

Section 00 00 00
STATEMENT OF WORK
OPERATING ROOM AIR FLOW IMPROVEMENTS

1.0 GENERAL

1.1 This is a performance based contract a design and construction effort at the John L. McClellan Memorial Veterans Hospital. The *Contractor* shall furnish all personnel, equipment, tools, materials, supervision, design services, and other items and services necessary to design, manage, and accomplish the work awarded in the contract.

- A. The work shall include, but not be limited to: tasks in various trades; such as design, drafting, heating & cooling work, electrical work, plumbing work, carpentry work, concrete and metal work, roofing, demolition, masonry, welding, interior finishes, millwork, et cetera.
- B. The Contractor shall provide all design, plant, labor, materials and equipment necessary to fully meet all requirements of this Summary of Work, Construction Specifications, Construction Drawings and all other Contract Documents.
- C. All specification and standards referenced in the contract documents apply, as are those referenced internally within these documents apply to this contract.
- D. Type of Contract: A firm-fixed-price agreement.
- E. Deductive Alternatives listed in Section 2.4.8

1.2 PROJECT AREA LIMITATIONS

- A. All work shall be performed in the immediate project area provided in the government drawing set.
- B. Project work occurs within an active medical facility. See Specification 00 05 04. Work on the second floor of JLM falls under a Class IV level. Work on the third floor will be a lower classification dependent on contractors planned operations and provided by the VA IC Officer.
- C. See 010000 General Requirements.

1.3 GENERAL INSTRUCTIONS AND DOCUMENTS

- A. The *Contractor* shall:
 - 1. Check all *Government* furnished drawings immediately upon receipt;
 - 2. Compare all *Government* furnished drawings and verify the figures before laying out the work;
 - 3. Promptly notify in writing the Government, COR, of any discrepancies
 - 4. Be responsible for any errors which might have been avoided by complying with this paragraph (1.3).
- B. Omissions from the drawings or specifications or error of details for work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the *Contractor* from performing such omitted or erroneous details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.
- C. The *Contractor* shall maintain a complete set of construction drawings, construction specifications, project related sketches, pictures, approved Contract modifications (if any) and all approved submittals on the job site at all times. One set of such construction drawings shall be designated the "Record Drawings" upon which as-built data shall be neatly recorded and dated in red ink by the Contractor.

- D. Upon completion of construction, the Contractor shall submit a complete set of "As-Built" drawings and the AutoCAD drawing files (*.dwg). The drawing will portray accurately the completed work and be VA CAD standard format (<http://www.cfm.va.gov/til/projReq.asp#cad>). 3 copies of these drawing files shall be turned over to the Contracting Officer Representative prior to final payment. Each CD shall have one complete set of AutoCAD drawings and a complete set in Adobe Acrobat format.

1.4 KEY STAFF.

The Contractor's organizational approach shall provide project management, design management, site superintendence, contractor quality control and site safety.

2.0 Statement of Work

2.1 INTRODUCTION

This is a performance contract with the contractor is responsible to deliver an HVAC system for the ORs that meet project air balance requirements.

- A. Provide and install New Return Fans for AHU 15 and 16
- B. Install Air Flow Measuring Stations Air Handling units AC 15,16.
- C. Change the Operating Rooms HVAC system from a pressure control sequence to a flow tracking sequence to maintain the correct pressure relation to adjacent spaces. In order to accomplish the flow tracking we must install a means to measure the return airflow for each operating room and change the terminal controller to a room pressure controller (RPC).

2.2 Contractor

The Contractor shall perform all tasks per this contract package. The contractor, directly or through its sub-contractors, is responsible for necessary studies, meetings, analyses, design, total construction, TAB, O&M data provision, a complete and final 'as built' drawing package and any necessary training of VA personnel for this project.

2.3 Complete and usable

The Contractor's work will result as outlined in the contract and per awarded options, in a complete and usable Autopsy Space, HVAC systems, plumbing/electrical connections. The Contractor is financially and technically responsible for resolving any design issues or omissions whether in the government provided information or the contractor's design, workmanship, or products selection.

2.4 DESCRIPTION OF WORK

Upon receipt of the Notice to Proceed (NTP) the contractor will proceed to perform the following tasks. The NTP will identify which, if any, bid options are exercised.

2.4.1 Project Schedule

Within one week of the Notice to Proceed (NTP), the contractor will present a complete work schedule to the VA. The VA will have one week to respond with comments and changes. The following is a base schedule from which the contractor will develop their submission:

- A. Project Duration: 180 Days
- B. Part I: 30 days after Notice to Proceed (NTP).

- i. Initial sight visits, coordination meetings, and Contractor Schedule complete 7 days after NTP. The schedule will clearly identify work areas and tasks being performed.
 - ii. Government response to schedule: 14 days after NTP.
 - iii. Shop Drawings, Equipment Submittals, and design information/drawings: 21 days after NTP.
 - iv. Government response to part I submittals: 28 days after NTP.
- C. Work period, 30 through 166 days after NTP.
 - i. Return fan work for AHU 15, 16 is estimated to require 2 weeks not inclusive of TAB and pre-final, final inspection.
 - ii. Air Flow Measuring Stations (AFMS) for AHU 15, 16 is estimated to require 8 weeks not inclusive of TAB and pre-final, final inspection.
 - iii. Work in the 9 Operating rooms (OR and ORs) is estimated to require 9 weeks. ORs 1-8, 11 are within this project. Renovation work in the ORs will take place one OR at a time in order to present the least disruption to patient care.
- D. Final Submittal: 166 days after NTP
 - i. As-Built Drawings
 - ii. TAB Report
 - iii. O and M materials
 - iv. Training finalized
- E. Final Inspection: 173 days after NTP. Note that periodic construction inspections can be called by the VA at any point during the project. It is the contractor's responsibility to notify the government to inspect components during construction if further work will prevent their inspection. A 'pre-final' inspection is to be coordinated between the contractor and VA. Generally this occurs one weeks before final inspection.
- F. Final Payment, upon satisfactory completion of all contract items: 180 days after NTP.

2.4.2 Site visits

Site visits will be necessary for the contractor to confirm contract plans, develop and design construction documents for submittal. The contractor will coordinate the necessary site visits through the VA COR or appointed representative.

2.4.3 Periodic Inspections

There are a number of items and systems that will be difficult or impossible to inspect after construction completion; above hard deck utilities, buried duct work being examples. The Contractor is responsible to provide 7 days notice to the government for inspections of any such systems and items. If the contractor fails to do so, the government may require the contractor to open access for inspection. This work and repair will be at contractor's expense. Otherwise, the government will inspect construction at its discretion.

2.4.4 Demolition: Utilities and Controls

There will be no abandoned lines, ducts, conduit, wiring, structural supports, and so forth created by this project. All such inactive items created by this project will be removed back to junctions, terminals, j-boxes, main branches, and such in a manner required by code and VA guidelines. It is the contractor's responsibility to request any clarification during pre-bid if necessary.

2.4.5 Background

This work will have to be done outside normal hours due to nature of area served and will require heavy lifting and care given to not damage existing new PVC roof.

- List your evaluation factors for the services to be provided. (Your expectation of the vendor and services)
- Vendor shall have at least 3 references for like services where there were like circumstances that work was delivered satisfactorily.

2.4.6 Project work.

- A. AHU 15, 16 RETURN FANS. Provide labor and materials to replace existing relief fans with Return Fans. Fans will reuse existing VFD's (will have to be relocated). New fan mounting locations have been identified and some preliminary work has been done. Fan selections and installation details will be accomplished by the Installer and agreed to by the VA. All work will have to match existing electrical and mechanical system capabilities. Vendor is to provide all Supervision, labor, equipment and materials to perform the following:
 - i. MATERIALS: All materials will be of high quality and installed in a professional manner according to all applicable codes including VA design criteria. The contractor is responsible in materials selection to meet AHU 15, 16 system needs and all applicable specifications and regulations.
 - ii. SPECIAL NOTES: All work will have to be coordinated with both the VA HVAC Shop and the users of the operating rooms served. This work will have to be done outside normal hours due to nature of area served. Any duct work modifications will be completed with like materials and craftsmanship. All materials will comply with current VA HVAC design specifications. A TAB report will be completed to verify the operation and proper air flow delivery from the new fan. A written copy of this report will be provided to the VA.
- B. AHU 15, 16 AIR FLOW MEASURING STATIONS. Install, connect and make functional air flow stations on AHU 15 and 16. Vendor is to provide all Supervision, labor, equipment and materials to perform the following:
 - i. ALL WORK WILL BE DONE AFTER HOURS, WORKING WITH AND AROUND OPERATING ROOMS SCHEDULES. AT LEAST 24 HRS NOTICE BEFORE WORK IS TO BEGIN, PERMISSION WILL HAVE TO BE GRANTED BY THE COR.
 - ii. MATERIALS: All materials will be similar in design and function to what is presently used at this facility. All materials will communicate seamlessly with the present EMS system and require no intermediate communications or special software.
 - iii. AHU 15, 16- Provide all materials and labor to measure the OSA, Relief Air, Supply Air and Return Air. The Return Air Measuring station will be provided by the VA and will only need to be connected to the current EMS system. All wiring will be in conduit and wiring marked as used elsewhere within the facility. All point data base, programming and graphics will be updated with the new devices using our present format.
- C. OR HVAC AND HVAC CONTROLS MODIFICATIONS. A flow tracking sequence to maintain the correct pressure relation to adjacent spaces will be added to each individual OR.
 - i. Airflow measuring for each operating room will be added and as will room pressure controllers (RPC) for controlling terminals.

- ii. The work will include ductwork revisions to the existing return air duct and install return air terminals with orifice ring type flow measurement.
 - a. Remove and dispose of main ductwork connections from existing branch return duct in each operating room, including existing ceiling returns.
 - b. Remove return duct balancing dampers and actuators in each operating room.
 - c. Revise the existing return air drops in the OR's including replacement of the return grilles so that each of the existing drops account for 50% of the OR return air.
 - d. Install return air terminal with flow measurement and variable air volume damper for each operating room.
 - e. Consolidate existing return air drops into one branch with the new return air terminals and reconnect to existing return main duct.
 - f. Each return will have a manual balancing damper at the top of the chase for purpose of proper air balance.
 - g. Return ductwork will be galvanized high pressure spiral ductwork with square duct fittings and transitions as required.
 - h. As required, existing supply ductwork will be changed to stainless steel after the final filter.
 - i. Duct will be sealed with hardcast paint on sealant.
- iii. Removal of the existing fan in operating room supply air terminals. Remove the wiring and conduit from the fan to the disconnect.
- iv. As required, modifications to the existing automatic temperature controls devices and wiring in and around the operating rooms and on the 3rd floor mechanical space will be made.
 - a. Operating room controls revisions to add room pressure controllers (remote mounted with local velocity sensors at air terminals), differential pressure monitor with remote transmitters in each OR, damper actuators for return air terminals, associated wiring for remote devices and controllers, pressure indicator in each OR and surrounding spaces through a remote mounted room pressure monitor, programming modifications, graphics modifications and commissioning of the revised system.
 - b. The new RPC and DPM for each OR will be mounted in a Siemens panel located above the ceiling at the entry of each OR.
- v. Access doors for each air terminal. Access doors with proper seals in existing hard ceilings for the new return air terminals, balancing dampers and the damper actuator.
- vi. Clean up and painting as required to install access doors, anteroom, and removal of abandoned ductwork, control devices and debris.
- vii.
- D. DAMAGE AND REPAIRS. The contractor is responsible to repair any damaged item or surface to a like new condition.
- E. CONSTRUCTION
 - i. Work is being performed with in an active medical facility. The requirements of Specification 00 05 04 are not optional.
 - ii. Demolition and construction within clinical space is to be scheduled after hours.

- iii. A work schedule submitted for Government approval.
 - F. TAB
 - i. A complete commissioning of all work is to be performed.
 - ii. The final TAB report will detail compliance with VA pressure requirements (per Design Guides) and contract performance requirements. The Contractor may submit a narrative referencing the TAB report if necessary.
 - G. OPERATIONS and MAINTENNACE
 - i. Operations and maintenance manuals for all equipment in this contract will be submitted before final inspection. All maintenance requirements will be clearly identified in these documents. This submission will be approved by the VA-JLM HVAC office.
 - H. TRAINING and EQUIPMENT
 - i. The contractor is responsible for any necessary training of VA operations and maintenance personal.
 - ii. The contractor will provide and manufacturer required certification for operation and maintenance for any new equipment. The contractor is not responsible for certification training if the equipment is a duplicate of existing systems in JLM.
 - I. AS BUILT DRAWINGS
 - i. Standard Auto Cad Drawing file compatible to Release 2013 to be provided on compact disk. The VA does not use any "helper" programs and contractor drawings should be useable by the VA.
 - ii. VA CAD Standards are available on the Technical Information Library site: <http://www.cfm.va.gov/TIL/sDetail.asp>. The site provides a link to the standards and standard details. It is the contractor's responsibility to provide drawings meeting these standards independent of the quality of VA supplied CAD Files.
 - iii. VA Standard Title Blocks will be provided on disk. Final drawings on 30"x42" Mylar will be given to the VA. Electronic copies will be given to the VA in .dwg (bound) and in .PDF.
 - iv. Each sheet will show VA project number in designated space and appropriate drawing number in specified block.
 - v. Key plans to be used where applicable.
 - vi. All Schedules will be on the drawings and not in the written documentation.
 - vii. Final drawings provided on disks are to be "purged" of all unused components. "XREF'S" used should be bound to each sheet.
 - viii. Separate disk(s) containing files of unique fonts, drawings of unique blocks/W blocks symbols used, and any nonstandard Auto Cad items will be provided.
 - J. WARRANTY. The contractor will provide warrantee information on all products supplied in the contract.
 - K. FINAL SUBMITTAL
 - i. A complete submission and final approval of all items is required for final project payment.
 - L. FINAL INSPECTION
 - i. The final inspection will serve, if necessary, that any errors or omissions noted by VA personal during construction and a "pre-final" inspection have been corrected.
- 2.4.7 References and Standards:
- The Contractor shall design in adherence to the following documents, including all recommended practices documented in these standards. Although some publication dates are given, the design shall be by current references and standards. All work accomplished by the

Contractor shall comply with this criteria unless a waiver is obtained from the VA when conditions warrant such consideration.

- A. All VA Design and Construction Standards, Handbooks, etc., will be followed to the maximum extent practicable in the project. They are available on the Internet at:
 - i. <http://www.va.gov/facmgt/standard.htm>
 - ii. All variations will be discussed with the COR or approved representative for a waiver.
 - iii. Design and Construction Information <http://www.cfm.va.gov/til/criteria.asp> , to include specifications appropriate to the project. This includes CAD standards.
- B. Current state and national codes, regulations and specifications involving architectural, civil, structural, electrical, environmental and mechanical disciplines associated with the design and construction of this project.
- C. National Fire Codes published by the National Fire Protection Association.
- D. PG-08-4, VA Standard CAD Details
 - i. Vol. 1: Architectural
 - ii. Vol. 3, Sec. 1: Mechanical Engineering - Plumbing & Sanitary
 - iii. Vol. 3, Sec. 2: Mechanical Engineering - HVAC
 - iv. Vol. 3, Sec. 3: Mechanical Engineering - Steam Generation & Outside Steam Distribution
 - v. Vol. 4: Electrical Engineering
- E. Electrical Design Manual (H-088C3-16000)
- F. HVAC Design Manual for Hospital Projects (088C2)
- G. American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE):
 - i. 2013 ANSI/ASHRAE Standard 62.1
 - ii. 2007 HVAC Applications ASHRAE Handbook
 - iii. 2003 February ASHRAE Journal: Room Pressure for Critical Environments. The ASHRAE journal article contains references for performance requirements.
- H. Associated Air Balance Council (AABC):
 - i. 2002 AABC National Standards for Total System Balance
 - ii. National Environmental Balancing Bureau (NEBB): 1) 7th Edition 2005 Procedural Standards for Testing, Adjusting, Balancing of Environmental Systems 2) 2nd Edition 2006 Procedural Standards for the Measurement of Sound and Vibration 3) 3rd Edition 2009 Procedural Standards for Whole Building Systems Commissioning of New Construction
 - iii. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): 3rd Edition 2002 HVAC SYSTEMS Testing, Adjusting and Balancing
- I. Plumbing Design Manual
- J. H-08-8, Earthquake Resistant Design Requirements for VA Medical Center Facilities
- K. Engineering Guide For Fire Protection Design

2.4.8 Deductive Alternatives

Base bid: Includes all work to all rooms

included in the Scope of Work

Deductive Alternative #1: Eliminate work being
done in OR room #3

Deductive Alternative #2: Eliminated work
being done in OR rooms #3 & #4

Deductive Alternative #3: Eliminated work
being done in OR rooms #3, #4 & #5

END OF SECTION - STATEMENT OF WORK

SECTION 00 05 04
Infection Control / Fire Barriers / security Barriers

02/14

INFECTION CONTROL PROCEDURES
TO BE APPLIED TO ALL CLASS 4 (HIGHEST LEVEL OF DUST CONTROL)
CONSTRUCTION PROJECTS

The overriding principal is to work within an area that is under negative pressure and contain all dust within the construction area. The contractor must whatever is necessary in order to achieve this.

In order to accomplish the above, the CUBE method will be used. This method demands that a CUBE consisting of the floor, walls both above and below suspended ceilings and the deck above be established and maintained while construction is being performed. Walls may have to be built by the contractor if the existing walls cannot be utilized. The CUBE will be kept under negative pressure. In addition to containing dust within the work area, dust must be kept from exiting the work area via footsteps and cart wheels.

The project will have an ICRA (Infection Control Risk Assessment) completed prior to any construction or phase of construction. This document will be posted and maintained at the construction site and serve as reminder of the precautions to be followed. The ICRA will address the following:

ICRA

- To be posted before any work is done and reviewed at each phase for any adjustment needed.
- To be initiated by IC (Infection Control department) or Engineering and signed off by both parties
- ICRA forms will be kept by IC.

Infection Control briefing

- An overview of infection control will be given at the preconstruction conference.
- This briefing will be considered the pre-work meeting as required by the JC.
- Superintendant will be required to attend the preconstruction conference.

Barrier plan

- Contractor will sketch out the placements of his barrier(s) and get approval by IC and Safety Departments via the COR before the start of physical work.
- Barrier will be inspected by IC and Safety before each phase is started.
- Hard wall (drywall and metal studs) barriers will be used for work lasting longer than 24 hours. Tape and floating will not be needed. Joints will be covered with blue painters tape including attachment at walls, floors and ceilings.
- Plastic (fire-resistive) can be used for work lasting 24 hours or less on barriers below ceilings. Plastic may be used for periods exceeding 24 hours above ceilings.
- The contractor may use the VA's Curtain-Wall.com system utilizing his own plastic.
- Barrier must also serve as physical barrier for when the area is not occupied by contractors and must be kept locked when workers are not present. Entry will be via an actual door

and frame and will be locked when not occupied. A self-closing device will be used. The lock must be the VA's BEST system. Cores will be supplied by the VA and keys given to the contractor.

- The barrier will stay up until final inspection.

Negative Air

- Existing ceilings may be used as part of the CUBE barrier.
- Negative pressure must be maintained. The contractor is responsible for providing negative air unit(s) as needed to maintain negative pressure. The VA has negative air units (predator) for loan. Contractor will supply all filters.
- Contractor must obtain and install a Vaneometer by Dwyer instruments above the doorframe so that negative pressure can be noted.
- Discharge through a window if one is within 50 feet otherwise discharge into a corridor via a grill. The VA must prove that air discharged is clean (HEPA) via a particle meter before the unit is turned on and any work started. The COR will arrange for IC to conduct this test.

Mats

- Damp carpet shall not be used. Contractor must clean his wheels and feet in the project area so that no dust is tracked down the hall.
- Sticky mats will be used inside the project area and will be changed every 4 hours or sooner if the mat is loaded with dust.

Anteroom

- Anterooms must be built.
- Serves as an air lock and a place to remove dust from people, carts, feet, etc.
- Can be built inside the construction area or if built in the corridor, 5 feet clearance must be maintained.
- Must be hard walls.
- Air flow will be from the outside common space into the anteroom and then into the construction area.

Gross demolition

- Tyvek coveralls and disposable shoe covers must be worn during gross demolition phase which is defined as wall, ceiling and flooring removal.
- Use covered carts or containers when transporting waste down approved routes.
- Wrap items that will not fit in the covered waste container in plastic when transporting.
- Disposable items are to be used one time.

Existing HVAC Grills

- Must seal all grills – supply, return, and exhaust.
- Seal by substantial method to prevent barrier from coming loose. Use blue painter tape only and do not use duct tape anywhere.

Above Ceiling Inspections – as part of work planning

- Allowed to remove one tile per 50 square feet for inspection with no IC control.
- No work will be allowed without IC control with the exception of allowing cable pulling which may be done without the CUBE method.

Fire or Smoke barriers

- Temporary barriers must be built to give the same rating through an alternate path when existing barriers must be compromised.
- Permanent new rated walls and ceilings (as needed) will be built before existing rated barriers are compromised.

General

- Clean the work area daily to control the amount of accumulated dust from collecting within the work area.
- Ceiling T-grids must be vacuumed before tile is placed.
- Utility runs that don't necessarily have work contained to a room will still have to confirm to the CUBE method. A plastic barrier will have to be placed over the location of a utility run and secured to the remaining ceiling in conjunction with existing walls and / or barrier walls.

END

**SECTION 01 00 00
GENERAL REQUIREMENTS**

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work as required by drawings and specifications.
- B. Visits to the site by Bidders may be made only by appointment with the Project Contracting Officer or Contracting Officers Representative.
- C. 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.
- D. Prior to commencing work, general contractor shall provide proof that a OSHA designated "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- E. Training:
 - 1. All employees of general contractor or subcontractors shall have the 10-hour or 30-hour OSHA Construction Safety course and other relevant competency training, as determined by RE/COR acting as the Construction Safety Officer with input from the facility Construction Safety Committee.
 - 2. Submit training records of all such employees for approval before the start of work.
- F. VHA Directive 2011-36, Safety and Health during Construction, dated 9/22/2011 in its entirety is made a part of this section

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, GENERAL CONSTRUCTION: Work includes general construction, alterations, mechanical and electrical work, necessary removal of existing structures and construction and certain other items.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. Additional sets of drawings may be made by the Contractor, at Contractor's expense, from reproducible sepia prints furnished by Issuing Office. Such sepia prints shall be returned to the Issuing Office immediately after printing is completed.

1.4 CONSTRUCTION SECURITY REQUIREMENTS

- A. Security Plan:

GENERAL REQUIREMENTS

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.

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.
2. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 days notice to the Contracting Officer (CO) so that security 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 CO.
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. Key Control:

1. The General Contractor shall check out and return any keys signed out for this project.

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):

GENERAL REQUIREMENTS

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

4.....VHA Directive 2005-007

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 Project Engineer for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. 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, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the Project Engineer that individuals have undergone contractor's safety briefing.

- C. 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.
- D. 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).
- E. Temporary Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide separations between construction areas and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. At door openings, install $1\frac{3}{4}$ solid core doors with self-closing devices.
 - 2. Install temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
 - 3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration fire-stop materials promptly in accordance with Section 07 84 00, FIRE-STOPPING.
- F. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- G. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Project Engineer.
- H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Project Engineer.

GENERAL REQUIREMENTS

- I. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- J. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- K. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- L. 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. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Project Engineer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Project Engineer.
- M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Project Engineer.
- N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Project Engineer. Prepare permits at least 8 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.
- O. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Project Engineer.
- P. Smoking: Smoking is prohibited inside existing buildings and additions under construction.
- Q. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.
- R. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- S. If required, submit documentation to the Resident Engineer that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

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. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways

GENERAL REQUIREMENTS

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.

- C. Working space and space available for storing materials shall be as determined by the COR.
- D. Workmen are subject to rules of Medical Center applicable to their conduct.
- E. Execute work in such a manner as to interfere as little as possible with work being done by others. Keep roads clear of construction materials, debris, standing construction equipment and vehicles at all times.
- F. Execute work so as to interfere as little as possible with normal functioning of Medical Center 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, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Project Engineer where required by limited working space.
 - 1. Do not store materials and equipment in other than assigned areas.
 - 2. Where access by Medical Center 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.
 - 3. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.
- G. When an area is turned over to Contractor, Contractor shall accept entire responsibility therefore.
 - 1. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.

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- H. Utilities Services: No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of Resident Engineer. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval.
1. Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
 2. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
 3. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the Resident Engineer.
 4. In case of a contract construction emergency, service will be interrupted on approval of Resident Engineer. Such approval will be confirmed in writing as soon as practical.
 5. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey of areas in which alterations occur and areas which are anticipated routes of access.
1. Existing condition and types of resilient flooring, doors, windows, 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.
 3. 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 Project Engineer.
- B. Any items to be either reused or relocated or both, found to be nonexistent, or in opinion of COR, 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.

1.8 INFECTION PREVENTION MEASURES:

Compliance with Specification 000504 is required.

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 will be identified at the beginning of the job. The contractor will set them aside for pick-up by the VA. 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.
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. The contractor is responsible for protecting all such items from physical damage and per Infection Control requirements. At a minimum, such items and furnishings shall be sealed with 6mil plastic in a manner that does not permit intrusion of dust.

1.10 AS-BUILT DRAWINGS

- A. The contractor shall maintain one full size sets of as-built drawings 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 Project Engineer's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the Project Engineer within 15 calendar days after each completed phase and after the acceptance of the project by the Project Engineer.
- D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.11 TEMPORARY USE OF EXISTING ELEVATORS

- A. Use of existing elevators for handling building materials and Contractor's personnel may be permitted subject to following provisions:
 1. Contractor makes all arrangements with the COR for use of elevators. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.

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2. Contractor covers and provides maximum protection of following elevator components:
 - a. Entrance jambs, heads soffits and threshold plates.
 - b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
 - c. Finish flooring.

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