

**SECTION 01 00 00
GENERAL REQUIREMENTS**

1.1 GENERAL INTENTION

- A. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- B. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general or subcontractors are present.
- C. Training:
 - 1. All employees of general contractor or subcontractors shall have the 30-hour OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team.
 - 2. Submit training records of all such employees for approval before the start of work.

1.2 STATEMENT OF BID ITEM(S)

- A. GENERAL CONSTRUCTION: Work includes demolition, alterations, electrical work, finishes, installation of sound systems, light construction to match existing conditions, and other items.
- B. OVERVIEW:
 - 1. Both Palo Alto Division (PAD) and Menlo Park Division (MPD) chapels require new chapel sound systems laid out in the scope of work.
- C. SCOPE OF WORK:
 - 1. Demolition and installation of the sound system at VA Palo Alto Chapel on the ground Floor of Building 100 and Menlo Park Chapel.
 - 2. Work will be inside a functioning hospital and Bidding Contractors may not interrupt hospital functions at any time without appropriate approvals by the VA.

3. Noisy work by the Contractor may be asked to be terminated at any time by the VA, with not change to the contract sum or duration. Off-hour weekend and night work is required for any noise as well as core drilling or shutdowns. Contractor shall schedule work as required to accommodate all hospital functions/operations.
4. Appropriate infection control and interim life safety measures shall be implemented by the Contractor.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, ONE set of printed specifications and attachments and ONE CD with specifications and attachments in PDF format will be furnished to the contractor.
- B. The contractor shall maintain on site ONE printed set of specifications, ONE printed set of attachments, ONE printed set of all RFI's, RFP's and other documents that modify the original specifications and attachments.

1.4 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan:

1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.
3. The contractor shall submit their SECURITY PLAN. The SECURITY PLAN shall be submitted within 10 day of the contract award. The Notice To Proceed (NTP) will not be issued until the SECURITY PLAN is approved.

B. Security Procedures:

1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site. Daily contractor identification badges are issued by the VAPA Police department.

2. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 7 work day's notice to the Construction Project Manager so that security, escort, arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
3. No photography of VA premises is allowed without written permission of the Contracting Officer.
4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Document Control:

1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
4. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
5. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
6. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
7. Notify Contracting Officer and VAPA Police immediately when there is a loss or compromise of "sensitive information".

1.5 FIRE SAFETY

A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.

1. American Society for Testing and Materials (ASTM):

E84-2009.....Surface Burning Characteristics of Building
Materials

2. National Fire Protection Association (NFPA):

10-2010.....Standard for Portable Fire Extinguishers

30-2008.....Flammable and Combustible Liquids Code

51B-2009.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work

70-2011.....National Electrical Code

241-2009.....Standard for Safeguarding Construction,
Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1926.....Safety and Health Regulations for Construction

B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to the Construction Project Manager who will have the plan reviewed by the VAPA Safety Department for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. The Notice To Proceed (NTP) will not be issued until the FIRE SAFETY PLAN is approved.

C. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAPA safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAPA equipment, etc. Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing.

- D. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- E. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- F. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Resident Engineer.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Resident Engineer.
- H. Fire Extinguishers: Provide, maintain and show proof of extinguisher maintenance at least one fire extinguisher per room in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- J. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections.
- K. Smoke Detectors: Prevent accidental operation.
- L. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Construction Project Manager.
- M. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
- N. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily at the end of each work shift.

- O. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.

1.5.1 CONSTRUCTION SAFETY REQUIREMENTS

A. Safety Plan:

1. The safety plan defines both physical and administrative safety procedures that will remain effective for the entire duration of the project.
2. The General Contractor is responsible for assuring that all contractor and sub-contractors working on the project and their employees also comply with these regulations.
3. The contractor shall submit a SAFETY PLAN that written specifically for this contract. The SAFTEY PLAN shall be submitted within 10 day of the contract award. The Notice To Proceed (NTP) will not be issued until the SAFTEY PLAN is approved.
4. The SAFETY PLAN shall serve as reference document that any contractor or sub contractor employee can use to find the correct course of action in an emergency.

1.6 OPERATIONS AND STORAGE AREAS

- A. The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting

Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads. **(FAR 52.236-10)**

- D. Working space and space available for storing materials shall be as determined by the Construction Project Manager.
- E. Workmen are subject to rules of VAPA applicable to their conduct.
- F. Execute work so as to interfere as little as possible with normal functioning of VAPA as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, except for when authorized by the Construction Project Manager.
 - 1. Do not store materials and equipment in other than assigned areas.
 - 2. Provide unobstructed access to the VAPA areas required to remain in operation.
 - 3. Where access by VAPA personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Construction Project Manager and a representative of VA Facilities, of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:
 - 1. Existing condition and types of ceilings, walls, and other surfaces not required to be altered throughout affected areas of building.

2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and Resident Engineer.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Construction Project Manager, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Construction Project Manager together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- D. Protection: Provide the following protective measures:
1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
 2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.

3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

1.8 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAPA's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
 1. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group as specified here and indicated on the drawings. Prior to start of work, prepare a INFECTIOUS PREVENTION PLAN detailing project-specific dust protection measures, including periodic status reports, and submit to the Construction Project Manager and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. The Notice To Proceed (NTP) will not be issued until the INFECTIOUS PREVENTION PLAN is approved.
- B. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.
 1. Do not perform dust producing tasks within occupied areas without the approval of the Construction Project Manager.
 - a. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Shop Vacs and Vacuum cleaners shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids. Using a HEPA vacuum, vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended. Vacuum and clean all work done at the end of each day.
 - b. The contractor shall not haul debris through patient-care areas without prior approval of the Construction Project Manager and the VAPA. When, approved, debris shall be hauled in enclosed dust

proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the wheel treads and the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down. Wheels and tires shall not track debris on floors outside the work zone.

C. Final Cleanup:

1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
2. Perform HEPA vacuum cleaning of all surfaces in the construction area including above ceiling spaces. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.

1.9 DISPOSAL AND RETENTION

A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:

1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re installation and reuse. Store such items were directed by Construction Project Manager.
2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

5. Lead based paint found but not identified by the government shall not be disturbed. Notify the Construction Project Manager immediately and await further instructions.
6. Asbestos or asbestos containing material found but not identified by the government shall not be disturbed. Notify the Construction Project Manager immediately and await further instructions.
7. Other hazardous material if found but not identified by the government shall not be disturbed. Notify the Construction Project Manager immediately and await further instructions.

1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor. **(FAR 52.236-9)**

1.11 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the Construction Project Manager. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Resident Engineer before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.

- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.12 WORK HOURS

- A. All work is to be performed between the hours of **7:00AM** and **4:30PM**.
- B. Any work outside of these hours shall be requested in writing to the Construction Project Manager. Work outside of these hours is governed by utility shut down requirements or other applicable VAPA rules. If no other requirements are applicable then 5 working days notice is required.

1.13 AS-BUILT DRAWINGS

- A. The contractor shall maintain two full size sets of as-built drawings on the job site which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the Construction Project Manager's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the Construction Project Manager within 15 calendar days

after each completed phase (if the project is phased) and after the acceptance of the project by the Construction Project Manager.

- D. Paragraphs A, B, & C shall also apply to all shop drawings, manuals and other contract required documents.
- E. Final payment shall not be made before receipt of all as built drawings, manuals and other contract documentation by the Construction Project Manager.

1.14 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to compliance with the following provisions:
 - 1. Permission to use each unit or system must be given by Construction Project Manager. If the equipment is not installed and maintained in accordance with the following provisions, the Construction Project Manager will withdraw permission for use of the equipment.
 - 2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
- B. Prior to final inspection, all equipment used by the contractor shall be inspected by the Resident Engineer, equipment or parts used which show wear and tear beyond normal, as determined by the Construction Project Manager, shall be replaced with identical replacements, at no additional cost to the Government.
- C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

1.15 TEMPORARY TOILETS

- A. Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by the Medical Center.

Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.

- B. When toilet accommodations are not available the contractor shall provide portable toilets.

1.16 AVAILABILITY AND USE OF UTILITY SERVICES

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.

1.17 TESTS

- A. See Spec Section 27 40 00 Audio and Visual Communications for commissioning test requirements.

1.18 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (two printed copies each and two on CD) for each separate piece of equipment shall be delivered to the Construction Project manager coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact

model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.

- C. The final payment will not be processed until all manuals are delivered to the Construction Project Manager.
- D. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the Resident Engineer and shall be considered concluded only when the Resident Engineer is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Construction Project Manager, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

1.19 GOVERNMENT-FURNISHED PROPERTY

1.20 RELOCATED EQUIPMENT AND/OR ITEMS

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and/or items indicated by symbol "R" or otherwise shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the Construction Project Manager.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".

- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

1.21 SAFETY SIGN

- A. Provide a Safety Sign where directed by the VA Construction Project Manager. Commercially made signs are acceptable.
- B. Maintain sign and remove it when directed by the VA Construction Project Manager.
- C. Post the number of accident free days on a daily basis.

1.22 CODES

- A. CONSTRUCTION CODES: The following codes are used for this contract:

Building Code	IBC - International Building Code 2009
Electrical Code	NEC - National Electric Code 2008, NFPA 70

1.23 PALO ALTO DIVISION SPECIAL REQUIREMENTS: (ATTACHMENTS)

- A. Construction "Rules of the Station" for VAPAHCS
- B. Utility Shutdown Procedures - VAPAHCS Memo 138-08-14
- C. Sign-in/Acknowledgement Sheet for Utility Shut-Downs.
- D. Acceptable Construction Fencing Types.
- E. Site Safety Review Checklist
- F. ILSM (Interim Life Safety Measures) Matrix & Sample Matrix
- G. VAPAHCS Codes of Practice for Tel/Data Cabling Installations
- H. VAPAHCS Tel/Data Jack Conventions

- I. Project Construction Wall Flyer Notice - Sample
- J. Hot Work Program Requirements - VAPAHCS Memo SAFE-09-06

Attachment A:

Construction "Rules of the Station" for VAPAHCS



RULES OF THE STATION

RULES OF THE STATION

VETERANS AFFAIRS PALO ALTO HEALTH CARE SYSTEM

The guidelines published in this issue are for the use and convenience of construction and maintenance contractors, vendors and others performing contract work at all Divisions of the VA Palo Alto Health Care System.

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- FF. Fire Safety Precautions

- A. **CONTRACT WORK HOURS.** All work on the contract shall be performed between 8:00 am and 4:30pm Monday through Friday, excluding National Holidays, unless approved in writing by the Contracting Officer. Contractors may request, in writing, approval to work other hours or weekends. Except for emergencies, the contract person should receive such requests two weeks before the scheduled work. When possible, Contractors will submit emergency requests at least two days before the scheduled work.
- B. **UTILITIES.** No utility service such as water, gas, medical air and gas, steam, sewer, electric, fire protection or communication shall be interrupted without prior approval of the contact person. This includes those interruptions required by the contract. Construction contracts include provisions for maintaining utility systems or providing temporary facilities. Utility shutdowns shall be done on weekends. Requests for utility shutdowns shall reach the contact person at least 30 days before the scheduled work. Any EMERGENCY REQUIRING AN IMMEDIATE SHUTDOWN WILL BE REPORTED IMMEDIATELY to the contact person. The contact person will in turn immediately notify the Engineering Office

and the appropriate Chief, Facilities and Operations. The Contractor will prepare and forward to the Chief, Engineering Service, a written report of the situation, why it happened, a schedule of any further corrective work needed, and what, if any steps are being taken to prevent a recurrence.

- C. **INTERIM LIFE SAFETY MEASURES.** If a Fire Alarm system is out of service for more than 4 hours, or if a Sprinkler system is out of service for more than 4 hours, then this shall require the contractor to implement Interim Life Safety Measures in accordance with the latest issue of the VA Palo Alto Health Care System Memorandum SAFE 07-23.
- D. **PROTECTIVE CLOTHING/EQUIPMENT.** All workers will wear and/or use protective clothing and gear when required. This includes hard hats, goggles, protective shoes, gloves, masks or breathing apparatus, etc. The Contractor shall provide and protective equipment that may be required.
- E. **TELEPHONES.** Contractors may provide their own telephone, or pay telephones are available at many locations throughout the VA Palo Alto Health Care System for public use including contractors and the contract workers. Government telephones will not be used for private business or personal calls. Contractors or their workers may use the Government telephones to call/page the contact person, the Engineering Service office, or when authorized by the contact person - to call their office concerning contract matters. Telephone calls for contract workers will not be accepted by the Health Care System.
- F. **ELEVATORS/CORRIDORS.** Contractors and workers may use corridors and elevators for travel to and from the job sites when in proper attire (shirt and shoes required) provided they don't track mud, wet cement or any form of "dirt" into the buildings. The contact person will assign specific routes, times and elevators to use for transportation of materials and equipment. The Contractor will clean-up any mess caused by their workmen. Smoking is prohibited in elevators and corridors. Elevators will not be used during an emergency.
- G. **TOILETS.** The Contractor is to provide their own toilet facilities, however, the contact person will advise the Contractor which toilet facilities (if available) may be used by the Contractor's workmen. The Contractor will ensure that the facilities are kept clean and will be responsible for any damage done by the Contractor's workers.
- H. **PARKING/TRAFFIC.** Specific parking areas may be assigned for workers on larger construction projects. Workers on smaller construction or maintenance contracts may use that is away from buildings if no parking area is designated. Contractors, including maintenance contractors and workers are specifically prohibited from parking in those spaces reserved for Engineering Vehicles or lawn areas. Further, the Contractor is not to "back in" the space.
- I. **DELIVERIES.** The contact person will assign routes for the delivery of materials and supplies to the job site. The Contractor or construction traffic will not block any Health Care

System road or street, walk or building egress without requesting approval in a timely manner.

- J. **LOADING/UNLOADING**. Building loading docks and landings may be used to load or unload construction materials when approved by the contact person. However, any vehicle left unattended for more than a few minutes may be cited by the Health Care System Police. Some areas may be reserved for Health Care System operations only during certain hours.
- K. **FEDERAL POLICE**. The Health Care System Police are Federal Police Officers with full authority to make arrests, investigate crime, and to issue citations. Citations issued for driving, parking violations or other offenses usually require an appearance in the Federal District Court and/or payment of a fine. FOR THE SAFETY OF PATIENTS speed limits, other driving and parking codes are strictly enforced.
- L. **LOCKED AREAS**. The Contractor is to coordinate access to locked areas with the contact person, including obtaining keys required for access to work sites. All buildings at the Health Care System are locked during other than normal work hours. When the Contractor has approval to work other than normal work hours, he will need to make arrangements for his workers to have access to job sites.
- M. **OPERATIONS AND STORAGE AREAS** will be confined to areas designated by the contract or approved in writing by the contact person or the Contacting Officer. The Government will not be responsible for any tools, equipment or materials left or stored on Government facilities, unless exceptions are provided in the contract.
- N. **CONSTRUCTION WASTE AND DEBRIS** will not be disposed of on station or in Health Care System trash containers or dumpsters. The Contractor may provide his own bin or dumpster, however, the use and location of such must be approved in writing by the contract person. Construction waste and debris will not be accumulated in corridors or other building areas where it might cause a fire or safety hazard.
- O. **RECREATIONAL FACILITIES** such as swimming pools, gym, tennis courts, etc. Are not to be used by Contractors or Contractor's workers. Contractors and workers, in proper attire, are permitted to use the canteen for breaks and lunch and to purchase incidentals in the Canteen Store.
- P. **DISPOSAL OF HAZARDOUS MATERIALS**. Several buildings at the VAPAHCS contain asbestos containing materials (ACM). Some typical types of materials found to contain ACMs are pipe insulation, transit wall panels, floor tile, linoleum backing, floor/roof mastics and others. Contractors are required to communicate this information to all of their employees and subcontractors that will be working at any of the VAPAHCS sites, and failure to do so could result in OSHA citation(s). **Contractors are also required to alert the VAPAHCS immediately in the event any known or suspected ACM is accidentally disturbed or will need to be disturbed before proceeding with work.** If not indicated in

the contract drawings, known locations of ACMs can be determined from the current VAPAHCS asbestos survey. Disposal of any hazardous or potentially hazardous materials in sanitary or storm sewer systems or on Health Care System grounds is strictly prohibited. Hazardous materials, such as asbestos materials, used cleaning solutions and other harmful chemicals shall be disposed of in accordance with State and/or local laws and regulations. In case of an accidental spill of hazardous materials, the contractor is expected to take immediate action to contain the spill and at the same time notify the C.O.T.R./Contracting Officer of the spill. Action should be taken to mitigate the situation until you receive direction from the VAPAHCS Quality Management personnel.

- Q. **WASH DOWN**. Washing leftover cement, plaster, paint, oil or grease, solvents, etc. into any drains and the washing down of cement trucks or other delivery vehicles is strictly prohibited. **REPORT ANY ACIDENTAL SPILLS THAT MAY RUN INTO STORM DRAINS IMMEDIATELY TO THE ENGINEERING SERVICE AT EXTENSION 62468.** Even accidental spills, particularly those not immediately controlled or contained, may result in legal action by local or state authorities against the responsible parties.
- R. **REMOVAL OF GOVERNMENT PROPERTY**, including empty boxes, crates, wood, etc. is prohibited, except approved by the Chief, Supply Service. Contractors or vendors taking Government equipment off station for repairs will notify the contact person of such action. In most cases, a receipt will be required.
- S. **SEXUAL HARASSMENT** is strictly prohibited. This includes deliberate or unsolicited verbal comments or gestures of a sexual nature, unwelcome sexual advances, requests for sexual favors and/or other unwelcome verbal or physical conduct of a sexual nature.
- T. **DRUGS AND ALCOHOL**. Possession or use of non-prescription drugs or alcohol, including beer and wine, on the Health Care System grounds is strictly prohibited.
- U. **FIREARMS AND EXPLOSIVES**. Possession of firearms, ammunitions, explosive devices and any hand held item that may be considered an offensive weapon is strictly prohibited. This includes carrying such items in vehicles.
- V. **SMOKING POLICY**. Smoking is prohibited in all Health Care System Buildings particularly in corridors, elevators, offices and patient areas, except in designated areas.
- W. **LOST AND FOUND**. Any article or money found on the premises should be delivered immediately to the contact person or the Health Care System Police for safekeeping. Anyone losing an article or money should contact the Health Care System Police to determine if it has been turned in.
- X. **SMOKE/FIRE BARRIER PENETRATIONS**. Any penetrations to smoke or fire barrier walls, ceiling or floor slabs shall be properly sealed immediately. We recommend Hilti Fire Stop 601 or 635 for walls and ceilings and Hilti Fire Stop 657 for floor penetrations.

- Y. **WELDING AND OR BURNING**: Any person planning welding, cutting metal studs or other such burning operations will obtain a burning permit from the Occupational Health and Safety Office, extension 65894. Welding and/or burning operations are allowed only during normal working hours.
- Z. **LOW VOLTAGE CABLE INSTALLATION**: The contractor shall install low voltage cable in raceways only after scheduling the work with the contact person. Whenever feasible, low voltage cables to be in the ceiling will be installed before the ceiling tile is installed.
- AA. **OCCUPATIONAL HEALTH AND SAFETY**: Contractors and their employees are expected to comply with and are subject to applicable OSHA and CAL-OSHA regulations as at any construction site.
- BB. **INJURY ACCIDENTS**: The Health Care System does not have the equipment, facilities, or personnel trained to handle serious injuries. Call 911 from a pay phone (or use an outside line) for emergency medical assistance and notify the contact person and the Health Care System Police.
- CC. **DAMAGE TO GOVERNMENT PROPERTY** caused by the Contractor or his workmen, whether accidental or incidental to the work, shall be corrected immediately at the Contractor's expense. This includes damage to lawns, shrubbery, irrigation systems, curbs, etc. Caused by construction vehicles/traffic and other operations.
- DD. **DUST AND FUME CONTROL** will be exercised on all construction operations. Workers will be careful not to operate any vehicles, gas or diesel engines, or to perform any fume or dust generating process near a building intake system.
- EE. **NOISE** will be held to a minimum at all times. Jack-hammering, core drilling and other noisy or disturbing operations may have to be rescheduled (or accomplished after hours) to avoid interfering with surgery or other programs. OSHA standards related to decibels are a requirement in any event.
- FF. **ROADS & WALKS**. Any debris dropped along egress from the station will be cleaned up immediately. Mud and dirt on roads and walks will be cleaned up as soon as the construction operation is complete or at the end of each day.
- GG. **FIRE SAFETY PRECAUTIONS** Contractors are expected to comply with all fire safety precautions. In the event of a fire or during regular fire drill, the contractor must vacate the construction site within the zone affected.

- - - E N D - - -

Attachment B:

Utility Shutdown Procedures - VAPAHCS Memo 138-08-14

Attachment C:

Sign-in/Acknowledgement Sheet for Utility Shut-Downs.

Attachment D:

Acceptable Construction Fencing Types.

Attachment E:

Site Safety Review Checklist

Veteran Affairs Palo Alto Health Care System (VAPAHCS)

Construction Site Safety Review Checklist

Project: _____ Date: _____

Contractor: _____ Certifier Signature: _____
 _____ Time: _____

All Contractor personnel and Subcontractor employees are responsible to conduct work activities in a safe and healthful manner for their health and well-being as well VAPAHCS personnel. The purpose of this Site Safety Review is to increase the Contractor/Subcontractors awareness of the need for safe work habits and a positive attitude toward loss prevention and control. Below columns marked with "NC" answers require the Contractor/Subcontractors implementation of corrective action plans. Additional comments/actions will be described on additional pages to supplement this report.

Safety & Health General	OK	NC	N/A	Concrete Operations	OK	NC	N/A
1. Safety Program / Injury Illness Protectn Plan				50. Cement/Silica dust exposures			
2. Orientation/Code of Safe Practices				51. Cutting Sawing/Grinding Controls			
3. Toolbox Meetings/Pre-Job Safety				52. PPE utilized by Crew			
4. Postings (OSHA) (Project Info/POC)				53. Wall or Structure Supported			
5. Emergency Numbers/First Aid				54. Pumps/equipment set-up/ cond.			
6. Toilets/ Hand Wash/Drinking Water				Ladders			
Environment				55. Ladder Conditions			
7. Ventilation, incl negative air/HEPA filtration				56. 3' Above Landing			
8. Illumination				57. Braced & Tied			
9. Integrity of Dust Control and containment				58. A-Frame Step Ladder Set Up			
10. Openings Guarded/Covered-Marked				59. Correct Height			
11. Stairs/Walkways Guarded & Accessible				60. Proper Use			
12. Rebars Capped				Scaffolds/Shoring			

				(Interior/Exterior)			
13. Equipment/Material Storage				61. Current certified installation doc			
14. Traffic/Public Safety				62. Planks/toe boards			
15. 2 hr. fire separation from Patient Care Areas				63. Railed Properly			
16. Construction Warning Signs Posted				64. Tied to Structure			
17. Housekeeping				65. Ladder Access			
18. Emergency Exits – Clear / Unlocked				66. Daily Inspections			
19. ILSM in place – Exits Blocked/Locked				67. Users trained/Competent person			
Electrical Safety				68. Falling Object Protection			
20. Cords, Plugs Conditions, Surge Protectors				Excavations/Trench			
21. GFI Boxes & Grounding				69. Daily Inspections/Competent Person			
22. Overhead Lines protected/protected/spotter				70. Shored/sloped > 5' or soil cond.			
23. Lock out Tag Out				71. Spoil Piles at least 2' from edge			
24. Power/Generator/breaker panels secured				72. Underground Line located/potholed			
Personal Protection (PPE)				73. Barricades/protective measures			
25. Hard Hats				74. Ladder every 25' & after 4' deep			
26. Eye & Face Protection				Vehicle/Equipment Operations			
27. Ear Protection				75. Seat Belts by Operators			
28. Gloves/Clothing				76. Back Up Alarms – all Equipment			
29. Footwear				77. Reflective garments/PPE			
30. Respiratory (Dust/Canister Masks)				78. Personal cars in designated areas			
Site Security				79. Forklift operators trained			
31. Fencing				80. Flagmen/Traffic Control			
32. Security				Scissors/Zoom Booms/Lift			

				Trucks			
33. Entrance/Exit				81. Controls Operative			
Hand/ Power/Powder Actuated Tools				82. Safety Chains in Place			
34. Guards attached/functional				83. Harness & Lanyards (JLG's)			
35. Grounded Properly				84. Operator Certification			
36. Working Properly				85. Visual Inspection			
37. Trained or Certified Operators/PPE				86. Fluid Levels (Oil, Water)			
Fire Protection				87. Brakes/Lights/Back up Alarm(s)			
38. Fire Extinguishers checked/accessible				88. Gauges – Operative			
39. Alarm/Detection System in Place				89. Scheduled Maintenance			
40. Smoking (No Smoking)				Welding & Cutting			
41. Hot Work Permits approved/current				90. Approved Hot Work Permit			
42. Flammable/Combustible Material				91. Cylinders – Use & Segregation			
Fall Protection				92. Torches,Hoses,Gauges,PPE,etc			
43. Use of Fall Protection above 6'				93. Weld Cables, Holders & Grounds			
44. Floor openings/holes securely covered				94. Fire Protection (Task Work)			
45. Perimeter/Interior Shaft Guardrails				Personnel Hoists & Cranes			
46. Falling material/objects				95. Inspections & Maintenance			
47. Trained on Use – Competent Person				96. Crane Set Up & Swing Protection			
48. Handrails for stairs 4 or more steps				97. Rigging & Loads Secured			
49. Fall Protection Equipmt in place/Inspected.				98. Certified Operator			

Legend: OK = Practice in Compliance; NC = Needs Correction -- Identify ID number & correction needed on back of sheet; N/A = Not Applicable

Attachment F:

ILSM (Interim Life Safety Measures) Matrix & Sample Matrix

Attachment G:

VAPAHCS Codes of Practice for Tel/Data Cabling Installations

**Office of Information and Technology DESIGN AND CONSTRUCTION GUIDANCE
(revised 3/8/11)**

1. General VA Palo Alto Health Care System

1.1 Codes of Practice

Adherence to **the** VA Network Cable Specifications by cabling installation contractors is a condition of contract. In the event the cabling installation is sub-contracted by the prime contractor, the prime contractor will supply a copy of these specifications to the sub-contractor. This requirement shall cover all levels of sub-contracting.

Any variations to the issued job specification shall be referred for approval to the Contracting Officer Technical Representative (COTR).

Contractors shall install all cable and cabling products with a proven track record for data network cabling installations. Such installations shall also meet all requirements as set out in this specification.

Un-terminated "future capacity" cables are not permitted. All installed cables shall be terminated at each end and documentation, labeling and (where applicable) test results provided. This applies to all permanently installed cable types.

1.2 Documentation

At least two copies of documents describing the data cable installation shall be provided.

A copy to be supplied to the COTR for approval

1.3 Network Equipment

COTR must approve the installation or removal of network hardware equipment. Non-VA staff shall carry out such work only with prior approval from the COTR.

1.4 Network Equipment Environment

Punch down area(s) (location of the data communication rack(s)) will be determined by the building Architect/Engineer and the COTR.

Contractor shall supply at minimum 1000BaseT, Category 6 certified rack-mounted modular RJ45 HIGH DENSITY patch panel (24/48 ports) for jacks meeting the ANSI/EIA/TIA t568-B- category 6 standards.

Contractor shall supply at minimum 1000BaseT, Category 6 certified AT&T style 110 blocks for voice requirements meeting the ANSI/EIA/TIA t568-B- category 6 standards. Contractor shall install one full wall of fire-rated plywood for the 110 blocks to be mounted on.

Contractor will supply contract specified number of 19"W x 84"H steel data communication rack. Both racks shall have a grounding wire and bus bar installed to earth ground.

Each jack on the AT&T style 110 block and HIGH DENSITY rack mountable patch panel will correspond with the jack at the wall device faceplate.

Where network equipment is to be located in a secure room or large closet, the room or closet shall have a dry powder extinguisher, suitable for electrical fires, provided and installed within the room. Air conditioning is required in each IT room. And the OI&T key core should be installed.

2. Unshielded Twisted Pair (UTP) Category 6 *Contractor shall use a Cable color other than White *

IEEE 802.3 100BaseT UTP Level 6, 24 AWG plenum rated cable.

Insulation - high-speed data grade.

Sheath - high temperature UL data grade.

2.1 Network Configuration Constraints * Contractor shall use a Cable color other than White *

Each segment comprises a four pair Category 6 cable.

Pin all 8 conductors.

Maximum link length - 90 meters

Maximum channel length - 100 meters

Maximum number of stations per segment - 1.

2.2 Installation Constraints

2.2.1 Installation Standards

Cable and connecting hardware meeting or exceeding the Category 6 specifications shall be used throughout, with pairs terminated according to the T568B wiring scheme.

2.2.2 General Requirements

The cabling system shall include all patch panels, horizontal cables, transition blocks, vertical cabling, modular jacks, system cables, patch cables, cable management, and a comprehensive labeling system. Cable trays shall be installed in main hallways in the place of j-hooks.

2.2.3 Data Outlets

The following information represents a minimum requirement for the number of UTP outlets that shall be installed in each type of workspace.

If the construction at the location of the voice/data outlet is drywall, provide flush-mounted single-gang outlet boxes with six-port base plates and applicable wall device faceplates (cable to be installed behind drywall).

If the construction at the location of the voice/data outlet is a solid wall, provide surface-mounted single-gang outlet boxes with six-port base plates and applicable wall device faceplates (cable to be installed in plastic wall mold equipped with protective insulator or sleeve).

Where modular furniture is used, the location of the voice/data outlet will be in the baseboard of the furniture, where the networked equipment (computers, printers, etc) will be located. Provide flush-mounted single gang outlet boxes with six-port base plates and applicable wall device faceplates. If flush-mounted single-gang outlet boxes cannot be used, then modular surface mount boxes will be used with six-port inserts. All cable runs in modular furniture will be through furniture wire baseboard ducts/conduit.

2.2.4 Horizontal Cabling

The horizontal wiring shall be a star topology connecting each network outlet jack to a jack on a patch panel rack in a communications enclosure/room.

The cable used shall be 4-pair 100-ohm high performance, 24 AWG solid conductor, and unshielded twisted pair cable, meeting or exceeding the Category 6 specification.

2.2.5 Network Outlet and Labeling

***ETHERNET 568B .5 RJ 45 shall be blue and .6 RJ 45 shall be yellow ***

***VOICE Pair one in insert one shall be white and Pair two in insert two shall be white**

Each network outlet faceplate shall incorporate one or more modular, universal RJ45 IDC jack sockets meeting or exceeding the Category 6 specification. Label each jack at this wall device faceplate to correspond with the label on the patch panel jack (N1, N2, etc.). All numbering should be readily visible.

2.2.6 Cable Installation

The cable interconnecting a network outlet to the patch panel shall be one continuous length with no intermediate joins, splices or taps. Each cable runs shall be no longer than 300 feet total in length, from start to finish.

Cable termination onto a horizontal distribution panel or patch panel shall be undertaken in a manner that permits additional cables to be terminated without unduly disturbing previously installed cables.

Each voice/data outlet / device location will have three (3) cable runs. One (1) will terminate on the AT&T style 110 block for voice requirements and two (2) will terminate on the high density rack mounted patch panel.

No more than 24 cables shall be cable tied in a bunch.

A 2-meter loop of cable shall be left within or on the approach to each communications room/enclosure to facilitate re-termination of the cable in the future, should this be required. Such cable slack shall be coiled and supported in a neat and practical manner.

A 0.5-meter loop of cable shall be left in the trunking on the approach to each network outlet to facilitate re-termination of the cable in the future, should this be required.

The amount of untwisting in a pair as a result of termination to connecting hardware shall be no greater than 13mm, and less than this if possible.

Cable bend radii shall be no less than eight times the cable diameter or as specified by the cable manufacturer; whichever is the greater.

Precautions shall be observed to eliminate cable stress caused by tension in suspended cable runs and tightly strapped bundles.

Cable bundles shall not rub on, or be unduly compressed against any cable tray, equipment racking, or other cable support.

Cable bundles shall not obstruct the installation and removal of equipment in equipment racks.

Where UTP cables are run parallel with electrical cables the following minimum separation rules shall be observed:

<u>Circuit rating</u>	<u>Unshielded power/data</u>	<u>Shielded power/data</u>
≤ 1 KVA	300mm	25mm
$\geq 1 < 2$ KVA	450mm	50mm
$\geq 2 < 5$ KVA	600mm	150mm
5 KVA	1500mm	300mm

Where UTP cables are run in the proximity of electrical motors or transformers the minimum separation shall be 1 meter.

In situations where the above minimum distances cannot be applied due to a lack of available space, data cables shall be enclosed in rigid and/or flexible steel conduit. Conduit shall be bonded to a protective ground at one point in the installation. No steel cabling enclosure medium shall be installed without having continuity to a protective ground.

2.3 Inter-Building Cabling

Wiring Maintenance or other local buildings:

If local network connectivity for Maintenance or other local buildings is required, follow all specifications as stated in this document.

Connecting Maintenance or other local buildings with the Administration Building:

If the distance between the punch down area in the Administration Building to the punch down area in the Maintenance Building does not exceed 100m or 328' (maximum length of the cable run), then 1000BaseT UTP Level 6 24AWG plenum 4 pair cable may be used. Two cables will be required and must be installed in direct buried conduit that will connect the two buildings.

If the distance to the punch down area in the Maintenance Building exceeds 100m / 328' but is no more than 2km / 1.24 miles (maximum length of the cable run). Cable should be routed as shown on the contract drawing. All feeder and riser copper cabling shall be terminated on 110 blocks and associated protectors shall be installed according to ansi/eia/tia standards/nec.

If the distance to the maintenance building exceeds 2km / 1.24 miles but is no more than 5km / 3.10 miles, then single-mode fiber 8x125 microns is recommended.

The contractor will install LC connectors at both ends of the SM fiber. A minimum of 12 SM strands will be required and must either be installed in conduit and/or installed below the frost line, however, it is highly recommend the cable be installed in conduit. All bends will be made with long radius conduit. All associated fiber patch panels shall be installed by the contractor.

Below is a list of hardware that is required if fiber is installed. VA will supply the Cisco Catalyst Switch for installation by the contractor on an approval basis. Contact the COTR to arrange delivery.

Single-mode

Cisco Catalyst 3750-48 port

Cisco Catalyst LX uplink port

Single-mode Fiber 8.3x125 microns

LC Connectors

2.4 Testing

Testing shall be carried out with building electrical services operating (lighting, power, air-conditioning plant and lift services where applicable).

Wiring shall be tested to verify the continuity, integrity and polarity of the cable according to the specified pin and pair grouping assignments.

2.5 Documentation

The contractor shall provide installation documentation at the completion of the cabling system installation.

The contractor shall certify that the cabling system meets the UTP cabling system requirements for Category 6 performance levels.

3. Optical Fiber Cable (Ethernet)

Single-mode Fiber

Core Diameter 7 - 9 microns

Cladding diameter 125 microns

Prim. Acryl. Buffer diameter 250 microns

Proof test not less than 50kpsi.

Numerical aperture 0.11

Attenuation not greater than 0.5dB/Km @ 1310nm. not greater than 0.4dB/Km @ 1550nm.

Termination: All Single-mode terminations shall be made with LC connectors

3.1 Fiber Network Configuration Constraints

Maximum Single-mode segment length – 5 km

3.2 Installation Constraints

Minimum bend radius (during installation)- not less than 20 X outside diameter of cable.

Minimum bend radius (as installed) - not less than 10 X outside diameter of cable or the manufacturer's specification, whichever is the greater.

During installation the pulling force shall not exceed the manufacturer's specified maximum.

Cable slack shall be provided as follows:

Within pits - 2 meters minimum.

At a termination location - 2 meters minimum.

Within a termination enclosure - 0.5 meter minimum.

All fiber cable terminations are to be LC connectors. When using a wall or rack mount enclosure, a patch cord protector shall be included in the installation.

3.3 Testing

100% Insertion Loss (light source and power meter) testing of all terminated fibers shall be performed in both directions at 1310nm for single mode cables.

OTDR tests shall be performed at high wavelength, if the distance is greater than 1000m at 1550nm for single mode cables.

Optical loss covers the total loss between two corresponding optical ports and must include allowances for losses due to fiber, connectors, passive optical components, splices and any margin for maintenance. This loss shall not exceed 5db.

Copies of all test results are to be provided to the COTR on completion of the project.

3.4 Documentation

Documentation of a cable installation shall comprise the following:

Cable type
Route followed
Pit locations (where applicable)
Building names
Table of losses for each core

**4. 0 In reference to VA Master Specification Section 27 15 00 Communications
Horizontal cabling, the following shall be noted :**

Palo Alto EPBX has one in existence and it is located in Bldg 100 FB370.

Page 27 15 00- 24.

- e.1 2 Category 6 rj 11 to be installed
- f. Provide each rj45 type jacks

Page 27 15 00 -25. h. Fiber Optics. VA Palo Alto networking equipment does not support ST type – Provide LC terminations on both ends.

Page 27 15 00 -26. 2. SM fiber – Provide LC terminations.

Page 27 15 00 -29. 4.C Palo Alto no longer uses MM fiber due to the distance limitations. Provide Type SM. VA Palo Alto networking gear has been refreshed by OI&T in March 2009 for SM fiber uplinks.

Page 27 15 00 -29.5. Palo Alto purchases our own patch cables – this purchases is unnecessary.

Page 27 15 00 -34.

h.3 Indicates a clause for growth on Category 6 cabling which should be able to give VA Palo Alto the additional rj45 we are asking

h.4 Indicates a clause for distance on MM vs SM which should be able to give Palo Alto the SM fiber with LC connections we are asking for.

Fiber limitations are identified on Page 27 15 00-34. h..4 –Provide proof of testing of all fibers to VA Palo Alto IT.

The Contractor supply and install the IT equipment rack into each TC.

Provide the IT department with cable warranty and POC so VA Palo Alto can route any cable warranty issues directly with them. Industry standards are 10 years on cabling warranty.

Submit Contractor's telecommunications OEM certifications for the installers as mandated by 27 15 00-9 1.4.E.

Under clause 27 15 00-2 E, Contractor shall use cable tray for the horizontal cabling.

Attachment H:

VAPAHCS Tel/Data Jack Conventions

Attachment I:

Project Construction Wall Flyer Notice - Sample



CONSTRUCTION AREA

ENGINEERING SERVICE has hired a construction contractor to (Project Title, Location) This project (Project Number) began in (Month and Year) and will continue until approximately (Month and Year).

CONSTRUCTION HOURS: 8:00 a.m. - 4:30 p.m.

For information regarding this project, contact

CO's Name, Contracting Officer, x(Extension)

COTRs Name, Engineering Service, x(Extension)

Mary Barbara, Safety Officer, x65994.

Excuse our dust!

Attachment J:

Hot Work Program Requirements - VAPAHCS Memo SAFE-09-06

VA PALO ALTO HEALTH CARE SYSTEM

3801 Miranda Avenue

Palo Alto, CA 94304-1290

Effective Date: February 21, 2007

Issue Date: October 13, 2009

HEALTH CARE SYSTEM MEMORANDUM No. SAFE-09-06

SUBJECT: HOT WORK PROGRAM

1. SUMMARY: Veterans Affairs Palo Alto Health Care System (VAPAHCS) Memorandum No. SAFE-07-06, dated May 8, 2008, is rescinded. Minor changes have been made.

2. PURPOSE: To establish policy and procedures for cutting and welding and other hot work operations in nondesignated areas.

3. POLICY: All supervisors, employees, and contractors will take proper precautions when any cutting, welding, or other hot work is to be accomplished and assure all work is done in a safe manner with limited risk to patients, staff and visitors.

4. DEFINITIONS:

a. Hot Work: Hot work activities include welding, flame cutting, open-flame brazing or soldering, grinding, thermal spraying and/or other similar activities that generate sparks/heat that can provide an ignition source. The use of a portable engine for temporary power is also considered a hot work operation.

b. Fire Watch: An individual responsible for keeping an eye on the work area during the hot work process. The Fire Watch shall not be the same person actively performing the hot work.

5. **PROCEDURES:** Procedures and controls are established to control all cutting and welding operations conducted in areas not specifically designated for this type of operation. Permits will be authorized and issued by the Safety and Emergency Management (SAFE) Section in written form. Permits are not necessary when hot work is performed in Engineering shops designated for routine use of cutting and welding equipment.

a. When a hot work operation is necessary, SAFE will be contacted by the Contracting Officer's Technical Representative (COTR) or government employee. For major projects, the COTR should coordinate hot work requirements beforehand to preclude delay in contractor work.

b. When a permit is issued, Section A of the permit (Attachment A) will initially be completed by the SAFE Service.

c. Section B of the permit will be completed by the contractor or government employee requesting the permit and the permit will be maintained at the job site.

d. Section C on the permit will be completed by the supervisor or fire watch after the 30-minute inspection of the area has been completed.

e. When the operation is completed, and Section C of the permit is signed, it will then be forwarded to the SAFE Service where it will be maintained as a permanent record for a period of one year.

f. A Fire watch is required for all hot work unless specified differently on the permit. A fire watch is normally required in locations meeting the following conditions:

(1) Appreciable combustible material, in building construction or contents, closer than 35 feet (10.7 m) to the point of operation.

(2) Appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks.

(3) Wall or floor openings within a 35-foot (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.

(4) Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.

g. The Fire watch shall have fire extinguishing equipment readily available and be trained in its use. They shall be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them or otherwise sound the alarm. A fire watch shall be maintained for at least 30 MINUTES after completion of welding.

6. RESPONSIBILITIES:

a. The Chief, Engineering Service is responsible for ensuring hot work permits are completed prior to hot work being conducted by contractors and staff under their purview.

b. The Facility Safety Officer, or authorized SAFE staff, will authorize and issue hot work permits when required and after assuring proper procedures have been put in place.

c. The COTR/Person requesting the Permit is responsible to insure that all required safety precautions as prescribed on the Hot Work Permit are complied with throughout the task.

7. REFERENCES:

a. NFPA 51B, Standard for Fire Prevention During Welding, Cutting and Other Hot Work, 1999 Edition.

b. OSHA 29 CFR 1910.119.

8. RESCISSION DATE: October 31, 2012.

9. **RESPONSIBLE OFFICIAL:** Chief, Safety, Emergency Management and Occupational Health Section.

Elizabeth Joyce Freeman

Director

Attachments (1)

ATTACHMENT A

VA Palo Alto Health Care System

HOT WORK PERMIT

A. Safety & Emergency Management Service Completes

Date: _____

Requester (Section or Company Name): _____

Building/Department/Floor: _____

COTR/Permit Requestor: _____

Description of work: _____

Special Precautions (other than these listed): _____

Permit expires on: _____

Authorized by: _____

Date/Time Issued: _____

ATTACHMENT A (cont.)

VA Palo Alto Health Care System

HOT WORK PERMIT (cont.)

PRECAUTIONS

- ☐ Sprinklers in service (Required for hot work).
- ☐ Cutting and welding equipment in good repair.

WITHIN 35 FT. OF WORK

- ☐ Floors swept clean of combustibles.
- ☐ Combustible floors wetted down, covered with damp sand, metal or other shields.
- ☐ No combustible material or flammable liquids present.
- ☐ Combustibles and flammable liquids protected with covers, guards or metal shields.
- ☐ All wall and floor openings covered.
- ☐ Covers suspended beneath work to collect sparks.

WORK ON WALL OR CEILINGS

- ☐ Construction noncombustible and without combustible covering.
- ☐ Combustibles moved away from opposite side.

WORK ON ENCLOSED EQUIPMENT (Tanks, containers, drums, ducts, etc.)

- ☐ Equipment cleaned of all combustibles.
- ☐ Containers purged of flammable vapors with an inert gas.

VAMC Palo Alto, CA

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