side.

Adjacencies:

Appropriate relationships and adjacencies are essential to permit a smooth flow of personnel, equipment, supplies, and animals and to provide a setting conducive to sound animal husbandry practices. Refer to Section 3, Room Relationship Diagrams for examples of suggested room relationships, recognizing however, that the needs of individual programs may dictate deviations from the diagrams.

Administrative offices are best located near the VMU entrance used by personnel (internal entrance if connected to the hospital). This places the VMU supervisor and veterinarian in a position to observe the movement of personnel and equipment into and out of the VMU. From this location, visitors may have access to the administrative area without entering the animal housing and service areas. The lounge used by the VMU staff should also be located in this vicinity. The lounge used by the VMU staff should also be located in this vicinity.

The surgical suite should be located away from high traffic corridors and potential sources of contamination such as the entrance to the cage sanitation area, necropsy and waste

storage. Animals should enter the surgical suite from a surgical preparation area while surgeons and surgical assistants should enter through a surgical scrub and gown room. A post-operative intensive care room should be near the operating room so that animals may be held there before they return to an animal room.

Unless separate lockers are provided for the surgical suite, the lockers, lounge, toilets and showers for the VMU staff should be located in the vicinity of the surgical suite. The radiographic suite should also be located convenient to the surgical suite. Clustering the administrative offices, personnel space (lockers, lounge, toilets, and showers), surgical suite and radiographic suite provides the opportunity for oversight by the VMU staff and administration, convenience for users, and isolation from areas of potential contamination.

Large animal rooms may be noisy, therefore they should be distant from quieter areas such as small animal rooms, administrative offices and the lounge. Procedural laboratories should be placed near rooms used for housing small animals and in some instances procedural space may be located within cubicle rooms. The dry feed and bedding storage space should be near the receiving dock and preferably close to the animal rooms as well. The cage sanitation area should be convenient to the animal rooms but distant from administrative offices and personnel space.

If the facility includes a barrier suite and/or biohazard areas (chemical/radioisotope suite and/or infectious disease suite), these should be distant from high traffic corridors.

Areas in which contaminated material such as soiled bedding and animal carcasses are received or stored should be located near the soiled dock area. Such areas include necropsy, the dirty side of the cage wash room, carcass and waste storage, and the incinerator room.

Safety, Security, and Environmental Monitoring

The need for careful attention to physical security of VMUs is a recognized reality. In the past, access to an animal facility was

achieved primarily by means of keys. However, other technologies such as electronic, keyless and newer technologies for biological identification (e.g. voice identifying, fingerprint ID) are clearly superior. The number of doors opening into an animal facility should be the minimum necessary for proper function and safety. Elevators should be equipped with lockout systems to control access. Ground level windows opening into the animal facility should be avoided or if provided, designed in a manner to prevent forcible entry. Apart from security concerns, outside windows in animal rooms are to be avoided due to interference in controlling lighting cycles and temperature. Intrusion alarms, television surveillance, and exterior lighting add to the level of physical security. In addition to perimeter security, provisions should be made for restriction of access to rooms. Interior access should be limited to authorized personnel via keypads or other devices. Communication within the facility may take the form of an intercom system and use of walkie-talkies. Telephones should be located at intervals in the corridor. Means of notifying VMU personnel when animals and supplies arrive at the dock should be provided. Physical security requirements and options are described in VA Handbook H-08-3.

Environmental monitoring is essential in contemporary animal research settings. Consideration should be given to combining the security system and the environmental monitoring system. Ideally, temperature, humidity, air flow, light cycles, and water leakage from automatic watering devices are monitored and recorded continuously. An alarm should be activated when the temperature rises above or falls below a predetermined point. The alarms should be connected to a central control such as the Security Office or Engineering Control Center of the VAMC in order that malfunctions will be detected during off-duty hours of animal facility personnel.

The sound of conventional fire alarms, even when confined to corridors, may be stressful to animals and should be avoided. Use of alarms that produce a pure tone alternating between 430 and 470 Hz, so as to be easily heard by humans with no adverse

effect on animals is recommended. The VA requires fire sprinklers in all areas including animal rooms.

ENGINEERING CONSIDERATIONS:

HVAC

An adequate heating, ventilating and air conditioning (HVAC) system is a critical element in VMU design and requires careful evaluation. The mechanical engineer should coordinate with the architect and equipment designers to accommodate laboratory equipment specified for the project. Any request for deviation from HVAC design criteria must be approved by VA and occur no later than the design development stage. The following represents the highlights of the mechanical systems design for the animal research facilities. Refer to the VA HVAC Design Manual for further design requirements.

HVAC System:

A dedicated air handling unit should be provided to serve the following areas; however, consolidation of the areas/units for small facilities may be allowed subject to VA approval:

- a. Animal Housing Areas
- b. Animal Procedural and Administration Areas
- c. Animal Surgical Area

Each air handling unit will operate 24 hours a day and should use 100% outside air. Exhaust grilles for animal housing areas should be located 7 inches above the floor level.

Each room should have an individual room temperature control. **All animal room reheat coil hot water or steam valves MUST be of the FAIL OFF variety, rather than the FAIL ON type.**

Utilities:

Steam for heating and humidification is are typically provided from the central boiler plant. Cooling is accomplished by providing a dedicated chiller to serve the VMU. If the facility is

equipped with a central chilled water plant, the dedicated chiller is cross-connected with the central plant to allow the central plant to serve as the back-up.

Emergency Power:

The complete mechanical system, including the dedicated chiller, should be connected to the emergency electrical power system to ensure a continuous electrical supply in the event of a power failure. Emergency power is required to operate the mechanical system and thus maintain acceptable temperature and adequate ventilation in the animal rooms during power failures.

Noise Levels:

Animals and research equipment are sensitive to excessive noise and vibrations. The noise level of NC 40 is recommended as the maximum permissible limit in the occupied spaces. Sound attenuation and vibration isolators for the mechanical system should be provided where required. The masonry cavity of interior walls may be filled with fiberglass inserts where sound deadening is needed.

Design Requirements:

Design should consider future requirements. Animal facility HVAC systems should be independent of all other mechanical systems in the building. Mechanical design in animal rooms shall accommodate ventilated rack systems, individually ventilated caging units, or site built or prefab cubicle units; depending on the system specified. The mechanical equipment should be located outside the VMU to avoid disturbances from noise and vibration and to permit servicing the system without entering the facility. The information listed on the Design Standards of this document's Sections 4, 5, 6, and 7 must be verified for each project.

Electrical

Lighting in animal rooms should be uniform using "enclosed waterproofed" surface mounted fluorescent fixtures. The light-dark cycles of the animal rooms should be individually and automatically controlled to assure consistency. Lighting should be provided with at least two (2) levels, one for the employees and a reduced level for the animals.

Power outlets in animal rooms, cage wash, and other areas where water is used in cleaning should be ground fault interrupter type with waterproof covers. Emergency power should be provided to meet the Life Safety requirements in addition to power the HVAC system and selected lighting and equipment.

Conduits should be installed in operating rooms and procedural lab areas for future use of computers. Refer to the Electrical Design Manual and H-08-04, Vol. 4, for additional information.

Floor Drains

Large animal rooms require special floor drains. Floor drains for these rooms should have a minimum 4 inch diameter outlet and be covered by a 12 inch diameter grid or strainer. A drain trough may be positioned along the wall at the rear or behind pens or cages. Floors should slope toward the drain troughs, and the drain troughs slope toward the drains, at a rate of no less than 1/8 inch per foot and no more than 1/4 inch per foot. Manual flush rim drains shall be included in large animal rooms to provide for periodic flushing of waste into the drain. While rooms housing rodents, rabbits, and other small animals do not require drains, drains in these rooms may add flexibility and be useful if large quantities of water are to be used in cleaning. If drains are installed in small animal rooms or cubicles, then they must be equipped with sealable drain covers. Flushing racks can use open floor drains.

CONCERNS SPECIFIC TO VETERINARY MEDICAL UNITS:

Equipment

All casework in procedural rooms should be installed so as to leave the floors unobstructed. Modular cabinet systems offering flexibility are a suggested alternative to fixed casework in procedural rooms.

Fixed equipment may be purchased and installed by the contractor (CC), purchased by the user and installed by VA or the contractor (CF), or purchased and installed by the user (VV). If purchased by the contractor, specifications must be clearly described in the plans. Certain items are obtained as "initial portable equipment" or "activation equipment".

A veterinarian who is a laboratory animal specialist (Veterinary Medical Officer or Veterinary Medical Consultant) and knowledgeable about equipment styles and types that best meet the needs of the facility should guide the selection of equipment. In purchasing equipment not listed in GSA catalogs, specifications must be sufficiently detailed to assure acquisition of the quality intended.

The selection of equipment should proceed along with facility design in order that utility and space requirements are considered during design development. Careful attention must be given to ensure that the location and capacity of electric outlets, water and steam supply, drains, vacuum, anesthetic gas outlets, exhaust ducts and other utilities are compatible with equipment to be installed.

Refer to H-08-5, VA Equipment Guide List and H-08-6, VA Equipment Symbol List.

CONSTRUCTION NOTE: *It is imperative that the equipment selected and installed by the user conforms to the voltage and phase supplied during construction. Thus, the A/E should note on the construction documents the voltage and phase at each special outlet to insure compatibility with the equipment to be used by the VMU.*

Sanitation Equipment

Frequent and thorough cleaning of cages and room surfaces is essential to prevent noxious odors and avoid dissemination of microbial agents.

Animal room walls and ceilings are typically scrubbed manually with detergent/disinfectant compounds or sprayed with water using either line pressure or high pressure sprayers. If vacuum cleaners are used, they must be equipped with HEPA filters to avoid spreading infectious material throughout the facility. Floors may be damp mopped or cleaned by means of an electric floor scrubber or high pressure sprayer. Hose bibbs are needed if running water is to be used in cleaning room surfaces or fixed equipment.

Fixed equipment such as pens and large cages are routinely cleaned in place using sanitizing chemicals. The animals must be removed from the primary enclosure (cage) before cleaning. Large cages may be cleaned in place on a daily basis, then transported to a mechanical cage washer periodically for more thorough sanitizing. A dry system may be employed for some species such as domestic farm animals. With a dry system, the pen floor is covered with absorbent bedding materials. Periodically, animals and all bedding are removed and pen surfaces are thoroughly sanitized. Use of a dry system imposes additional spatial requirements for bedding storage and disposal.

Portable cages are transported to a mechanical cage washer for cleaning as needed. Soiled cages are taken to the cage wash room after transferring animals to a clean cage. The soiled bedding is dumped into a soiled bedding receptacle in the cage

wash room. Heavy soil is rinsed from the cages in a prewash area before placing them in the cage washer.

Occasionally special flushing racks are used for rodents and rabbits. When flush racks are used, special plumbing will be required. If flushing rack systems are **planned**, provisions for preventing excess humidity in the animal rooms are essential.

An autoclave is necessary for all VMUs; however the chamber size needed will depend to some extent on characteristics of the research program. If survival surgery is contemplated, an autoclave is required to sterilize surgical instruments. Use of the steam autoclave in the operating suite should be confined to instruments and other surgical items. In addition to an autoclave in the surgical suite, a separate autoclave with a chamber size adequate to accommodate large rodent cages is usually needed. The additional autoclave is essential when immunodeficient animals are present, or when design includes a barrier suite. In these instances, feed, bedding, water, and cages, will ordinarily be autoclaved. An autoclave is also essential when infectious agents are used in animal studies. Steam autoclaves are suitable for most applications.

Mechanical Cage Washers

A mechanical cage washer is virtually the "heart" of a VMU and the washer type(s) and location require careful consideration. Mechanical cage washers are of three styles: cabinet type, cage and rack type, and tunnel type. Cabinet style washers are essentially oversized glassware washers and are not recommended in VA animal facilities unless substituted for a bottle washer.

A cage and rack style washer features a chamber of sufficient size to accommodate one or more cage racks or large cages. Cage rack washers should be mounted in a pit to prevent the need for ramps with the danger of attendant falls, back injuries and scalding water. Tunnel style washers transport items on a continuously moving conveyer through a pre-rinse, detergent wash, rinse, final freshwater rinse, and drying. These

units are suited for sanitizing water bottles, small cages, and a variety of other small equipment items. In those cases where a tunnel washer is selected, a pass through bottle washer is usually not needed.

The cage and rack style washer is provided in facilities up to 14,000 NSF. Facilities exceeding 14,000 NSF are equipped with both a cage and rack washer and a tunnel style washer. Regardless of the washer style, cages should move in a single direction, entering through the soiled side of the cage wash room and exiting through the clean side.

Cubicles

Cubicles are essentially rooms within a room. Typically, supply air delivered through ceiling diffusers located in the center of the room passes to the floor and under the cubicle door and is then exhausted through registers in the ceiling of the cubicle. The direction of air flow may be reversed in some systems. A higher level of protection is attained through the provision of individual supply and exhaust in each cubicle. The air may pass through a HEPA (High Efficiency Particle Arrester) filter at the supply end, the exhaust end, or both. Cubicles offer the advantage of isolating small segments of the animal population within a room permitting the housing of multiple species in a single room, thereby providing more efficient use of space. They are particularly useful for quarantine of incoming animals. Cubicles may preclude the need for a separate quarantine room for small animals. Cubicles may also promote the containment of hazardous substances used in animal studies, provide an added degree of security against mix-ups for the user, and reduce odors and allergens. Cubicle installation can be of the prefabricated type that precludes masonry structures and can be readily disassembled to convert the room to other uses.

Barriers and Containment Areas

Specialized areas may be required to keep infectious agents away from animals (Barrier Suite) or for preventing hazardous

materials such as infectious agents, radioisotopes, toxins or carcinogens from escaping to the outside (Biohazard Suite). Species housed in such areas are typically rodents.

Barrier Suites are used for protection of specific pathogen free (SPF) or viral antibody free (VAF) rodents, immunodeficient animals, or for particularly valuable animals such as transgenics. These suites require restricted personnel access, dress codes and means of decontaminating (autoclaving) supplies entering the area. Air pressure within a Barrier Suite should be positive relative to the corridor and separated from the corridor by an air lock.

Prevention of contamination by radioisotopes and hazardous chemicals and infectious agents of low pathogenicity may be attained by controlled access, protective clothing, and performance of procedures under a properly designed biological safety cabinet or fume hood. Work with microbial agents classified by the Center for Disease Control (CDC) as Biosafety Level 3 (BSL 3) or higher requires special engineering features that protect the laboratory worker, the community, and the environment. The unique features that distinguish the BSL 3 facility or Infectious Disease Suite from a basic laboratory are the provisions for access control and a specialized ventilation system. The CDC handbook Biosafety in Microbiological and Biomedical Laboratories should be consulted in planning a BSL 3 facility. Air pressure in an Infectious Disease Suite should be negative relative to the corridor. Requirements for a maximum containment laboratory (Biosafety Level 4) are extremely unlikely at a VA medical center. Means of containment using cubicles, ventilated cages or cage racks and microisolator units are described below.

With conventional housing, animals are maintained in primary enclosures (cages, pens) that do not provide protection from contaminants that may be present in the room environment. Some racks and caging systems are designed to reduce airborne contaminants in the animals' environment. Systems used for this purpose include microisolator cages, ventilated racks, individually

ventilated cages, laminar flow units, and racks enclosed in heavy plastic sheeting. Some barrier systems require special ventilation and other engineering features.

Large Animal Housing

Dogs, cats, primates and domestic farm animals are considered "large animals" in a biomedical research setting. Dogs are not routinely housed in traditional cages, but rather in most cases are kept in runs or pens that are large enough to permit exercise. If properly designed, these pens are also suitable for housing most domestic farm species used in biomedical research laboratories.

Primates must be maintained under conditions conducive to their "psychological well being". These animals are sometimes housed in compatible pairs or groups as a means of promoting psychological well-being. Pair or group housing requires cages of a larger size than used for individually housed animals and this must be taken into consideration when planning door sizes, animal room configuration, and cage wash areas.

Rooms housing dogs or primates are typically noisy, therefore, if possible they should be separated by a sound barrier from administrative offices and rooms in which rodents and rabbits are housed.

Interior Doors and Hardware

Hospital type door jambs should be used throughout interior spaces with door stops located 8 inches from the floor to facilitate mopping. Doors in corridors to offices and in heavy traffic areas should have windows of shatter proof glass. They should fit the frames tightly, be mounted without a sill and be equipped with self sealing, externally mounted sweep strips if the space between the closed door and floor exceeds 3/16 inch. Doors to animal rooms should not be less than 84 inches high by 42 inches wide, and preferably 48 inches wide, to facilitate moving of cages and other equipment. Animal room doors throughout the VMU should be metal or metal clad, with small viewing windows.

Interior doors should have full width kick plates and bumper guards at a height that protects them against moveable equipment. Doors should be lockable, self closing and master keyed to the station or computer controlled. Most should have closers with hold open devices. The door handles should be flush mounted or recessed. Handicapped type door handles instead of knobs are useful in animal room areas to facilitate easy opening. Automatic openers on doors to the cage wash room facilitate the movement of equipment.

Interior Finishes

Interior finishes of animal facilities must be smooth, impermeable to moisture, and capable of withstanding the impact of animal cage racks and other equipment. Concrete Masonry Unit walls should have flush joints with a 1/8-inch thick portland cement plaster skim coat finish and sealed with epoxy paint. Bumper rails or curbing are needed to prevent wall damage in animal housing rooms and corridors. Bases of corridors and animal rooms should be coved to allow for ease of cleaning. Walls of animal rooms and the cage wash area must withstand periodic washing with detergents, disinfectants and water under high pressure. Rooms housing dogs, swine, and primates are subject to particularly harsh treatment that may include high pressure washing and at times steam cleaning. The soiled side of the cage wash room must tolerate the most extreme conditions of steam, heat, large amounts of water, strong detergents, disinfectants, acids and heavy traffic.

Places for harborage or entry of insects and vermin must be eliminated by sealing all junctions and penetrations with a caulking material to which paint will bond. All pipes and ducts should be furred or placed above the ceiling. Ceilings in animal areas should be smooth, moisture-proof, and free of imperfect junctions. Ceilings of portland cement plaster should be sealed and finished with epoxy or comparable paint. Ceilings constructed of absorbent material are unacceptable. Light fixtures should be waterproof, surface mounted, and vermin

proof. Dust and moisture resistant fixtures must be used where humid conditions are present such as cage wash and autoclave areas. Air conditioning diffusers should also be tight-fitting with joints sealed. Walls should be concrete masonry units finished flush with cementitious block filler.

All ceilings and walls should be painted with epoxy paint. Walls and ceilings should be off-white. Floors should be darker than walls but still relatively light in color. Fixed equipment, such as sinks, counters and shelves should either be sealed tight to walls and floors or moved out a minimum of 2 inches to facilitate cleaning. Floors and bases of animal areas should be non-skid epoxy resin types with thicknesses and mixes varying with traffic conditions. Metal surfaces in the cage wash area should be stainless steel. A vapor barrier on the unexposed side of portland cement plaster (PCP) ceiling may be beneficial. A PCP ceiling with access panels is required to cover exposed pipes and ducts. Interior materials must be easily maintained and cleaned in order that contaminants are readily removed. Refer to H-08-14, Room Finish, Door, and Hardware Schedule.

COMMUNICATION:

The single most frequent source of user dissatisfaction during both the design and construction phases is failure of communication and interaction among parties with an interest in and responsibility for the project. The Office of Construction Management selects the Architectural Engineer (A/E) with VA medical center representation on the Selection Board. The A/E bases design on VA criteria. Costs are fixed at the end of design development, therefore, extensive changes must be avoided beyond this point. Plans should be reviewed by the local Veterinary Medical Officer or Veterinary Medical Consultant, Administrative Officer, Veterinary Medical Unit Supervisor and Associate Chief of Staff for Research and Development and the Chief Veterinary Medical Officer, VA Central Office during the design phases. In each instance, the reviewers must thoroughly

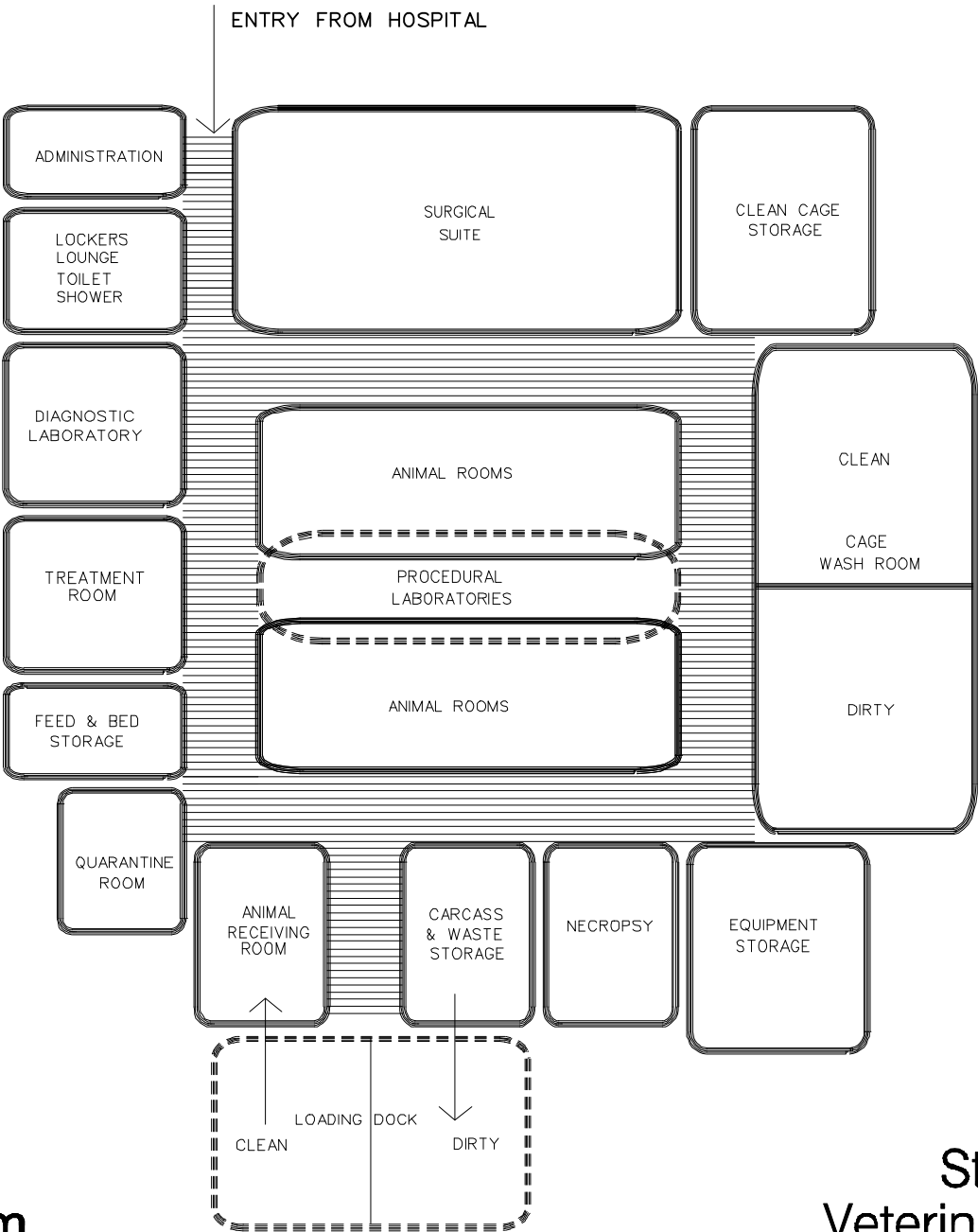
examine the plans. Planning changes and design errors must be addressed as early as possible to avoid costly change orders during construction.

The Office of Construction Management at the VA Central Office assigns a Resident Engineer (RE) to a project prior to beginning construction. The RE has responsibility for assuring that construction proceeds on schedule, stays within the budgeted cost and follows plans and specifications bid on by the contractor. Interaction between the RE and representatives of the users is critical. The Project Coordinator (PC), who may be either the Chief of the VA Medical Center Engineering Service or another individual designated by the VA Medical Center Director will have frequent contact with the RE. During construction, the Veterinary Medical Officer or Consultant, the Administrative Officer, and the Veterinary Medical Unit Supervisor should be afforded the opportunity of touring the construction site at approximately monthly intervals.

Section 3

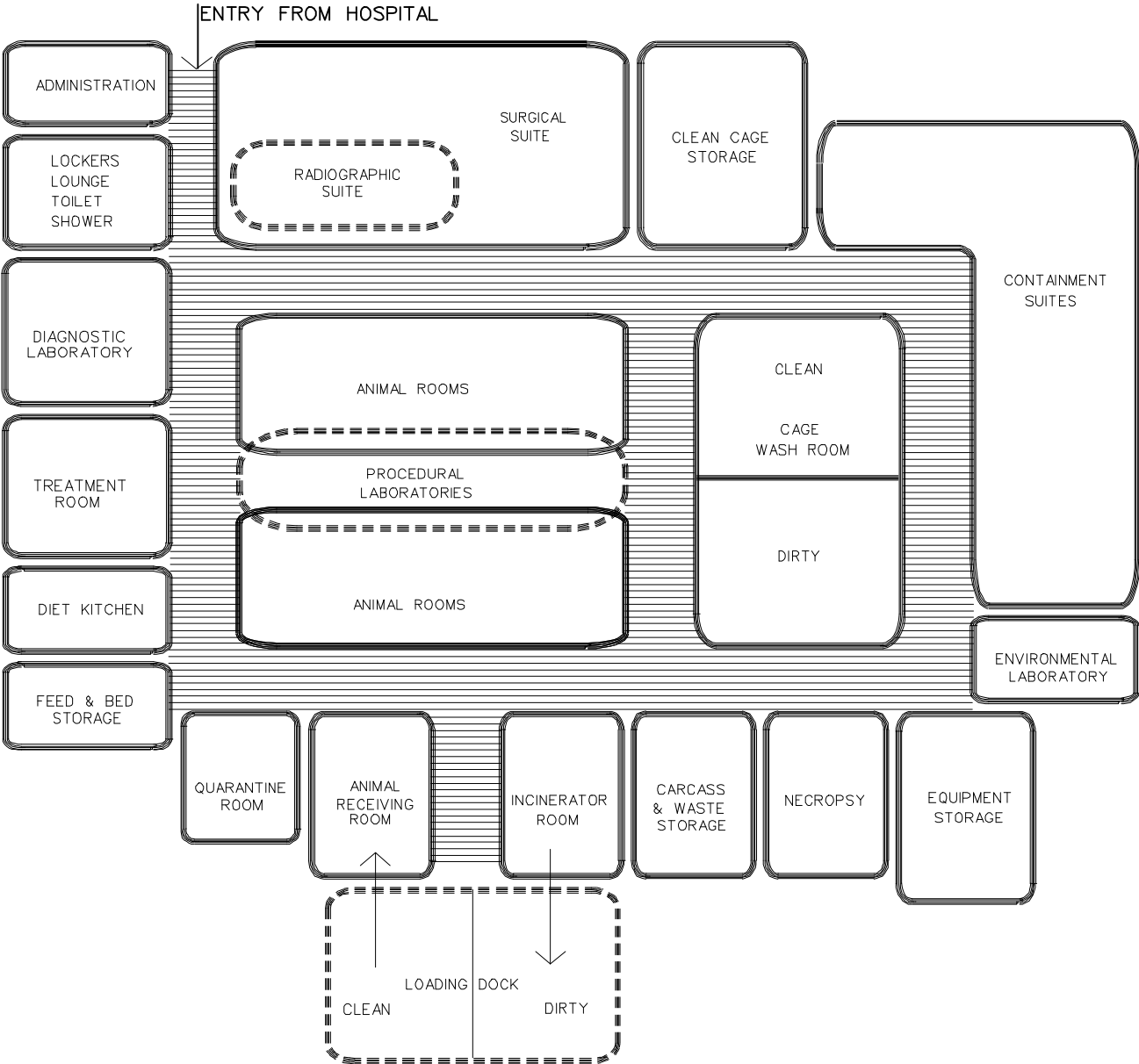
Relationship Diagrams

| | PAGE |
|--|------|
| Standard Spaces | 3-1 |
| Standard and Special Approval Spaces | 3-2 |
| Infectious Disease Suite | 3-3 |
| Suggested Surgical Suite Layout | 3-4 |
| Relationship Matrix | 3-5 |



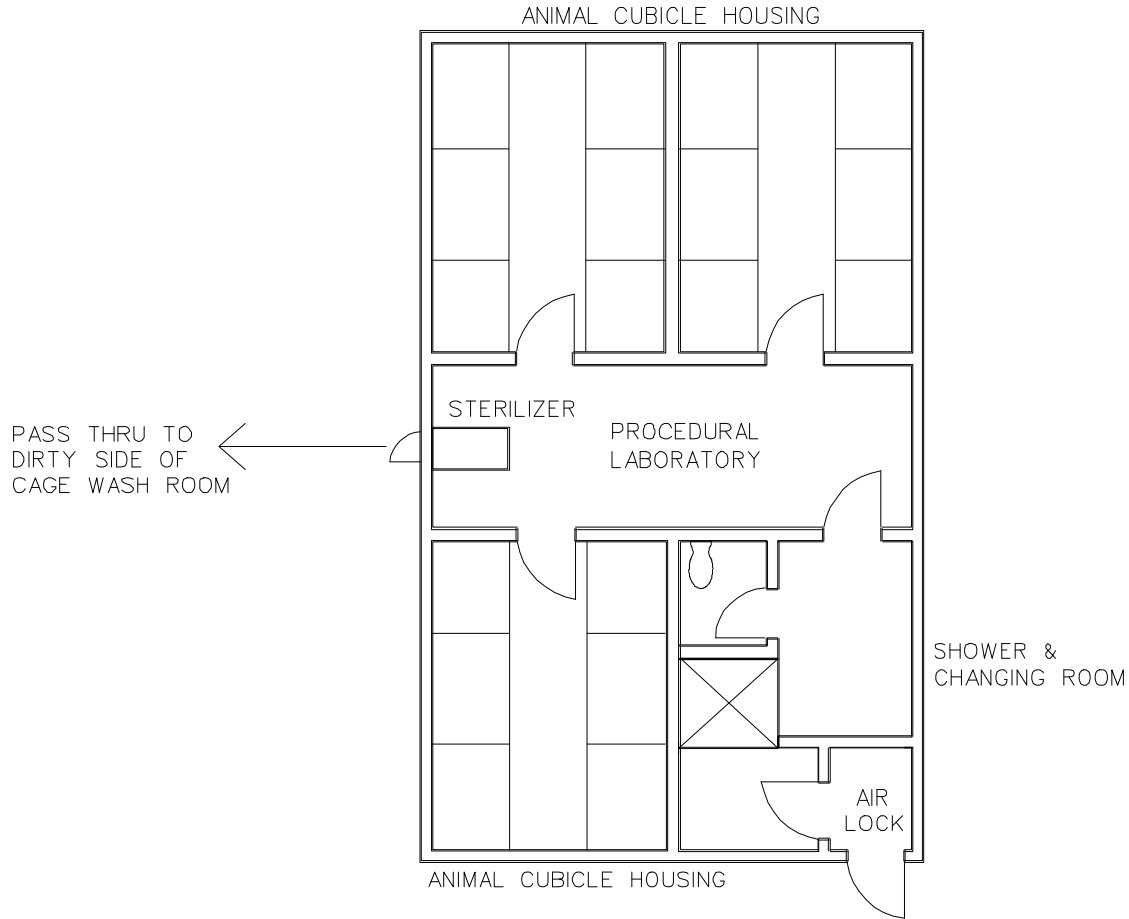
Relationship Diagram

Standard Spaces Veterinary Medical Unit



Relationship Diagram

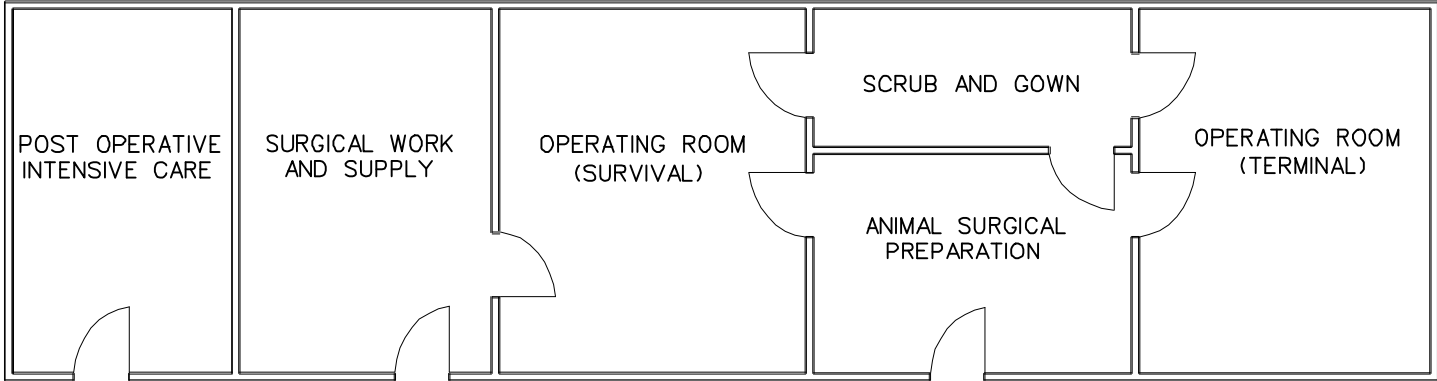
Standard & Special Approval Spaces Veterinary Medical Unit



NOTE: DRAWING NOT TO SCALE

Relationship Diagram

Infectious Disease Suite Veterinary Medical Unit



NOTE: DRAWING NOT TO SCALE

Relationship Diagram

Suggested Surgical Suite Layout Veterinary Medical Unit

| | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|-------|--------|-------------------|-------------|--------------------------|-----------------------|-----------------------|-----------------|------------------------------------|------------------------------------|-------------------------|------------------------------|----------|---------------------------|----------------|-------------------------|--------------|---------------|----------------|--------------------|
| Lounge | B | Admin | Lounge | Equipment Storage | Incinerator | Animal Receiving/Exam Rm | Diagnostic Laboratory | Animal Treatment Room | Quarantine Room | Animal Room (Large Animal Housing) | Animal Room (Small Animal Housing) | Procedural Laboratories | Dry Feed and Bedding Storage | Necropsy | Carcass and Waste Storage | Cage Wash Room | Clean Cage Storage Room | Diet Kitchen | Barrier Suite | Surgical Suite | Containment Suites |
| Equipment Storage | C | C | C | C | E | C | C | C | C | E | D | C | C | C | C | C | C | C | C | C | C |
| Incinerator Room | E | E | D | E | A | C | C | C | D | B | B | C | D | D | E | B | C | E | E | E | E |
| Animal Receiving and Examination Room | D | D | C | E | A | C | C | C | D | D | D | D | E | E | E | E | E | E | E | E | E |
| Diagnostic Laboratory | B | C | C | E | C | B | C | C | D | D | D | C | D | D | E | D | C | C | C | C | C |
| Animal Treatment Room | C | C | C | E | C | B | C | C | D | D | D | C | C | C | E | E | C | C | C | C | C |
| Quarantine Room | D | D | C | E | A | C | C | C | D | D | D | C | C | C | E | E | C | C | C | C | C |
| Animal Room (Large Animal Housing) | E | D | C | E | D | D | B | D | D | D | D | C | C | C | C | C | C | C | C | C | C |
| Animal Room (Small Animal Housing) | D | D | C | E | D | C | C | D | D | D | D | C | C | C | E | E | C | C | C | C | C |
| Procedural Laboratories | C | C | C | E | D | C | C | D | A | A | C | D | D | D | E | B | C | C | C | C | C |
| Dry Feed and Bedding Storage | C | C | C | E | C | C | C | D | B | B | C | D | D | D | E | B | C | C | C | C | C |
| Necropsy | D | D | C | B | C | C | C | C | D | D | D | E | E | E | B | C | C | C | C | C | C |
| Carcass and Waste Storage | E | E | C | A | D | E | E | D | E | E | E | E | E | E | B | C | C | C | C | C | C |
| Cage Wash Room | E | E | C | D | D | E | D | D | B | B | D | B | D | D | C | C | C | C | C | C | C |
| Clean Cage Storage Room | C | C | B | E | D | C | C | D | B | B | C | B | E | E | E | A | C | C | C | C | C |
| Diet Kitchen | C | C | C | E | C | C | C | D | C | C | C | B | E | E | E | D | C | C | C | C | C |
| Barrier Suite | D | D | C | E | D | C | C | D | D | D | C | C | E | E | E | C | C | C | C | C | C |
| Surgical Suite | C | C | C | E | E | C | C | E | B | C | C | D | E | E | E | C | C | C | C | C | C |
| Containment Suites | D | D | C | E | D | C | D | D | D | D | C | D | D | E | A | C | D | D | D | D | D |
| Loading Dock | E | E | C | B | A | E | D | B | E | E | E | B | C | B | C | D | C | E | E | E | E |

LEGEND
 A - close proximity essential
 B - close proximity desirable
 C - no spatial relationship
 D - separation desirable
 E - separation high priority

Relationship Matrix

Section 4

Design Guide Plates and Data Sheets General Rooms

GUIDE PLATE SERIES

- 4-1 Veterinarian Office
Equipment and Utility Plan
Design Standards
Equipment Guide List

- 4-2 Secretary Office
Equipment and Utility Plan
Design Standards
Equipment Guide List

- 4-3 Locker, Toilet and Shower Room
Equipment and Utility Plan
Design Standards
Equipment Guide List

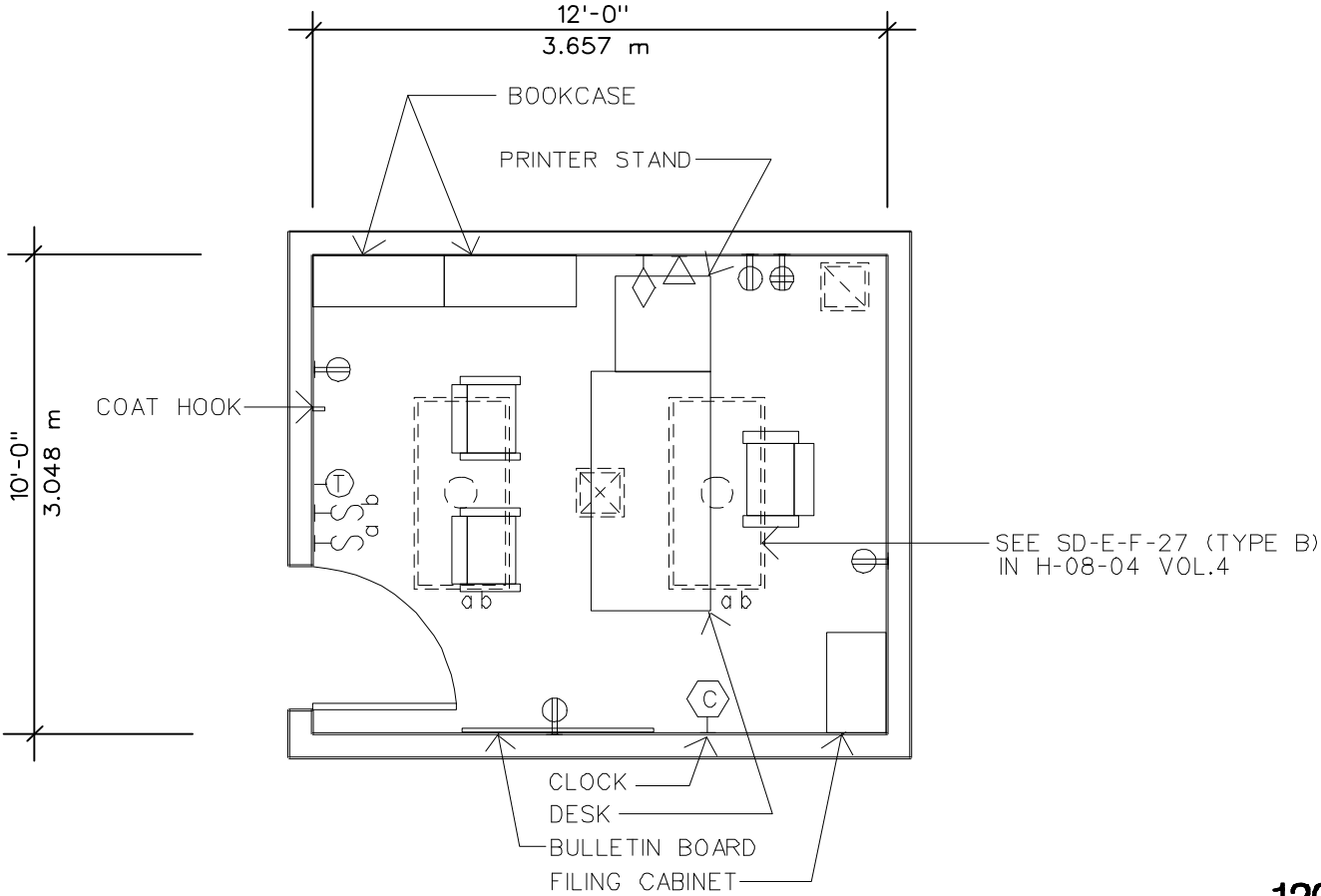
- 4-4 Housekeeping Aides Closet
Equipment and Utility Plan
Design Standards
Equipment Guide List

GUIDE PLATE SERIES

- 4-5 Cold Room
Equipment and Utility Plan
Design Standards
Equipment Guide List

- 4-6 Equipment Storage
Equipment and Utility Plan
Design Standards
Equipment Guide List

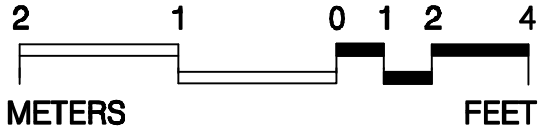
- 4-7 Incinerator Room
Equipment and Utility Plan
Design Standards
Equipment Guide List



120 NSF
11.148 m²

NOTE: SUPERVISOR OFFICE HAS THE SAME PLAN AND FURNITURE WITH THE SAME DIMENSIONS (INCLUDE A DRY ERASE BOARD BEHIND DESK IN SUPERVISOR'S OFFICE)

Veterinarian Office



Equipment & Utility Plan

Veterinarian Office

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|-------|
| Floor Area | 120 NSF | Wall Finish | GWB-W |
| Ceiling | AT | Wainscot | - |
| Ceiling Height | 9'-0" | Base | RB |
| Slab Depression | - | Floor Finish | CP |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 70 FC, 3.5 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|---------|
| General | 1000 W* |
| Special | - |
| Emergency | - |

*INCLUDE COMPUTER EQUIPMENT AT 60% PF

COMMUNICATIONS

| | | | |
|----------------|-----------|-------|---|
| Telephone | DESK TYPE | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 3.3 W/SF |
| AC Load Equipment | 2.3 W/SF |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | - |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

26 February 1993

Veterinarian Office

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | 1 | VV | DESK, DOUBLE PEDESTAL, APPROX., 60"W X 30"D X 29-1/2"H |
| | 1 | VV | CHAIR, ROTARY, WITH ARMS |
| | 3 | VV | CHAIR, STRAIGHT, WITH ARMS |
| | 2 | VV | BOOKCASE, SECTIONAL (EACH SECTION, 33"W X 13"D X 15"H) WITH 10"H BASE |
| | 1 | VV | HOOK, COAT, WALL MOUNTED |
| AR | VV | VV | CABINET, FILING (LETTER SIZE) 5 DRAWER, APPROX. 15"W X 25"D X 60"H |
| | 1 | VV | BULLETIN BOARD, 48"W X 36"H |
| | 1 | VV | CRT, COMPUTER SYSTEM, WITH KEYBOARD |
| | 1 | VV | PRINTER, COMPUTER SYSTEM |
| | 1 | VV | STAND, COMPUTER PRINTER, APPROX. 24"W X 24"D X 26"H |
| | 1 | CC | RECEPTACLE, ELECTRICAL, QUADRAPLEX, FOR COMPUTER EQUIPMENT ITEMS (H-08-1, MCS 16140; H-08-3, CS 866-1) |
| | 1 | VV | CLOCK, BATTERY OPERATED |
| AR | CC | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Secretary Office

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|-----|
| Floor Area | 80 NSF | Wall Finish | GWB |
| Ceiling | AT | Wainscot | - |
| Ceiling Height | 9'-0" | Base | RB |
| Slab Depression | - | Floor Finish | CP |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 70 FC, 4.0 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 700 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|-----|-------|---|
| Telephone | YES | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 3.8 W/SF |
| AC Load Equipment | 3.4 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | - |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

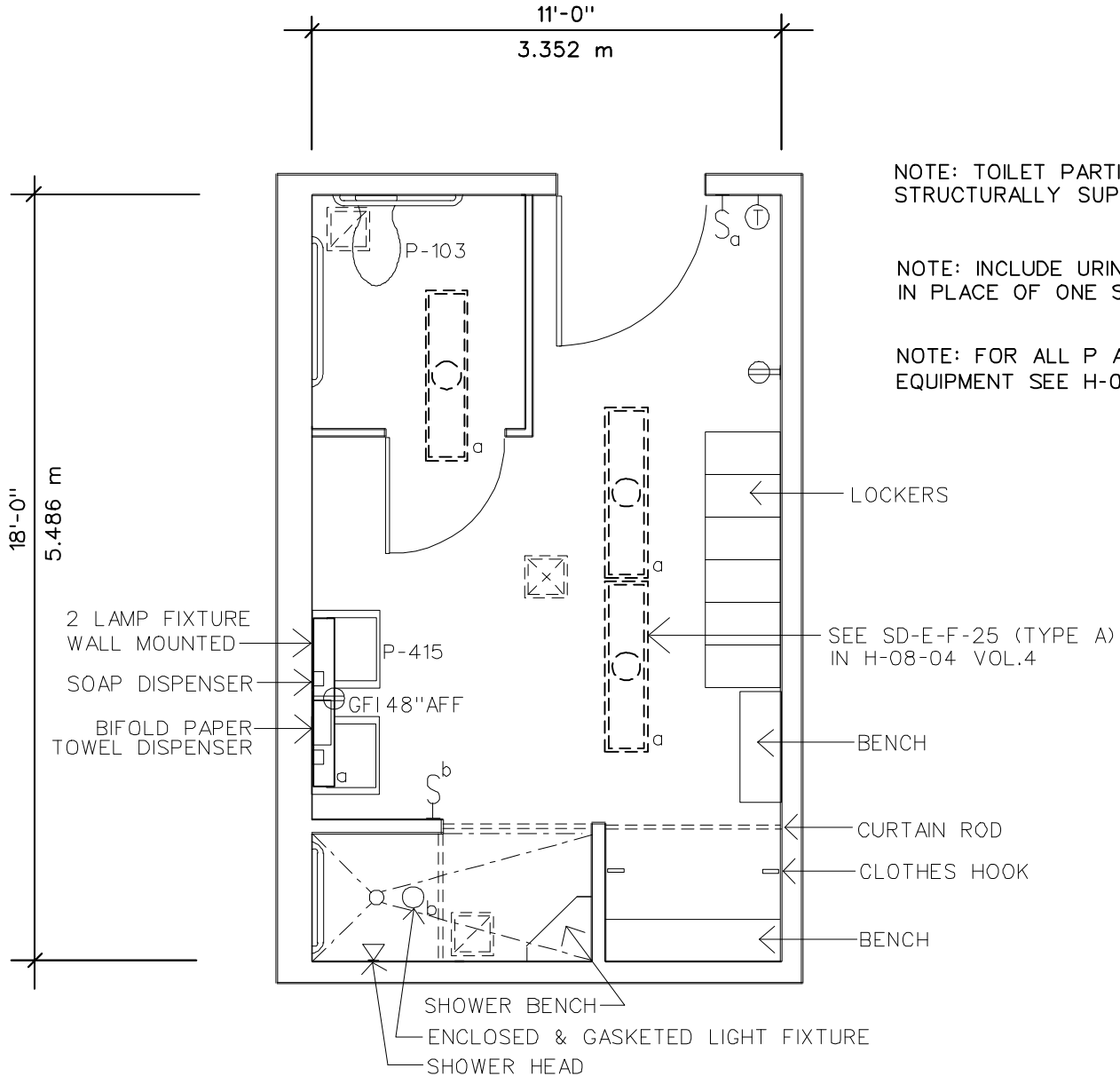
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Secretary Office

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | 1 | VV | DESK, RIGHT OR LEFT, SINGLE PEDESTAL, 60"W X 30"D X 29-1/2"H, L UNIT ATTACHMENT AT TYPEWRITER HEIGHT, 40"W X 18"D X 26"H |
| | 1 | VV | CHAIR, ROTARY, WITHOUT ARMS |
| AR | | VV | CHAIR, STRAIGHT, WITH ARMS |
| | 1 | VV | CABINET, FILING (LETTER SIZE) 5 DRAWER, APPROX. 15"W X 25"D X 60"H |
| | 1 | VV | BULLETIN BOARD, APPROX. 36"W X 36"H |
| | 1 | VV | HOOK, COAT, WALL MOUNTED |
| | 1 | VV | CRT, COMPUTER SYSTEM, WITH KEYBOARD |
| | 1 | VV | PRINTER, COMPUTER SYSTEM |
| | 1 | VV | STAND, COMPUTER PRINTER, APPROX. 24"W X 24"D X 26"H |
| | 1 | CC | RECEPTACLE, ELECTRICAL, QUADRAPLEX, FOR COMPUTER EQUIPMENT ITEMS (H-08-1, MCS 16140; H-08-3, CS 866-1) |
| | 1 | VV | CLOCK, BATTERY OPERATED |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

26 February 1993



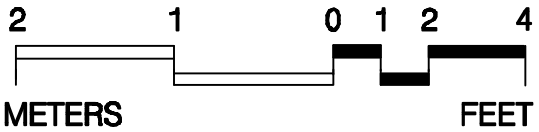
NOTE: TOILET PARTITIONS NEED TO BE STRUCTURALLY SUPPORTED AT CEILING

NOTE: INCLUDE URINAL IN MEN'S ROOM IN PLACE OF ONE SINK

NOTE: FOR ALL P AND T EQUIPMENT SEE H-08-04 VOL.1

198 NSF
18.394 m²

Lockers, Toilet, and Shower Room



Equipment & Utility Plan

Locker, Toilet And Shower Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----|
| Floor Area | 198 NSF | Wall Finish | CT |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | CT |
| Slab Depression | - | Floor Finish | CT |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 2.0 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|-------|
| General | 360 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 2.6 W/SF |
| AC Load Equipment | 0.9 W/SF |
| Number of People | 3 |
| Noise Criteria | NC-50 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 78 |
| Minimum Air Changes per Hour | 10 (EA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | - % |
| Relative Humidity - Heating | - % |
| Notes: | |

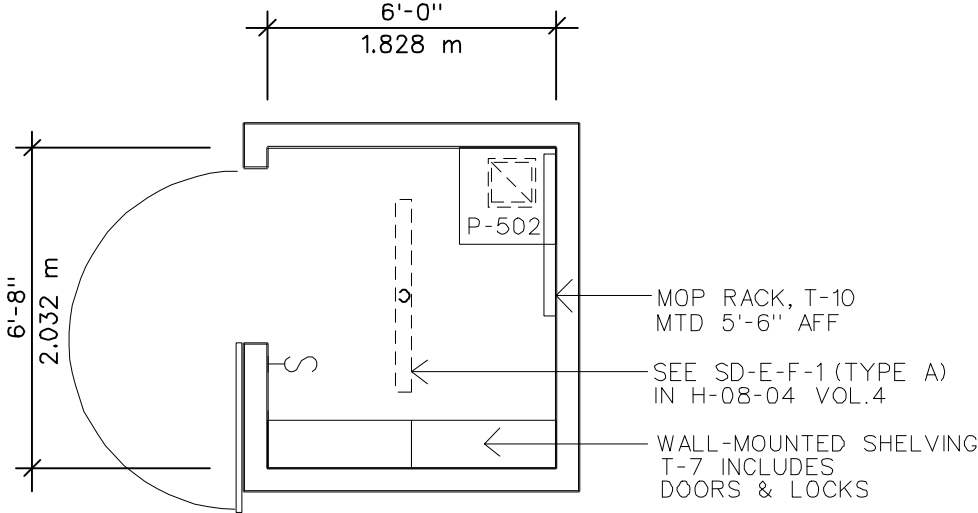
PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |
| Notes: | | | |

Locker, Toilet and Shower Room

Equipment Guide List

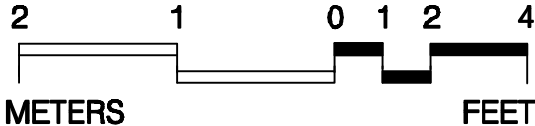
| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|--|
| | | | NOTE: THE QUANTITY OF FIXED EQUIPMENT, INCLUDING PLUMBING FIXTURES SHALL BE AS INDICATED FOR THE INDIVIDUAL PROJECTS IN ACCORDANCE WITH H-08-9, CHAPTER 278. |
| | | | LOCKERS |
| T-B | AR | CC | LOCKER, STEEL, SLOPING TOP, 12"W X 21"D X 72"H (H-08-1, MCS 10500; H-08-4, SD 61) |
| | AR | CC | BENCH, WALL HUNG (H-08-1, MCS 06200) |
| | | | -OR- |
| | AR | CC | BENCH, FIXED TYPE, FLOOR MOUNTED (H-08-1, MCS 06200) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| P-103 | AR | CC | WATER CLOSET, WALL HUNG (H-08-1, MCS 15450; H-08-4, SD 4) |
| | AR | CC | ENCLOSURE, TOILET, CEILING HUNG (H-08-1, MCS 10162; H-08-3, CD 13; H-08-4, SD 12) |
| | AR | CC | DISPENSER, TOILET TISSUE, DOUBLE ROLL (H-08-1, MCS 10800; H-08-4, SD 12) |
| | AR | CC | BAR, GRAB FOR WATER CLOSET (H-08-1, MCS 10800; H-08-4, SD 12, 14B & 14F) |
| P-415 | AR | CC | LAVATORY, STRAIGHT BACK (H-08-1, MCS 15450; H-08-4, SD 53) |
| | AR | CC | MIRROR, 16" X 20", WITH INTEGRAL SHELF, OVER LAVATORY (H-08-1, MCS 10800; H-08-4, SD 15) |
| | AR | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| | AR | VV | RECEPTACLE, WASTE, APPROX. 16" X 16" |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER, ADJACENT TO LAVATORY (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | AR | CC | STALL, SHOWER, 48"W X 46-3/4"D (H-08-1, MCS 10170; H-08-4, SD 13) |
| P-702 | AR | CC | SHOWER, BATH FIXTURE, WALL MOUNTED, CONCEALED SUPPLIES (H-08-1, MCS 15450; H-08-4, SD 13A) |
| | AR | CC | DISH, SOAP, RECESSED (H-08-1, MCS 10800) |
| | AR | CC | HOOK, TOWEL (H-08-1, MCS 10800) |
| | AR | CC | ROD, CURTAIN, TUB OR SHOWER (H-08-1, MCS 10800) |
| | AR | VV | CURTAIN, CUBICLE |
| | AR | CC | CUBICLE, DRESSING, WITH CLOTHES HOOK, CURTAIN ROD AND BENCH (H-08-1, MCS 06200, 10170 & 10800) |
| | AR | VV | CURTAIN, FOR DRESSING BOOTH |
| | | | NOTE: ADD THE FOLLOWING FOR TOILET AND SHOWER, MALE: |
| P-201 | AR | CC | URINAL, WALL HUNG (H-08-1, MCS 15450; H-08-4, SD 4) |
| | AR | CC | SCREEN, URINAL (H-08-1, MCS 10162; H-08-4, SD 12) |



NOTE: FOR ALL P AND T
EQUIPMENT SEE H-08-04 VOL.1

40 NSF
3.716 m²

Housekeeping Aides Closet



Equipment & Utility Plan

Housekeeping Aides Closet

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|------------|
| Floor Area | 40 NSF | Wall Finish | VP (SC) |
| Ceiling | AT (SP) | Wainscot | CT (4'-0") |
| Ceiling Height | 9'-0" | Base | CT |
| Slab Depression | - | Floor Finish | CT |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 10 FC, 0.5 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|---|
| General | - |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | - |
| AC Load Equipment | - |
| Number of People | - |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | - |
| Dry Bulb Temp Heating (F) | - |
| Minimum Air Changes per Hour | 10 (EA) |
| Minimum % Outside Air | - |
| 100% Exhaust Air | YES* |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | - % |
| Relative Humidity - Heating | - % |

Notes:

*COORDINATE W/ARCHITECT: DOOR LOUVER OR UNDERCUT FOR (EA)

PLUMBING AND MEDICAL GASES

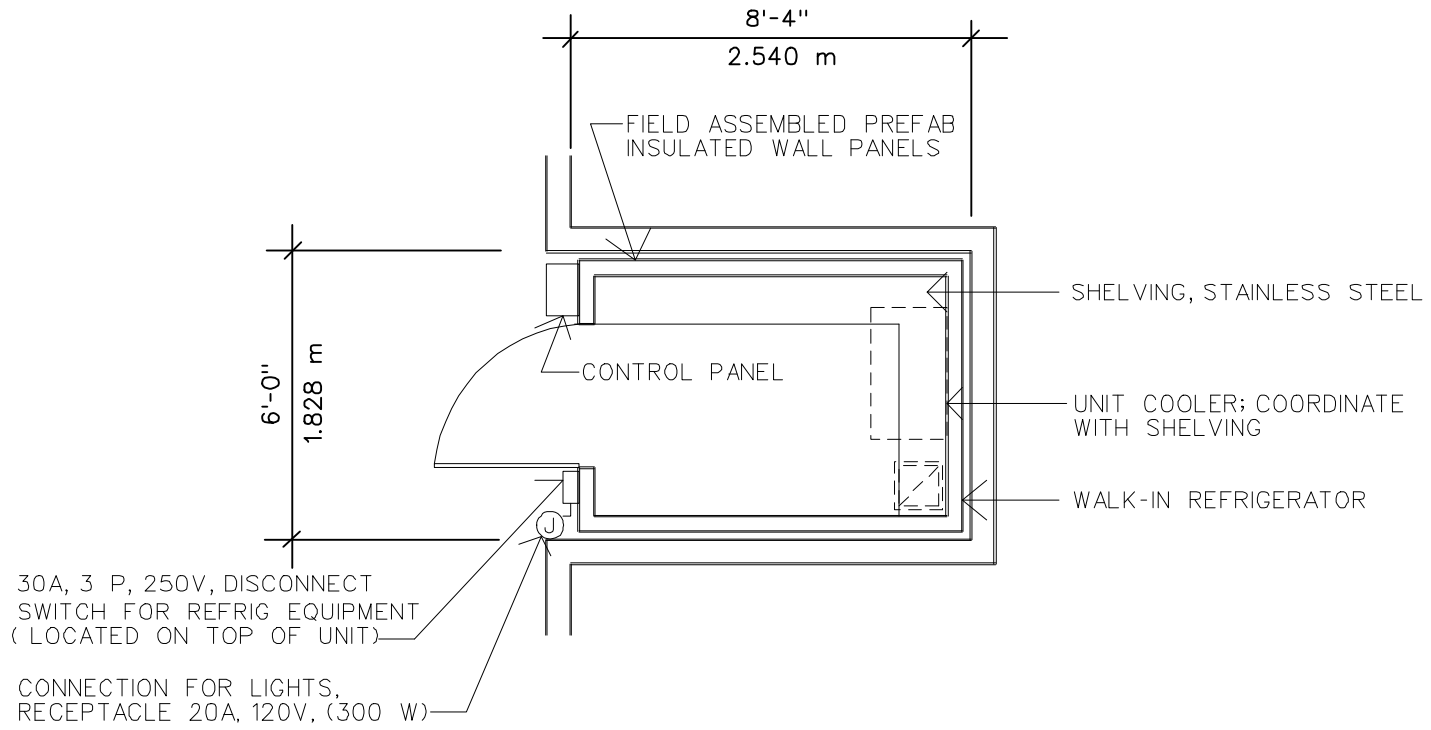
| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Housekeeping Aides Closet

Equipment Guide List

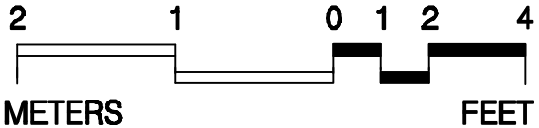
| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| P-502 | 1 | CC | SINK, SERVICE, CORNER, FLOOR MOUNTED (H-08-1, MCS 15450; H-08-4, SD 18) |
| T-7 | AR | CC | SHELVING, WALL HUNG, CORROSION RESISTING STEEL, TWO FIXED SHELVES, TWO DOORS WITH LOCKS, 36"W X 12"D X 48"H, 60" ABOVE FINISHED FLOOR (H-08-1, MCS 12301, H-08-4, SD 60C & 66) |
| T-10 | 1 | CC | RACK, MOP, WALL MOUNTED (H-08-1, MCS 10360; H-08-4, SD 64B & 66) |



NOTE: ONE OF THE TWO PREFAB COLD ROOMS USED FOR CARCASS STORAGE SHOULD HAVE DOORS TO THE NECROPSY AND THE CORRIDOR WHILE THE OTHER COLD ROOM SHOULD BE LOCATED NEAR FEED STORAGE AND DIET KITCHEN (IF PROVIDED).

$$\frac{50 \text{ NSF}}{4.645 \text{ m}^2}$$

Cold Room



Equipment & Utility Plan

Cold Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|---|
| Floor Area | 50 NSF | Wall Finish | - |
| Ceiling | - | Wainscot | - |
| Ceiling Height | - | Base | - |
| Slab Depression | YES | Floor Finish | - |
| Notes: | | Lead Lining | - |

PREFABRICATED, SEE H-08-3 643-1
SEE H-08-1 SECTION 13062, AND H-08-3 CS 643-1

SPECIAL EQUIPMENT

REFRIGERATION EQUIPMENT

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 1.5 W/SF |
| Special | - |
| Emergency | ALL |

Notes:

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | * |
| Emergency | ALL |

*REFRIGERATION EQUIPMENT: 30 A, 208 V, 3 PHASE

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|--------|
| AC Load Lights | - |
| AC Load Equipment | - |
| Number of People | - |
| Noise Criteria | - |
| Room Pressure | - |
| Dry Bulb Temp Cooling (F) | 36 |
| Dry Bulb Temp Heating (F) | - |
| Minimum Air Changes per Hour | - |
| Minimum % Outside Air | - |
| 100% Exhaust Air | 50 CFM |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | - % |
| Relative Humidity - Heating | - % |

Notes:

LOCATE CONDENSING UNIT AND REFRIGERANT PIPING ON PLANS
SEE H-08-4, SD 655.0, 655.1, 672.0, 672.1, AND 673.8

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

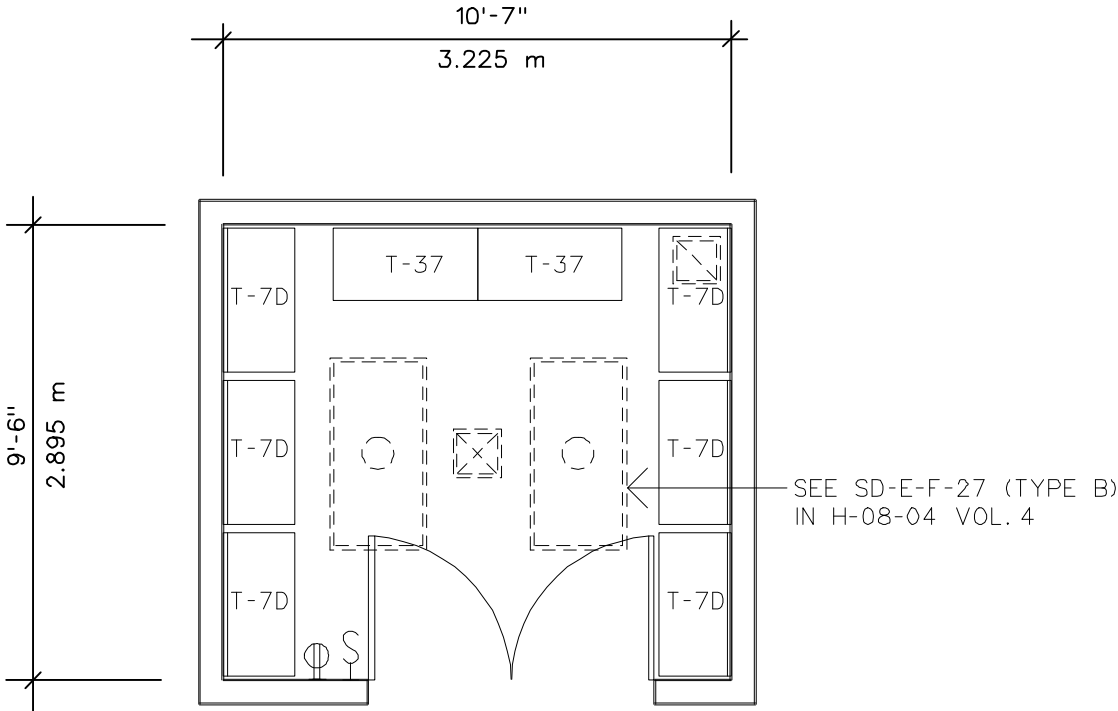
26 February 1993

Cold Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | 2 | CC | WALK-IN REFRIGERATOR, PREFABRICATED SIZE AS REQUIRED (H-08-1, MCS 13062; H-08-3, CS 643-1) |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |
| | AR | VV | SHELVING, PORTABLE, SOLID STAINLESS STEEL, APPROX. 16"D |

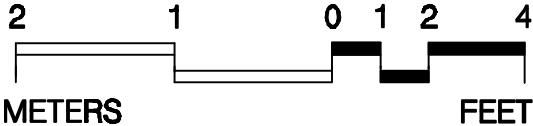
26 February 1993



NOTE: FOR ALL T EQUIPMENT
SEE H-08-04 VOL.1

$$\frac{100 \text{ NSF}}{9.290 \text{ m}^2}$$

Equipment Storage



Equipment & Utility Plan

Equipment Storage

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|-----|
| Floor Area | 100 NSF | Wall Finish | CMU |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 1.5 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.0 W/SF |
| AC Load Equipment | 1/8 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |
| Notes: | |

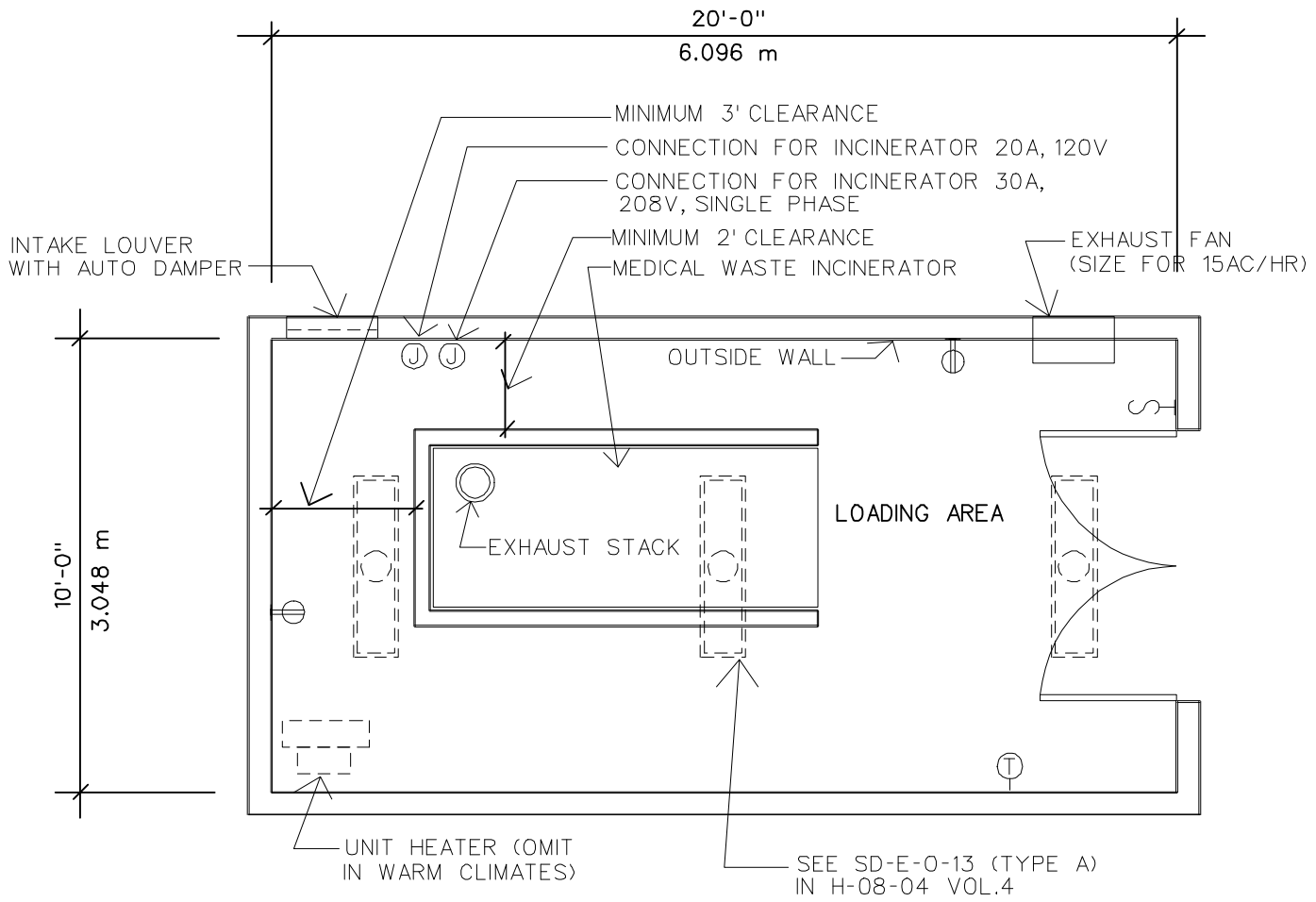
PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |
| Notes: | | | |

Equipment Storage

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|---|
| T-7D | AR | CC | SHELVING, WALL HUNG, STANDARD AND BRACKET TYPE, 4 ADJUSTABLE SHELVES, 36"W X 18"D X 36"H (H-08-1, MCS 10671; H-08-4, SD 60D) |
| T-37 | AR | CC | SHELVING, FLOORSTANDING, STEEL, WITH SLOPING TOP AND 6 ADJUSTABLE SHELVES, 36"W X 18"D X 84"H (H-08-1, MCS 10671; H-08-4, SD 60E) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |



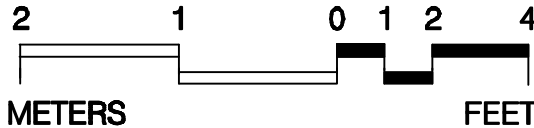
NOTE: INCINERATOR SHOULD BE AUTOMATIC LOADING TYPE

NOTE: COMPLY WITH APPLICABLE CODES FOR INCINERATORS

NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

200 NSF
18.580 m²

Incinerator Room



Equipment & Utility Plan

Incinerator Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|-------------|--------------|----------|
| Floor Area | 200 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 10'-0" MIN* | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

*HEIGHT TO ACCOMMODATE EQUIPMENT SIZE

SPECIAL EQUIPMENT

INCINERATOR

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 10 FC, 0.5 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|------------------|
| AC Load Lights | 2.7 W/SF |
| AC Load Equipment | 1.5 W/SF* |
| Number of People | - |
| Noise Criteria | NC-50 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | - |
| Dry Bulb Temp Heating (F) | 50 |
| Minimum Air Changes per Hour | 80 (MUA)** |
| Minimum % Outside Air | 1600 CFM (MUA)** |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | - % |
| Relative Humidity - Heating | - % |

Notes:

* PLUS INCINERATOR HEAT GAIN

**ADJUST VALUES TO COMPLY W/MANUFACTURERS RECOMMENDATIONS
INTERLOCK AUTO DAMPER WITH INCINERATOR, EXHAUST FAN, AND
THERMOSTAT

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|-----|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Incinerator Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| | | | NOTE: NEED, LOCATION AND CAPACITY OF MEDICAL WASTE INCINERATOR WILL BE DETERMINED BY VHA. |
| | 1 | CC | INCINERATOR, AUTOMATIC LOAD TYPE, MEDICAL WASTE, OIL OR GAS FIRED PACKAGE UNIT (H-08-1, MCS 11171) |
| | AR | CC | ELECTRICAL, 208 VOLT, 30 AMP, SINGLE PHASE, DIRECT CONNECTION FOR INCINERATOR (H-08-1, MCS 16140) |
| | AR | CC | ELECTRICAL, 120 VOLT, 20 AMP, DIRECT CONNECTION FOR INCINERATOR (H-08-1, MCS 16140) |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |

Section 5

Design Guide Plates and Data Sheets Areas Specific to VMU

GUIDE PLATE SERIES

- 5-1 Animal Receiving and Examination Room
 - Reflected Ceiling Plan
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

- 5-2 Diagnostic Laboratory
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

- 5-3 Animal Treatment Room
 - Reflected Ceiling Plan
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

- 5-4 Quarantine Room
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

GUIDE PLATE SERIES

- 5-5 Animal Room (Cubicle Housing)
 - Reflected Ceiling Plan
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

- 5-6 Animal Room (Large Animal Conventional Housing)
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

- 5-7 Animal Room (Small Animal Conventional Housing)
 - Equipment and Utility Plan
 - Design Standards

- 5-8 Procedural Laboratory (Standard)
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

GUIDE PLATE
SERIES

5-9..... Dry Feed and Bedding Storage
Equipment and Utility Plan
Design Standards
Equipment Guide List

5-10..... Necropsy
Reflected Ceiling Plan
Equipment and Utility Plan
Design Standards
Equipment Guide List

5-11..... Carcass and Waste Storage
Equipment and Utility Plan
Design Standards
Equipment Guide List

5-12..... Cage Wash Room
Reflected Ceiling Plan
Equipment and Utility Plan
Design Standards
Equipment Guide List

GUIDE PLATE
SERIES

5-13 Cage Wash Room (with Tunnel Washer)
Reflected Ceiling Plan
Equipment and Utility Plan
Design Standards

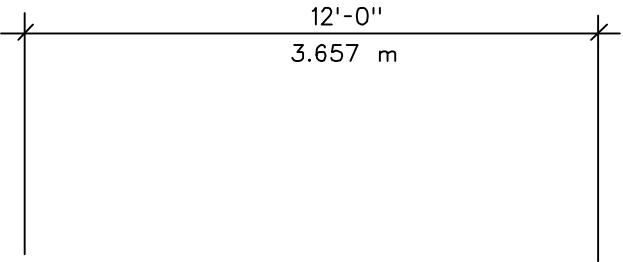
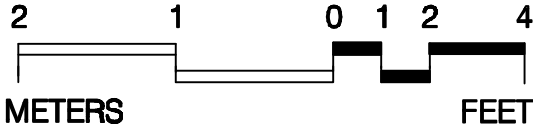
5-14 Clean Cage Storage Room
Equipment and Utility Plan
Design Standards
Equipment Guide List

5-15 Diet Kitchen
Equipment and Utility Plan
Design Standards
Equipment Guide List

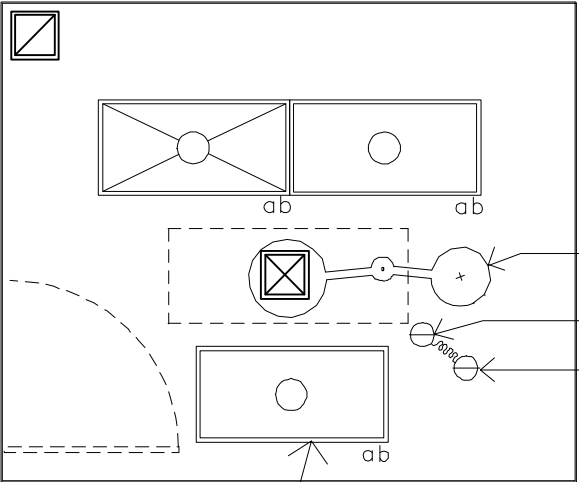
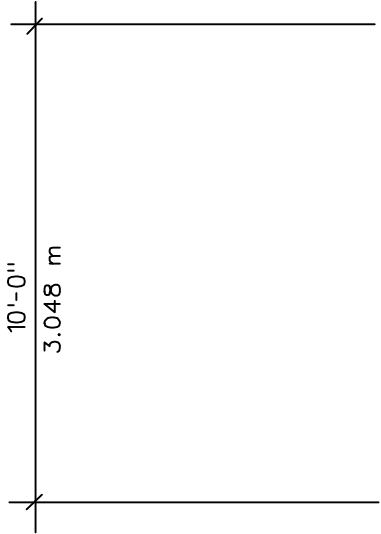
5-16 Environmental Laboratory
Equipment and Utility Plan
Design Standards
Equipment Guide List

Animal Receiving and Examination Room

Reflected Ceiling Plan



120 NSF
11.148 m²

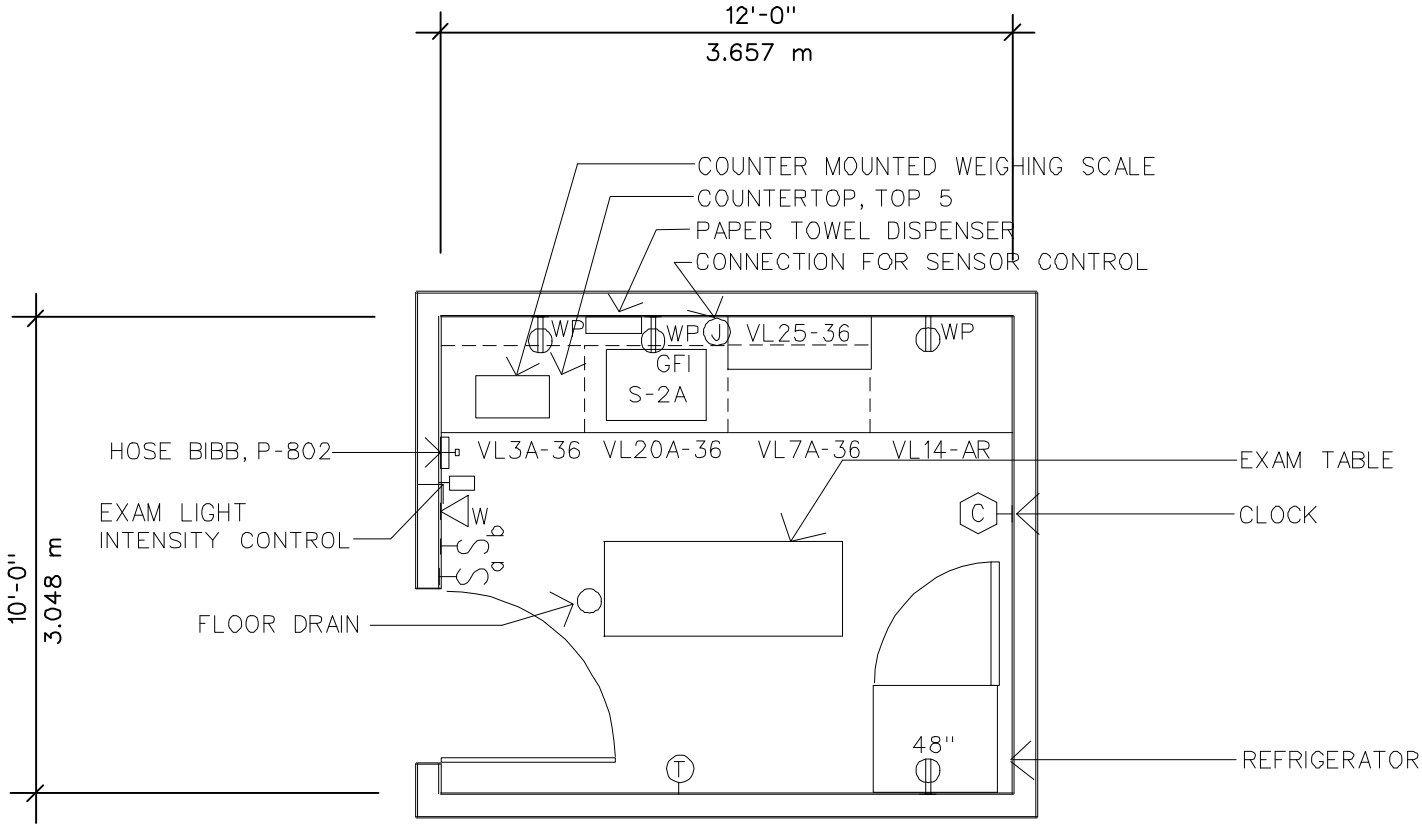


EXAM LIGHT, CEILING MOUNTED
RETRACTABLE CEILING CORD
OUTLET, DUPLEX CEILING MOUNTED

SEE SD-E-F-27 (TYPE B)
IN H-08-04 VOL.4

NOTE: RETRACTABLE CEILING CORD TAKE UP REEL NEEDS TO BE STRUCTURALLY SUPPORTED AT CEILING.

26 February 1993



NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

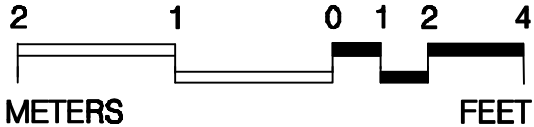
NOTE: FOR ALL VL AND S EQUIPMENT SEE H-08-06

NOTE: BATH TUB AND FLOOR MOUNTED SCALE ONLY APPLICABLE WHEN MORE THAN 120 NSF IS PROVIDED.

NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

120 NSF
11.148 m²

Animal Receiving and Examination Room



Equipment & Utility Plan

Animal Receiving and Examination Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|------------|
| AC Load Lights | 5.0 W/SF |
| AC Load Equipment | 12.9 W/SF* |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

SPECIAL EQUIPMENT

NONE

Notes:
*EXAM LIGHT INCLUDED IN EQUIPMENT LOAD

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | ** |
| Emergency | 33% GEN FLUOR |

Power

| | |
|-----------|----------------|
| General | 720 W |
| Special | CLG CORD 180 W |
| Emergency | - |

Notes:
*FLUOR LAMPS COLOR CORRECTED
**(1) SURGICAL LIGHT, ONE HEAD

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

COMMUNICATIONS

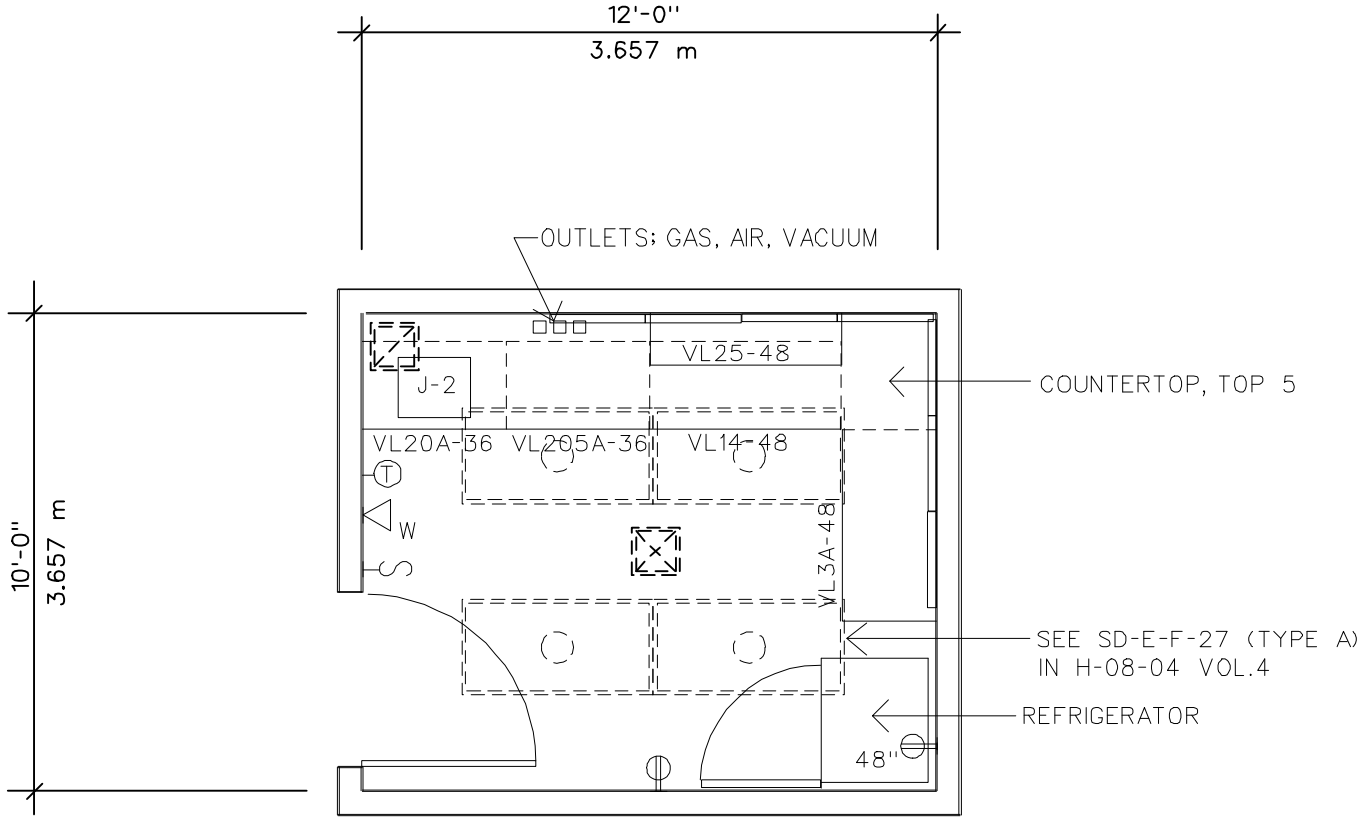
| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

Animal Receiving and Examination Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|----------|-----|----|---|
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| S-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 25" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| | 1 | VV | DISPENSER, PAPER TOWEL, SURFACE MOUNTED |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL3/3A | AR | CF | CABINET, UNDERCOUNTER, WITH 5/4 DRAWERS, AVAILABLE WIDTHS 18", 24", 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL7/7A | AR | CF | CABINET, UNDERCOUNTER, WITH 2 HINGED DOORS AND 2/1 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS 18", 24", 30", 36", 42", 48"; DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12345) |
| VL25 | AR | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, 24" OFF FLOOR, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| | 1 | CC | DRAIN, FLOOR (H-08-1, MCS 15400) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| | 1 | VV | SCALE, ANIMAL WEIGHING, ELECTRONIC, COUNTER MOUNTED, 1000 GRAM CAPACITY |
| | 1 | VV | TABLE, EXAMINATION, STAINLESS STEEL, 24" X 60" |
| | 1 | CF | LIGHT, EXAM, SINGLE LIGHTHEAD, CEILING MOUNTED, SWIVEL ARM, ADJUSTABLE INTENSITY, 120 VOLT, 20 AMP (H-08-1, MCS 16515) |
| | 1 | VV | CLOCK, BATTERY OPERATED |
| | 1 | CC | RETRACTABLE CEILING CORD, (NEAR EXAM LIGHT) 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR RETRACTABLE CEILING CORD (H-08-1, MCS 16140) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | | | THE FOLLOWING EQUIPMENT IS ONLY APPLICABLE WHEN MORE THAN THE MINIMUM SPACE (120 NSF) IS PROVIDED. |
| | 1 | VV | TUB, BATH |
| | 1 | VV | SCALE, ANIMAL WEIGHING, ELECTRONIC, FLOOR MODEL, 300 LB. CAPACITY |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |

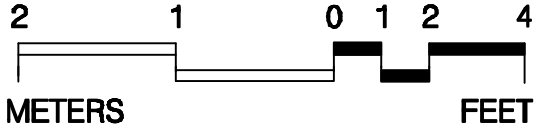


NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

NOTE: FOR ALL VL AND J EQUIPMENT SEE H-08-06 VOL.1

120 NSF
11.148 m²

Diagnostic Laboratory



Equipment & Utility Plan

Diagnostic Laboratory

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 70 FC, 3.5 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|------------------|
| General | STRIP MOLD 900 W |
| Special | REFRIGERATOR |
| Emergency | REFRIGERATOR |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---|
| Telephone | WALL MTD | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 5.4 W/SF |
| AC Load Equipment | 9.5 W/SF |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |
| Notes: | |

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |
| Notes: | | | |

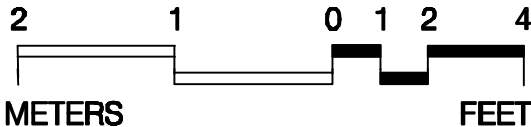
Diagnostic Laboratory

Equipment Guide List

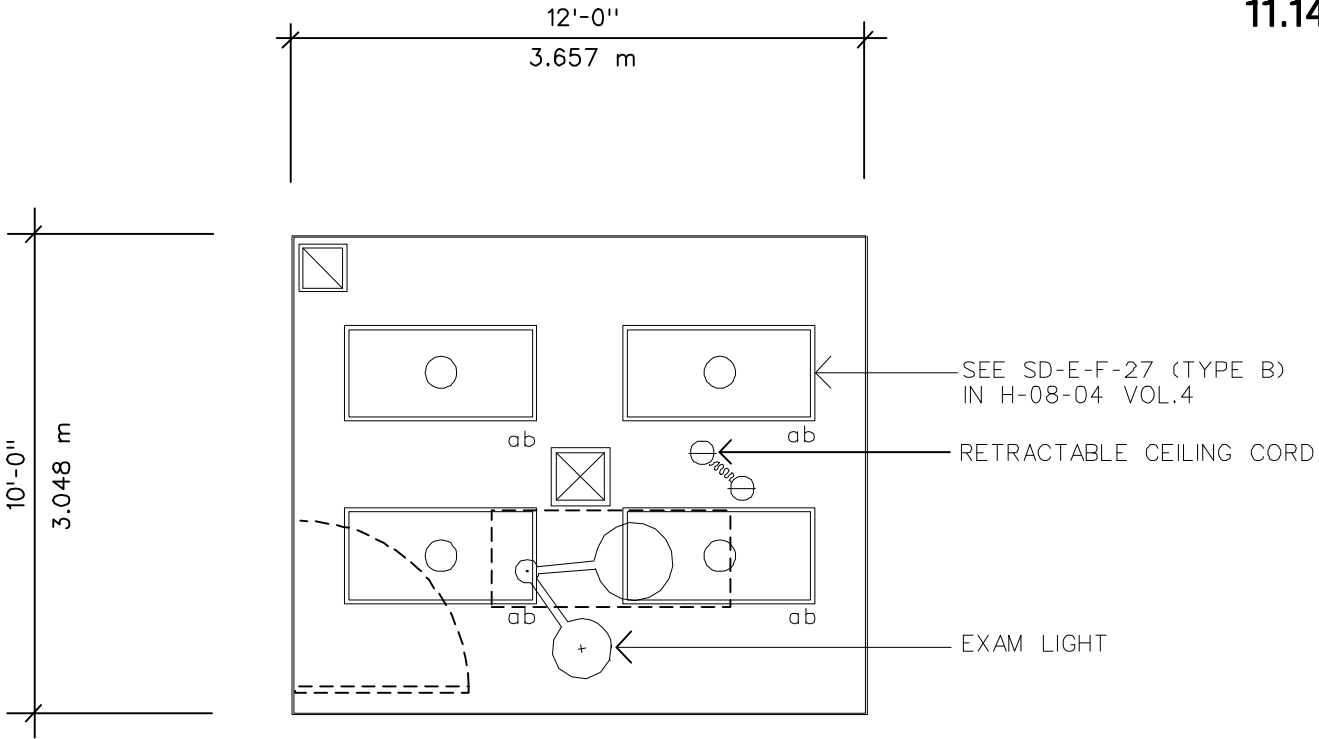
| SYMBOL | QTY | AI | DESCRIPTION |
|------------|-----|----|--|
| TOP 5 | AR | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| J-2 | 1 | CF | SINK, CORROSION RESISTING STEEL, WITH CENTER DRAIN OUTLET, 18" X 15" X 8" DEEP (H-08-1 & H-08-6, MCS 11602) |
| VL205/205A | 1 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL3/3A | 1 | CF | CABINET, UNDERCOUNTER, WITH 5/4 DRAWERS, AVAILABLE WIDTHS 18", 24", 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| VL25 | 1 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| VL14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS 18", 24", 30", 36", 42", 48"; DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12345) |
| | 1 | CC | OUTLETS, ONE EACH, AIR, GAS AND VACUUM GROUPED OVER COUNTER (H-08-1 & H-08-6, MCS 11602) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, STRIP MOLD WITH OUTLETS ON 24" CENTERS, 9" ABOVE COUNTER (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Animal Treatment Room

Reflected Ceiling Plan

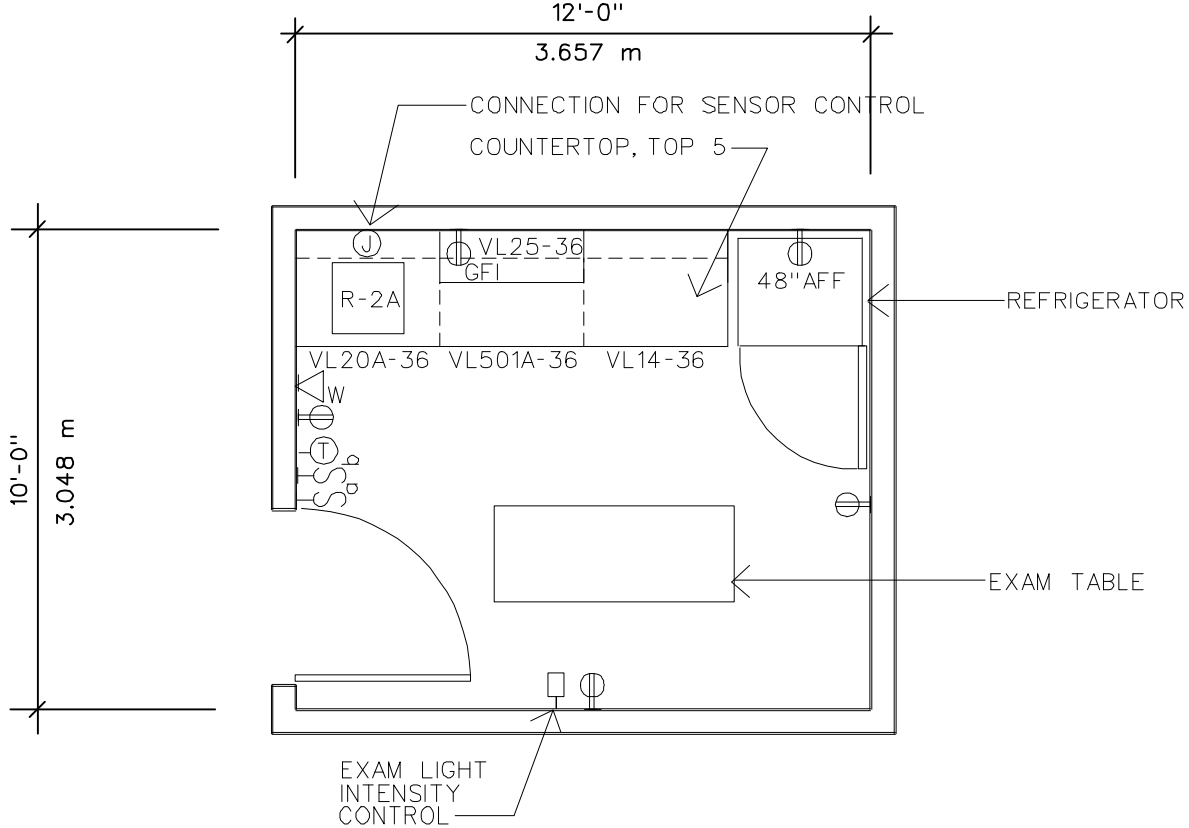


120 NSF
11.148 m²



NOTE: RETRACTABLE CEILING CORD TAKE UP REEL NEEDS TO BE STRUCTURALLY SUPPORTED AT CEILING.

26 February 1993

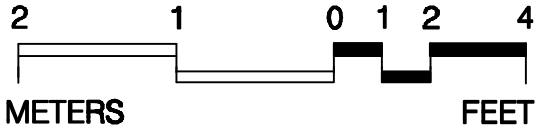


NOTE: FOR ALL VL AND R EQUIPMENT SEE H-08-06 VOL.1

NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

$\frac{120 \text{ NSF}}{11.148 \text{ m}^2}$

Animal Treatment Room



Equipment & Utility Plan

Animal Treatment Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-------------------|
| General | 100 FC, 5.0 W/SF* |
| Special | ** |
| Emergency | - |

Power

| | |
|-----------|----------|
| General | 900 W |
| Special | 500 W*** |
| Emergency | - |

Notes:

*FLUOR LAMPS COLOR CORRECTED TO MATCH EXAM LIGHT

**EXAM LIGHT, (1) HEAD AT 120 W

***RETRACTABLE CLG CORD

COMMUNICATIONS

| | | | |
|----------------|--------------------|-------|---|
| Telephone | WALL MTD HAND FREE | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|------------|
| AC Load Lights | 6.6 W/SF |
| AC Load Equipment | 12.9 W/SF* |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

*EXAM LIGHT INCLUDED IN EQUIPMENT LOAD

PLUMBING AND MEDICAL GASES

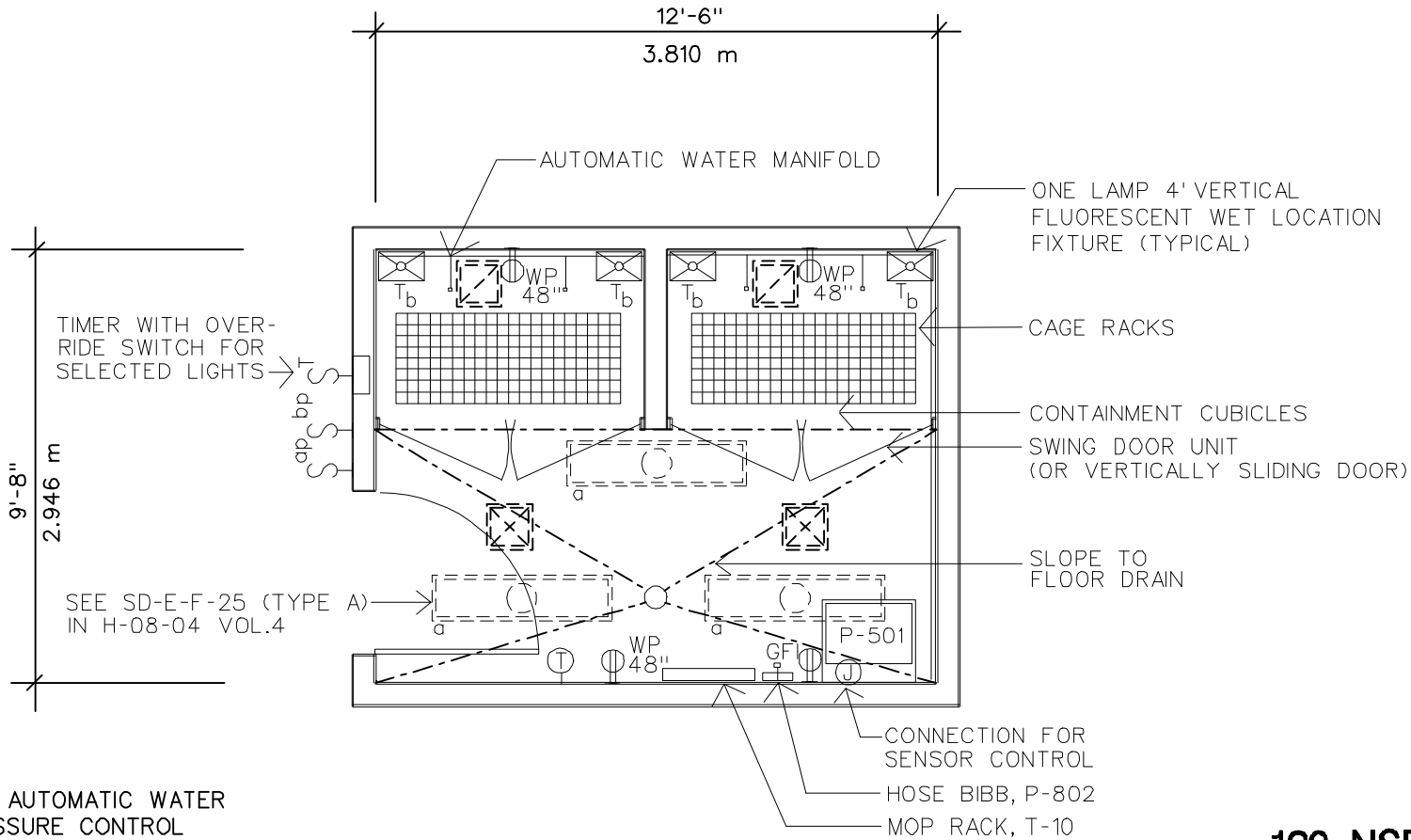
| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Animal Treatment Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL501/501A | 1 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS WITH LOCKS, 1 DOOR AND 1 ADJUSTABLE SHELF, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS 18", 24", 30", 36", 42", 48"; DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12345) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| VL25 | 1 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| | 1 | VV | TABLE, EXAMINATION, STAINLESS STEEL, 24" X 60" |
| | 1 | CF | LIGHT, EXAM, SINGLE LIGHTHEAD, CEILING MOUNTED, SWIVEL ARM, ADJUSTABLE INTENSITY, 120 VOLT, 20 AMP (H-08-1, MCS 16515) |
| | 1 | CC | RETRACTABLE CEILING CORD, (NEAR EXAM LIGHT) 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR RETRACTABLE CEILING CORD (H-08-1, MCS 16140) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |

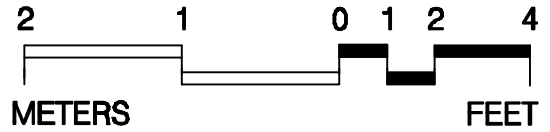


NOTE: CONNECT THE AUTOMATIC WATER MANIFOLD TO A PRESSURE CONTROL PANEL OUTSIDE THE ROOM

NOTE: FOR ALL P AND T EQUIPMENT SEE H-08-04 VOL.1

120 NSF
11.148 m²

Quarantine Room



Equipment & Utility Plan

Quarantine Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|--------------------|
| General | 20-60 FC, 3.0 W/SF |
| Special | CUBICLE LIGHT* |
| Emergency | - |

Notes:

*ON TIMER WITH OVERRIDE SWITCH & PILOT LIGHT IN CORRIDOR

Power

| | |
|-----------|-------|
| General | 720 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-------------|
| AC Load Lights | 2.1 W/SF |
| AC Load Equipment | 1.5 W/SF |
| Number of People | 1 + ANIMALS |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 65 |
| Dry Bulb Temp Heating (F) | 85 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 60* % |
| Relative Humidity - Heating | 30* % |

Notes:

*PLUS/MINUS 5%

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

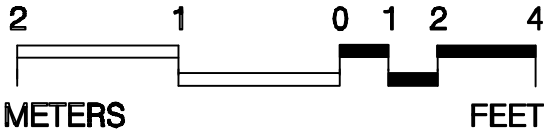
Quarantine Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|--|--|
| P-501 | 1 | CC | SINK, SERVICE, REGULAR (H-08-1, MCS 15450; H-08-4, SD 4.1) |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, 24" OFF FLOOR, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| T-10 | 1 | VV | HOSE REEL (IF ROOM IS OVER 120 NSF) |
| | 1 | CC | RACK, MOP, WALL MOUNTED (H-08-1, MCS 10360; H-08-4, SD 64B & 66) |
| | AR | CC | DRAIN, FLOOR (H-08-1, MCS 15400) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |
| | AR | VV | CAGES -OR- THE FOLLOWING EQUIPMENT ACCOMMODATES LARGE ANIMALS KEPT IN RUNS/PENS OR CAGES. THE FOLLOWING ENCLOSURE FOR RUNS/PENS IS MODIFIABLE TO ACCOMMODATE VARIATIONS IN ANIMAL POPULATION (MUST BE 24 - 30 SF). FOR QUARANTINE OF SMALL ANIMALS, SEE EQUIPMENT FOR ANIMAL ROOM CUBICLE CONCEPT. ALUMINUM OR STAINLESS STEEL ANIMAL ENCLOSURE COMPONENTS: |
| | AR | VV | FRONT PANELS, WITH HORIZONTALLY SLIDING GATES, 4' WIDE X 7' HIGH |
| | AR | VV | DIVIDER PANELS, LOWER PORTION SHEET AND UPPER PORTION ROD, WITH ADJUSTABLE LEGS, 6' LONG X 7' HIGH |
| | AR | VV | END PANELS, ALL SHEET CONSTRUCTION, WITH ADJUSTABLE LEGS, 4' LONG X 7' HIGH |
| | AR | VV | FLOORS, 3/4" WIDE FLOOR MEMBER SPACED, 3/4" APART, 2 (4' WIDE X 4' WIDE SECTIONS) REST ON ANGLES WELDED TO DIVIDER PANELS, REMOVABLE NOTE: FLOOR MEMBERS SHOULD BE HEAVY DUTY EXPANDED METAL, PLASTIC COATED, MOUNTED ON CROSS MEMBERS, 6" ABOVE FLOOR. |
| AR | VV | FEEDERS, STAINLESS STEEL, FOR SLIDING GATES | |
| AR | VV | RESTING BOARDS, 3/4" POLYPROPYLENE BOARD TRIMMED IN A SUITABLE MATERIAL TO PREVENT ANIMALS FROM CHEWING ON THE BOARDS, I.E., ALUMINUM, APPROXIMATELY, 16" WIDE X 48" LONG, MOUNT IN REAR OF EACH RUN | |
| AR | VV | AUTOMATIC WATER MANIFOLD, STAINLESS STEEL PIPE WITH ADJUSTABLE VALVE HEIGHT | |

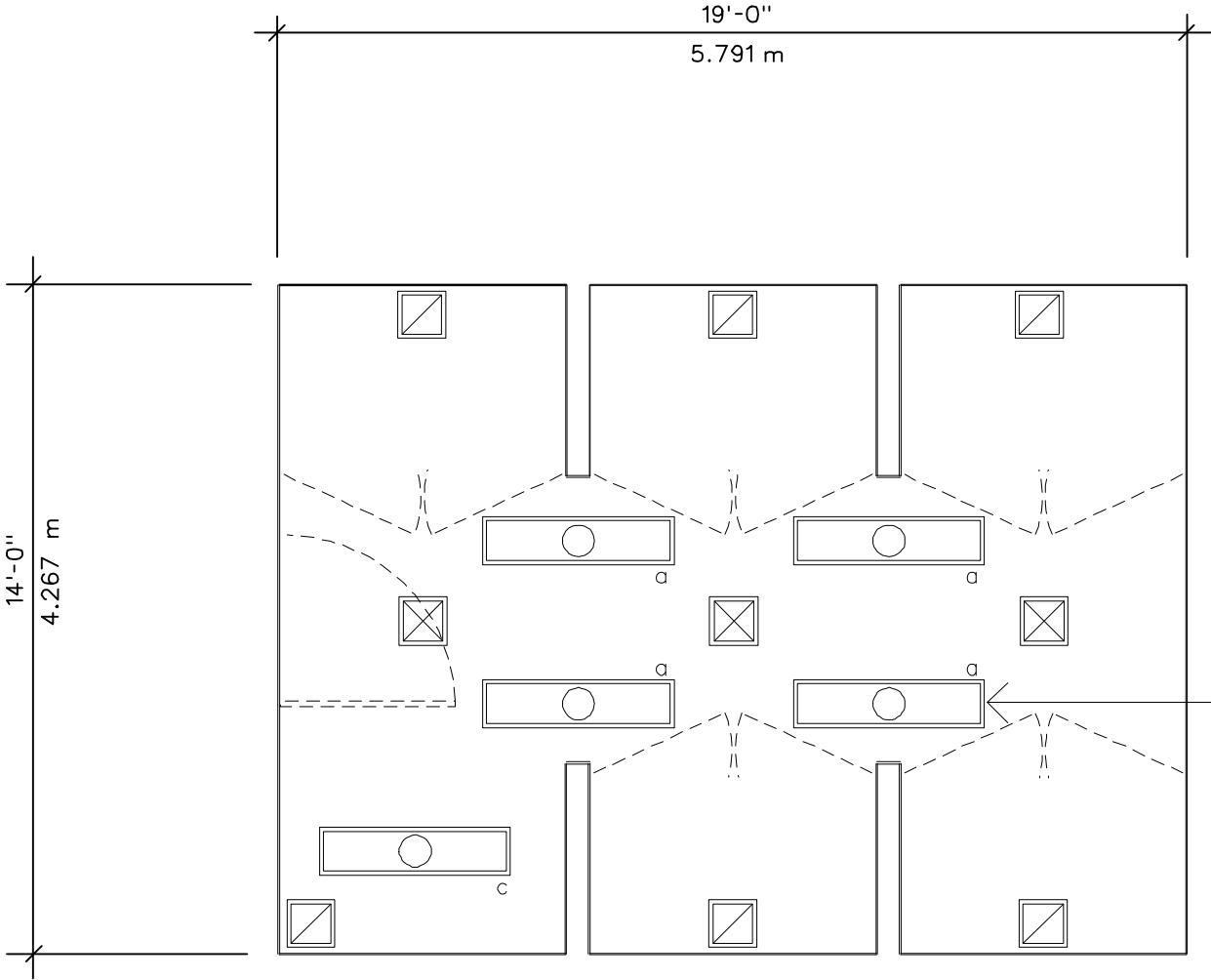
26 February 1993

Animal Room (Cubicle Housing)



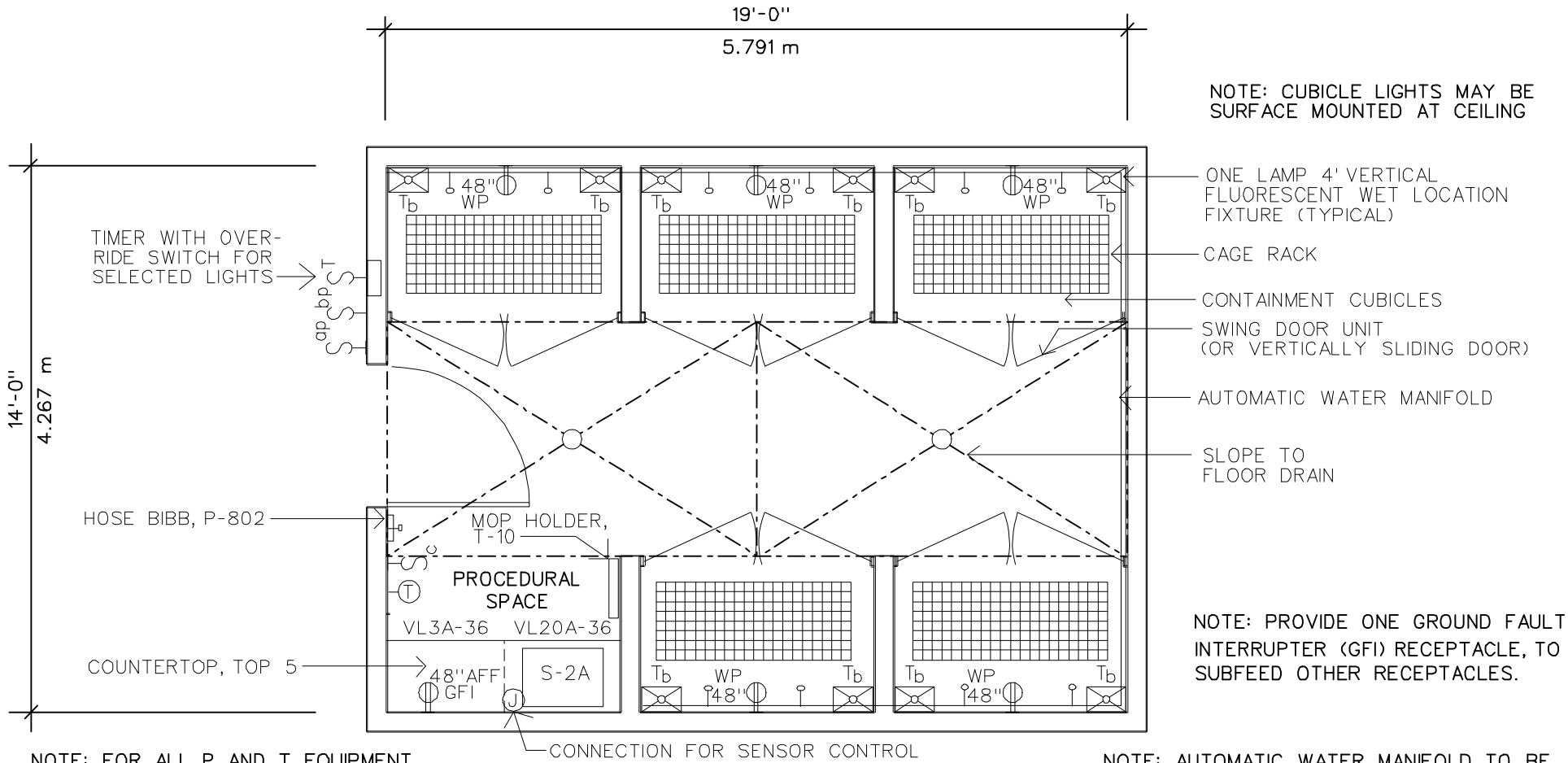
Reflected Ceiling Plan

266 NSF
 24.712 m²



NOTE: THIS PLAN IS THE SAME FOR CUBICLE ROOMS
 IN THE CHEMICAL/RADIOISOTOPE SUITE, THE BARRIER
 SUITE, AND THE INFECTIOUS DISEASE SUITE

26 February 1993



NOTE: FOR ALL P AND T EQUIPMENT SEE H-08-04 VOL.1

NOTE: FOR ALL VL AND S EQUIPMENT SEE H-08-06

NOTE: IF PREFAB CUBICLES ARE SELECTED, DO NOT INSTALL MASONRY PARTITIONS

NOTE: 1/4" PER FOOT FLOOR SLOPE MAXIMUM AVOID SLOPING FLOORS INSIDE CUBICLES

NOTE: THIS PLAN IS THE SAME FOR CUBICLE IN THE CHEMICAL/RADIOISOTOPE SUITE, THE BARRIER SUITE, AND THE INFECTIOUS DISEASE SUITE

NOTE: HOSE BIBB TO BE LOCATED 24" ABOVE FINISH FLOOR

NOTE: CUBICLE LIGHTS MAY BE SURFACE MOUNTED AT CEILING

ONE LAMP 4' VERTICAL FLUORESCENT WET LOCATION FIXTURE (TYPICAL)

CAGE RACK

CONTAINMENT CUBICLES

SWING DOOR UNIT (OR VERTICALLY SLIDING DOOR)

AUTOMATIC WATER MANIFOLD

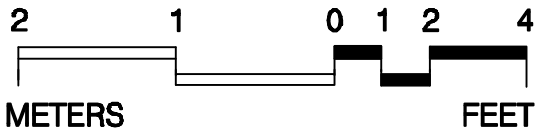
SLOPE TO FLOOR DRAIN

NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTABLES.

NOTE: AUTOMATIC WATER MANIFOLD TO BE LOCATED ABOVE VERTICAL LIGHTS ON WALL

NOTE: CONNECT THE AUTOMATIC WATER MANIFOLD TO A PRESSURE CONTROL PANEL OUTSIDE THE ROOM. ONE PANEL CAN SERVE SEVERAL ANIMAL ROOMS.

Animal Room (Cubicle Housing)



266 NSF
24.712 m²

Equipment & Utility Plan

Animal Room (Cubicle Housing)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 266 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|--------------------|
| General | 20-60 FC, 3.0 W/SF |
| Special | - |
| Emergency | * |

Notes:

*TIMER CONTROLLED LIGHTS

Power

| | |
|-----------|--------|
| General | 1000 W |
| Special | - |
| Emergency | 180 W |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-------------|
| AC Load Lights | 3.8 W/SF |
| AC Load Equipment | 2.1 W/SF |
| Number of People | 1 + ANIMALS |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 65 |
| Dry Bulb Temp Heating (F) | 85 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 60* % |
| Relative Humidity - Heating | 30* % |

Notes:

*PLUS/MINUS 5%

SEE NARRATIVE "CUBICLES" FOR HEPA FILTERS; "ENVIRONMENTAL MONITORING" FOR ALARMS
 MODIFY SUPPLY/EXHAUST AS REQUIRED FOR REVERSE AIRFLOW OR PREFABRICATED CUBICLES

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

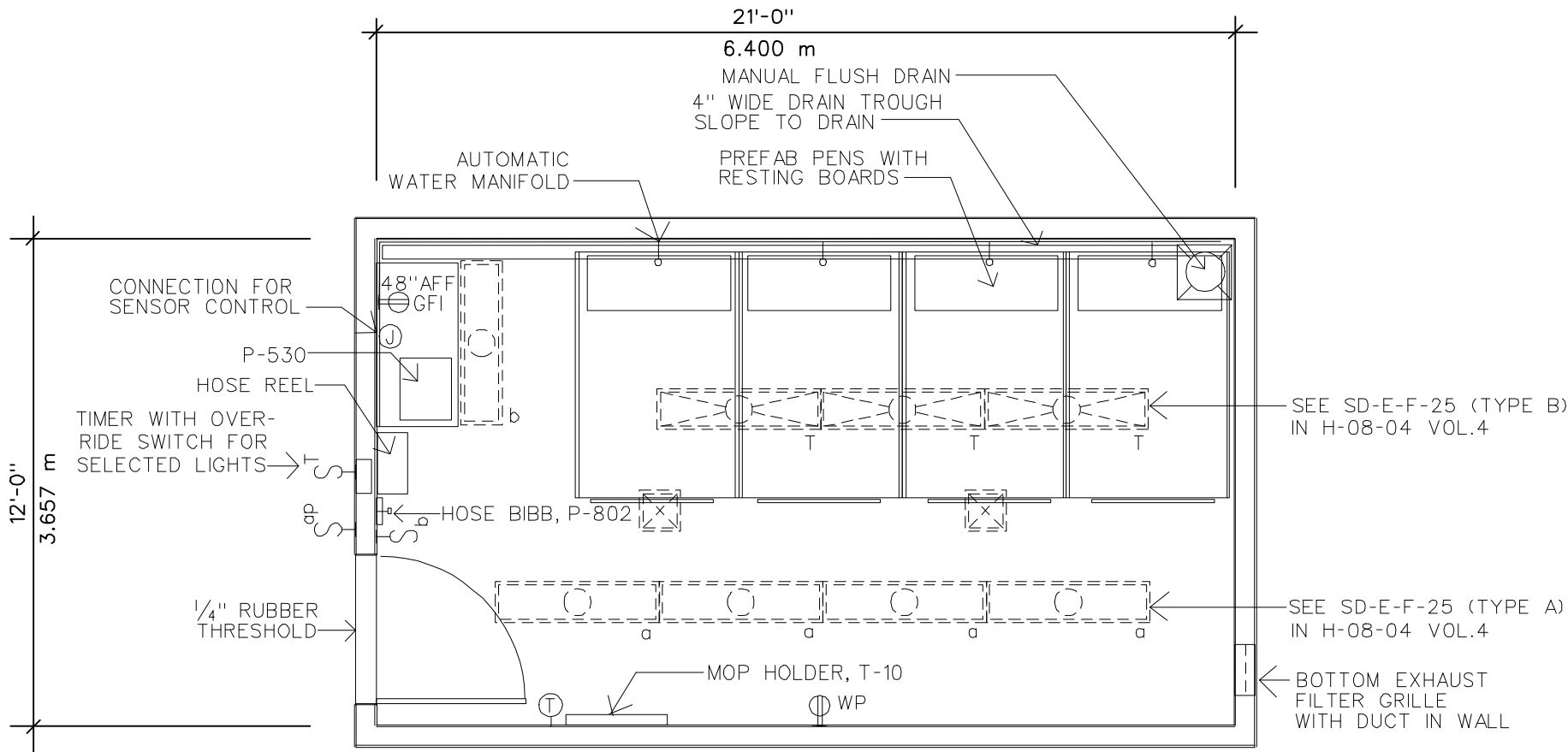
Notes:

Animal Rooms (Cubicle Housing)

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|----------|-----|----|--|
| | | | NOTE: THE USE OF PREFABRICATED CUBICLES REQUIRES THE APPROVAL OF THE ASSOCIATE CHIEF MEDICAL DIRECTOR FOR RESEARCH AND DEVELOPMENT. |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| S-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 25" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| | 1 | VV | DISPENSER, PAPER TOWEL, SURFACE MOUNTED |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL3/3A | 1 | CF | CABINET, UNDERCOUNTER, WITH 5/4 DRAWERS, AVAILABLE WIDTHS 18", 24", 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| | AR | CC | DRAIN, FLOOR (H-08-1, MCS 15400) |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, 24" OFF FLOOR, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| T-10 | 1 | CC | RACK, MOP, WALL MOUNTED (H-08-1, MCS 10360; H-08-4, SD 64B & 66) |
| | AR | VV | CAGES |
| | AR | VV | RACK, CAGE WITH CASTERS, BRAKES, AUTOMATIC WATERING |
| | 1 | VV | CART, UTILITY, CORROSION RESISTING STEEL, 36"W X 18"D X 30"H |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WEATHERPROOF COVER PLATE, 48" ABOVE FINISH FLOOR, ONE PER CUBICLE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |
| | | | NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| | | | THE FOLLOWING EQUIPMENT IS TO BE PROVIDED FOR EACH CUBICLE WITHIN THE ROOM: |
| | 1 | CC | DOOR UNIT, VERTICALLY STACKING, MULTIPLE GLASS PANELS (WINDOWS) |
| | | | -OR- |
| | 1 | CC | DOOR UNIT, TWO, 3' WIDE, HINGED WITH, 180 DEGREE SWING INTO AISLE |
| | | | THE FOLLOWING EQUIPMENT IS OPTIONAL FOR EACH CUBICLE: |
| | 1 | CC | AIR HANDLING UNIT (H-08-1, MCS 15763) |
| | 1 | CC | DIVIDER PANELS (PROVIDED ONLY IN LIEU OF PRECONSTRUCTED WALLS OF CONVENTIONAL CONSTRUCTION MATERIALS) |
| | AR | VV | AUTOMATIC WATER MANIFOLD, STAINLESS STEEL PIPE WITH QUICK DISCONNECT |
| | | | NOTE: IF PREFABRICATED CUBICLES ARE USED THE FOLLOWING EQUIPMENT IS TO BE INCLUDED IN THE WORK SPACE: |
| | | | CABINETS, COUNTERTOP, SINK, DRAIN, HOSE BIBB, OUTLETS, POWER TO EACH CUBICLE UNIT |

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NOTE: REMOVABLE DIVIDER PANELS OPTIONAL

NOTE: LOCATE MANUAL FLUSH DRAIN VALVE ALONG PLUMBING WALL

NOTE: HOSE BIBB TO BE LOCATED 24" ABOVE FINISH FLOOR

NOTE: FOR ALL P AND T EQUIPMENT SEE H-08-04 VOL.1

NOTE: CONNECT THE AUTOMATIC WATER MANIFOLD TO A PRESSURE CONTROL PANEL OUTSIDE THE ROOM. ONE PANEL CAN SERVE SEVERAL ANIMAL ROOMS.

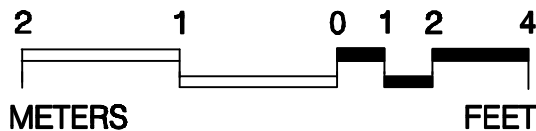
NOTE: BACK WALL SHOULD BE CLAD WITH STAINLESS STEEL WHEN PEN ABUTS BACK WALL

NOTE: TO FACILITATE TROUGH MAINTENANCE, AN 18" WALK SPACE MAY BE ALLOWED BETWEEN WALL AND TROUGH

NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES.

252 NSF
23.411 m²

Animal Room (Large Animal Conventional Housing)



Equipment & Utility Plan

Animal Room (Large Animal Conventional Housing)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 252 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|--------------------|
| General | 20-60 FC, 3.0 W/SF |
| Special | - |
| Emergency | * |

Notes:

*TIMER CONTROLLED LIGHTS

Power

| | |
|-----------|-------|
| General | 400 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-------------|
| AC Load Lights | 2.3 W/SF |
| AC Load Equipment | 0.7 W/SF |
| Number of People | 1 + ANIMALS |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 65 |
| Dry Bulb Temp Heating (F) | 85 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 60* % |
| Relative Humidity - Heating | 30* % |

Notes:

*PLUS/MINUS 5%

SEE NARRATIVE "ENVIRONMENTAL MONITORING" FOR ALARMS

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

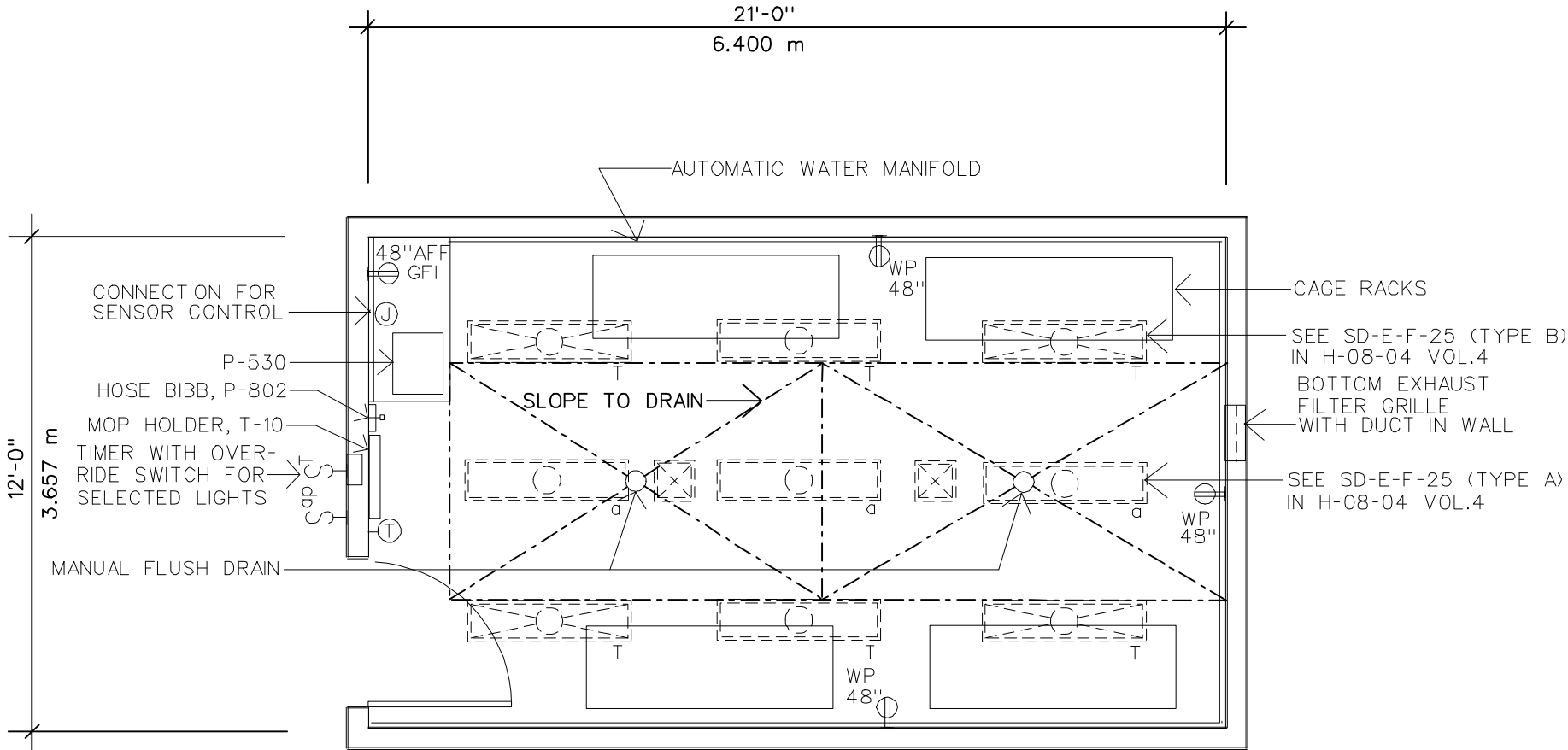
Notes:

Animal Room (Large Animal Conventional Housing)

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|--|
| P-530 | 1 | CC | SINK, CORROSION RESISTING STEEL, SINGLE COMPARTMENT, WALL HUNG, WITH SENSOR CONTROL, 18" X 15" X 10" DEEP WITH 8" SPLASHBACK, 24" X 48" OVERALL WITH DRAINBOARD (H-08-1, MCS 15450) |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, 24" OFF FLOOR, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| | 1 | VV | HOSE REEL |
| T-10 | 1 | CC | RACK, MOP, WALL MOUNTED (H-08-1, MCS 10360; H-08-4, SD 64B & 66) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |
| | | | NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| | AR | CC | DRAIN, FLOOR, MANUAL, FLUSH VALVE ON WALL (H-08-1, MCS 15400) |
| | AR | VV | CAGES |
| | | | -OR- |
| | | | THE FOLLOWING ENCLOSURE FOR RUNS/PENS IS MODIFIABLE TO ACCOMMODATE VARIATIONS IN ANIMAL POPULATION (MUST BE 24 - 30 SF). |
| | | | ALUMINUM OR STAINLESS STEEL ANIMAL ENCLOSURE COMPONENTS: |
| | AR | VV | FRONT PANELS, WITH HORIZONTALLY SLIDING GATES, 4' WIDE X 7' HIGH |
| | AR | VV | DIVIDER PANELS, LOWER PORTION SHEET AND UPPER PORTION ROD, WITH ADJUSTABLE LEGS, 6' LONG X 7' HIGH |
| | AR | VV | END PANELS, ALL SHEET CONSTRUCTION, WITH ADJUSTABLE LEGS, 4' LONG X 7' HIGH |
| | AR | VV | FLOORS, 3/4" WIDE FLOOR MEMBER SPACED, 3/4" APART, 2 (4' WIDE X 4' WIDE SECTIONS) REST ON ANGLES WELDED TO DIVIDER PANELS, REMOVABLE |
| | | | NOTE: FLOOR MEMBERS SHOULD BE HEAVY DUTY EXPANDED METAL, PLASTIC COATED, MOUNTED ON CROSS MEMBERS, 6" ABOVE FLOOR. |
| | AR | VV | FEEDERS, STAINLESS STEEL, FOR SLIDING GATES |
| | AR | VV | RESTING BOARDS, 3/4" POLYPROPYLENE BOARD TRIMMED IN A SUITABLE MATERIAL TO PREVENT ANIMALS FROM CHEWING ON THE BOARDS, I.E., ALUMINUM, APPROXIMATELY, 16" WIDE X 48" LONG, MOUNT IN REAR OF EACH RUN |
| | AR | VV | AUTOMATIC WATER MANIFOLD, STAINLESS STEEL PIPE WITH ADJUSTABLE VALVE HEIGHT |
| | | | NOTE: IF ROOMS INCLUDE CAGE RACKS, PROVIDE QUICK DISCONNECT FROM AUTOMATIC WATER MANIFOLD. |
| | | | NOTE: EQUIPMENT FOR SMALL ANIMAL CONVENTIONAL HOUSING IS SAME AS ABOVE EXCEPT NO HOSE REEL OR DRAIN TROUGH IS REQUIRED. |

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NOTE: SEE EQUIPMENT GUIDE LIST FOR LARGE ANIMAL CONVENTIONAL HOUSING

NOTE: HOSE BIBB TO BE LOCATED 24" ABOVE FINISH FLOOR

NOTE: 1/4" PER FOOT FLOOR SLOPE MAXIMUM

NOTE: CONNECT THE AUTOMATIC WATER MANIFOLD TO A PRESSURE CONTROL PANEL OUTSIDE THE ROOM. ONE PANEL CAN SERVE SEVERAL ANIMAL ROOMS.

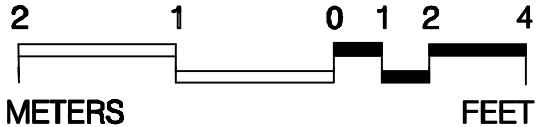
NOTE: LOCATE MANUAL FLUSH DRAIN VALVE ALONG PLUMBING WALL

NOTE: FOR ALL P AND T EQUIPMENT SEE H-08-04 VOL.1

NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTABLES.

252 NSF
23.411 m²

Animal Room (Small Animal Conventional Housing)



Equipment & Utility Plan

Animal Room (Small Animal Conventional Housing) Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 252 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 20-60 FC, 3 W/SF |
| Special | - |
| Emergency | * |

Notes:

*TIMER CONTROLLED LIGHTS

Power

| | |
|-----------|-------|
| General | 400 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-------------|
| AC Load Lights | 2.6 W/SF |
| AC Load Equipment | 0.8 W/SF |
| Number of People | 1 + ANIMALS |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 65 |
| Dry Bulb Temp Heating (F) | 85 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 60* % |
| Relative Humidity - Heating | 30* % |

Notes:

*PLUS/MINUS 5%

SEE NARRATIVE "ENVIRONMENTAL MONITORING" FOR ALARMS

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Procedural Laboratory (Standard)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 240 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

H7-48 FUME HOOD

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | ** |
| Emergency | - |

Notes:

*FLUOR LAMPS COLOR CORRECTED

** (1) SURGICAL LIGHT, 1 HEAD

***STRIP MOLD: 360 W; REFRIGERATOR: 1200 W; H7: 400W

Power

| | |
|-----------|-------|
| General | 540 W |
| Special | *** |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 4.2 W/SF |
| AC Load Equipment | 7.2 W/SF* |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES** |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

*EXAM LIGHT INCLUDED IN EQUIPMENT LOAD

**H7: 875 CFM, 0.30" PD

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | YES | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

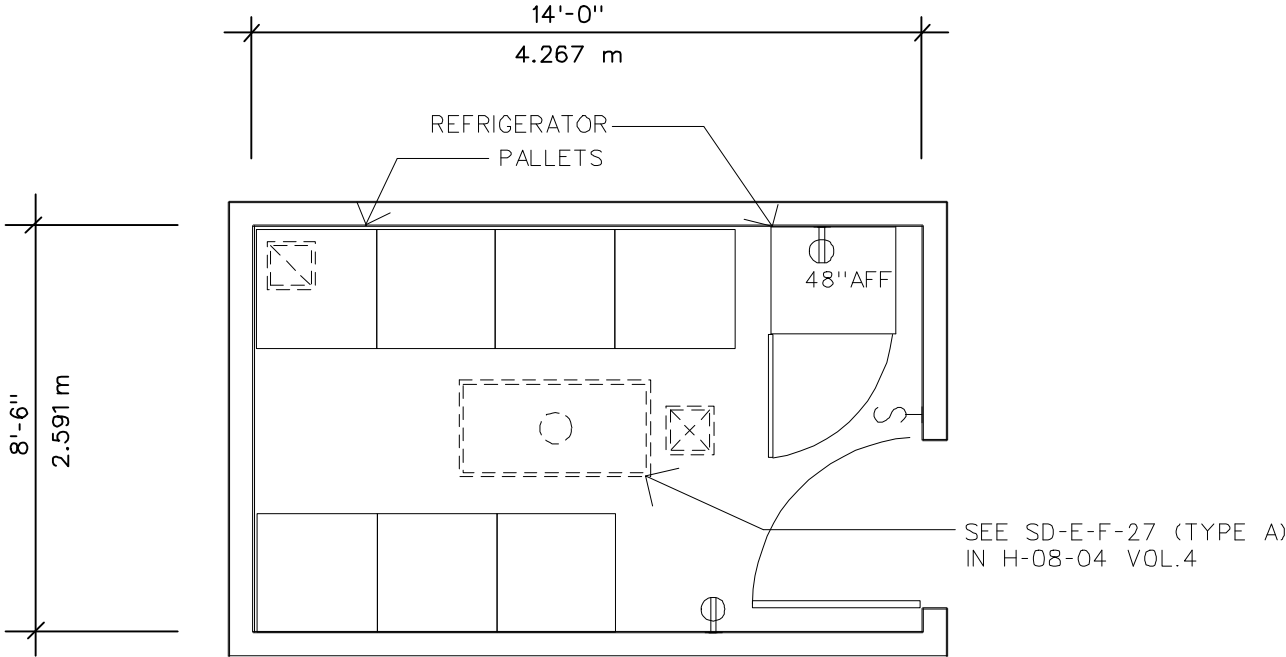
H7: LAB AIR, LAB VACUUM, FUEL GAS, COLD WATER, ACID WASTE

Procedural Laboratory (Standard)

Equipment Guide List

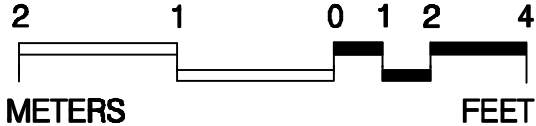
| SYMBOL | QTY | AI | DESCRIPTION |
|--|-----|----|--|
| NOTE: ALL LABORATORY FURNITURE SYMBOLS PREFIXED BY "M" SHALL BE INTERCHANGABLE SUSPENSION SYSTEM TYPE. | | | |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| M20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M205/205A | 1 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| -OR- | | | |
| M202/202A | 1 | CF | CABINET, UNDERCOUNTER, 7/6 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M501/501A | 1 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, 1 DOOR AND 1 ADJUSTABLE SHELF, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS AS REQUIRED, DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12346) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| M25 | 1 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12346) |
| NOTE: REQUIREMENT FOR H7-48, TO BE DETERMINED ON PROJECT BY PROJECT BASIS. | | | |
| H7-48 | 1 | CC | FUME HOOD, AIR BY-PASS, WITH CABINET BASE, 48"W X 31"D X 96"H, WITH CUP SINK, AIR, GAS, VACUUM AND COLD WATER OUTLETS, 120 VOLT, 20 AMP RECEPTACLES (H-08-1 & H-08-6, MCS 11610) |
| | 1 | VV | TABLE, EXAMINATION, STAINLESS STEEL, 24" X 60" |
| | 1 | CF | LIGHT, EXAM, SINGLE LIGHTHEAD, CEILING MOUNTED, SWIVEL ARM, ADJUSTABLE INTENSITY, 120 VOLT, 20 AMP (H-08-1, MCS 16515) |
| | 1 | CC | OUTLETS, ONE EACH, AIR AND VACUUM GROUPED OVER COUNTER (H-08-1 & H-08-6, MCS 11602) |
| | 1 | CC | RETRACTABLE CEILING CORD, (NEAR EXAM LIGHT) 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR RETRACTABLE CEILING CORD (H-08-1, MCS 16140) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, STRIP MOLD WITH OUTLETS ON 24" CENTERS, 9" ABOVE COUNTER (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

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| |
|-----------------------|
| 120 NSF |
| 11.148 m ² |

Dry Feed and Bedding Storage



Equipment & Utility Plan

Dry Feed and Bedding Storage

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

REFRIGERATOR

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 20 FC, 1.0 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|--------------|
| General | - |
| Special | REFRIGERATOR |
| 1200W | |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 0.9 W/SF |
| AC Load Equipment | 5.7 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |
| Notes: | |

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |
| Notes: | | | |

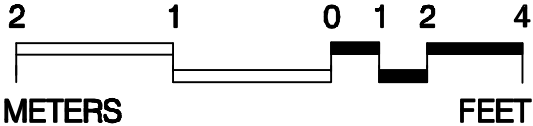
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Dry Feed and Bedding Storage

Equipment Guide List

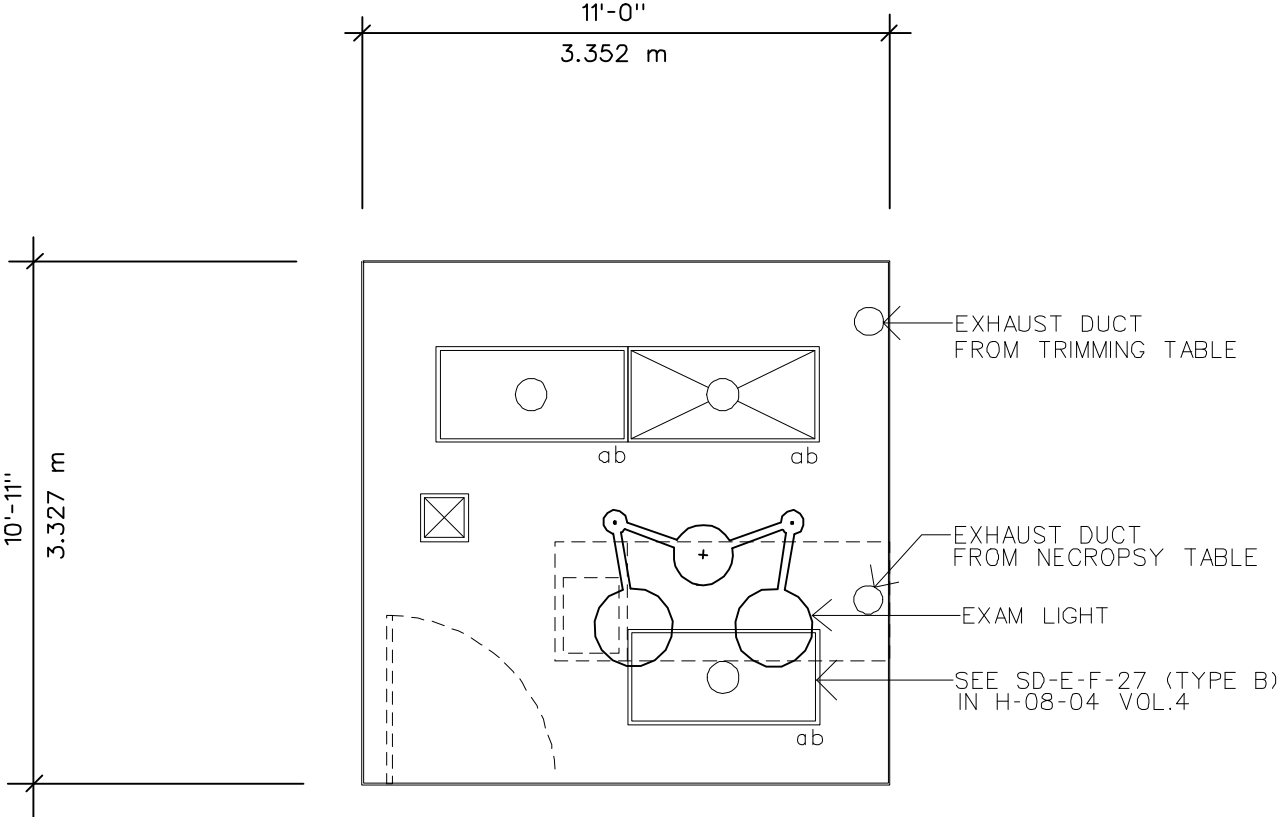
| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| AR | | VV | PALLETS, PLASTIC (SIZE AS REQUIRED) |
| 1 | | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

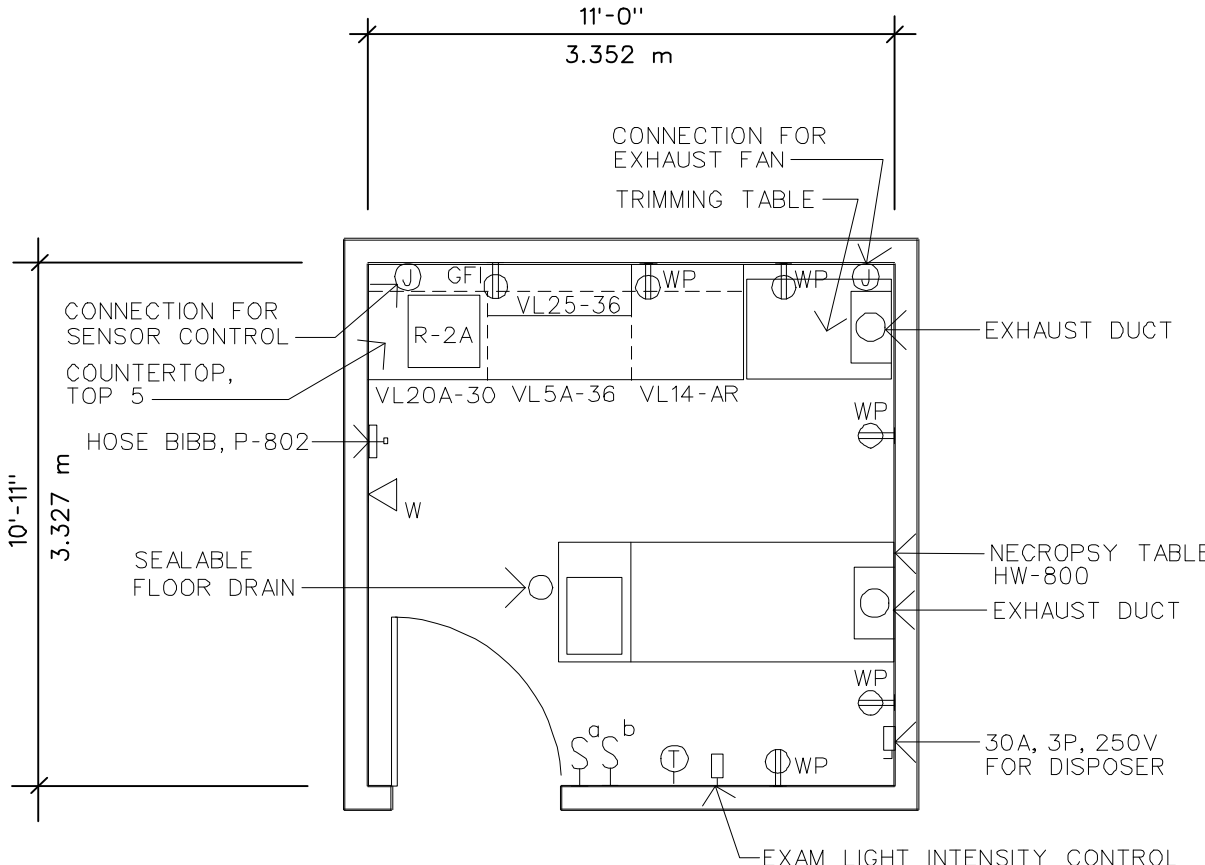
Necropsy



Reflected Ceiling Plan

120 NSF
11.148 m²





NOTE: IF NECROPSY IS ADJACENT TO COLD ROOM, THEN THERE IS NO NEED TO INCLUDE A REFRIGERATOR IN NECROPSY

NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

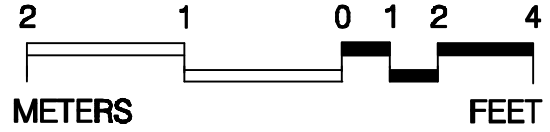
NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES.

NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

NOTE: FOR ALL VL, R AND HW EQUIPMENT SEE H-08-06

120 NSF
11.148 m²

Necropsy



Equipment & Utility Plan

Necropsy

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

HW-800 NECROPSY TABLE
TRIMMING TABLE

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | ** |
| Emergency | 33% GEN FLUOR |

Notes:

*FLUOR LAMPS COLOR CORRECTED

** (1) SURGICAL LIGHT, 2 HEADS

***HW-800: 15 A, 115 V, 1 PHASE

Power

| | |
|-----------|--------|
| General | 1080 W |
| Special | *** |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|----------------|
| Telephone | WALL MTD | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | EMPTY CONDUIT* |

Notes:

*TO ALLOW FOR DICTATION

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|------------|
| AC Load Lights | 5.0 W/SF |
| AC Load Equipment | 17.0 W/SF* |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 76 |
| Dry Bulb Temp Heating (F) | 76 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES** |
| Steam | - |
| Relative Humidity - Cooling | 60 % |
| Relative Humidity - Heating | 30 % |

Notes:

*EXAM LIGHT INCLUDED AS EQUIPMENT LOAD

**SEE HVAC DESIGN MANUAL "AUTOPSY" FOR EXH REQUIREMENTS

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

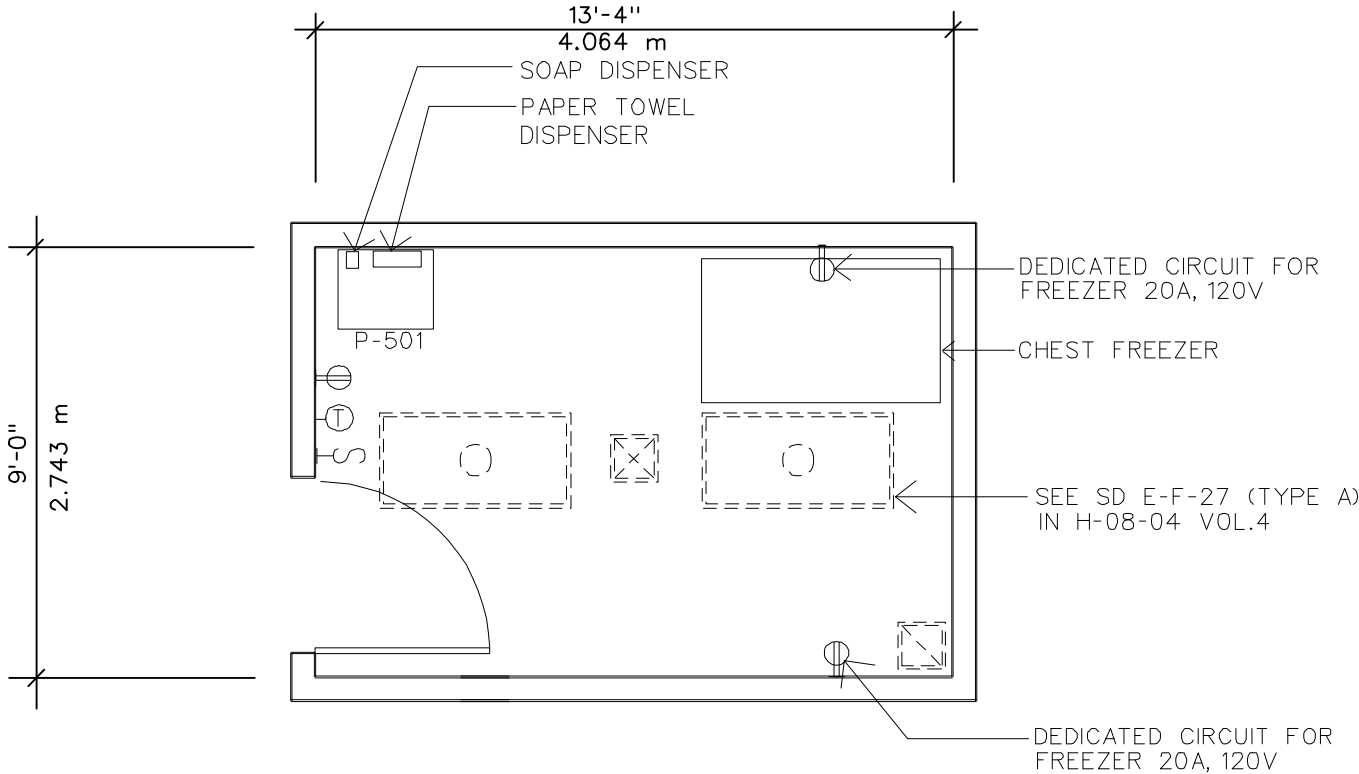
Notes:

Necropsy

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|----------|-----|----|---|
| | 1 | CF | LIGHT, EXAM, DUAL LIGHT, CEILING MOUNTED, SWIVEL ARM, ADJUSTABLE INTENSITY, 120 VOLT, 20 AMP (H-08-1, MCS 16515) |
| HW-800 | 1 | CC | TABLE, NECROPSY, DISSECTING, CORROSION RESISTING (STAINLESS) STEEL, FAUCETS, 3/4 HP DISPOSAL UNIT, SPRAY HOSE ATTACHMENT, WITH DOWN DRAFT EXHAUST (H-08-1 & H-08-6, MCS 11620) |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL5/5A | AR | CF | CABINET, UNDERCOUNTER, WITH 4/3 DRAWERS, 1 HINGED DOOR AND 2/1 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS 18", 24", 30", 36", 42", 48"; DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12345) |
| VL25 | AR | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| | 1 | VV | TABLE, TRIMMING, HOODED, VENTILATED |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| | 1 | CC | DRAIN, FLOOR, SEALABLE (H-08-1, MCS 15400) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | | | NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |

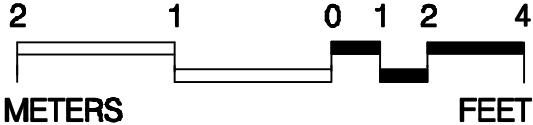
26 February 1993



| |
|-----------------------|
| 120 NSF |
| 11.148 m ² |

NOTE: FOR ALL P EQUIPMENT
SEE H-08-04 VOL.1

Carcass and Waste Storage



Equipment & Utility Plan

Carcass and Waste Storage

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

FREEZERS

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 1.5 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | * |
| Emergency | * |

*(2) DEDICATED 20A, 120V EMERGENCY CIRCUITS FOR FREEZERS

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 3.4 W/SF |
| AC Load Equipment | 5.9 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 10 (EA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

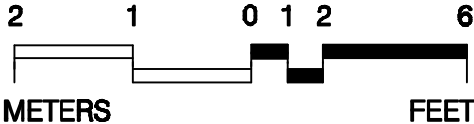
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Carcass and Waste Storage

Equipment Guide List

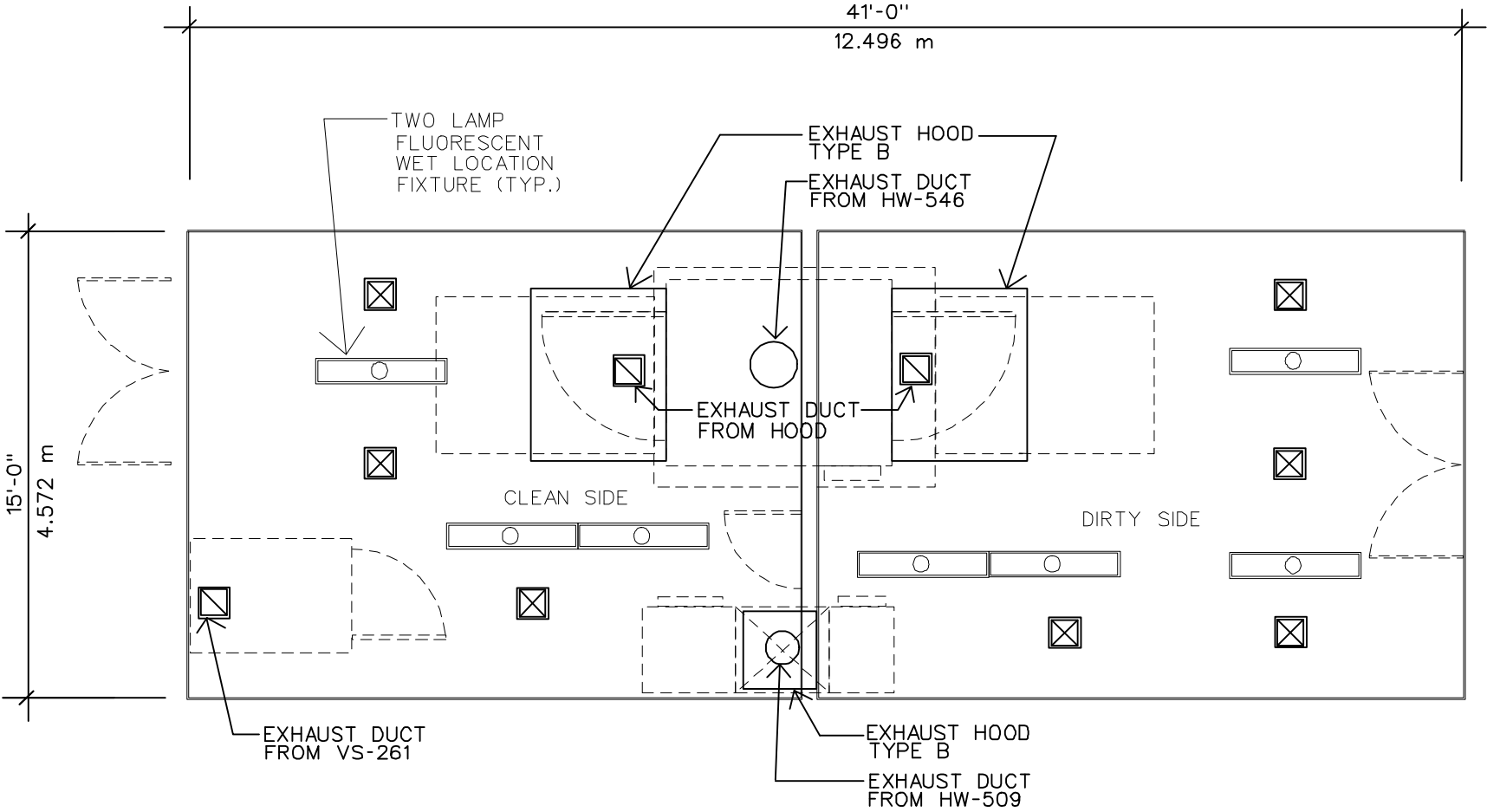
| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | AR | VV | FREEZER, CHEST TYPE, 4 DEGREES TO 0 DEGREES C., CAPACITY AS REQUIRED, 120 VOLT, 20 AMP |
| P-501 | 1 | CC | SINK, SERVICE, REGULAR (H-08-1, MCS 15450; H-08-4, SD 4.1) |
| | 1 | VV | DISPENSER, SOAP, LIQUID, WALL MOUNTED |
| | 1 | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Cage Wash Room



Reflected Ceiling Plan

615 NSF
57.135 m²



NOTE: EXHAUST HOODS TO BE LOCATED AT BOTH ENDS OF CAGE & RACK WASHER.

NOTE: FOR ALL SD (LIGHTING) EQUIPMENT SEE H-08-04 VOL.4

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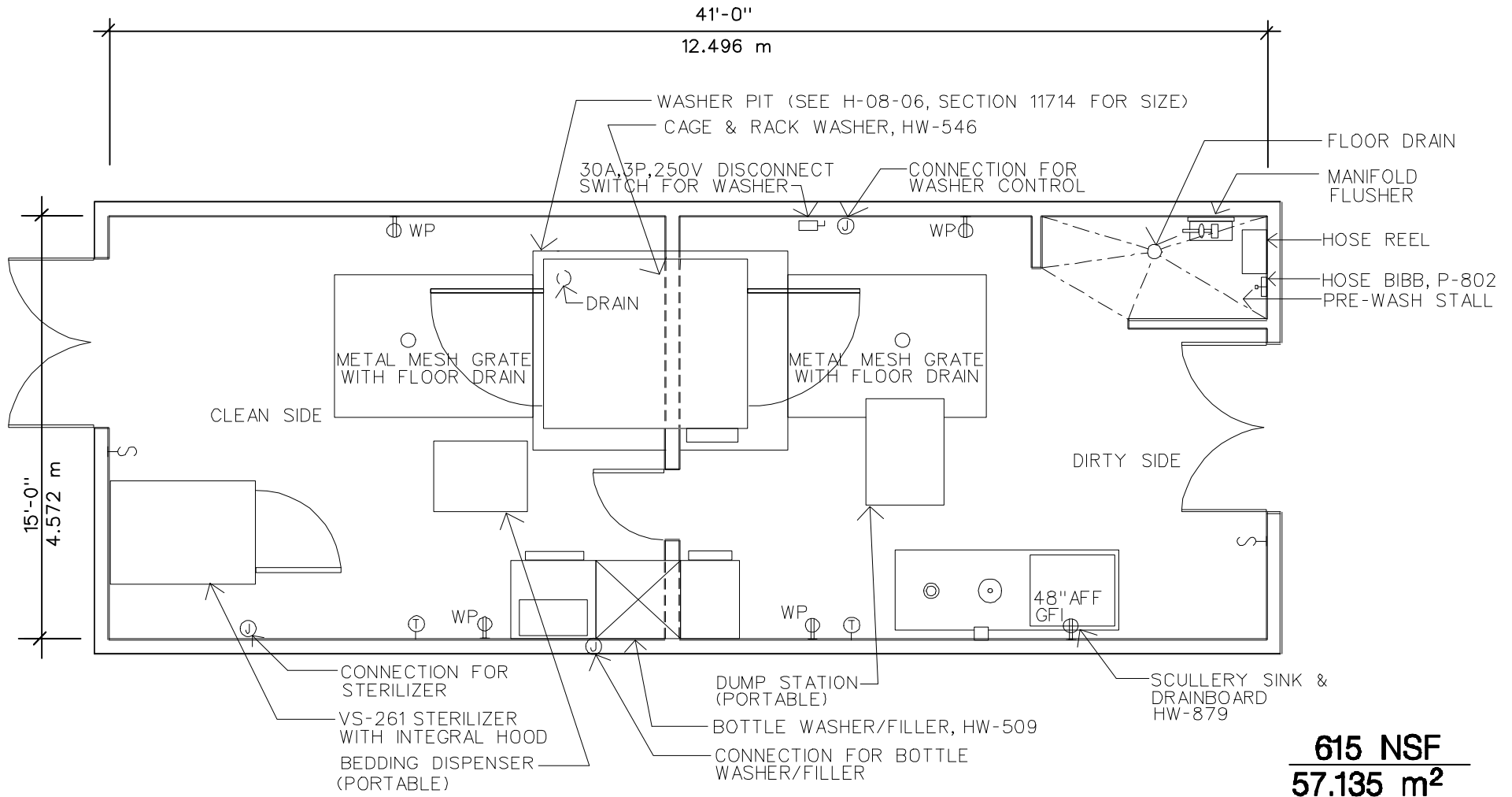
NOTE: FOR ALL VS AND HW EQUIPMENT SEE H-08-06

NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES.

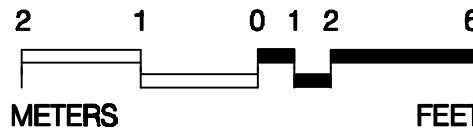
NOTE: DIMENSIONS OF PARTITION AND WASHER PIT SHOULD BE DETERMINED AFTER THE EQUIPMENT HAS BEEN SELECTED TO INSURE A TIGHT FIT.

NOTE: A CABINET STYLE WASHER MAY REPLACE THE BOTTLE WASHER/FILLER.



615 NSF
57.135 m²

Cage Wash Room



Equipment & Utility Plan

Cage Wash Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 615 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-6" | Base | ERF |
| Slab Depression | 12"-14" | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

*SEE H-08-3 CS 5-2

SPECIAL EQUIPMENT

HW-509 BOTTLE WASHER/FILLER
 HW-546 CASE AND RACK WASHER
 VS-261 STERILIZER

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 1.5 W/SF |
| Special | - |
| Emergency | - |

Notes:

*HW-546: 30 A, 250 V, 3 PHASE
 HW-509: 10 A, 120 V, 1 PHASE
 VS-261: 25 A, 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|--------------------|
| AC Load Lights | 1.3 W/SF--1.2 W/SF |
| AC Load Equipment | 4.7 W/SF--8.4 W/SF |
| Number of People | 3--2 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE--POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | YES* |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

(DIRTY--CLEAN) AREA VALUES ARE SHOWN SEPARATELY

*HW-546, HW-509, VS-261: SEE H-08-6 FOR STEAM, HEAT GAIN
 AND EXH CAPACITIES

USE STAINLESS STEEL EXHAUST DUCTWORK WHERE EXPOSED

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

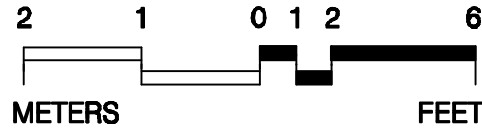
Notes:

Cage Wash Room

Equipment Guide List

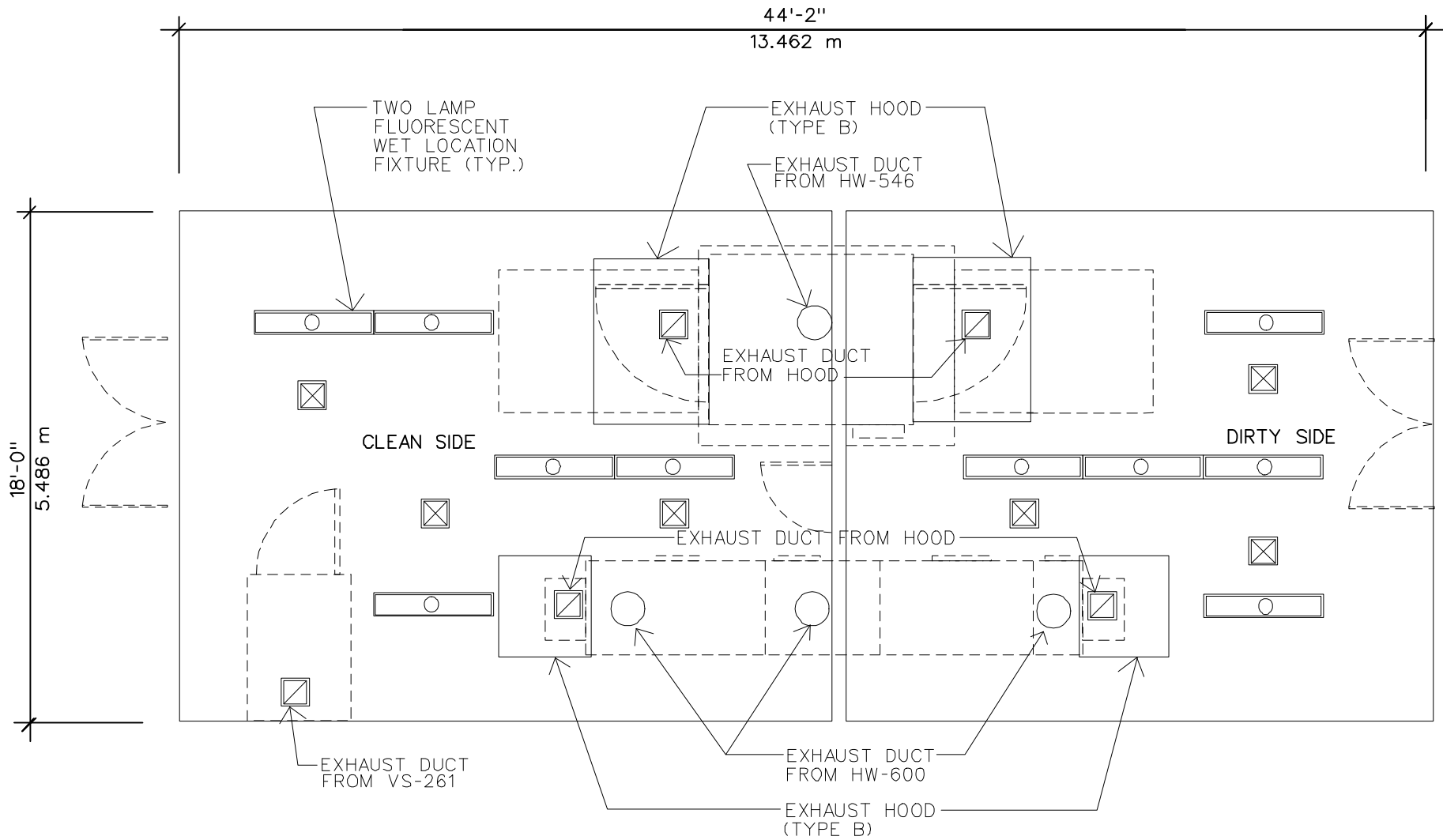
| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|--|
| | | | THE NUMBER, SIZES AND TYPE OF AUTOMATIC CAGE WASHERS USED WILL BE DETERMINED ON AN INDIVIDUAL BASIS. |
| HW-546 | AR | CC | CAGE AND RACK WASHER, PIT MOUNTED, FLOOR LEVEL LOADING, PASS THROUGH, APPROX., OVERALL DIMENSIONS, 82" X 99" X 102" (H-08-1 & H-08-6, MCS 11714) |
| | AR | CC | HOOD, EXHAUST, OVER WASHER (H-08-1, MCS 15822) |
| | | | ONE IS TO BE PROVIDED OVER THE ENTRANCE AND ONE OVER THE EXIT FOR HW-546 AND FOR HW-600. |
| HW-600 | AR | CC | CAGE/BOTTLE WASHER, TUNNEL TYPE, 3'-4" WIDE X 4'-9" OR 5'-10" HIGH AND 20'-0" LONG, WITH TUNNEL-LIKE STRUCTURE (H-08-1 & H-08-6, MCS 11714) |
| | | | THE NUMBER, SIZES AND TYPE OF TUNNEL, CAGE WASHERS USED WILL BE DETERMINED ON AN INDIVIDUAL BASIS. |
| HW-879 | 1 | CC | ANIMAL CAGE SCULLERY SINK AND DRAINBOARD WITH DISPOSER, AR X 30" X 36" (H-08-1 & H-08-6, MCS 11620) |
| HW-509 | 1 | CC | FEEDER BOTTLE WASHING AND FILLING STATION (TYPICAL) (H-08-1 & H-08-6, MCS 11714) |
| | | | -OR- |
| HW-542 | 1 | CC | CAGE AND BOTTLE WASHER, PASS THROUGH, RECESSED (H-08-1 & H-08-6, MCS 11714) |
| | | | -OR- |
| HW-900 | 1 | CC | FEEDER BOTTLE FILLER, 36"W X 18"D (H-08-1 & H-08-6, MCS 11620) |
| | 1 | VV | DISPENSER, BEDDING, APPROX., 40"W X 30"D X 84"H |
| P-802 | 1 | CC | HOSE BIBB, COMBINATION FAUCET, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| | 1 | VV | HOSE REEL |
| | | | -OR- |
| | 1 | VV | MICRO-SPRAY, WALL MOUNTED, WITH 50 FT. HOSE (FOR EQUIPMENT CLEANING) |
| | AR | CC | DRAIN, FLOOR, WITH METAL MESH GRATE AS EXTENSION CAGE AND RACK PIT (PLUMBING DESIGN CRITERIA AND INSTRUCTIONS) |
| | AR | CC | ELECTRICAL, 3 PHASE, 60 CYCLE, 208/480 VOLTS, DIRECT CONNECTION FOR CAGE WASHERS (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | VV | STATION, DUMP, PORTABLE, 45"W X 33"D X 79"H |
| | 1 | CC | MANIFOLD FLUSHER, TO FLUSH OUT WATER LINES IN AUTOMATIC WATERING SYSTEM |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |
| | | | NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| VS-261 | 1 | CC | STERILIZER, SINGLE DOOR, CABINET ENCLOSED, CHAMBER, 24" X 36" X 48"/24 CU. FT., STYLE A (H-08-1 & H-08-6, MCS 11710) |
| | | | NOTE: IF SQUARE FOOTAGE DOES NOT ALLOW FOR A VS-261, STERILIZER, PLACE STERILIZER IN CLEAN CAGE STORAGE ROOM. |

Cage Wash Room (with Tunnel Washer)

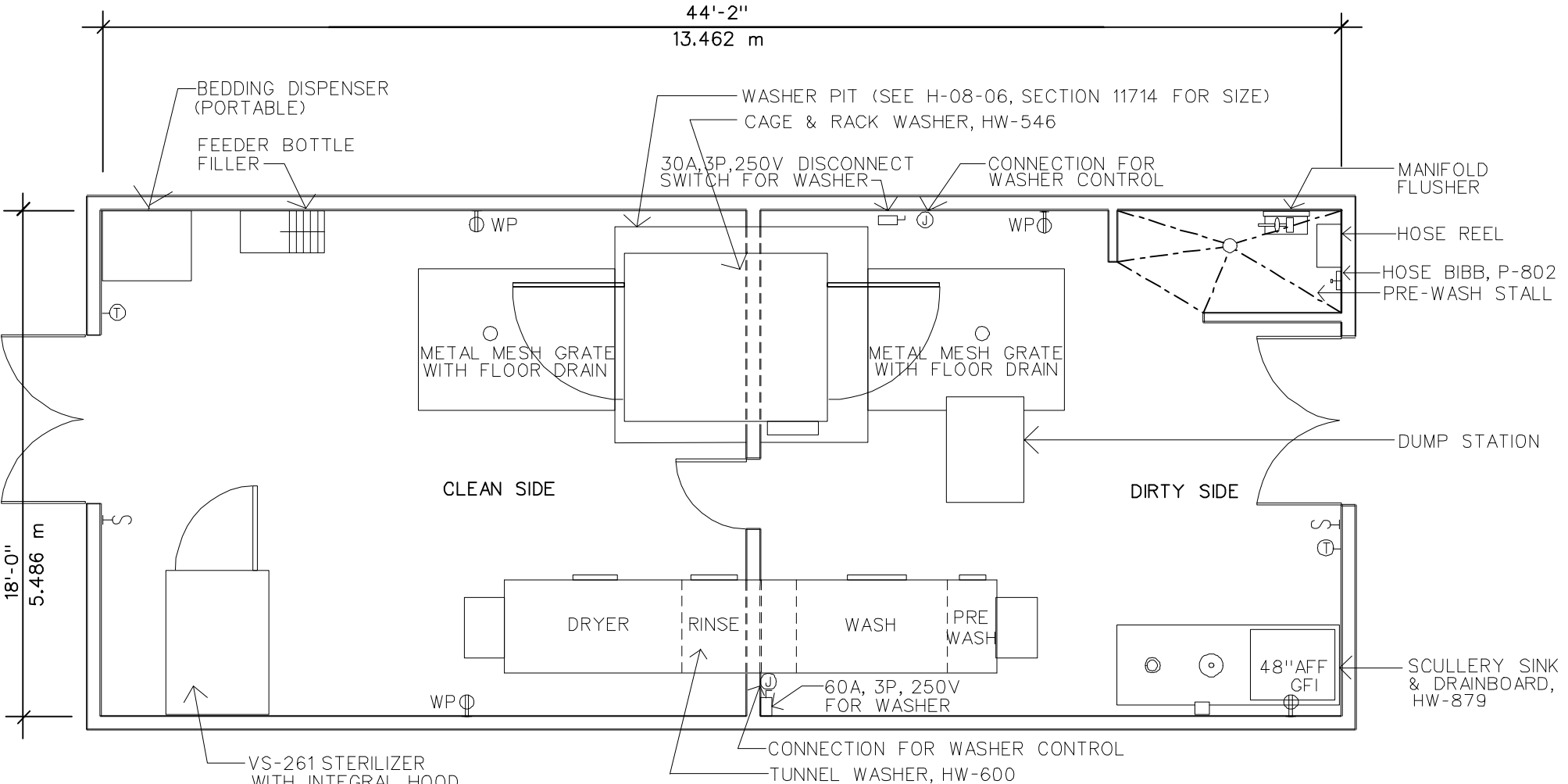


Reflected Ceiling Plan

795 NSF
73.857 m²



26 February 1993



NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES.

NOTE: IN CAGE WASH ROOMS WITH TUNNEL WASHERS, A FEEDER BOTTLE WASHER/FILLER IS NOT NEEDED; USE ONLY A FEEDER BOTTLE FILLER

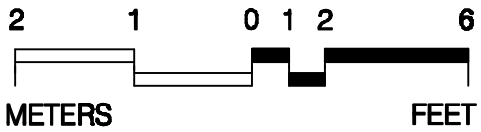
NOTE: EQUIPMENT GUIDE LIST SAME AS CAGE WASH ROOM

NOTE: FOR ALL VS AND HW EQUIPMENT SEE H-08-06

NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

NOTE: DIMENSIONS OF PARTITION AND WASHER PIT SHOULD BE DETERMINED AFTER THE EQUIPMENT HAS BEEN SELECTED TO INSURE A TIGHT FIT.

Cage Wash Room (with Tunnel Washer)



795 NSF
73.857 m²

Equipment & Utility Plan

Cage Wash Room (with Tunnel Washer)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 795 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-6" | Base | ERF |
| Slab Depression | 12"-14" | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

*SEE H-08-3 CS 5-2

SPECIAL EQUIPMENT

HW-546 CAGE AND RACK WASHER

HW-600 TUNNEL WASHER

VS-261 STERILIZER

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 30 FC, 1.5 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 720 W |
| Special | * |
| Emergency | - |

*HW-546: 30 A, 250 V, 3 PHASE

HW-600: MOTOR-208 V, 3 PHASE; CONTROLS-115 V, 1 PHASE

VS-261: 25 A, 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|--------------------|
| AC Load Lights | 1.2 W/SF--1.2 W/SF |
| AC Load Equipment | 6.1 W/SF--5.6 W/SF |
| Number of People | 4--3 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE--POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | YES* |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

(DIRTY--CLEAN) AREA VALUES ARE SHOWN SEPARATELY

*HW-546: 1400 CFM EXH; 30-60 PSIG, 400 LB/HR STEAM

*HW-600: 3200 CFM EXH; 50-100 PSIG, 1300 LB/HR STEAM

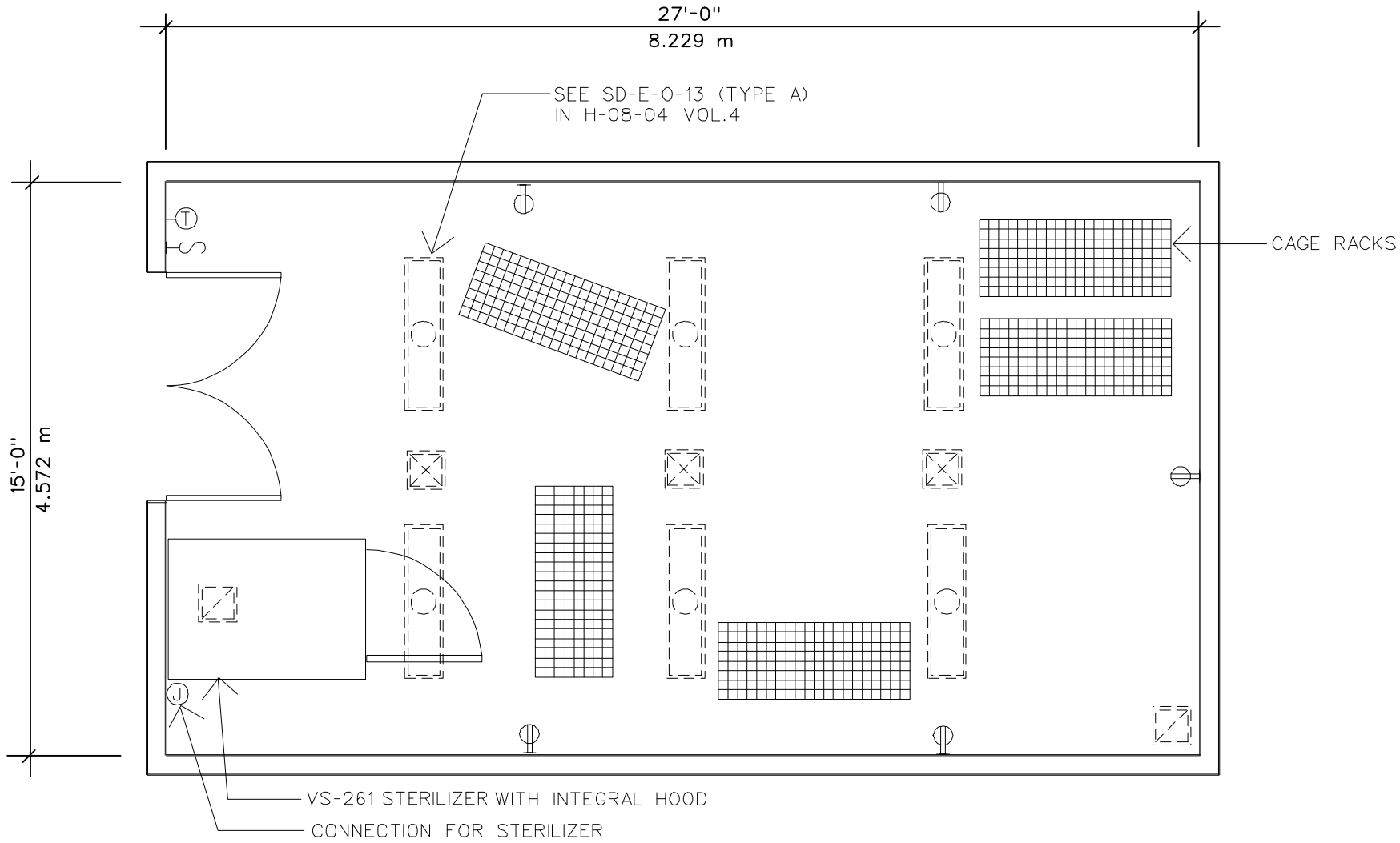
*VS-261: SEE H-08-6 FOR STEAM, HEAT GAIN & EXH CAPACITIES
USE STAINLESS STEEL EXHAUST DUCTWORK WHERE EXPOSED

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

26 February 1993

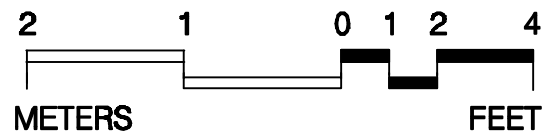


NOTE: LOCATE STERILIZER IN CLEAN CAGE STORAGE ROOM ONLY IF SQUARE FOOTAGE IN CAGE WASH ROOM DOES NOT ALLOW FOR STERILIZER

NOTE: FOR ALL VS EQUIPMENT SEE H-08-06

405 NSF
37.625 m²

Clean Cage Storage



Equipment & Utility Plan

Clean Cage Storage Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 405 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

VS-261 STERILIZER

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 20 FC, 1.0 W/SF |
| Special | - |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 900 W |
| Special | * |
| Emergency | - |

*VS-261: 25 A, 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 1.6 W/SF |
| AC Load Equipment | 1.2 W/SF* |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | YES* |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

*VS-261: SEE H-08-6 FOR STEAM, HEAT GAIN, EXH CAPACITIES

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

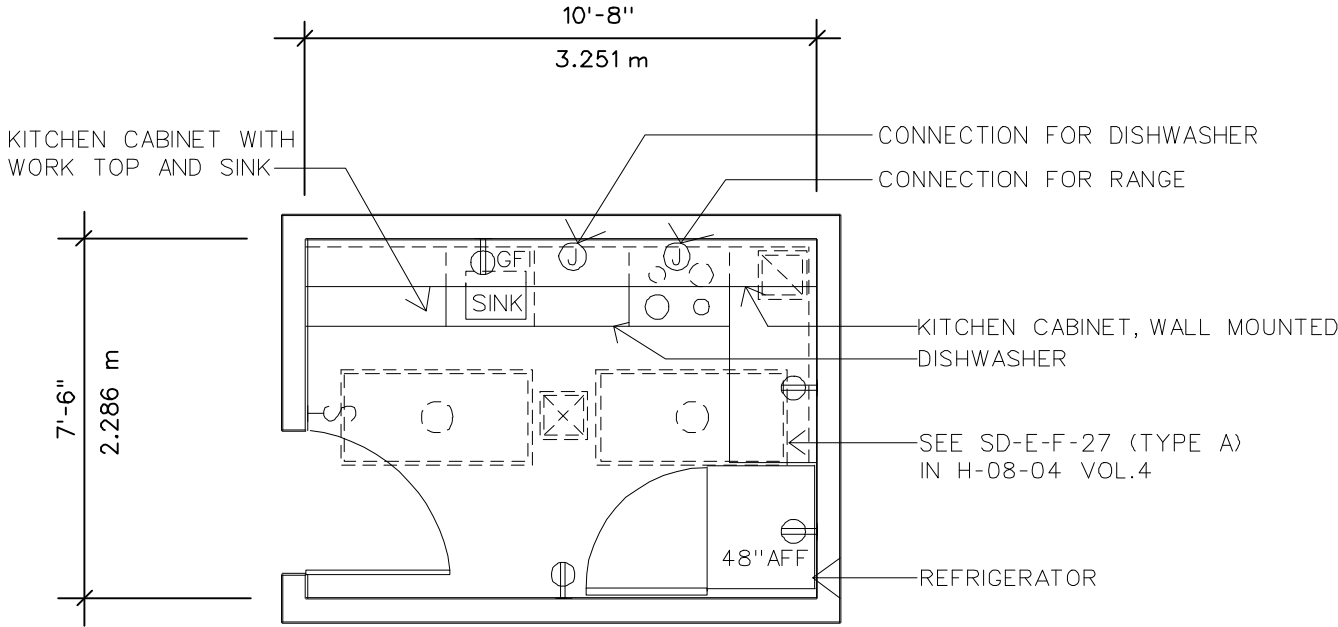
Notes:

26 February 1993

Clean Cage Storage Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| AR | | VV | CAGES |
| AR | | VV | RACKS, CAGE |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | | | NOTE: LOCATE VS-261, STERILIZER IN CLEAN CAGE STORAGE ROOM ONLY IF SQUARE FOOTAGE OF CAGE WASH ROOM DOES NOT ALLOW FOR STERILIZER. |

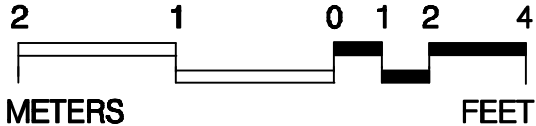


NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

80 NSF
7.432 m²

Diet Kitchen



Equipment & Utility Plan

Diet Kitchen

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|----------|
| Floor Area | 80 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

REFRIGERATOR, KITCHEN UNIT

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 50 FC, 2.5 W/SF |
| Special | - |
| Emergency | - |

Power

| | |
|-----------|-----------------------|
| General | 900 W |
| Special | * |
| Emergency | REFRIGERATOR 1200W |

Notes:

*RANGE: 208 V, 40 A, 1 PHASE; DISHWASHER: 120 V, 1.5 KW;
REFRIGERATOR: 1200 W

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 2.5 W/SF |
| AC Load Equipment | 28.0 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-50 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | - |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

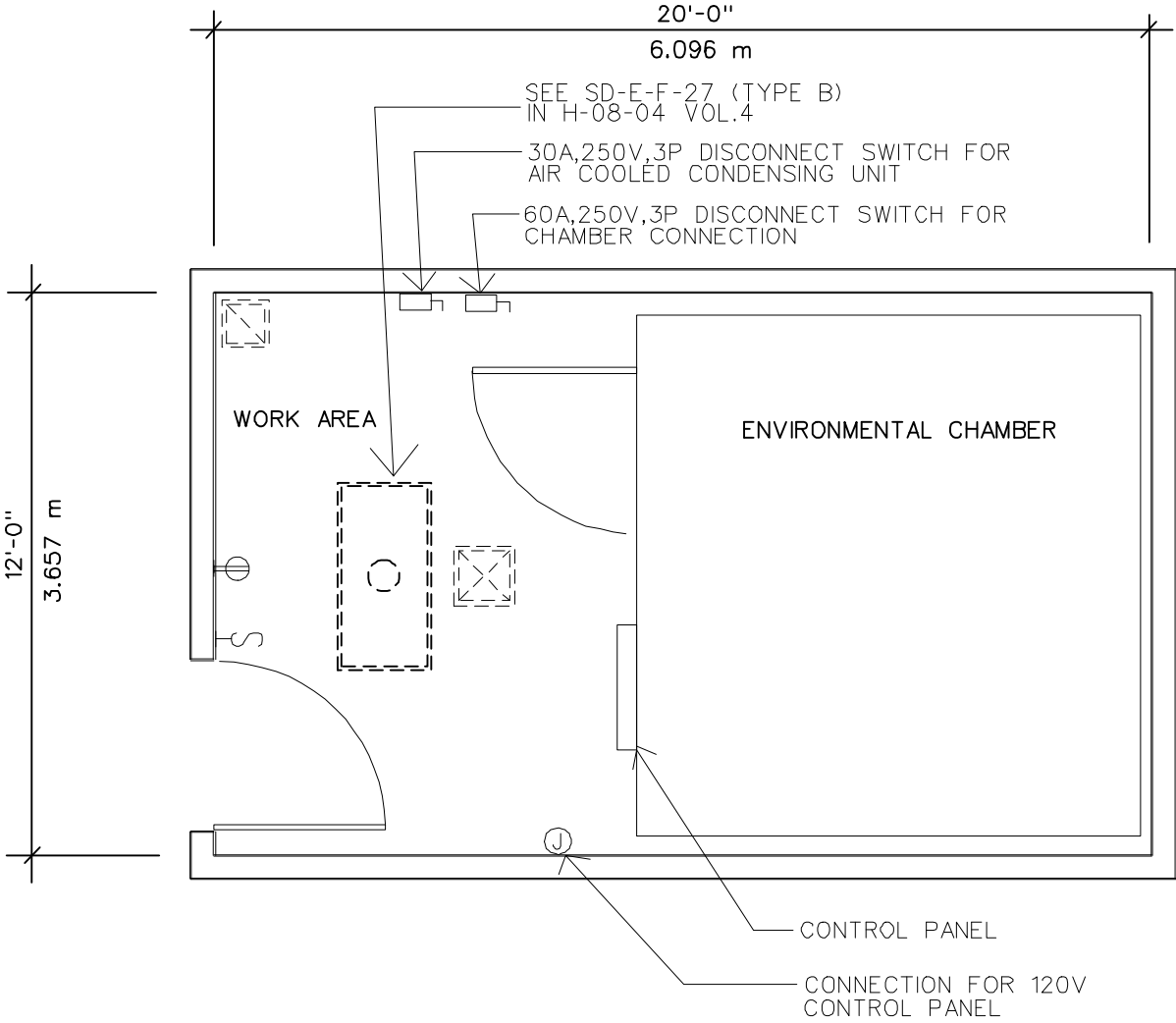
26 February 1993

Diet Kitchen

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| | 1 | CC | CABINET, KITCHEN, BASE, WITH WORK TOP AND SINK, DOMESTIC (H-08-1, MCS 11450) |
| | 1 | CC | CABINET, KITCHEN, WALL MOUNTED, DOMESTIC (H-08-1, MCS 11450) |
| | 1 | VV | RANGE, ELECTRIC, 4 BURNERS, FRONT CONTROLS, DOMESTIC, 208 VOLT, 40 AMP, SINGLE PHASE |
| | 1 | VV | REFRIGERATOR - FREEZER, DOMESTIC, APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| | 1 | CC | DISHWASHER, HOUSEHOLD TYPE, UNDER COUNTER, 120 VOLT, 1.5 KW (H-08-1, MCS 11450) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, 208 VOLT, 40 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |

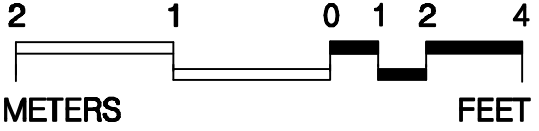
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| |
|-----------------------|
| 240 NSF |
| 22.296 m ² |

NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

Environmental Laboratory



Equipment & Utility Plan

Environmental Laboratory

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 240 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

ENVIRONMENTAL CHAMBER

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 50 FC, 2.5 W/SF* |
| Special | A/R FOR CHAMBER |
| Emergency | - |

Notes:

*WORK AREA

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | ** |
| Emergency | - |

**AIR COOLED CONDENSING UNIT: 30 A, 208 V, 3 PHASE
 CHAMBER: 60 A, 208 V, 3 PHASE
 CONTROL PANEL: 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 2.2 W/SF |
| AC Load Equipment | 2.0 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | - |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

HVAC IN WORK AREA ONLY; SEE EQUIPMENT SPECIFICATIONS FOR ENVIRONMENTAL CHAMBER

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

26 February 1993

Environmental Laboratory

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|---|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| | 1 | VV | CONTROL CHAMBER, WITH ACCESSORIES AS REQUIRED |
| AR | | CC | ELECTRICAL, 208 VOLT, 60 AMP, 3 PHASE, DIRECT CONNECTION FOR CHAMBER (H-08-1, MCS 16140) |
| AR | | CC | ELECTRICAL, 208 VOLT, 20 AMP, 3 PHASE, DIRECT CONNECTION FOR AIR COOLED CONDENSING UNIT (H-08-1, MCS 16140) |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Section 6

Design Guide Plates and Data Sheets Operating Suite & Radiographic Suite

GUIDE PLATE SERIES

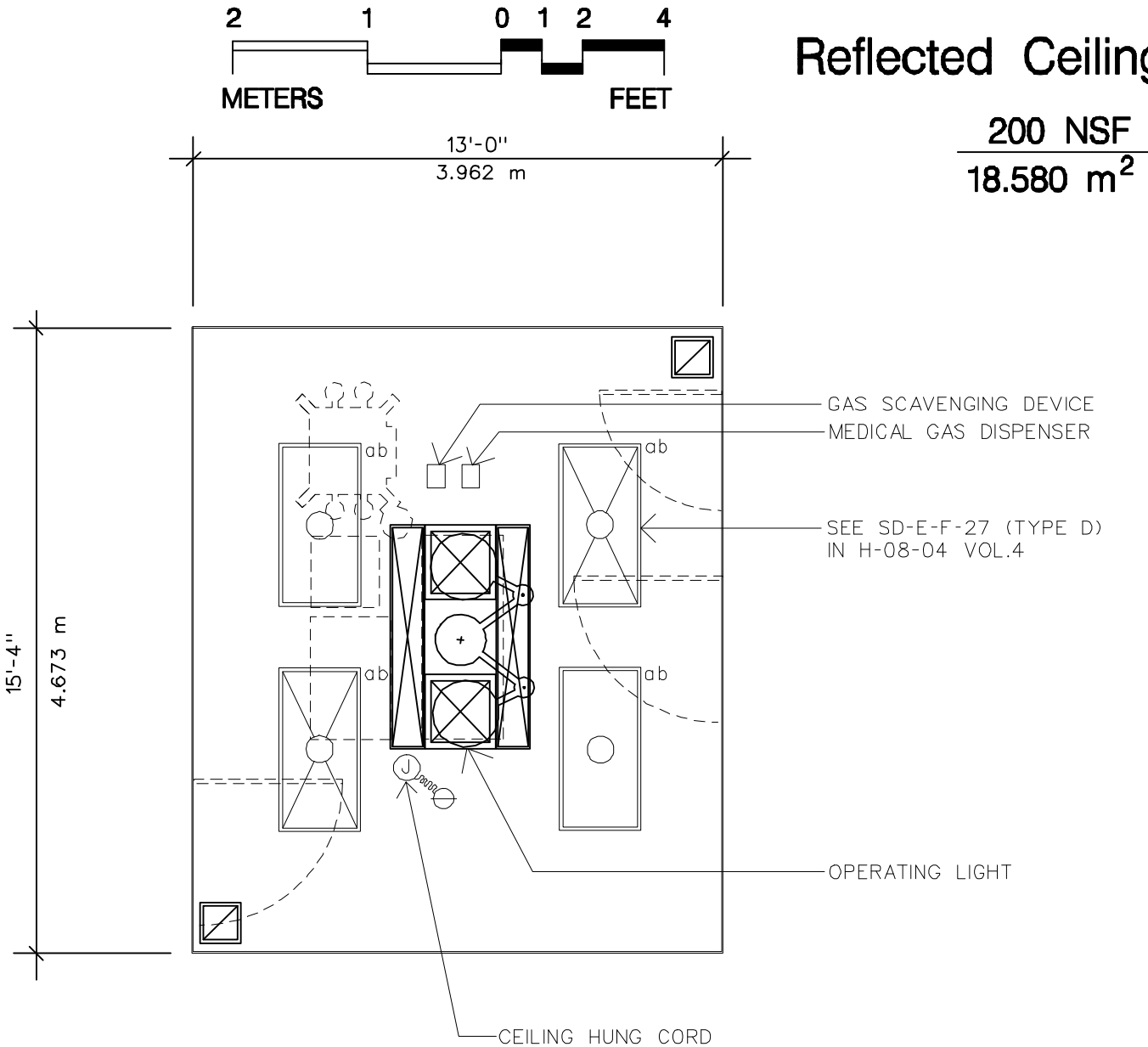
- 6-1 Operating Room
 - Reflected Ceiling Plan
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List
- 6-2 Animal Surgical Preparation Room
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List
- 6-3 Scrub and Gown Room
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List
- 6-4 Surgical Work Room and Supply
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List

GUIDE PLATE SERIES

- 6-5 Post Operative Intensive Care Room
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List
- 6-6 Radiographic Suite
 - Equipment and Utility Plan
 - Design Standards
 - Equipment Guide List
- 6-7 Control Booth
 - Design Standards
 - Equipment Guide List
- 6-8 Dark Room
 - Design Standards
 - Equipment Guide List

Operating Room

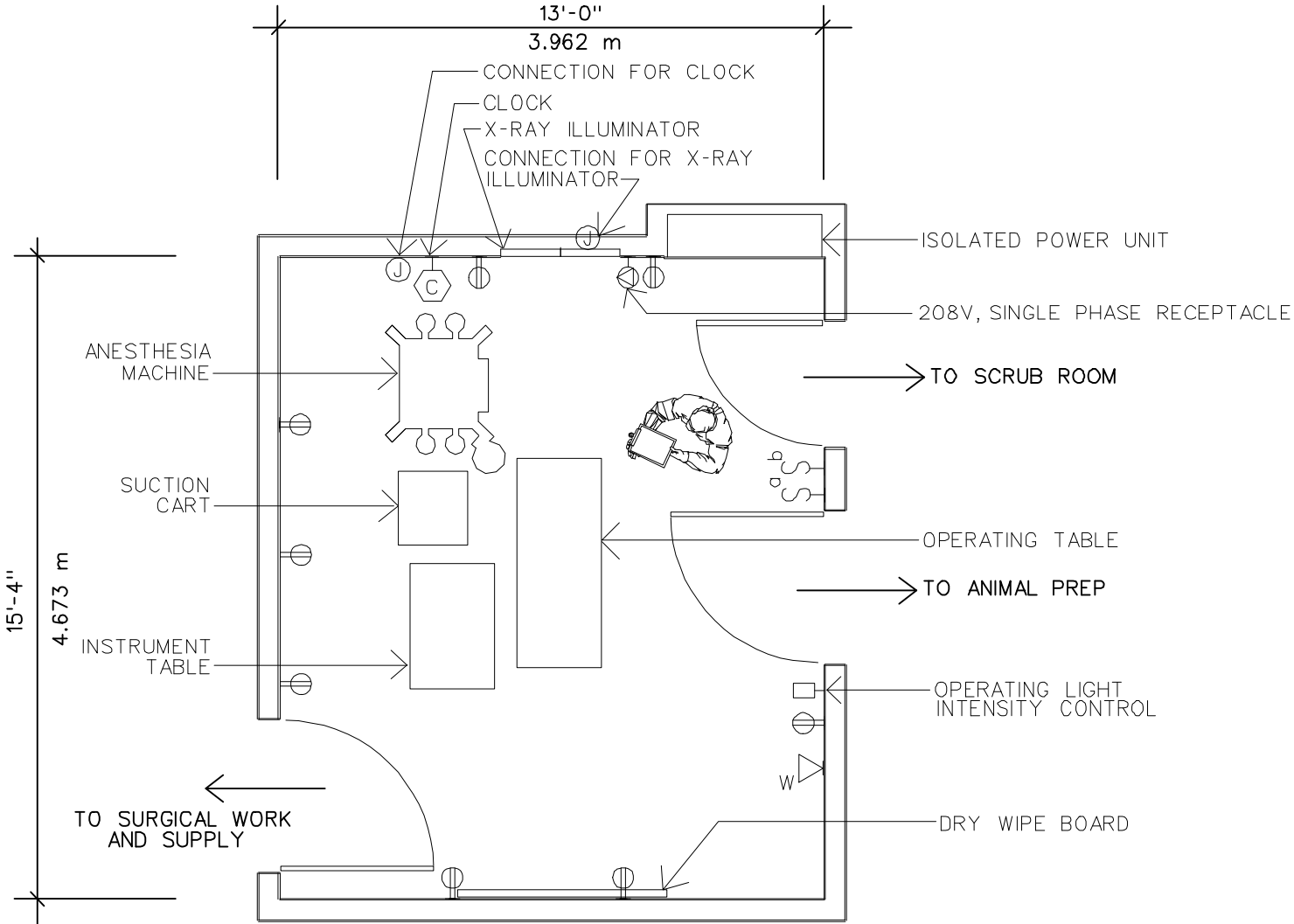
Reflected Ceiling Plan



200 NSF
 18.580 m²

NOTE: SURVIVAL AND NONSURVIVAL OPERATING ROOMS DESIGNED THE SAME TO BE USED INTERCHANGABLY

26 February 1993

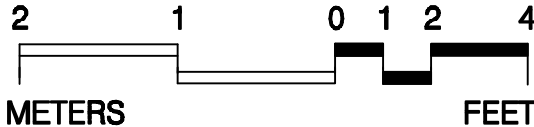


NOTE: SEE SURGICAL SUITE LAYOUT IN SECTION 3

NOTE: SURVIVAL AND NONSURVIVAL OPERATING ROOMS DESIGNED THE SAME TO BE USED INTERCHANGABLY

200 NSF
18.580 m²

Operating Room



Equipment & Utility Plan

Operating Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 200 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-6" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-------------------|
| General | 100 FC, 5.0 W/SF* |
| Special | ** |
| Emergency | 50% GEN FLUOR |

Notes:
 *COLOR CORRECTED FLUOR LAMPS
 **(1) SURGICAL LIGHT, 2 HEADS
 *** (1) CLG CORD

Power

| | |
|-----------|----------|
| General | 1440 W |
| Special | 720 W*** |
| Emergency | 50% |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|------------|
| AC Load Lights | 6.0 W/SF |
| AC Load Equipment | 16.0 W/SF* |
| Number of People | 6 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE** |
| Dry Bulb Temp Cooling (F) | 73 |
| Dry Bulb Temp Heating (F) | 73 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 50 % |

Notes:
 * OPERATING LIGHT INCLUDED IN EQUIPMENT LOAD
 **PROVIDE OPERATING ROOM WITH HIGHER ROOM POSITIVE PRESSURE THAN ADJACENT ANIMAL SURGICAL PREP ROOM, SCRUB AND GOWN ROOM, AND SURGICAL WORK ROOM

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | YES | Laboratory Air | - |
| Medical Vacuum | YES | Laboratory Vacuum | - |
| Oxygen | YES | Fuel Gas | - |
| Nitrous Oxide | YES | Anesthesia Evac | YES |

Notes:

Operating Room -- Survival Surgery

Equipment Guide List

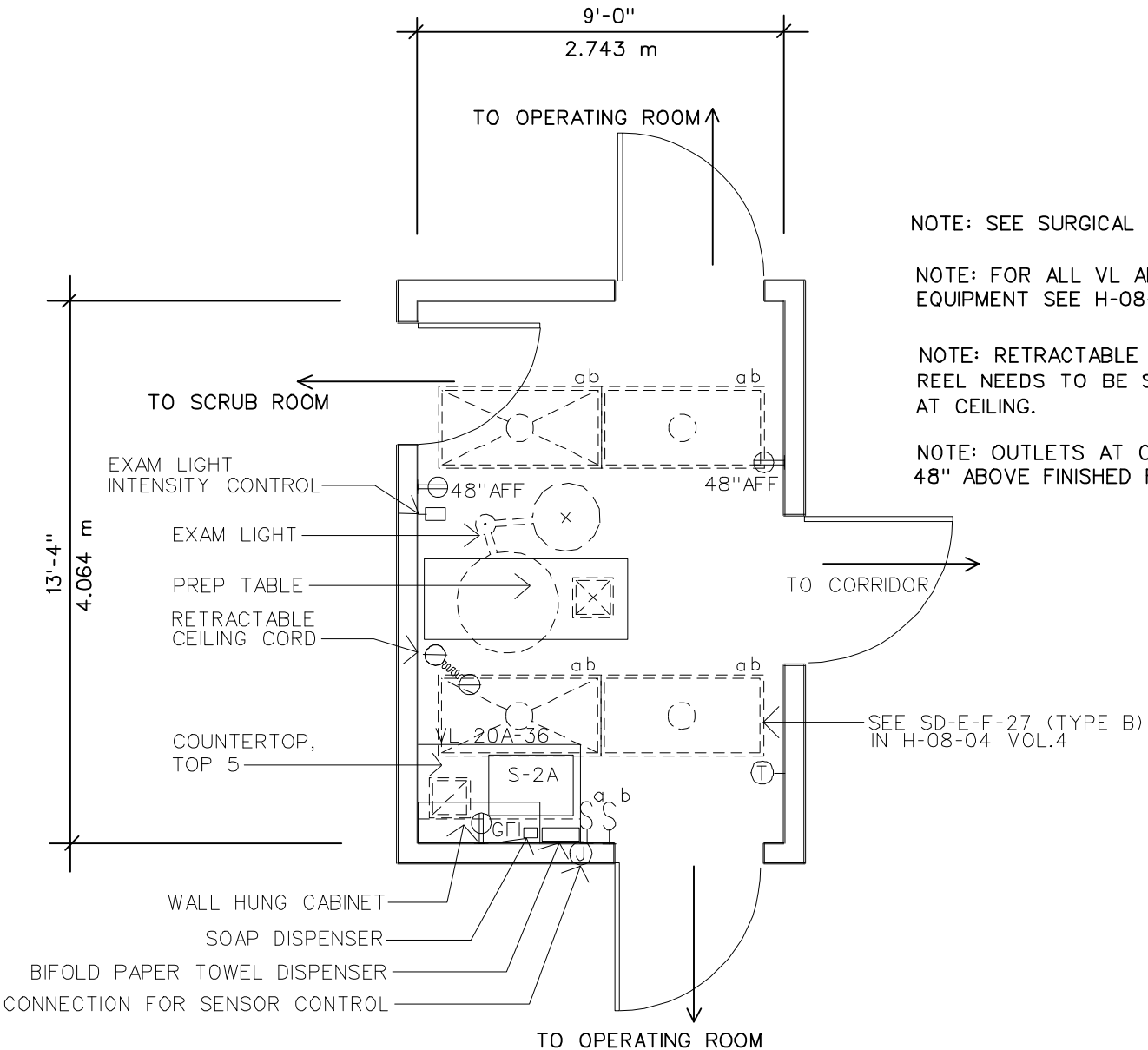
| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|---|
| | | | NOTE: CONSTRUCTION TO COMPLY WITH NFPA 99, CHAPTER 3. |
| | | | THE FOLLOWING EQUIPMENT IS BASED ON ONE OPERATING TABLE PER ROOM: |
| | 1 | CC | ISOLATED POWER UNIT PROVIDES ISOLATED ELECTRICAL POWER, INCLUDES LINE ISOLATION MONITOR, ISOLATION TRANSFORMER AND CIRCUIT BREAKERS (DETAILS AVAILABLE FROM ELECTRICAL SERVICE) |
| | 1 | VV | TABLE, OPERATING, STAINLESS STEEL, VARIABLE POSITION, HYDRAULIC LIFT |
| | 1 | VV | STAND, IV, MOBILE |
| | 1 | CF | LIGHT, MAJOR SURGICAL, DUAL LIGHT WITH SINGLE POINT SUSPENSION AND VARIABLE INTENSITY CONTROLS (H-08-1, MCS 16515; H-08-4, SD E-D-9) |
| | 1 | CC | MEDICAL GAS DISPENSER, CEILING MOUNTED, WITH AIR, OXYGEN AND NITROUS OXIDE RETRACTABLE HOSE (H-08-1, MCS 15491; H-08-4, SD 335) |
| | 1 | CC | GAS SCAVENGING DEVICE, CEILING MOUNTED (H-08-1, MCS 15491) |
| | 1 | VV | MACHINE, ANESTHESIA, PORTABLE |
| | 1 | VV | CART, SUCTION, PORTABLE |
| | 4 | CC | CORD, ELECTRIC, CEILING HUNG, 120 VOLT, 20 AMP (H-08-1, MCS 16140) |
| AR | | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR CEILING HUNG CORD (H-08-1, MCS 16140) |
| AR | | VV | TABLE, INSTRUMENT, ADJUSTABLE HEIGHT, PORTABLE |
| AR | | VV | ILLUMINATOR, X-RAY, 14" X 17", WALL MOUNTED, 120 VOLT, 20 AMP |
| | 1 | VV | BOARD, DRY WIPE, WHITE PORCELAIN, WALL HUNG WITH, 2" MARKER RAIL, APPROX. 72"W X 48"H, 60"W X 36"H OR 48"W X 48"H |
| | 1 | CC | CLOCK, ELECTRIC WITH SWEEP SECOND HAND, RECESSED (H-08-1, MCS 10360) |
| | 1 | CC | OUTLET, ELECTRICAL, RECESSED, 120 VOLT, 20 AMP, FOR CLOCK |
| | 1 | CC | OUTLET, ELECTRICAL, 208 VOLT, 30 AMP, SINGLE PHASE, FOR LASERS |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Operating Room -- Terminal Surgery

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|---|
| | 1 | CC | ISOLATED POWER UNIT PROVIDES ISOLATED ELECTRICAL POWER, INCLUDES LINE ISOLATION MONITOR, ISOLATION TRANSFORMER AND CIRCUIT BREAKERS (DETAILS AVAILABLE FROM ELECTRICAL SERVICE) |
| | 1 | VV | TABLE, OPERATING, STAINLESS STEEL, VARIABLE POSITION, HYDRAULIC LIFT |
| | 1 | VV | STAND, IV, MOBILE |
| | 1 | CF | LIGHT, MAJOR SURGICAL, DUAL LIGHT WITH SINGLE POINT SUSPENSION AND VARIABLE INTENSITY CONTROLS (H-08-1, MCS 16515; H-08-4, SD E-D-9) |
| | 1 | CC | MEDICAL GAS DISPENSER, CEILING MOUNTED, WITH AIR, OXYGEN AND NITROUS OXIDE RETRACTABLE HOSE (H-08-1, MCS 15491; H-08-4, SD 335) |
| | 1 | CC | GAS SCAVENGING DEVICE, CEILING MOUNTED (H-08-1, MCS 15491) |
| | 1 | VV | MACHINE, ANESTHESIA, PORTABLE |
| | 1 | VV | CART, SUCTION, PORTABLE |
| AR | | CC | CORD, ELECTRIC, CEILING HUNG, 120 VOLT, 20 AMP (H-08-1, MCS 16140) |
| AR | | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR CEILING HUNG CORD (H-08-1, MCS 16140) |
| AR | | VV | TABLE, INSTRUMENT, ADJUSTABLE HEIGHT, PORTABLE |
| AR | | VV | ILLUMINATOR, X-RAY, 14" X 17", WALL MOUNTED, 120 VOLT, 20 AMP |
| AR | | VV | SPECIAL MONITORING INSTRUMENTATION |
| | 1 | VV | BOARD, DRY WIPE, WHITE PORCELAIN, WALL HUNG WITH, 2" MARKER RAIL, APPROX. 72"W X 48"H, 60"W X 36"H OR 48"W X 48"H |
| | 1 | CC | CLOCK, ELECTRIC WITH SWEEP SECOND HAND, RECESSED (H-08-1, MCS 10360) |
| | 1 | CC | OUTLET, ELECTRICAL, RECESSED, 120 VOLT, 20 AMP, FOR CLOCK |
| AR | | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

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NOTE: SEE SURGICAL SUITE LAYOUT IN SECTION 3

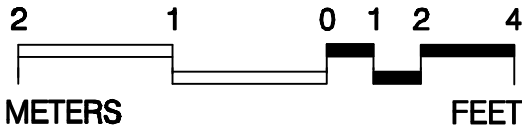
NOTE: FOR ALL VL AND S EQUIPMENT SEE H-08-06

NOTE: RETRACTABLE CEILING CORD TAKE UP REEL NEEDS TO BE STRUCTURALLY SUPPORTED AT CEILING.

NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

120 NSF
11.148 m²

Animal Surgical Preparation Room



Equipment & Utility Plan

Animal Surgical Preparation Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-------------------|
| General | 100 FC, 5.0 W/SF* |
| Special | ** |
| Emergency | 50% GEN FLUOR |

Notes:
 *COLOR CORRECTED FLUOR LAMPS
 **(1) SURGICAL LAMP, SINGLE HEAD

Power

| | |
|-----------|-------|
| General | 700 W |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---|
| Telephone | WALL MTD | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 6.7 W/SF |
| AC Load Equipment | 9.2 W/SF* |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:
 *EXAM LIGHT INCLUDED AS EQUIPMENT LOAD

PLUMBING AND MEDICAL GASES

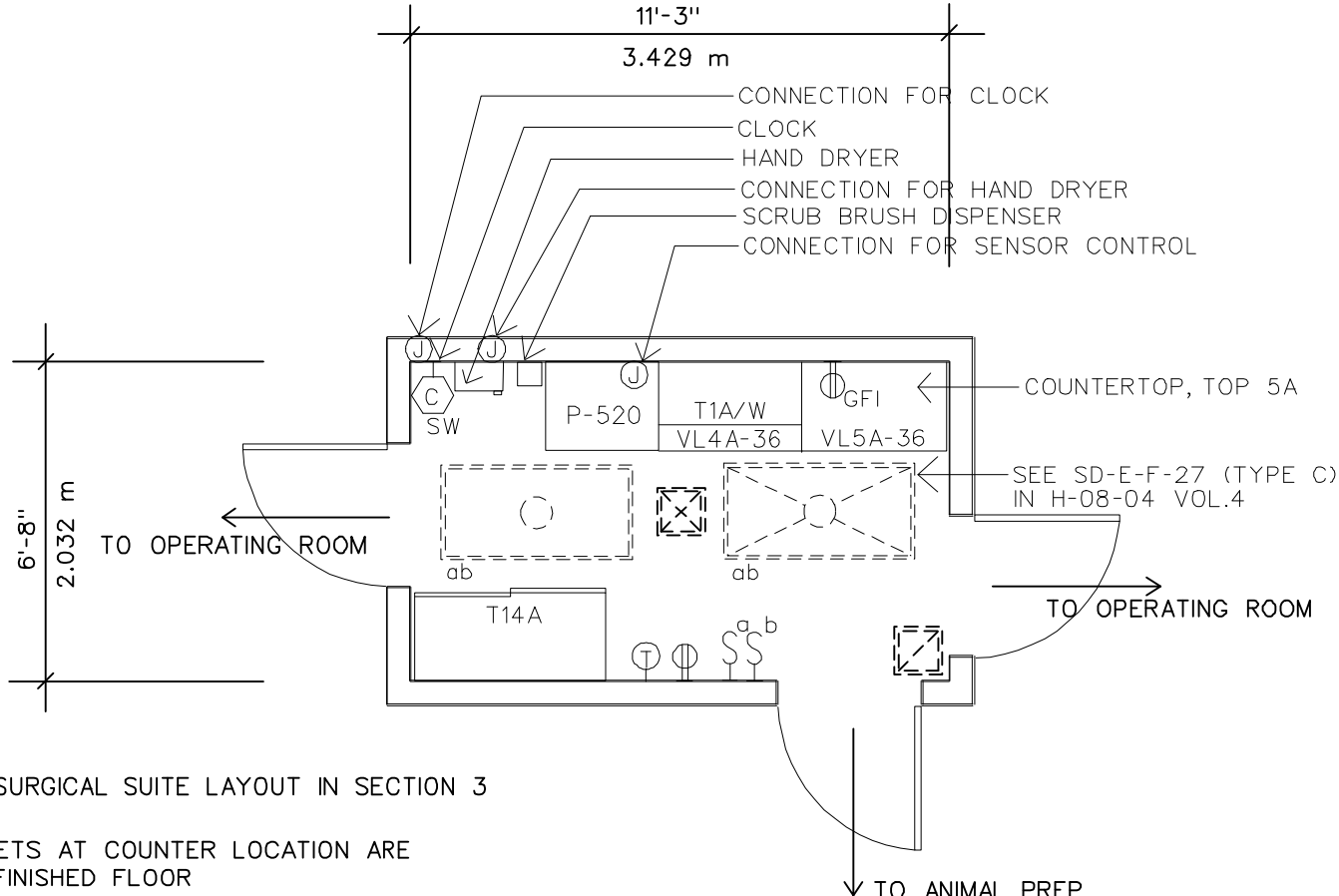
| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Animal Surgical Preparation Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|--|
| | 1 | VV | TABLE, PREP, SIZE AS REQUIRED |
| | 1 | CF | LIGHT, EXAM, SINGLE LIGHTHEAD, CEILING MOUNTED, SWIVEL ARM, ADJUSTABLE INTENSITY, 120 VOLT, 20 AMP (H-08-1, MCS 16515) |
| | 1 | CC | RETRACTABLE CEILING CORD, (NEAR EXAM LIGHT) 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | OUTLET, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, CEILING MOUNTED, FOR RETRACTABLE CEILING CORD (H-08-1, MCS 16140) |
| TOP 5 | AR | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| S-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 25" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| | 1 | VV | CABINET, WALL HUNG (WITH LOCK) 36"W X 12"D X 30"H |
| | 1 | VV | DISPENSER, SOAP, LIQUID, WALL MOUNTED |
| | 1 | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |



NOTE: SEE SURGICAL SUITE LAYOUT IN SECTION 3

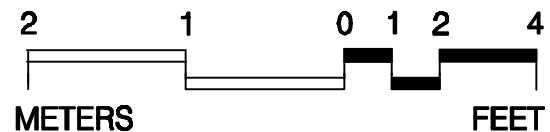
NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

NOTE: FOR ALL VL EQUIPMENT SEE H-08-06

NOTE: FOR ALL T AND P EQUIPMENT SEE H-08-04 VOL.1

75 NSF
6.967 m²

Scrub and Gown Room



Equipment & Utility Plan

Scrub and Gown Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|----------|
| Floor Area | 75 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 70 FC, 3.5 W/SF |
| Special | - |
| Emergency | 50% GEN FLUOR |

Notes:

Power

| | |
|-----------|-------|
| General | 360 W |
| Special | * |
| Emergency | - |

*HAND DRYER: 20 A, 120 V; SENSOR CONTROL: 1 A, 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.0 W/SF |
| AC Load Equipment | 6.4 W/SF |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

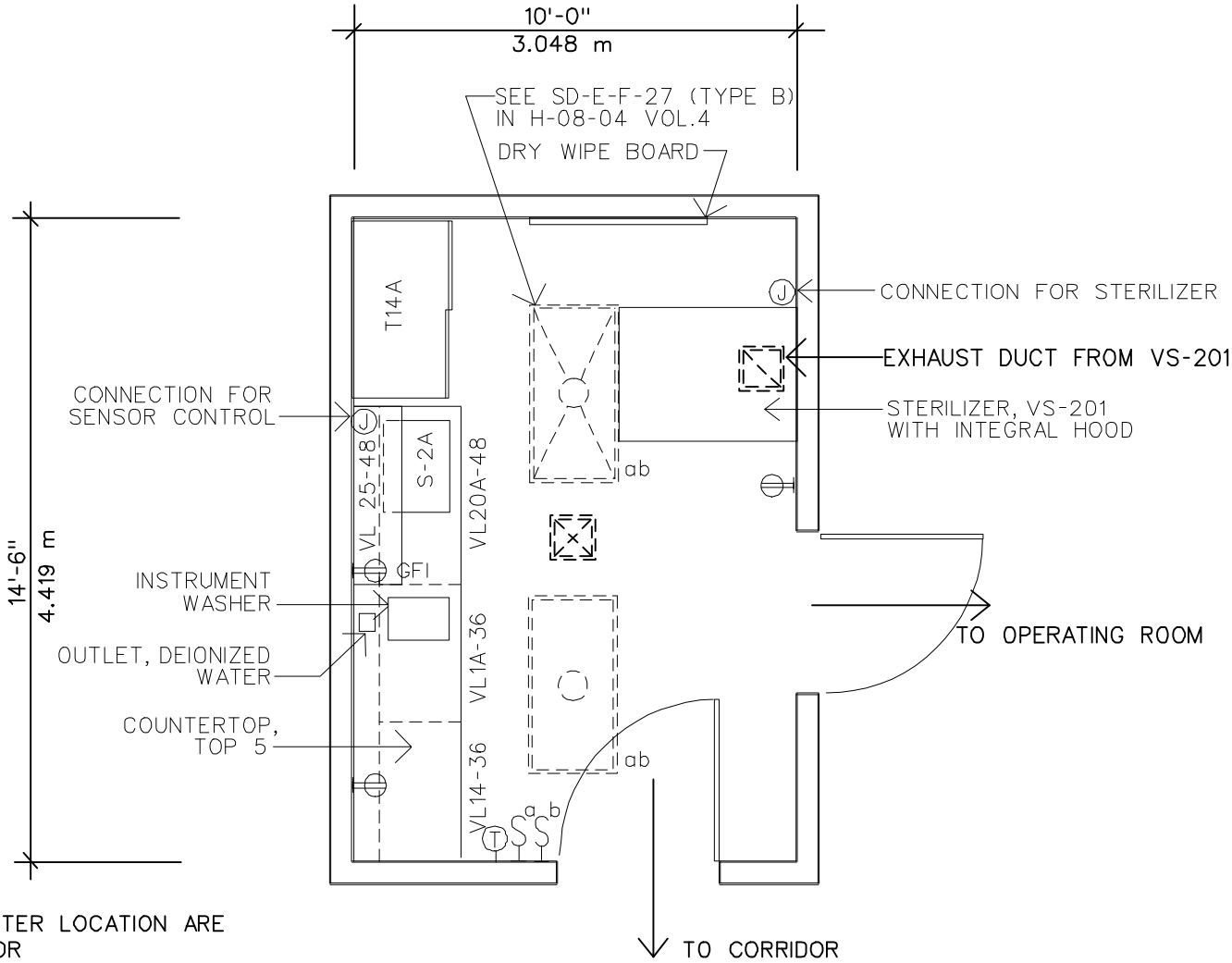
Notes:

Scrub and Gown Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|---|
| P-520 | AR | CC | SINK, SURGEONS, SCRUB-UP, SENSOR CONTROL (H-08-1, MCS 15450; H-08-4, SD 4) |
| | 2 | VV | DISPENSER, BRUSH, SCRUB, DISPOSABLE |
| | 2 | CC | DRYER, HAND, FORCED AIR, TOUCHLESS TYPE, 120 VOLT, 20 AMP (H-08-1, MCS 10800) |
| TOP 5A | AR | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, 1-1/4" THICK (H-08-1 & H-08-6, MCS 11602) |
| VL4/4A | 1 | CF | CABINET, UNDERCOUNTER, WITH 2 DRAWERS, 2 HINGED DOORS AND 1 ADJUSTABLE SHELF, AVAILABLE WIDTHS 30", 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| VL5/5A | 1 | CF | CABINET, UNDERCOUNTER, WITH 4/3 DRAWERS, 1 HINGED DOOR AND 2/1 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| T1A/W | 1 | CC | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS WITH LOCK AND 2 ADJUSTABLE SHELVES, 36"W X 16"D X 30"H (H-08-1, MCS 12301; H-08-4, SD 70B) |
| T14A | 2 | CC | CABINET, STORAGE, FLOORSTANDING, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS, LOCK AND 5 ADJUSTABLE SHELVES, 48"W X 22"D X 84"H (H-08-1, MCS 12301; H-08-4, SD 70L) |
| | 1 | CC | CLOCK, ELECTRIC WITH SWEEP SECOND HAND, RECESSED (H-08-1, MCS 10360) |
| | 1 | CC | OUTLET, ELECTRICAL, RECESSED, 120 VOLT, 20 AMP, FOR CLOCK |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |

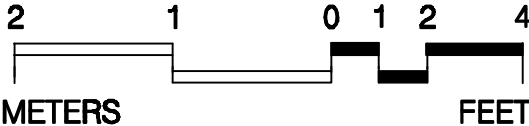
26 February 1993



145 NSF
13.470 m²

Surgical Work Room and Supply

VA Design Guide -- Veterinary Medical Unit



Equipment & Utility Plan

Guide Plate 6-4

Surgical Work Room and Supply

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 145 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

VS-201 STERILIZER

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 70 FC, 3.5 W/SF |
| Special | - |
| Emergency | 50% GEN FLUOR |

Notes:

Power

| | |
|-----------|-------|
| General | 540 W |
| Special | * |
| Emergency | - |

*VS-201: PUMP-12 A, 480 V; CONTROLS-25 A, 120 V;
SENSOR CONTROL-1 A, 120 V

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 2.8 W/SF |
| AC Load Equipment | 1.9 W/SF* |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 4 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | YES* |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

*VS-201: SEE H-08-6 FOR STEAM, HEAT GAIN AND INTEGRAL
CANOPY HOOD

PLUMBING AND MEDICAL GASES

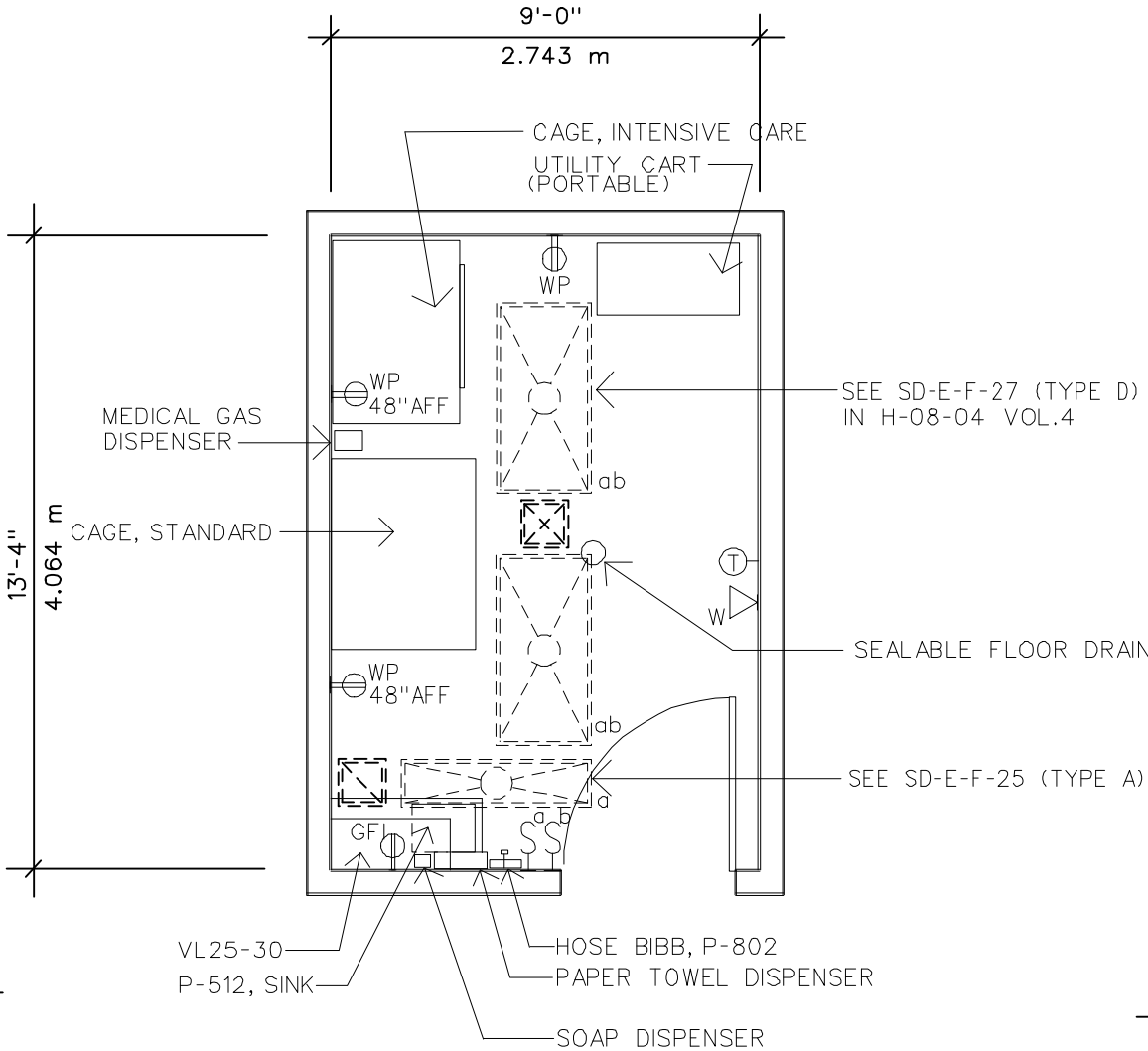
| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | YES |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Surgical Work Room and Supply

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|----------|-----|----|--|
| TOP 5 | AR | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| S-2A | AR | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 25" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| | 1 | CC | OUTLET, DEIONIZED WATER (H-08-1, MCS 11602) |
| | 1 | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| VL20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| T14A | 2 | CC | CABINET, STORAGE, FLOORSTANDING, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS, LOCK AND 5 ADJUSTABLE SHELVES, 48"W X 22"D X 84"H (H-08-1, MCS 12301; H-08-4, SD 70L) |
| VL14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS 18", 24", 30", 36", 42", 48"; DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12345) |
| VL25 | AR | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| VL1/1A | 1 | CF | CABINET, UNDERCOUNTER, WITH 4/3 DRAWERS, AVAILABLE WIDTHS 18", 24", 36", 48"; DEPTH 22"; HEIGHTS 31", 25", FOR FLOOR MOUNTED ADD 5" TOE BASE (H-08-1 & H-08-6, MCS 12345) |
| | AR | VV | CABINET, WITH LOCK, INSTRUMENT AND DRESSING, FLOORSTANDING, APPROX. 48"W X 18"D X 84"H |
| | AR | VV | WASHER, INSTRUMENT, COUNTERTOP |
| VS-201 | 1 | CC | STERILIZER, MECHANICAL AIR REMOVAL, CABINET ENCLOSED, 24" X 36" X 36"/18" CU. FT. (H-08-1 & H-08-6, MCS 11710) |
| | 1 | VV | BOARD, DRY WIPE, WHITE PORCELAIN, WALL HUNG WITH, 2" MARKER RAIL, APPROX. 72"W X 48"H, 60"W X 36"H OR 48"W X 48"H |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) |



NOTE: FOR ALL VL EQUIPMENT
SEE H-08-06

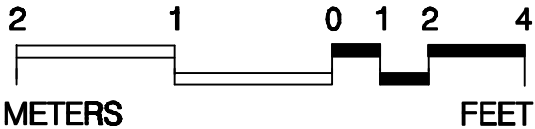
NOTE: FOR ALL P EQUIPMENT
SEE H-08-04 VOL.1

NOTE: PROVIDE ONE GROUND FAULT
INTERRUPTER (GFI) RECEPTACLE, TO
SUBFEED OTHER RECEPTACLES

NOTE: SEE SURGICAL SUITE LAYOUT IN SECTION 3

120 NSF
11.148 m²

Post Operative Intensive Care Room



Equipment & Utility Plan

Post Operative Intensive Care Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | - |
| Emergency | ALL |

Notes:
*COLOR CORRECTED FLUOR LAMPS

Power

| | |
|-----------|-------|
| General | 720 W |
| Special | - |
| Emergency | ALL |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---|
| Telephone | WALL MTD | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 4.2 W/SF |
| AC Load Equipment | 3.0 W/SF |
| Number of People | 2 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE* |
| Dry Bulb Temp Cooling (F) | 75 |
| Dry Bulb Temp Heating (F) | 75 |
| Minimum Air Changes per Hour | 8 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:
*PROVIDE WITH HIGHER ROOM POSITIVE PRESSURE THAN ANIMAL SURGICAL PREP ROOM IF ADJACENT

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | YES | Laboratory Air | - |
| Medical Vacuum | YES | Laboratory Vacuum | - |
| Oxygen | YES | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

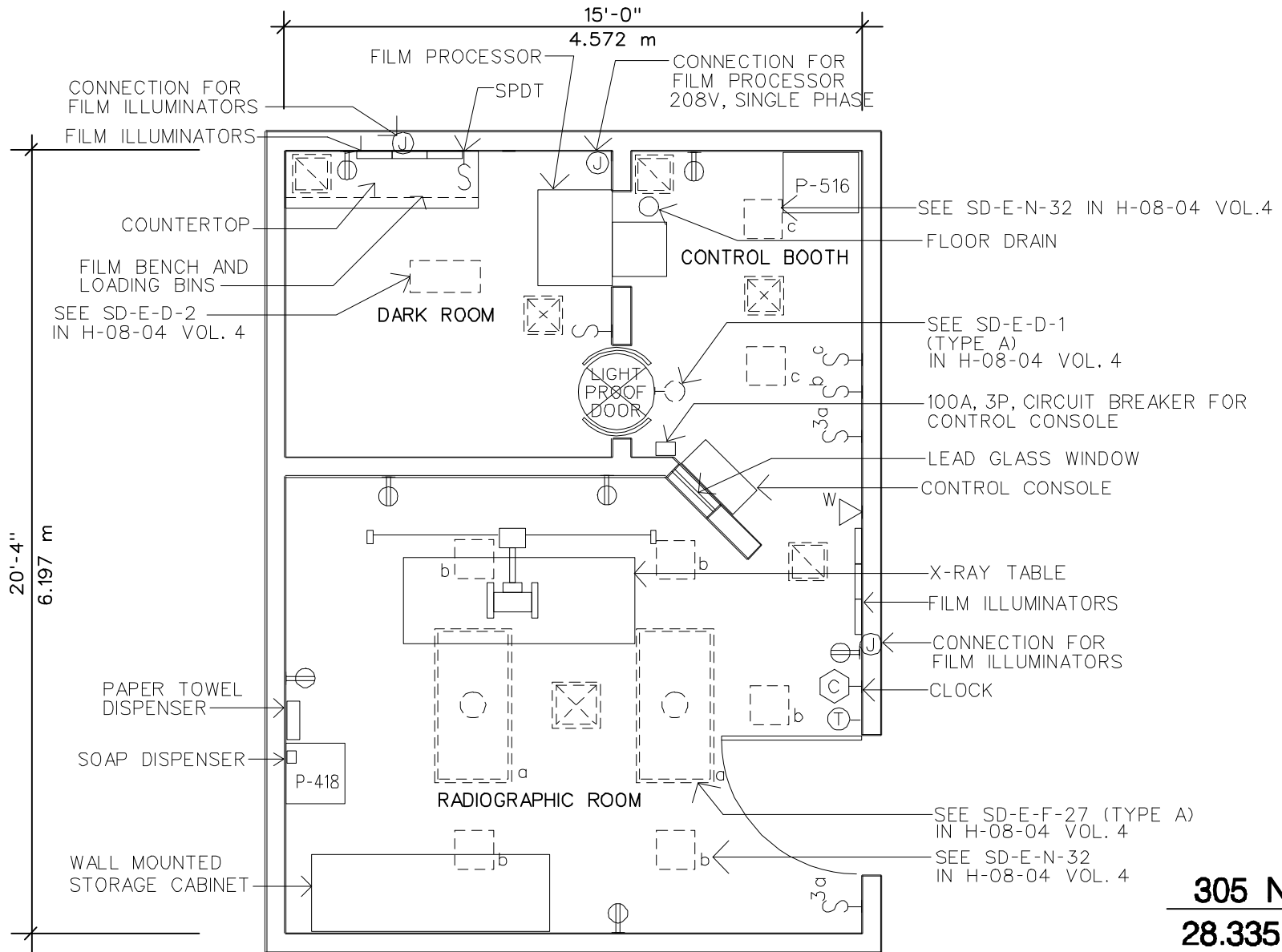
26 February 1993

Post Operative Intensive Care Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|--|---|
| P-512 | 1 | CC | SINK, CORROSION RESISTING STEEL, SINGLE COMPARTMENT WITH DRAINBOARD, WALL HUNG (H-08-1, MCS 15450) |
| | 1 | VV | DISPENSER, SOAP, LIQUID, WALL MOUNTED |
| | 1 | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| VL25 | 1 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12345) |
| | AR | CC | DRAIN, FLOOR, SEALABLE (H-08-1, MCS 15400) |
| | 1 | VV | CART, UTILITY, CORROSION RESISTING STEEL, 36"W X 18"D X 30"H |
| | AR | VV | CAGE, ANIMAL, STANDARD |
| P-802 | AR | VV | CAGE, ANIMAL, INTENSIVE CARE |
| | 1 | CC | HOSE BIBB, COMBINATION FAUCET, WALL MOUNTED, CONCEALED SUPPLY PIPES (H-08-1, MCS 15450; H-08-4, SD 4.2) |
| | 1 | CC | MEDICAL GAS DISPENSER, CEILING MOUNTED, WITH AIR AND OXYGEN RETRACTABLE HOSE (H-08-1, MCS 15491; H-08-4, SD 335) |
| | 1 | VV | STAND, IV, MOBILE |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) NOTE: PROVIDE ONE GROUND FAULT INTERRUPTER (GFI) RECEPTACLE, TO SUBFEED OTHER RECEPTACLES. |
| 1 | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH GROUND FAULT INTERRUPTER (H-08-1, MCS, 16140; H-08-3, CS 801-3) | |

26 February 1993

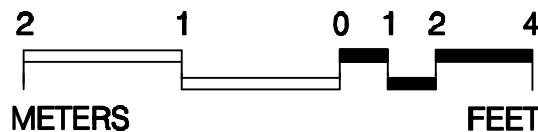


NOTE: RADIOGRAPHIC ROOM FOR DIAGNOSTIC X-RAY AND FLUOROSCOPIC EQUIPMENT

NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

NOTE: WALL SURFACES TO BE LEAD LINED



Equipment & Utility Plan

Radiographic Suite

Radiographic Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 220 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-6" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | YES |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|---------------|
| General | 0.5-1.5 W/SF* |
| Special | - |
| Emergency | - |

Notes:

*10 FC INCANDESCENT ON DIMMER, 30 FC FLUORESCENT

Power

| | |
|-----------|---|
| General | - |
| Special | - |
| Emergency | - |

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | EMPTY CONDUIT |
| Public Address | EMPTY CONDUIT | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.9 W/SF |
| AC Load Equipment | 4.9 W/SF |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | POSITIVE |
| Dry Bulb Temp Cooling (F) | 76 |
| Dry Bulb Temp Heating (F) | 78 |
| Minimum Air Changes per Hour | 8 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Radiographic Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|---|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| | 1 | VC | X-RAY UNIT, RADIOGRAPHIC AND FLUOROSCOPIC CONSISTS OF THE FOLLOWING COMPONENTS: |
| | 1 | VC | STARTER, TUBE, HIGH SPEED |
| | 1 | VC | MODULE, POWER |
| | 1 | VC | TRANSFORMER, HIGH TENSION, X-RAY |
| | 1 | VC | TABLE, 90 DEGREE - 15 DEGREE TRENDELENBURG R&F, WITH SPOT FILM DEVICE (TWO-WAY OR FOUR WAY TABLE TOP AND SIZE OF SPOT FILM DEVICE TO BE DETERMINED ON PROJECT BASIS) |
| | | | -OR- |
| | 1 | VC | TABLE, TILT, 90 DEGREE - 90 DEGREE R&F, WITH SPOT FILM DEVICE (TWO-WAY OR FOUR WAY TABLE TOP AND SIZE OF SPOT FILM DEVICE TO BE DETERMINED ON PROJECT BASIS) |
| | 1 | VC | TUBE CARRIAGE, CEILING MOUNTED |
| | 1 | VC | RAILS, CEILING FOR TUBE CARRIAGE |
| | | | NOTE: OPTIONAL COMPONENTS TO BE DETERMINED BY VETERANS HEALTH ADMINISTRATION. |
| | 1 | VC | IMAGE INTENSIFIER (6", 9" OR DUAL TYPE TO BE DETERMINED ON PROJECT BASIS) |
| | 1 | VC | CAMERA UNIT, CINE, FOR USE WITH IMAGE INTENSIFIER (OPTIONAL) |
| | 1 | VC | CONTROL, CINE CAMERA (OPTIONAL) |
| | 1 | VC | CAMERA, TV (FOR USE WITH IMAGE INTENSIFIER) |
| AR | | VC | MONITOR, FOR USE WITH IMAGE INTENSIFIER |
| | 1 | VC | BUCKY, TILT, WALL MOUNTED (USE IN TYPE R-F #2 AND TYPE R-F #3) (OPTIONAL) |
| | 1 | VC | CHANGER, CASSETTE (OPTIONAL) |
| | 1 | VC | RECORDER, TV TAPE (OPTIONAL) |
| | 1 | VC | CAMERA, SPOT, 100 OR 105MM (USE IN TYPE R-F #3) (OPTIONAL) |
| | | | NOTE: SERVICES, ELECTRICAL, AS REQUIRED FOR EQUIPMENT. |
| AR | | CC | SHIELDING, RADIATION, FOR ROOMS WITH FIXED X-RAY EQUIPMENT, IN ACCORDANCE WITH (H-08-1, MCS 13091; H-08-3, CS 64-1; H-08-4, SD 24 THRU 24K AND NCRP REPORT NO. 33, 35 AND 49) |
| | 1 | VV | ILLUMINATOR, X-RAY, WALL MOUNTED, APPROX., 20" X 31", 2 IN 1, 120 VOLT, 20 AMP |
| | 1 | CC | CASSETTE PASS BOX TO DARK ROOM AS APPROVED FOR A SPECIFIC PROJECT |
| | 1 | VV | HOOK, COAT, WALL MOUNTED |
| | 1 | VV | RACK, APRON, WALL MOUNTED |
| | 1 | VV | DISPOSAL, NEEDLES, WALL MOUNTED |

Radiographic Room

Equipment Guide List

| | | | |
|-------|----|----|--|
| P-418 | 1 | CC | LAVATORY, SENSOR CONTROL (H-08-1, MCS 15450; H-08-4, VOL. 3 SD 380) |
| | 1 | CC | DISPENSER, SOAP, WALL MOUNTED WITH FOOT CONTROL (H-08-1, MCS 10800) |
| | 1 | VV | DISPENSER, PAPER TOWEL, SURFACE MOUNTED |
| | 1 | VV | RECEPTACLE, WASTE, STEP ON TYPE, APPROX. 12" DIAMETER |
| | 1 | CF | CABINET, STORAGE, WALL MOUNTED, 10" ABOVE FINISHED FLOOR, 5 SHELVES AND FOLDING DOOR, APPROX., 24" X 62" X 16" |
| | AR | CC | LOW LEVEL DIMMED INCANDESCENT LIGHTING SYSTEM IN ADDITION TO GENERAL FLUORESCENT ILLUMINATION SYSTEM (H-08-1, MCS 16510) (ONLY IF FLUOROSCOPIC INCLUDED) |
| | 1 | VV | CLOCK, BATTERY OPERATED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Control Booth

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|----------|
| Floor Area | 25 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-6" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 10 FC, 0.5 W/SF* |
| Special | - |
| Emergency | - |

Notes:

*LIGHTING ON DIMMER

Power

| | |
|-----------|----|
| General | - |
| Special | ** |
| Emergency | - |

**X-RAY MACHINE: 100 A, 208 V, 3 PHASE CIRCUIT BREAKER

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---|
| Telephone | WALL MTD | ADP | - |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 8.5 W/SF |
| AC Load Equipment | 65.0 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | (0) |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 8 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|---|-------------------|---|
| Sanitary Drain | - | Cold Water | - |
| Acid Waste | - | Hot Water | - |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Control Booth

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|---|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| AR | | CC | WINDOW, LEAD GLASS (MINIMUM 18" X 24") (H-08-1, MCS 13091; H-08-4, SD 24G) |
| 1 | | VC | CONSOLE, CONTROL, X-RAY, FOR X-RAY UNIT (CAPACITY OF GENERATOR TO BE DETERMINED ON PROJECT BASIS) |
| 1 | | CC | INTERCOM, STATION (H-08-1, MCS 16760) (OPTIONAL) |
| 1 | | CC | OUTLET, INTERCOM (EMPTY CONDUIT SYSTEM) (H-08-1, MCS 16111) (OPTIONAL) |
| | | | NOTE: PROVIDE INTERCOM STATION IN CONTROL BOOTH CONNECTED TO REMOTE STATION IN X-RAY ROOM, WHEN CONTROL BOOTH IS SEPARATED FROM X-RAY ROOM. |
| AR | | CC | LIGHT, WARNING (DO NOT ENTER) OVER DOOR (H-08-4, SD E-D-2) |

Dark Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|--------|--------------|----------|
| Floor Area | 60 NSF | Wall Finish | CMU (SC) |
| Ceiling | PL | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

FILM PROCESSOR

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 10 FC, 0.5 W/SF |
| Special | SAFELIGHT |
| Emergency | - |

Notes:

Power

| | |
|-----------|-------|
| General | 180 W |
| Special | * |
| Emergency | - |

*FILM PROCESSOR: 208 V, 1 PHASE

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|-----------|
| AC Load Lights | 2.8 W/SF |
| AC Load Equipment | 10.0 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 8 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:

*FILM PROCESSOR NORMALLY REQUIRES A 4" ROUND EXHAUST DUCT

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-------------|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | YES | Hot Water | YES |
| Silver Recovery | YES (LOCAL) | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:

Dark Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--------|-----|----|--|
| | | | NOTE: APPLICABLE ONLY WHEN APPROVED BY VHA. |
| | 1 | VC | PROCESSOR, FILM, AUTOMATIC, 90 SECOND PROCESSING CYCLE, THRU WALL |
| | 1 | CC | FLOOR DRAIN, NEAR FILM PROCESSING UNITS (PLUMBING DESIGN CRITERIA AND INSTRUCTIONS) |
| | 1 | VC | CHEMICAL AUTOMATED DISPENSING (CAD) REPLENISHMENT SYSTEM FOR PROCESSOR |
| P-516 | 1 | CC | SINK, CORROSION RESISTING STEEL, SINGLE COMPARTMENT, WALL HUNG (H-08-1, MCS 15450) |
| | AR | VV | ILLUMINATOR, X-RAY, WALL MOUNTED, 120 VOLT, 20 AMP, LOCATED ON ADJACENT WALL OUTSIDE DARKROOM |
| | AR | CC | COUNTERTOP, PLASTIC LAMINATE, FIXED, WALL MOUNTED, 30" ABOVE FINISHED FLOOR, APPROX., 60" X 18", PROVIDE UNDER ILLUMINATOR (H-08-1, MCS 12302) |
| | 1 | VV | BENCH, FILM LOADING AND STORAGE BINS |
| | 1 | CC | SAFELIGHT, WALL HUNG OVER FILM BENCH (H-08-4, SD E-D-4) |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, WITH WEATHERPROOF COVER PLATE (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |
| | | | NOTE: PROVIDE PIPING CONNECTION FROM PROCESSORS TO SILVER RECOVERY SYSTEM. |

Section 7

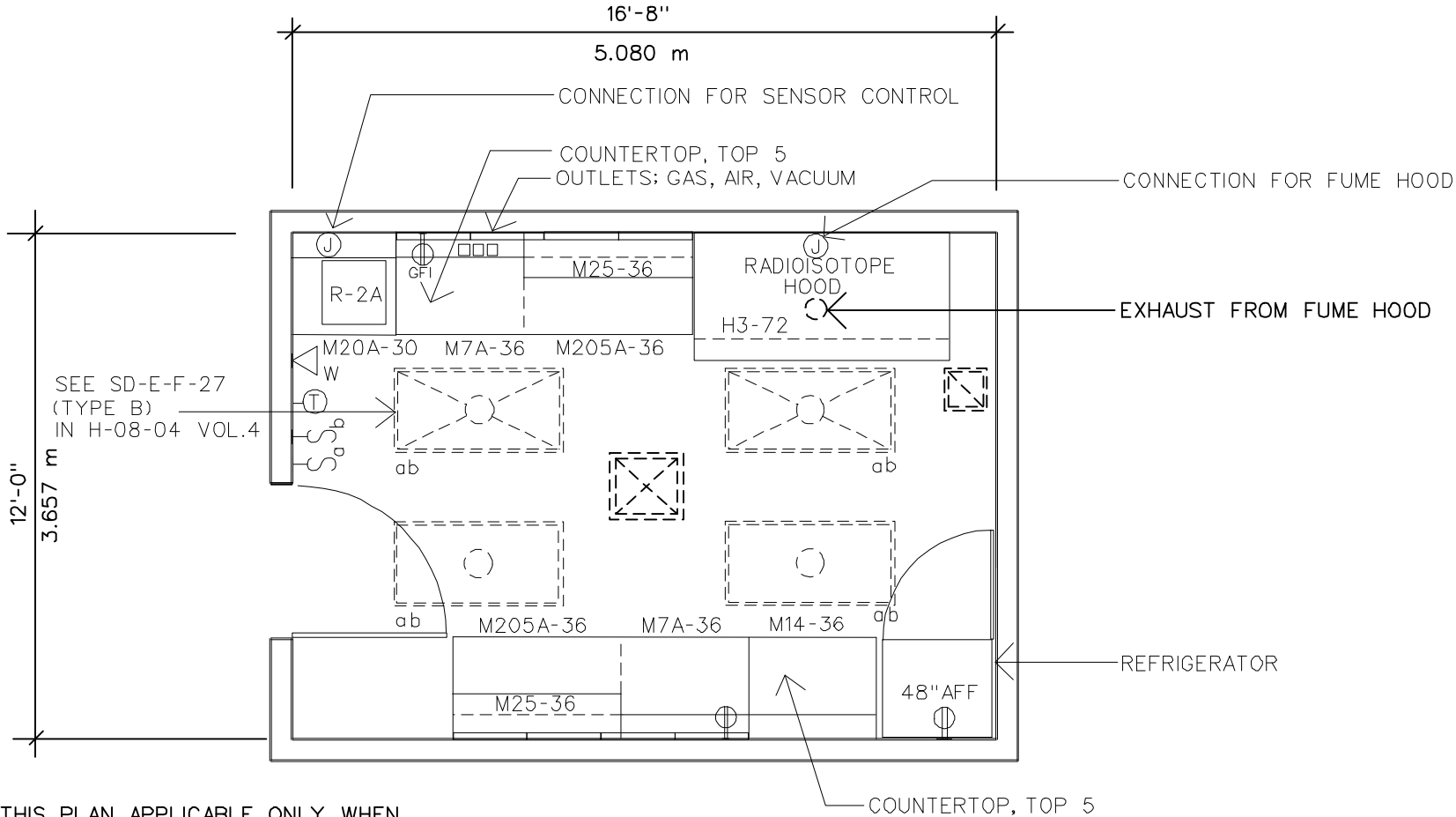
Design Guide Plates and Data Sheets

Containment Suites

GUIDE PLATE SERIES

- 7-1Procedural Laboratory
(Chemical/Radioisotope Suite)
Equipment and Utility Plan
Design Standards
Equipment Guide List
- 7-2Procedural Laboratory (Infectious Disease
Suite)
Design Standards
Equipment Guide List
- 7-3Procedural Laboratory (Barrier Suite)
Design Standards
Equipment Guide List
- 7-4Hazardous Waste Disposal Room
Equipment and Utility Plan
Design Standards
Equipment Guide List

26 February 1993



NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

NOTE: FOR PROCEDURAL LAB (INFECTIOUS) REPLACE H3-72 WITH H12-54/78, AND INCLUDE AN INCUBATOR

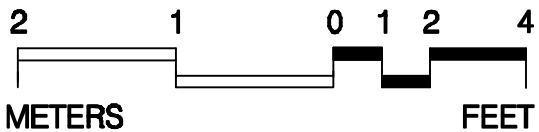
NOTE: FOR PROCEDURAL LAB (BARRIER) REPLACE H3-72 WITH H12-54/78

NOTE: FOR ALL M, H AND R EQUIPMENT SEE H-08-06

NOTE: OUTLETS AT COUNTER LOCATION ARE 48" ABOVE FINISHED FLOOR

200 NSF
18.580 m²

Procedural Laboratory (Chemical/Radioisotope)



Equipment & Utility Plan

Procedural Laboratory (Chemical/Radioisotope Suite)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 200 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

H3-72 RADIOISOTOPE HOOD
REFRIGERATOR

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | - |
| Emergency | 50% GEN FLUOR |

Notes:
*COLOR CORRECTED FLUOR LAMPS

Power

| | |
|-----------|--------|
| General | 1080 W |
| Special | ** |
| Emergency | ** |

**H3: 600 W; REFRIGERATOR: 1200 W; EMERGENCY CIRCUIT

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.0 W/SF |
| AC Load Equipment | 5.2 W/SF |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:
*H3: 1375 CFM, 0.375" PD; SEE H-08-4 SD 673.5

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | YES | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:
H3: LAB AIR, LAB VACUUM, FUEL GAS, COLD WATER, ACID WASTE

26 February 1993

Procedural Laboratory (Chemical/Radioisotope Suite)

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--|-----|----|--|
| NOTE: ALL LABORATORY FURNITURE SYMBOLS PREFIXED BY "M" SHALL BE INTERCHANGABLE SUSPENSION SYSTEM TYPE. | | | |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| M20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M205/205A | 2 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25 (H-08-1 & H-08-6, MCS 12346) |
| | | | -OR- |
| M202/202A | 2 | CF | CABINET, UNDERCOUNTER, 7/6 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M7/7A | 2 | CF | CABINET, UNDERCOUNTER, WITH 2 HINGED DOORS AND 2/1 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS AS REQUIRED, DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12346) |
| M25 | 2 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12346) |
| H3-72 | 1 | CC | FUME HOOD, RADIOISOTOPE, STAINLESS STEEL INTERIOR WITH CABINET BASE, 2 EACH, WATER, AIR, GAS, VACUUM, ELECTRIC DUPLEX OUTLETS AND CUP SINKS, BASE TO SUPPORT SUPERSTRUCTURE PLUS 200 POUNDS PER SQUARE FOOT, 72"W X 36"D X 84"H (H-08-1 & H-08-6, MCS 11610) |
| | 1 | CC | OUTLETS, ONE EACH, AIR, GAS AND VACUUM GROUPED OVER COUNTER (H-08-1 & H-08-6, MCS 11602) |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, STRIP MOLD WITH OUTLETS ON 24" CENTERS, 9" ABOVE COUNTER (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Procedural Laboratory (Infectious Disease Suite)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 200 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

H12-54/78 FUME HOOD

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | - |
| Emergency | 50% GEN FLUOR |

Notes:
*COLOR CORRECTED FLUOR LAMPS

Power

| | |
|-----------|--------|
| General | 1080 W |
| Special | ** |
| Emergency | ** |

**H12: 600 W; REFRIGERATOR: 1200 W; EMERGENCY CIRCUIT

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.0 W/SF |
| AC Load Equipment | 5.2 W/SF |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:
*H12: SEE H-08-4 SD624.6, HVAC DESIGN MANUAL FOR CAPACITY

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | YES | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:
H12:LAB AIR, LAB VACUUM, FUEL GAS, COLD WATER, ACID WASTE

Procedural Laboratory (Infectious Disease Suite) Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|-----------|-----|----|--|
| | | | NOTE: ALL LABORATORY FURNITURE SYMBOLS PREFIXED BY "M" SHALL BE INTERCHANGABLE SUSPENSION SYSTEM TYPE. |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| M20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M205/205A | 2 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| | | | -OR- |
| M202/202A | 2 | CF | CABINET, UNDERCOUNTER, 7/6 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M7/7A | 2 | CF | CABINET, UNDERCOUNTER, WITH 2 HINGED DOORS AND 2/1 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS AS REQUIRED, DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12346) |
| M25 | 2 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12346) |
| H12-54/78 | 1 | CC | CABINET, AIR FLOW, BIOLOGICAL WITH AIR, GAS AND VACUUM OUTLETS, 120 VOLT, 20 AMP, RECEPTACLE (H-08-1 & H-08-6, MCS 11604) |
| | | | NOTE: THE TYPE (B1, B2 OR B3) OF CLASS II BIOLOGICAL SAFETY CABINET REQUIRED WILL BE DETERMINED ON AN INDIVIDUAL PROJECT BASIS BY RESEARCH SERVICE AT THE MEDICAL CENTER. REFER TO GENERAL INFORMATION 21. |
| | | | -OR- |
| | | | NOTE: THE FOLLOWING BIOLOGICAL SAFETY CABINET IS REQUIRED WHEN HIGH RISK (CLASS IV OR V) MICROORGANISMS ARE USED IN STUDIES. |
| | 1 | CC | CABINET, BIOLOGICAL SAFETY, CLASS III |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, STRIP MOLD WITH OUTLETS ON 24" CENTERS, 9" ABOVE COUNTER (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| VL53 | AR | VV | INCUBATOR, BACTERIOLOGICAL, 120 VOLT, 1.5 KW |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |

Procedural Laboratory (Barrier Suite)

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 200 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

H12-54/78 FUME HOOD

ELECTRICAL

Lighting

| | |
|-----------|------------------|
| General | 70 FC, 3.5 W/SF* |
| Special | - |
| Emergency | 50% GEN FLUOR |

Notes:
*COLOR CORRECTED FLUOR LAMPS

Power

| | |
|-----------|--------|
| General | 1080 W |
| Special | ** |
| Emergency | ** |

**H12: 600 W; REFRIGERATOR: 1200 W; EMERGENCY CIRCUIT

COMMUNICATIONS

| | | | |
|----------------|-------------------|-------|---------------|
| Telephone | WALL MTD | ADP | EMPTY CONDUIT |
| Intercom | PART OF TELEPHONE | Radio | - |
| Public Address | - | Other | - |

Notes:

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 4.0 W/SF |
| AC Load Equipment | 5.2 W/SF |
| Number of People | 3 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 15 (SA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | YES* |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |

Notes:
*H12: SEE H-08-4 SD624.6, HVAC DESIGN MANUAL FOR CAPACITY

PLUMBING AND MEDICAL GASES

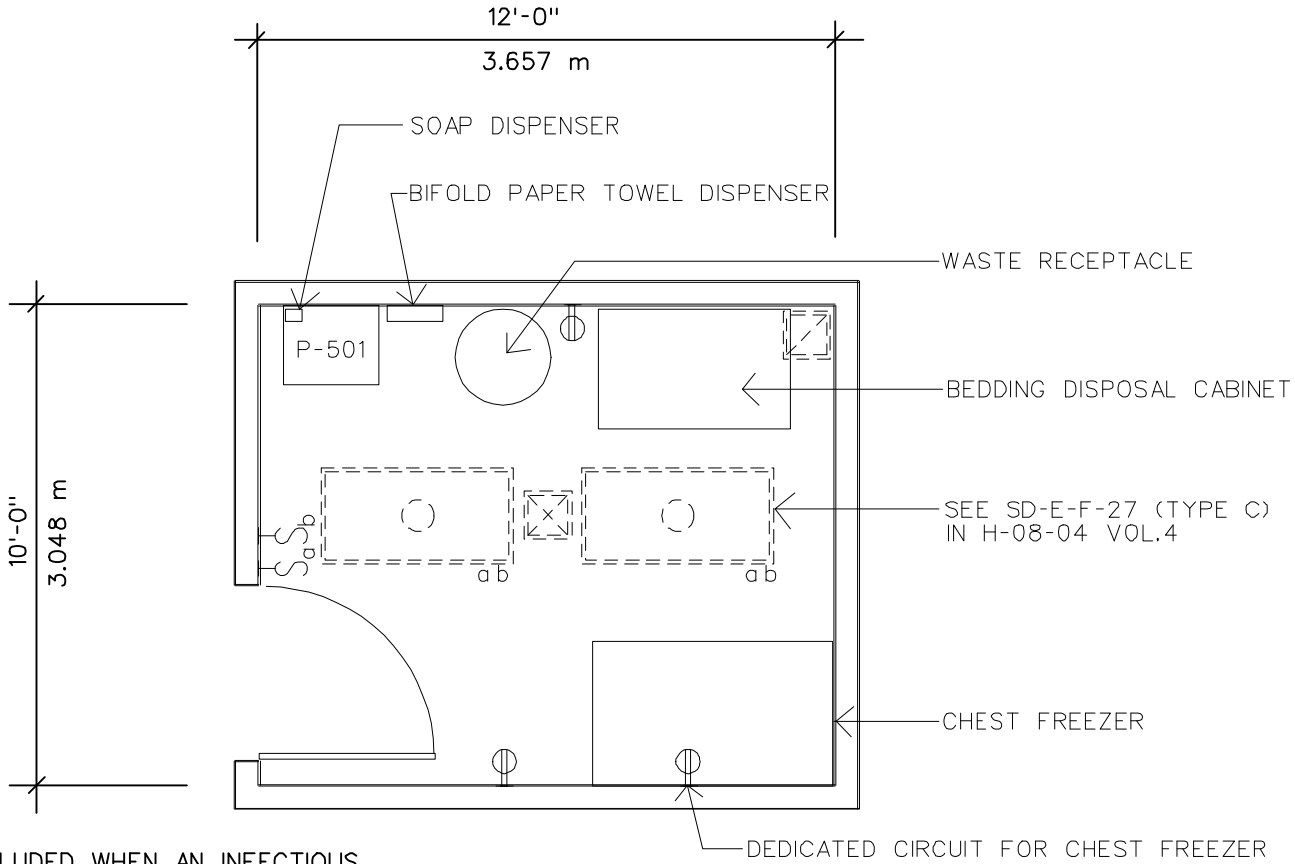
| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | YES | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | YES |
| Medical Vacuum | - | Laboratory Vacuum | YES |
| Oxygen | - | Fuel Gas | YES |
| Nitrous Oxide | - | Anesthesia Evac | - |

Notes:
H12:LAB AIR, LAB VACUUM, FUEL GAS, COLD WATER, ACID WASTE

Procedural Laboratory (Barrier Suite)

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|--|-----|----|--|
| NOTE: ALL LABORATORY FURNITURE SYMBOLS PREFIXED BY "M" SHALL BE INTERCHANGABLE SUSPENSION SYSTEM TYPE. | | | |
| TOP 5 | 1 | CF | COUNTERTOP, CORROSION RESISTING (STAINLESS) STEEL, RAISED RIM, WITH INTEGRAL SINK AND SPLASHBACKS (H-08-1 & H-08-6, MCS 11602) |
| R-2A | 1 | CF | SINK, CORROSION RESISTING (STAINLESS) STEEL, WITH END OR CORNER DRAIN OUTLET, WITH OR WITHOUT DRAINBOARD AND SENSOR CONTROL, 18" X 18" X 16" DEEP (H-08-1 & H-08-6, MCS 11602) |
| M20/20A | 1 | CF | CABINET, UNDERCOUNTER, SINK UNIT, 2 HINGED PANEL DOORS, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M205/205A | 2 | CF | CABINET, UNDERCOUNTER, 6/5 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| | | | -OR- |
| M202/202A | 2 | CF | CABINET, UNDERCOUNTER, 7/6 DRAWERS, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M7/7A | 2 | CF | CABINET, UNDERCOUNTER, WITH 2 HINGED DOORS AND 2/1 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 36", 48"; DEPTH 22"; HEIGHTS 31", 25" (H-08-1 & H-08-6, MCS 12346) |
| M14 | AR | CF | TABLE FRAME, WITH DRAWER(S), KNEE SPACE UNIT, AVAILABLE WIDTHS AS REQUIRED, DEPTH 22"; HEIGHT 31" (H-08-1 & H-08-6, MCS 12346) |
| M25 | 2 | CF | CABINET, WALL, WITH SLOPING TOP, 2 GLAZED SLIDING DOORS AND 2 ADJUSTABLE SHELVES, WITH LOCK AND KEY, AVAILABLE WIDTHS 30", 36", 42", 48"; DEPTH 13"; HEIGHT 30" (H-08-1 & H-08-6, MCS 12346) |
| H12-54/78 | 1 | CC | CABINET, AIR FLOW, BIOLOGICAL WITH AIR, GAS AND VACUUM OUTLETS, 120 VOLT, 20 AMP, RECEPTACLE (H-08-1 & H-08-6, MCS 11604) |
| | 1 | CC | OUTLETS, ONE EACH, AIR, GAS AND VACUUM GROUPED OVER COUNTER (H-08-1 & H-08-6, MCS 11602) |
| | AR | CC | CONNECTIONS, PLUMBING, ELECTRICAL OR MECHANICAL AS REQUIRED |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP, STRIP MOLD WITH OUTLETS ON 24" CENTERS, 9" ABOVE COUNTER (H-08-1, MCS 16140; H-08-3, CS 801-3) |
| | 1 | VV | REFRIGERATOR, DOMESTIC TYPE, 15 CU. FT., APPROX. 31"W X 28"D X 66"H, 120 VOLT, 20 AMP |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |



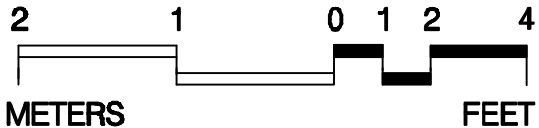
NOTE: FOR ALL P EQUIPMENT SEE H-08-04 VOL.1

NOTE: THIS ROOM TO BE INCLUDED WHEN AN INFECTIOUS DISEASE SUITE OR A CHEMICAL/RADIOISOTOPE SUITE IS INCLUDED

NOTE: THIS PLAN APPLICABLE ONLY WHEN ROOM IS APPROVED BY VHA

120 NSF
11.148 m²

Hazardous Waste Disposal Room



Equipment & Utility Plan

Hazardous Waste Disposal Room

Design Standards

ARCHITECTURAL

| | | | |
|-----------------|---------|--------------|----------|
| Floor Area | 120 NSF | Wall Finish | CMU (SC) |
| Ceiling | PCP | Wainscot | - |
| Ceiling Height | 9'-0" | Base | ERF |
| Slab Depression | - | Floor Finish | ERF |
| Notes: | | Lead Lining | - |

SPECIAL EQUIPMENT

NONE

ELECTRICAL

Lighting

| | |
|-----------|-----------------|
| General | 50 FC, 2.5 W/SF |
| Special | - |
| Emergency | - |
| Notes: | |

Power

| | |
|-----------|-------|
| General | 540 W |
| Special | * |
| Emergency | * |

*CHEST FREEZER: 1200 W

COMMUNICATIONS

| | | | |
|----------------|---|-------|---|
| Telephone | - | ADP | - |
| Intercom | - | Radio | - |
| Public Address | - | Other | - |
| Notes: | | | |

HEATING, VENTILATING AND AIR CONDITIONING

| | |
|------------------------------|----------|
| AC Load Lights | 2.5 W/SF |
| AC Load Equipment | 6.6 W/SF |
| Number of People | 1 |
| Noise Criteria | NC-40 |
| Room Pressure | NEGATIVE |
| Dry Bulb Temp Cooling (F) | 78 |
| Dry Bulb Temp Heating (F) | 72 |
| Minimum Air Changes per Hour | 10 (EA) |
| Minimum % Outside Air | 100 |
| 100% Exhaust Air | YES |
| Special Exhaust | - |
| Steam | - |
| Relative Humidity - Cooling | 50 % |
| Relative Humidity - Heating | 30 % |
| Notes: | |

PLUMBING AND MEDICAL GASES

| | | | |
|-----------------|-----|-------------------|-----|
| Sanitary Drain | YES | Cold Water | YES |
| Acid Waste | - | Hot Water | YES |
| Silver Recovery | - | Reagent Water | - |
| Medical Air | - | Laboratory Air | - |
| Medical Vacuum | - | Laboratory Vacuum | - |
| Oxygen | - | Fuel Gas | - |
| Nitrous Oxide | - | Anesthesia Evac | - |
| Notes: | | | |

Hazardous Waste Disposal Room

Equipment Guide List

| SYMBOL | QTY | AI | DESCRIPTION |
|---------------|------------|-----------|---|
| P-501 | AR | VV | CABINET, BEDDING DISPOSAL, PORTABLE ON CASTERS, LAMINAR FLOW HEPA FILTER, APPROX. 48" X 30" |
| | 1 | CC | SINK, SERVICE, REGULAR (H-08-1, MCS 15450; H-08-4, SD 4.1) |
| | 1 | VV | DISPENSER, SOAP, LIQUID, WALL MOUNTED |
| | 1 | VV | DISPENSER, BIFOLD PAPER TOWEL, SURFACE MOUNTED |
| | AR | VV | RECEPTACLE, WASTE, 24" DIAMETER |
| | AR | CC | RECEPTACLE, ELECTRICAL, DUPLEX, 120 VOLT, 20 AMP (H-08-1, MCS 16140; H-08-3, CS 801-3) |